

Document of  
**The World Bank**  
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Report No: PAD2335

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$ 41.9 MILLION

TO THE

FONDO PARA EL DESARROLLO DEL PLAN TODOS SOMOS PAZCIFICO, represented by its  
Fiduciary Agent and Trustee FIDUCIARIA LA PREVISORA, S.A. (FIDUPREVISORA)

WITH THE GUARANTEE OF THE REPUBLIC OF COLOMBIA  
FOR THE

ENHANCING WATERWAY CONNECTIVITY AND WATER SERVICE PROVISION IN  
COLOMBIA'S PLAN PAZCIFICO PROJECT

November 21, 2017

Transport & ICT Global Practice  
Water Global Practice  
Latin America and the Caribbean Region

This document is being made publicly available prior to Board consideration. This does not imply a presumed outcome. This document may be updated following Board consideration and the updated document will be made publicly available in accordance with the Bank's policy on Access to Information.

## CURRENCY EQUIVALENTS

Exchange Rate Effective November 15, 2017

Currency Unit = Colombian pesos (COP)

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COP 3.016,75 = US\$ 1

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US\$ 1.00 = SDR 1.41

## FISCAL YEAR

January 1 - December 31

Regional Vice President:	Jorge Familiar
Country Director (Acting):	Jutta Kern
Senior Global Practice Director:	Jose Luis Irigoyen
Practice Manager:	Shomik Mehndiratta
Task Team Leaders:	Lincoln Flor and Antonio Rodriguez

## ABBREVIATIONS AND ACRONYMS

CAR	Commission for the Regulation of Water Supply and Sanitation ( <i>Comisión de Regulación de Agua Potable y Saneamiento Básico</i> )
CONPES	National Economic and Social Policy Council ( <i>Consejo Nacional de Política Económica y Social</i> )
DANE	National Administrative Department of Statistics ( <i>Departamento Administrativo Nacional de Estadística</i> )
DIMAR	Maritime General Direction ( <i>Dirección General Marítima</i> )
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
FARC	Revolutionary Armed Forces of Colombia ( <i>Fuerzas Armadas Revolucionarias de Colombia</i> )
FCV	Fragility, Conflict and Violence
FM	Financial Management
FTSP	Fund for the Development of the Plan Todos Somos PAZcífico ( <i>Fondo para el Desarrollo del Plan Todos Somos Pazcífico</i> )
GDP	Gross Domestic Product
GoC	Government of Colombia
GRS	Grievance Redress Service
IDB	Inter-American Development Bank
ICPP	Information, Communication and Participation Plan
INVIAS	National Road Agency ( <i>Instituto Nacional de Vías</i> )
IPP	Indigenous People Plan
MADS	Ministry of Environment and Sustainable Development ( <i>Ministerio de Ambiente y Desarrollo Sostenible</i> )
MDB	Multilateral Development Bank
MHCP	Ministry of Finance and Public Credit ( <i>Ministerio de Hacienda y Crédito Público</i> )
MT	Ministry of Transport ( <i>Ministerio de Transporte</i> )
MVCT	Ministry of Housing, Planning and Territory ( <i>Ministerio de Vivienda, Ciudad y Territorio</i> )
NG	National Government
PDA	Departmental Water Plan ( <i>Plan Departamental de Agua</i> )
PDO	Project Development Objective
PIU	Program Implementing Unit
PTSP	We are all Pacific Plan ( <i>Plan Todos Somos PAZcífico</i> )
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SAT	Safeguards Advisory Team
FTSP	<i>Fondo Todos Somos PAZcífico</i>
TOR	Terms of Reference
SSPD	Superintendence of Residential Public Services ( <i>Superintendencia de Servicios Públicos Domiciliarios</i> )
SGP	<i>Sistema General de Participaciones</i> (General Revenue Sharing System)
UNGRD	National Unit for Disaster Risk Management ( <i>Unidad Nacional para la Gestión del Riesgo de Desastres</i> )
WSS	Water Supply and Sanitation
WB	World Bank



**BASIC INFORMATION**

Is this a regionally tagged project? No	Country(ies)	Financing Instrument Investment Project Financing
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- Situations of Urgent Need of Assistance or Capacity Constraints
- Financial Intermediaries
- Series of Projects

Approval Date 14-Dec-2017	Closing Date 15-Dec-2023	Environmental Assessment Category B - Partial Assessment
Bank/IFC Collaboration No		

**Proposed Development Objective(s)**

The Project Development Objective (PDO) is to improve: (i) waterway transport; and (ii) coverage and quality of water supply and sanitation services, in the Participating Municipalities.

**Components**

Component Name	Cost (US\$, millions)
Improving Waterway Transport in participating municipalities	23,500,000.00
Improving Water Supply and Sanitation Services in participating municipalities	14,000,000.00
Capacity Building and Institutional Strengthening for waterway transport operators and water supply and sanitation service providers in participating municipalities	2,000,000.00
Project Management and Environmental and Social Management	2,400,000.00

## Organizations

Borrower : FTSP, represented by its Fiduciary Agent and Trustee FIDUCIARIA LA PREVISORA, S.A. (FIDUPREVISORA)  
 Implementing Agency : National Unit for Disaster Risk Management

## PROJECT FINANCING DATA (US\$, Millions)

<input type="checkbox"/> Counterpart Funding	<input checked="" type="checkbox"/> IBRD	<input type="checkbox"/> IDA Credit	<input type="checkbox"/> IDA Grant	<input type="checkbox"/> Trust Funds	<input type="checkbox"/> Parallel Financing
Total Project Cost:	Total Financing:		Financing Gap:		
41.90	41.90		0.00		
	Of Which Bank Financing (IBRD/IDA):				
	41.90				

## Financing (in US\$, millions)

Financing Source	Amount
International Bank for Reconstruction and Development	41.90
<b>Total</b>	<b>41.90</b>

## Expected Disbursements (in US\$, millions)

Fiscal Year	2018	2019	2020	2021	2022	2023
Annual	2.14	6.76	11.76	12.56	7.74	0.94
Cumulative	2.14	8.90	20.66	33.22	40.96	41.90



**INSTITUTIONAL DATA**

**Practice Area (Lead)**

Transport & ICT

**Contributing Practice Areas**

Water

**Climate Change and Disaster Screening**

This operation has been screened for short and long-term climate change and disaster risks

**Gender Tag**

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Rating
1. Political and Governance	● Substantial
2. Macroeconomic	● Moderate
3. Sector Strategies and Policies	● Substantial
4. Technical Design of Project or Program	● Substantial
5. Institutional Capacity for Implementation and Sustainability	● High
6. Fiduciary	● Substantial
7. Environment and Social	● Substantial



8. Stakeholders	● High
9. Other	● High
10. Overall	● High

**COMPLIANCE**

**Policy**

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any waivers of Bank policies?

Yes  No

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

**Legal Covenants**

Sections and Description

Not later than sixty (60) days after the Effective Date, or such later date as shall be agreed by the Bank, the Borrower, through UNGRD, shall ensure that the PIU is staffed with the professionals set forth in the Project Operational Manual, including at the national level and in each Participating Municipality. (Section I.A.3 of Schedule 2 to the Loan Agreement).



Sections and Description

The Borrower, through UNGRD, shall operate, throughout the implementation of the Project, the Executive Committee with functions and responsibilities, composition and staff with qualifications and in numbers satisfactory to the Bank and described in the Project Operational Manual (Section I.A.4 of Schedule 2 to the Loan Agreement)

Sections and Description

Not later than sixty (60) days after the Effective Date, or such later date as shall be agreed by the Bank, the Borrower, through UNGRD, shall establish a committee or committees with functions and responsibilities, composition (which shall include, inter alia, at least a representative from the PIU, MVCT, DNP, INVIAS, DIMAR, and the MT,) and staff with qualifications and in numbers as provided in the Project Operational Manual, all in a manner satisfactory to the Bank. (Section I.A.5 of Schedule 2 to the Loan Agreement).

Sections and Description

Prior to carrying out any works under Parts 1.2 (a) and 2 of the Project in each Participating Municipality, the Borrower, shall enter into an agreement (Collaboration Agreement) with each Participating Municipality and other relevant stakeholders, as agreed between the Borrower and the Bank, under terms and conditions acceptable to the Bank and set forth in the Project Operational Manual. (Section I.A.6 of Schedule 2 to the Loan Agreement)

Sections and Description

Prior to carrying out any works under Part 1 of the Project, the Borrower, through UNGRD, shall agree with INVIAS and DIMAR on the respective coordination, implementation, operation and maintenance roles and responsibilities, all in a manner acceptable to the Bank and set forth in the Project Operational Manual (Section I.A.7 of Schedule 2 to the Loan Agreement).

Sections and Description

The Borrower, through UNGRD, shall carry out the Project in accordance with the Environmental Management Framework, the Resettlement Policy Framework, the Indigenous Peoples Plan, and the Information, Communication and Participation Plan. (Section I.B.1 of Schedule 2 to the Loan Agreement).

Sections and Description

The Borrower, through UNGRD, shall ensure that the terms of reference for any consulting services related to the technical assistance provided under the Project, shall be satisfactory to the Bank and, to that end, such terms of reference shall require that the advice conveyed through such technical assistance be consistent with the requirements of the Bank's Safeguards Policies and Procedures. (Section I.B.3 of Schedule 2 to the Loan Agreement).

## Conditions

Type	Description
Effectiveness	The Project Operational Manual has been adopted by the Borrower, through UNGRD, in a manner satisfactory to the Bank.

## PROJECT TEAM

### Bank Staff

Name	Role	Specialization	Unit
Lincoln Flor	Team Leader(ADM Responsible)	Senior Transport Economist	GTI04
Antonio Manuel Rodriguez Serrano	Team Leader	Sr Water & Sanitation Spec.	GWA03
Santiago Rene Torres	Procurement Specialist(ADM Responsible)	Procurement Specialist	GGO04
Flor Maritza Martinez Camargo	Financial Management Specialist	Financial Management Specialist	GGO22
Carlos Alberto Molina Prieto	Social Safeguards Specialist	Senior Social Development Specialist	GSU04
Carlos Murgui Maties	Team Member	Consultant	GTI04
Carlos Vargas Bejarano	Environmental Safeguards Specialist	Senior Environmental Specialist	GEN04
Elena Segura Labadia	Counsel	Senior Counsel	LEGLE
Elsa Coy	Team Member	Program Assistant	LCCCO
Ilan Adler	Team Member	Consultant	GWA04
Iman Malik	Team Member	FCV Consultant	GTFMR
Jorge Luis Gastelo Villanueva	Team Member	Consultant	GTI04
Juan Camilo Gil Jaramillo	Team Member	Consultant	GWA04
Karla Dominguez Gonzalez	Team Member	Gender Specialist	GTI01
Licette M. Moncayo	Team Member	Program Assistant	GTI04



Luis Alfonso Pinzon Corcho	Team Member	Consultant	GTI04
Maria Irene Victoria Morales	Team Member	Consultant	GTI04
Mauricio Cuellar	Team Member	Sr Transport. Spec.	GTI04
Pilar Elisa Gonzalez Rodriguez	Counsel	Senior Counsel	LEGLE
Ramon Eduardo Niebles Barragan	Team Member	Security Specialist	GSDRS
Satoshi Ogita	Team Member	Sr Transport. Spec.	GTI04
Steven Farji Weiss	Team Member	Economist	GTC01
Tatiana Cristina O. de Abreu Souza	Team Member	Finance Officer	WFALA
Wilson Alid Casas Castro	Team Member	Consultant	GEE04
<b>Extended Team</b>			
<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Location</b>



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## I. STRATEGIC CONTEXT

### A. Country Context

1. **Despite robust growth and a peace process with the Revolutionary Armed Forces of Colombia (FARC), the sharing of public welfare remains a critical challenge in Colombia.** While there was a modest improvement in Colombia's Gross Domestic Product (GDP) per capita between 2005 and 2016, the rate of rural poverty is high and income inequality persists. Uneven territorial development worsened by the conflict, lack of trust between the regions and the Government of Colombia (GoC), underinvestment in basic infrastructure, weak local governance, illegal activities that drive the economy in some areas, and inadequate rural-urban linkages exacerbated socioeconomic gaps across Colombia. The regional divide remains especially pronounced in the Pacific Region, which is comprised of four departments: Chocó and Valle del Cauca in the north and Cauca and Nariño in the south.
2. **The Pacific Region faces fragility, conflict and violence (FCV) challenges that need to be addressed.** Despite a number of efforts by the GoC to provide basic infrastructure and security, the Pacific Region faces weak governance and the highest levels of violence<sup>1</sup> in Colombia, which is associated with drug trafficking and criminal activities (42 percent of the national production of coca is concentrated in the Departments of Cauca and Nariño, with strong links with national and international trafficking networks)<sup>2</sup>. Organized armed groups and criminal gangs<sup>3</sup> support other illegal activities in the mining and logging sectors that drive the regional economy. In addition, the Pacific Region has the highest levels of poverty<sup>4</sup> and socioeconomic inequality (Table 1), and a large number of displaced people<sup>5</sup>. The peace agreement with the FARC faces challenges, in part due to the fact that the main drivers of the armed conflict are active in the Pacific Region, and it will take a long-term effort to change this situation.

**Table 1. Socioeconomic indicators comparing the Pacific, Andean Regions and Nation**

Indicator	Weighted Averages (%)		
	Pacific	Andean	National Urban
Multidimensional poverty (2016)	33.2	18.0	5.9
Sewerage network coverage	27.5	77.7	73.1
Water network coverage	41.1	88.1	83.4
Unsatisfied basic needs	60.1	23.8	27.8

Source: DANE, 2017; CONPES 3847, 2015 and Estrategia Todos Somos PAZcífico, Presidencia de la Republica, 2015.

3. **The GoC is implementing the Plan Todos Somos PAZcífico (PTSP) to support regional socioeconomic development with a focus on peace, equity, integration, and environmental sustainability.** The PTSP comprises around 50 projects under five strategies aimed at ensuring public service provision to vulnerable populations in the Pacific Region, including the improvement of: (i) intermodal transport infrastructure,

<sup>1</sup> In 2016, the rate of violence in Tumaco (Nariño) was 70 homicides per 100,000 inhabitants, three times the national rate.

<sup>2</sup> It is estimated that 270 tons of cocaine are produced per year in the municipality of Tumaco, according to the United Nations Office on Drugs and Crime (UNODC) census (2017).

<sup>3</sup> FARC disidentes, Ejército de Liberación Nacional (ELN), *Clan del Pacífico*, etc.

<sup>4</sup> In 2015, the Pacific Region, excluding the Department of Cauca, the multidimensional poverty rate was 33.8 percent, DANE.

<sup>5</sup> The Pacific Region has 19 percent of the national total of displaced people.



where the waterway transport (*acuapista*)<sup>6</sup> plays a vital role in integrating the Pacific departments and (ii) the coverage and quality of water supply and sanitation (WSS) services. To monitor the implementation of the PTSP and to foster the dialogue and coordination, the GoC established the *Gerencia Pazcífico* that became in 2015 the *Executive Direction of the PTSP*; and tasked the National Unit for Disaster Risk Management (*Unidad Nacional de Gestión del Riesgo de Desastres*, UNGRD) with implementing the PTSP projects financed by multilaterals.

4. **Improving waterway transport and WSS services is a priority in the south Pacific Region.** In 2016, the GoC carried out a wide consultation and dialogue process with municipalities and communities which substantively influenced project design. The original plan which focused on dredging maintenance works was rejected. Instead, the community prioritized increasing the number and capacity of waterway docks and improving the coverage and quality of WSS. Following community guidance, the plan was updated to focus on development of infrastructure to improve waterway transport and WSS.<sup>7</sup>
5. **The GoC requested Multilateral Development Banks (MDBs) to provide up to US\$ 400 million for the implementation of the PTSP's major activities.**<sup>8</sup> World Bank support is concentrated in the southern departments (Nariño and Cauca) of the Pacific Region, while the Inter-American Development Bank's financing focuses on the northern departments (Chocó and Valle del Cauca).<sup>9</sup>

## B. Sectoral and Institutional Context

6. **Reforms and public investments in transport infrastructure and services have not prioritized the connectivity of the Pacific Region.** Investments were focused on two main roads to connect the Andean Region and the ports of Buenaventura in the north and Tumaco in the south. Extensive bottom-up stakeholder consultations identified weak connectivity along the southern part of the Pacific Region, based on: (i) a waterway (*acuapista*) using navigable estuaries (five-hour window) and rivers, and (ii) maritime for transshipping of large-scale cargo. Waterway transport is mostly informal, unsafe, and inefficient. Around 1.5 million Pacific Region residents are affected by connectivity and access issues, in particular women, elderly and people with disadvantages. Investments to improve waterway transport have important climate co-benefits,<sup>10</sup> as the waterway is reinforced as a primary mode of transport and the pressure for road construction, which would increase emissions and have negative environmental implications (e.g., for the national parks of Sanquianga and Farallones), is reduced.
7. **Significant gaps in WSS coverage remain in the Pacific Region in Colombia.** Water supply and sewer connection coverage levels in the Pacific Region are as low as 41.1 percent and 27.5 percent compared to 94.3 percent and 89.7 percent average national coverage, respectively.<sup>11</sup> The situation is of particular concern in small towns of the departments of Nariño and Cauca.

<sup>6</sup> Acuapista is the waterway based on estuaries that interlinks the four Pacific departments. It is highly influenced by the sea tides and waves.

<sup>7</sup> A new Concept Note was approved in February 2017.

<sup>8</sup> CONPES 3847 of November 13, 2015.

<sup>9</sup> The GoC requested US\$ 231.4 million loan from the IDB, to finance (i) WSS infrastructure in the municipalities of Buenaventura and Quibdó and (ii) an electrification program for some 50 communities along the Pacific coast.

<sup>10</sup> The GoC estimated that the waterway can help reduce 7,400 tons of CO2 emissions per year compared with a hypothetical road. *Departamento Nacional de Planeación, Aspectos Técnicos Transporte Acuapista*, June 2015.

<sup>11</sup> DANE (2014) "Encuesta Nacional de Calidad de Vida."



8. **Economic activities are supported by informal, inefficient and unsafe waterway transport.** Lack of effective regulation and enforcement by GoC on waterway transport increases the risk of accidents and informal operations, and reduces opportunities to access markets for formal economic activities such as agriculture, logging, mining, fishing, and ecotourism. In addition, the current conditions of docks raise the generalized travel costs and limit access for women (42 percent of the total number of users).
9. **Climate adaptation actions are critical in Colombia's vulnerable Pacific Region.** The Pacific Region is exposed to the highest rainfall in the country (3,000 to over 11,000 mm/year in the project areas),<sup>12</sup> flooding, landslides, semidiurnal high tides (up to four meters), and low sea-level rise. The municipalities are located close to sea level and are prone to flooding,<sup>13</sup> which affects safe waterway transport and the provision of water and sanitation services.<sup>14</sup> There is medium confidence in climate change causing an increase in extreme precipitation and rainfall events in the coastal towns of Cauca and Nariño, projecting a higher hazard level in the future for river flooding, urban flooding, and landslides.<sup>15</sup> Municipalities also suffer from drought, which is expected to be exacerbated by climate change.<sup>16</sup> All these conditions can threaten waterway infrastructure as well as water supply and sanitation facilities. Specific ways in which the project addresses climate change vulnerabilities are included in Annex 2.

### C. Higher-Level Objectives to which the Project Contributes

10. **The proposed project supports WBG's strategic engagement in Colombia—the Country Partnership Framework FY2016-2021 (Report 101552-CO).** The project would support: (i) three objectives (1, 2, and 3) of this framework, including improving waterway transport operations and investing in WSS in vulnerable areas and (ii) the cross-cutting theme of "Assisting in Constructing the Peace."<sup>17</sup>
11. **The proposed project will support the PTSP's efforts including a peaceful transition.** It will do this by (i) reducing the infrastructure gaps between the Pacific and the Andean Regions; (ii) improving the quality and access to basic services; (iii) rebuilding confidence and credibility between national and subnational governments by the provision of infrastructure and basic services; (iv) promoting more effective participation of the authorities and community leaders in the preparation and implementation of projects; (v) creating opportunities for territorial integration and economic activities in the Pacific Region; and (vi) improving controls for cargo and passengers with formal docks, regulations and law enforcement. These contributions also support the spirit of the Havana agreement, specifically on territorial and rural development and reducing illegal crops and activities associated with drugs.
12. **The project will directly support the World Bank Group's twin goals** of ending extreme poverty and boosting shared prosperity by focusing on a region characterized by high levels of poverty, subnational fragility, inequality, legacies of the conflict, violence, forced displacement, poor basic service provision and

<sup>12</sup> *Atlas Climatológico de Colombia* 1981-2010. <http://atlas.ideam.gov.co/visorAtlasClimatologico.html>. Accessed July 11, 2017.

<sup>13</sup> Source: Climate and Disaster Risk Screening Report Tool for Water.

<sup>14</sup> *Análisis de la Gestión del Riesgo en Colombia*. 70103, V.2. Banco Mundial Colombia and GFDRR, 2012.

<sup>15</sup> [www.thinkhazard.org](http://www.thinkhazard.org), accessed August 4, 2017.

<sup>16</sup> Information on hazard and climate change projection confidence available at [thinkhazard.org](http://thinkhazard.org). Accessed April 24, 2017.

<sup>17</sup> The project is also closely aligned with the 2015 Systematic Country Diagnostic (SCD), which identifies lack of territorial integration as a major constraint to inclusive development.



climate change vulnerabilities.

## II. PROJECT DEVELOPMENT OBJECTIVES

### A. PDO

13. The Project Development Objective (PDO) is to improve: (i) waterway transport; and (ii) coverage and quality of water supply and sanitation services, in the Participating Municipalities.<sup>18</sup>

### B. Project Beneficiaries

14. **The proposed project will benefit around 147,000 inhabitants in participating municipalities<sup>19</sup>.** The majority of the population in the target area is poor, displaced, and/or affected by armed and illegal groups (FARC dissidents, ELN and organized armed groups). WSS improvements will result in savings of 13 percent of annual household income.

### C. PDO-Level Results Indicators

15. Selected indicators will measure progress toward meeting the PDOs, as well as the number of beneficiaries of the activities. The proposed indicators are:

- |  |  |
|--|--|
| <b>(a) To improve waterway transport</b>   | Time savings per 2.5 hr trip using navigation aids and rehabilitated/upgraded floating docks.  |
|  | Number of trips per month due to improved infrastructure, disaggregated by gender.   |
| <b>(b) To improve coverage and quality of water supply and sanitation services</b> | People in urban areas provided with access to improved water sources under the project, of which women (% coverage), of which poor (% coverage).           |
|  | People in urban areas provided with access to "improved sanitation facilities" under the project, of which women (% coverage), of which poor (% coverage). |
|  | Water quality poses no risk for human consumption in the selected municipalities. <sup>20</sup>  |

## III. PROJECT DESCRIPTION

### A. Project Components

16. The project will have the following components:

17. **Component 1: Improving waterway transport in participating municipalities (US\$ 23.5 million, all IBRD).**

<sup>18</sup> "Participating Municipality" means any of the following municipalities within the Republic of Colombia: (a) for Part 1.2 (a) and Part 3.1 of the Project: El Charco, La Tola, Mosquera, Olaya Herrera, Santa Bárbara de Iscuandé (located in Nariño Department), and López de Micay and Timbiquí (located in Cauca Department); and (b) for Part 2 and Part 3.2 of the Project, El Charco and Timbiquí; and (c) any other municipalities as the Borrower and the Bank shall agree upon and include in the Project Operational Manual.

<sup>19</sup> Olaya Herrera, La Tola, Santa Bárbara de Iscuandé, El Charco, Francisco Pizarro, Mosquera, Timbiquí, and López de Micay.

<sup>20</sup> Water Quality Risk for Human Consumption (*Índice de Riesgo de la Calidad del Agua para Consumo Humano*, IRCA) regulated by the Ministry of Health. Water is considered to pose no risk to human consumption when the IRCA rating is below five.



**(a) Subcomponent 1.1: Improving waterway navigation and safety (US\$ 2.6 million, all IBRD).** This subcomponent will reduce the travel time, improve the reliability and safety of waterway navigation (215 km) between the municipalities of Francisco Pizarro (Nariño) and Guapi (Cauca). The project will finance, *inter alia*: the design, installation, supervision, and maintenance of necessary signaling equipment (including, *inter alia*, bathymetric survey, navigation charts and transport signaling).

**(b) Subcomponent 1.2: Improving access to waterway transport in participating municipalities (US\$ 20.9 million, all IBRD).** This subcomponent will improve safe access to waterway transport, increase the window of navigation, reduce waiting time at docks, and increase the number trips per month. The project will finance, *inter alia*: (i) the construction, rehabilitation/update, operation and maintenance of floating docks and related infrastructure in participating municipalities, including the preparation and update of the relevant technical designs<sup>21</sup> (with consideration given to gender and people with disabilities) and the implementation of the environmental and social management plans; (ii) the design, the construction of the tertiary road of approximately three (3) kilometers connecting the center of the participating municipality of Timbiqui with the pertinent floating dock location; (iii) supervision and independent monitoring; and (iv) the acquisition of land, the provision of compensation (including cash compensation or other assistance paid to Displaced Persons) related to the implementation of the relevant resettlement action plans (RAPs) of the Project.

**18. Component 2: Improving water supply and sanitation services in participating municipalities: (US\$ 14 million, all IBRD).** The participating municipalities for WSS investments are identified on the basis of: (i) number of beneficiaries and poverty level, (ii) need to ensure provision of integrated services (water and sanitation), (iii) amount of investment, and (iv) readiness.

**(a) Subcomponent 2.1: Improving water supply services<sup>22</sup> in participating municipalities (US\$ 5.6 million, all IBRD).** This subcomponent will finance, *inter alia*, the: (i) designs, technical studies and plans (including water supply master plans, and feasibility studies)<sup>23</sup> and environmental and social safeguards instruments; rehabilitation/construction and supervision of new water-intake structures, raw water mains, new grid units, new water treatment plants, distribution water mains and networks; (ii) the installation and supervision of micro and macro-metering and pressure-monitoring systems<sup>24</sup>; (iii) the implementation and supervision of energy redundancy activities; and (iv) the installation and supervision of intra-domiciliary connections; (v) the acquisition of land, the provision of compensation (including cash compensation or other assistance paid to Displaced Persons) related to the implementation of the relevant RAPs of the Project; and (vi) the supervision of designs, technical studies and works (*interventoria integrada*).

<sup>21</sup> The GoC is preparing final designs and environmental and social management plans for one dock (department of Nariño).

<sup>22</sup> Improved water supply efficiency and new intake structures will contribute to adaptation to climate change. According to thinkhazard.org, climate change model projections are inconsistent in their estimates of change in drought hazard, which influences water scarcity. The present hazard level may increase in the future due to the effects of climate change. It would be prudent to design projects in this area to be robust to cope with increased drought hazard and water scarcity in the long term.

<sup>23</sup> Final designs will take into account climate change and gender considerations.

<sup>24</sup> Water-loss reduction through these measures in the municipality of El Charco is calculated to have a reduction of 882 t-CO<sub>2</sub> eq over the lifespan of the infrastructure. Calculations were performed using the Water Global Practice GHG Accounting tool.



**(b) Subcomponent 2.2: Improving sanitation services in participating municipalities (US\$ 8.4 million, all IBRD).** This subcomponent will finance, *inter alia*: (i) the designs, technical studies and plans (including sewer master plans, final feasibility studies, social and environmental safeguards instruments, (ii) construction/rehabilitation and supervision of wastewater collection, treatment (envisioned to discharge into the nearby rivers) and disposal systems; (iii) the installation and supervision of main collectors, pumping stations, force mains, secondary networks and intra-domiciliary connections, (iv) the implementation of public sanitation facilities and solutions for hard-to-reach areas and stilt houses,<sup>25</sup> (v) the supervision of designs, technical studies and works (*interventoria integrada*), and (vi) the acquisition of land, the provision of compensation (including cash compensation or other assistance paid to Displaced Persons) related to the implementation of the relevant RAPs of the Project.

**19. Component 3: Capacity building and institutional strengthening for waterway transport operators and WSS service providers in participating municipalities (US\$ 2.0 million, all IBRD).**

**(a) Subcomponent 3.1: Strengthening waterway transport (US\$ 1.0 million, all IBRD).** This subcomponent will strengthen the institutional capacity to support improved performance and achieve efficient, sustainable and safe waterway transport, including, *inter alia*: (i) provision of technical assistance to INVIAS and relevant local authorities on dock management; (ii) provision of training to waterway transport providers on, *inter alia*, safety navigation, first aid, boat mechanics, (including knowledge on gender-based violence [GBV] prevention in public transportation with gender perspective), *inter alia*; (iii) preparation of a regional transport plan for the Pacific coast of the Republic of Colombia and intermodal pre-feasibility studies for the connectivity options between the municipalities of Tumaco-Francisco Pizarro and Santa Barbara de Iscuande-Guapi; (iv) provision of technical assistance for the review and strengthening of the waterway regulatory framework; (v) creation of traffic database and purchase of related equipment; (vi) satisfaction surveys to track results and feedback on safety and quality of waterway transport services; and (vii) preparation of other related studies.

**(b) Subcomponent 3.2: Strengthening WSS provision (US\$ 1.0 million, all IBRD).** This subcomponent will finance goods, equipment, consultancies, technical studies, training and learning exchange activities to strengthen the capacity of authorities and WSS service providers in the participating municipalities and support, *inter alia*: (i) the development and operationalization of adequate, climate change and gender-informed service delivery management WSS models; (ii) the development and implementation of administrative, technical and commercial tools, including demand management and non-revenue water management programs, to improve operational efficiency; (iii) the development and implementation of monitoring tools for tracking services status and for routine capturing of consumers' feedback on the quality of service provided by operators; (iv) the carrying out of technical studies and learning exchange activities on, *inter alia*, demand management, non-revenue water, integrated urban water management, sanitation solutions for hard-to-reach area and stilt houses; and (v) the update of WSS master plans and detailed designs for additional municipalities in the departments of Nariño and Cauca under the PTSP.

<sup>25</sup> This will help reduce the high risk of fecal pollution due to projected high hazard for coastal flooding/landslides due to climate change.



20. **Component 4: Project management and environmental and social management. (US\$ 2.4 million, all IBRD).** Supporting project implementation in the areas of, *inter alia*, financial management (including audits), procurement, disbursement and safeguards management, including but not limited to, the financing of Operating Costs.

### B. Project Cost and Financing

21. The total cost of the proposed project is estimated to be US\$ 41.9 million.

Project Components	Project Cost	IBRD Financing	Counterpart Funding
1: Improving waterway transport in participating municipalities	23.50	23.50	
2: Improving WSS services in participating municipalities	14.00	14.00	
3: Capacity building and institutional strengthening for waterway transport operators and WSS service providers in participating municipalities	2.00	2.00	
4: Project management and environmental and social management	2.40	2.40	
<b>Total Costs</b>	<b>41.90</b>	<b>41.90</b>	
Total Project Costs			
Front End Fees			
	<b>41.90</b>		
<b>Total Financing Required</b>			

### C. Lessons Learned and Reflected in the Project Design

22. **Lessons learned from previous and ongoing projects.** Lessons from FCV countries (Pakistan, the Philippines and Chad) show that activities should: (i) focus on working bottom-up through communities to reach the most vulnerable and conflict-affected population, and it is critical that the project is designed with a range of flexibility to respond to community needs; (ii) projects should foster social cohesion and partnerships in conflict-affected areas, but are not necessarily effective at alleviating poverty, presumably because an improvement of the security situation has a much more important impact on poverty reduction than investments in infrastructure; and lessons from Colombia show: (iii) a comprehensive and experienced construction supervisor firm (*interventoria integrada*) needs to be complemented by third-party monitoring to provide feedback and guidance, including the participation of the communities; (iv) embracing social and environmental safeguard approaches, including citizen engagement activities with extensive and regular consultation processes, transparency and accountability; (v) decentralization of the PIU with qualified and local staff can improve the interaction with authorities and community leaders and build credibility and confidence; (vi) identification of security risks needs to be included in the bidding documents to guide pricing of goods and services, including participation of local providers; (vii) agreements will create the confident mechanisms to facilitate and support the project; and (viii) unforeseen costs and delays are expected and need to be considered in cost of the activities; and the strengthening of the UNGRD team and ensuring the presence of the PIU in the project area and the participation of key



stakeholders (municipalities, communities, etc.).

## IV. IMPLEMENTATION

### A. Institutional and Implementation Arrangements

23. **The GoC has created a centralized institutional model to implement the *Plan PAZcifico* projects financed by multilaterals.** The GoC created a dedicated trust fund, *Fondo para el Desarrollo del Plan Todos Somos PAZcifico (FTSP)*, to manage the lending resources. FTSP has delegated the implementation of projects to UNGRD and the Fiduciaria La Previsora, S.A.<sup>26</sup>, which is the fiduciary agent and the legal representative of the borrower. An executive committee (Junta Administradora of FTSP) is comprised of senior representatives from MHCP, DNP, two governors and two mayors from the Pacific Region, and three representatives from the presidency. The executive committee's main function is to approve the annual work plans, define strategic guidelines, and carry out general monitoring of the plan's execution through the Executive Director (also called *Gerente Pazcifico*). To ensure technical coordination and the support for the preparation and the approval of the sub-projects, the UNGRD will establish project technical committees (Comités Técnicos) with staff from INVIAS, MT, Direccion General Maritima (DIMAR), MVCT, and UNGRD. The operational manual POM will define the role of the technical committees as well as the frequency of meetings. Municipal coordination offices will be established, and municipalities will be involved through Collaboration Agreements with the UNGRD and other relevant stakeholders in the overall investment and operational approach. In addition, UNGRD and relevant entities (INVIAS and DIMAR) will agree on their respective coordination, implementation, operation and maintenance roles prior to carrying out works under Component 1 of the Project, to help facilitate the readiness, approval processes, consultation and the transfer of assets.
24. **The UNGRD has hired a general coordinator and part of the core team to lead the implementation of the projects.** Key senior staff has been hired to support the implementation of the projects financed by multilaterals. The WB has advised to include, as part of the field staff, qualified social specialists to facilitate the participation of communities and municipalities and a security specialist.

### B. Results Monitoring and Evaluation

25. **The monitoring and evaluation system is designed to ensure that the project is implemented in accordance with the objectives and expected results.** The project's progress will be assessed and documented in progress reports that will include the updated annual plan of works and activities, including communities' participation. The UNGRD will prepare semiannual reports in coordination with the Ministry of Transport (MT), INVIAS, Maritime Authority (DIMAR), and MVCT.

### C. Sustainability

26. **GoC, municipalities and community engagement will ensure the approval of designs, construction and the sustainability of the waterway infrastructure.** INVIAS (linked to the MT) is responsible for the approval of dock's final designs. Municipalities and communities will be consulted on their needs and how designs

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<sup>26</sup> Decree # 2121, November 3, 2015.



and construction will address these needs, including the support to the Project. Upon completion of the transport signaling and dock, FTSP will transfer the infrastructure to INVIAS for its long-term operation. The UNGRD will agree with INVIAS and DIMAR on the respective coordination, implementation, operation and maintenance roles and responsibilities under Component 1 of the Project to ensure the long-term maintenance. In addition, to strengthen safety waterway navigation, DIMAR is planning to install navigation aids, including its maintenance. With regards to WSS, MVCT is responsible for final design approval and for ensuring service management and sustainability by municipalities. Current tariffs are not enough to cover WSS service operating costs in the participating municipalities. These municipalities have their customers classified in Strata 1—the lowest strata—they are entitled to get subsidies up to 70 percent of the operating costs through transfers from the *Sistema General de Participaciones* (SGP). In addition, municipalities will be supported to develop adequate WSS service management models and strengthen the operators' capacities to ensure operational sustainability.

27. **Given the FCV risks and restraints in the Pacific Region, the task team will continue monitoring the context through Effective Context-Sensitive Approaches to mitigate these risks during project implementation.** The integrated and ethnographic approaches will help break 'fragility traps,' restore citizen's confidence, win "hearts and minds," secure assets, and build able institutions and peace through collaborative implementation processes, cordial spaces and dialogues, consultations, strategic communications, and gender sensitization. The task team will adopt "step-by-step" contractual, procurement, fiduciary, and monitoring and evaluation practices through time-oriented, transparent, accountable, committed and invested practices, through the horizon of the project. The task team must acclimate to "Do No Harm" strategies. The key practices to mitigate FCV risks must entail inclusive participatory processes by employing 'change theories,' unfreezing-change-refreeze model. It is pertinent that the driving and restraining practices must be analyzed before implementing any process, hinged on local context. The task team must trace 'key-enablers' through differentiated FCV approaches to find 'entry points' for successful project implementation. The contextual realities, linkages between conflict and resources, conflict-triggers, peace-engines, and peace process must serve as accurate assumptions throughout the project implementation processes. Security conditions are worsening in the Pacific Region. Therefore, given the sensitive and perilous nature of the conflict, it is highly recommended and advised to select the appropriate providers and constructors.

## V. KEY RISKS

### A. Overall Risk Rating and Explanation of Key Risks

28. **The overall risk rating for the project is considered to be high.**
29. **Stakeholder risk is considered to be high in the context of local environment/political dominance and potential opposition to the introduction of regulations and controls:** informal waterway transport operations, illegal cargo traffic (drugs, mining, logging, etc.) that drives the regional economy, and volumetric billing of water could create tensions during project implementation. Mitigation measures include the implementation of an Information, Communication and Participation Plan (ICPP), which includes a Grievance and Redress Mechanism (GRM) and other approaches that involve local authorities and the community. Within the context of this fragile environment, the project design will consider including communities participation: a percentage of local labor force, by gender, in works contracts and complementary contracts to mitigate labor inflow risks, and work closely under agreements with local authorities, municipalities, third-party monitoring, and the procurement and social safeguards team to



ensure that bidding processes consider all the risks (including security), are competitive, inclusive, and transparent. The *Gerencia Pazcifico*, MT, DIMAR, and the municipalities will also play a key role in mitigating this risk.

- 30. **Institutional risks are considered to be high due to potential issues arising from the complexity of the institutional arrangements for project implementation and intergovernmental coordination.** To mitigate these risks, MVCT will play a key role supporting and monitoring the departments to terminate the pending contracts with consulting firms and the municipalities in developing basic designs and implementing sustainable service delivery models. In addition, supervisors will be hired to support the UNGRD by providing quality control of the final designs and facilitating the approval process with the MVCT. The GoC has indicated that the sub-projects' approval will be prioritized by the ministries.
- 31. **The current security risk level is assessed as high and WB staff, consultants, and contractors who are expected to be deployed in the area will face the possibility of being confronted by illegal armed groups.** The project is located in an area where illegal groups are active and displacing the locals. Security risks are exacerbated by the logistical difficulties to reach the region and the lack of reliable medical structures. Armed groups (FARC dissidents, ELN and organized armed groups) and former FARC members can be recruited by criminal gangs. This risk could delay project implementation and threaten the safety of the task team (TT), consultants, and contractors. The WB team will continue attending mandatory security training; the security team will be strengthened; risk assessment will be updated periodically to address the changes in the environment; WB team will work closely with the GoC, CMU, the United Nations and the World Bank Security Specialist to address evolving security situations.

## VI. APPRAISAL SUMMARY

### A. Economic and Financial (if applicable) Analysis

- 32. **The project will have a positive impact on the residents of the participating municipalities.** The main economic benefits are: (i) travel time savings, reduction of operational costs and waiting time for passengers at floating docks. These benefits will allow the reduction of generalized travel costs, in particular, for women (42 percent of total passengers, without project), elderly, and people with disabilities; and (ii) savings on water supply, health improvement by saving costs of treatment of waterborne diseases, and improvement of personal hygiene practices. The economic evaluation performed shows robust results: 16.2 percent of economic rate of return (IERR) (15.7 percent and 17 percent for waterway and WSS components, respectively). These are conservative estimates that do not account for all expected benefits, such as the impact on the environment, local economy etc.

Table 1. Results of the economic analysis

Component	Present Value of Net Benefits (000 US\$)	IERR
1: Waterway transport	12,374	15.7%
2: Water and sanitation		
Timbiqui	8,772	15%
El Charco	11,841	20%
Total water and sanitation	20,614	17%
<b>Total project</b>	<b>32,988</b>	<b>16.2%</b>

## B. Technical

33. **Designs take into account best practices on climate change mitigation and adapt solutions to the context and previous experience in Colombia.** Technical considerations include: (i) transport signaling and floating docks to reduce travel time, fuel consumption, and adaptation to tide variances; and (ii) WSS water-intake protection, relocation or replacement of existing key components and pipes when needed, regularization of household water supply connections and reduction of non-revenue water, adequate choice of sanitation infrastructure, and normalization of sewer collectors and household connections.
34. **Climate change mitigation and adaptation co-benefits.** The project will contribute significantly to climate change mitigation by reducing CO2 emissions, as a result of: (i) reductions in travel time due to the improvements of navigation and access to/from the waterway, (ii) reduction of pressure for road construction in the southern part of the Pacific Region,<sup>27</sup> and (iii) improvement of energy efficiency and leak reduction in water supply.<sup>28</sup> The total climate co-benefits are around 68 percent<sup>29</sup> and shown in Table 2.

**Table 2. Climate co-benefits**

Subcomponents	Total IBRD for Subcomponent (US\$ million)	Mitigation Associated Commitment (US\$ million)	Resilience Associated Commitment (US\$ million)	CC Mitigation Co-Benefits (% of cost)	CC Adaptation Co-Benefits Commitment (% of cost)
1.1 Improving waterway navigation and safety	2.6	2.6	2.6	100 <sup>30</sup>	100
1.2 Improving access to waterway transport in participating municipalities	20.9	20.9	20.9	100	100
2.1 Improving water supply services in participating municipalities	5.6	-	1.4	-	25 <sup>31</sup>
2.2 Improving sanitation services in participating municipalities	8.4	-	4.2	-	50 <sup>32</sup>
3.1 Strengthening waterway transportation	1.0	0.5	0.5	100	100
3.2 Strengthening WSS provision	1.0	0.16	0.24	16	24
4. Project management and environmental and social management	2.4	1.37	0.01	72	5

35. **Designs will include gender-informed environmental design and inclusion approaches.** Floating docks and WSS infrastructure will be designed to address gender and elderly needs by providing safe access.
36. **Given the context of the Pacific Region, logistics for construction will be challenging.** Construction

<sup>27</sup> The GoC estimates that the waterway may save 7,400 ton of CO2 per year. (DNP, 2015).

<sup>28</sup> Estimated reduction of 882 t-CO2 eq through energy efficiency improvement and water leak reduction in El Charco (7.14 percent of Component 2).

<sup>29</sup> 63.3 percent and 72.3 percent in mitigation and adaptation, respectively.

<sup>30</sup> Given the emission factor of 8.9 kg-CO2 per gallon of gasoline, the gross and net CO2 emissions are calculated at 1,297 t-CO2 and 216 t-CO2 respectively over 20 years.

<sup>31</sup> All of the activities in Component 2 address the vulnerabilities identified.

<sup>32</sup> All of the activities in Component 2 address the vulnerabilities identified.



equipment and raw materials need to be transported by sea, river and by narrow estuaries or waterways to participating municipalities. Since the Pacific Region is the wettest of Colombia (between 3,000 mm and 11,000 mm of rainfall per year), construction will be affected, and unforeseen costs are expected.

### C. Financial Management

37. **A financial management (FM) capacity assessment of the UNGRD and Fiduprevisora S.A. was conducted to review the adequacy of the FM arrangements.** In accordance with WB Policy OP/BP 10.00 for the implementation of the Project, the UNGRD, as the implementing agency has limited experience with infrastructure operations financed by multilateral banks. Fiduprevisora S.A. will be the fiduciary agent as well as the loan recipient. Both entities have sound internal control procedures. However, given the project's inherent risk, important mitigation measures are required, including: (i) an approved Project Operational Manual with clear roles and responsibilities for participating entities in the program, including, but not limited to, the UNGRD, Fiduprevisora S.A., and the ministries involved; (ii) implement the Operating Regulations (*Reglamento Operativo*) between UNGRD and Fiduprevisora S.A. to guide, *inter alia*, responsibilities of both entities; and (iii) a financial information system.
38. **The overall FM-assessed risks for the project are all rated substantial at entry.** Considering the complex implementation arrangement, which requires important interactions with different ministries and field presence, and the incipient experience of the UNGRD implementing multilateral financed projects (including a WB project P156239), close supervision and coordination is required during implementation. The rating also reflects that the project will be implemented through a new mechanism established by the GoC, which considers: (i) the PTSP fund with Fiduprevisora S.A. as the Borrower's representative and the fiduciary agent, with a loan repayment guarantee from the Republic of Colombia (Ministry of Finance); and (ii) the UNGRD as the implementing agency. To mitigate risks, an action plan will be determined with the executing entity. It will be monitored by FM during project implementation.

### D. Procurement

39. **Procurement arrangements.** Procurement will be conducted according to the Bank's Procurement Regulations for IPF borrowers, issued in July 2016, for the supply of works, goods, non-consulting and consulting services. The Bank's Standard Procurement Documents will govern the procurement of Bank-financed Open International Competitive Procurement. For procurement involving National Open Competitive Procurement, and other methods, the documents will be agreed with the Bank.
40. **Procurement capacity assessment.** An updated capacity assessment of the UNGRD was carried out which concluded that UNGRD has the adequate capacity to implement the procurement activities. However, it is necessary to complete the procurement team per the structure proposed in the project implementation arrangements. Considering the participation of multiple actors and entities in this project, the Project Operational Manual will include clear roles and responsibilities (Annex 3).

### E. Social (including Safeguards)

41. **The Departments of Nariño and Cauca have high rates of unsatisfied basic needs (UBN).** These Departments are characterized by low access to quality public services and low income. The main gaps include the reliability and safety of waterway transport, coverage of WSS, electricity, vaccination, housing,



infant mortality rate, and education. In this context, citizen engagement is critical for the design and implementation of the proposed Project.

42. **The south of the Pacific Region, due to its geostrategic location, has facilitated the cultivation of illicit crops and its distribution, and a territorial dispute involving the different illegal armed groups.** There are two main areas of coca production: the municipality of Tumaco, which is the main producer, and between the municipalities of La Tola and El Charco.<sup>33</sup> Since the nineties, Tumaco and Buenaventura ports have been strategic points for drug distribution. The strengthening of the illegal economy has unleashed violence against the population.
43. **The ELN controls the exploitation of gold mines in López de Micay and the Pacific coast of Cauca.** Since 2002, this illegal armed group has taken territory in the high parts of Rivers Guapi and Napi. As a result, coca cultivation and production and illegal mining has been concentrated by outsiders, violently suppressing the artisanal mining of communities.
44. **Despite the ongoing implementation of the Havana peace agreement, violence in the Region continues as a result of new actors who are fighting for the dominion of the territory.** In October 2017, approximately 300 afro-Colombian families from Tumaco were internally displaced.
45. **The identification of ethnic groups in the project area has triggered policy OP 4.10 Indigenous Peoples and the possible land acquisition in the urban areas has activated policy OP 4.12 Involuntary Resettlement.** A Resettlement Policy Framework (RPF) and an Indigenous Peoples Plan (IPP) have been prepared and properly consulted in the Municipalities of El Charco (July 31, 2017) and Timbiquí (August 1, 2017). In addition, an Information, Communication and Participation Plan (ICPP) has been prepared and consulted, which seeks to generate channels for participation and greater interaction between communities around the project. Final versions of the social safeguards instruments are available at <http://portal.gestiondelriesgo.gov.co/Paginas/Gestion-ambiental-y-social-PTSP.aspx> (Borrower website, August 17, 2017) and Bank's website (August 18, 2017).
46. **Labor influx.** Given the typology of the works and the technology involved, which will not require a considerable amount of labor influx, the impact from the presence of foreign personnel on the community is expected to be low. However, the following actions are proposed as preventive measures: (i) prior to the beginning of works, the project will seek the support of existing women's organizations in each municipality and enhance its appropriation by the community to facilitate good management of the works; (ii) include in all the work contracts the Women Caring for the Territory program of the ICPP plan; (iii) include in the bidding documents the requirement of a Code of Conduct to outline the contractor's responsibilities to create a positive workplace culture, managers to ensure that culture is implemented, and individuals to adhere to the principles of that culture and not to engage in GBV and/or CAE; (iv) the GRM will be able to receive reports on GBV and child abuse and refer the people to the corresponding support services; (v) include in all works contracts the formalization of an articulation with the agencies in charge of administration of justice (police stations, ombudsman office, etc.), health, education, religious, control and audit entities (*Defensoría del Pueblo*, *Personería*, etc.) and other existing entities in the area, including a Response Protocol applicable to GBV survivors, and (vi) include in the bidding documents the requirement for the contractor to require all employees to attend trainings prior to commencing works to reinforce their

<sup>33</sup> Nariño Departmental Development Plan 2016-2019.



understanding of HIV/AIDS, GBV, and child abuse and exploitation. Subsequently, employees should have regular training. The indicator will reflect the work with citizens.

47. **Gender. The project identified significant limitations for female users to access to waterway transport and WSS due to the nature of the docks, the poor conditions, and security concerns.** Waterway transport for female users is limited by the lack of appropriate conditions, for example, waiting areas, lighting, platforms to access the vessels, and the risk of violence exacerbated by armed actors over women. Women are also subject to violence when they collect water and use public latrines. The women consulted, through the Poverty and Social Impact Analysis (PSIA), emphasized the long distance to the hospital of Tumaco as one of the main factors that aggravated the condition of pregnant women under high risk, given that waterway transport is unreliable, unaffordable and unsafe. Women identified lack of economic opportunities and of access to more and better jobs as their biggest concerns. Women do not see formal jobs as an option. They mainly sell food, wash clothes or provide small tailoring services. In addition, 51 percent of women do not consider the available waterborne transportation to be making job opportunities more accessible, and 41 percent consider waterway transport as unsafe. The PSIA showcases a lack of familiarity with consultation/participatory and feedback/redress mechanisms; indigenous and Afro-Colombian women are mainly discriminated in the consultation processes.
48. **To reduce these gaps, the project proposes the following measures:** incorporate GBV prevention in its environmental design to take into account the concerns and needs of women from the focus groups of the PSIA regarding personal security at the docks. Infrastructure aspects such as lighting, visibility, security, walk path, transport, gender diversity, and feeling of safety will be considered. This will be accompanied by a training under Component 3 of transport operators on violence prevention. To mitigate health risks related to travel conditions for sick and pregnant women, transport operators will receive first-aid trainings. The project will facilitate women's economic participation by employing them for the daily operations of the docks and providing, when possible, a space on the docks for selling of crafts. Women's employment will also be encouraged within the Water Management System. This will be promoted through gender-sensitive recruitment practices and complemented by gender-sensitization training for transport operators and WSS service providers through the component of capacity building and institutional strengthening. Focus groups and surveys with women will be conducted to receive feedback on the waterways' infrastructure/regulations improvements and water supply service delivery. This will guarantee that gender-differentiated needs have been properly addressed. Finally, other programs of socialization and pedagogy defined by ICPP and IPP will foster more balanced relationships and an understanding of gender roles in the communities.

#### F. Environment (including Safeguards)

49. **The benefits related to the construction and rehabilitation of docks are:** (a) travel time savings; (b) reduction of waiting time; (c) improvement on safety conditions of navigation and at docks for boarding and loading vessels; (d) strengthened capacity of operators in safe transportation; and (e) better access to waterway transport for women, elderly, and people with disabilities in the southern of the Pacific Region.
50. **The project is expected to generate important environmental sustainability and public health benefits in participating municipalities** by eliminating (a) latrines and septic pits that contaminate surface water and



groundwater sources; (b) the discharge of untreated domestic wastewater into water bodies; and (c) the risk of contamination of drinking water networks.

51. **The project triggers OP/BP 4.01 Environmental Assessment and is categorized as B, based on the project works that are considered to have minor to moderate potential impacts that can be mitigated by standard measures.** Detailed designs and site selection for civil works will be completed during project implementation. As such, the UNGRD prepared an Environmental Management Framework (EMF) to assess and manage the environmental impact of the proposed sub-projects. The EMF includes baseline data, policy, legal, and institutional framework; identification of environmental impacts; mitigation measures; and control and supervision measures, as well as the environmental management instruments for the construction of docks, aqueducts, and sewage systems. These instruments will be applied to ensure that each activity has a tool to control the environmental impacts of the project, and allows the UNGRD adequate supervision and control. The EMF annexes include guidelines that are required to comply with the Bank's Environmental Safeguards. The EMF identified potential environmental risks during the construction phase, such as disruptions to traffic and noise associated with construction, and noise or odors from the operation of sanitation facilities. No asbestos pipes will be purchased, and existing asbestos pipes and other solid waste will be disposed of in accordance with Colombian regulations. The project triggers OP/BP 4.04 Natural Habitats and OP/BP 4.36 Forests given the type of works and potential locations and associated environmental conditions. In addition, OP/BP 4.11 Physical Cultural Resources is triggered to cover any chance finds of cultural or archaeological significance during construction.
52. **EMF was consulted and disclosed in-country and on the Bank's external website. The EMF of the project has been socialized properly by the UNGRD in the following scenarios and dates:** (i) GoC entities (INVIAS, DNP and MVCT, May 2, 2017; Ministry of Transport, June 8, 2017; (iii) regional public consultation, mayors of municipalities: El Charco, La Tola, Santa Barbara de Iscuandé, López de Micay, and Mosquera, and the Association of Municipalities of the Pacific Coast (ASOMPAS), June 14, 2017; public consultations with the municipalities of El Charco and Timbiqui, July 31 and August 1, 2017. The participants were agreed with the responsibilities, institutional agreements proposed and the proposed environmental management instruments. In addition, a virtual consultation of the EMF (and social safeguards documents) was carried out. The EMF (and social safeguards documents) of the project were sent to relevant entities for consultation. Additional comments were received through the email [pazcifico@gestiondelriesgo.gov.co](mailto:pazcifico@gestiondelriesgo.gov.co). The final version of the EMF became available at the UNGRD (Borrower) website on August 17, 2017, at <http://portal.gestiondelriesgo.gov.co/Paginas/Gestion-ambiental-y-social-PTSP.aspx> and at the Bank's website on August 18, 2017.



#### **G. World Bank Grievance Redress**

53. **Communities and individuals who believe that they are adversely affected by a WB-supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS).** The GRS ensures that complaints are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaints to the WB's independent Inspection Panel, which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the WB's attention, and WB management has been given an opportunity to respond. For information on how to submit complaints to the WB's corporate GRS please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

## ANNEX 1. RESULTS FRAMEWORK AND MONITORING

### Results Framework

COUNTRY : Colombia

Enhancing Waterway Connectivity and Water Service Provision in Colombia's Plan Pazcifico

#### Project Development Objectives

The Project Development Objective (PDO) is to improve: (i) waterway transport; and (ii) coverage and quality of water supply and sanitation services, in the Participating Municipalities.

#### Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> Time savings (minutes) per 2.5-hour trip using navigation aids and rehabilitated/upgrade floating docks.		Number	0.00	15.00	Yearly	The PIU will collect data from operators for trips from Francisco Pizarro and Mosquera or Guapi to Timbiqui ification of each passenger.	UNGRD

Description: This indicator measures the effect on travel time after the interventions on navigation, access and transport operations in the waterway.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> Number of trips per month due to improved infrastructure.		Months	1.00	2.00	Yearly	Traffic records and survey in 3 main municipalities. The UNGRD will conduct this assessment.	UNGRD
Female users		Months	0.80	2.00	yearly		UNGRD
<p><b>Description:</b> Number of trips per month after the docks are rehabilitated/upgraded and the reduction in waiting time. It is expected an increase in the number trips/month, in particular in women, elderly and people with disabilities.</p>							
<b>Name:</b> People in urban areas provided with access to improved water sources, of which women (% coverage), of which poor (% coverage)		Number	0.00	9550.00	Twice a year	Contractor and supervision reports. The classification of urban areas will follow the official definition used by the GoC. The data on the number of people provided with access will be estimated by multiplying the actual number of piped connections with an estimate of the number of people per household connection. According to DANE, there are 4.8 people and 4.9 people per household in El Charco and Timbiqui, respectively.	UNGRD

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Female beneficiaries		Percentage	0.00	50.00	Twice a year	Contractor and supervision reports.	UNGRD
Poor beneficiaries		Percentage	0.00	90.00	Twice a year	Contractor and supervision reports. Poor people are considered those who belong to socioeconomic strata 1 and 2, as classified by the Departamento Administrativo Nacional de Estadística (DANE).	UNGRD
<p><b>Description:</b> This indicator measures the cumulative number of people in urban areas of the municipalities of El Charco and Timbiqui who benefited from improved water supply services that have been constructed under the Project. This includes people provided with new piped household water connections and does not include people benefiting from rehabilitation works.</p>							
<b>Name:</b> People in urban areas provided with access to “improved sanitation facilities” under the Project, of which women (% coverage), of which poor (% coverage)		Number	0.00	7350.00	Twice a year	Contractor and supervision reports. The data on the number of people provided with access will be estimated by multiplying the actual number of sewer connections with an estimate of the number of people per household	UNGRD

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
						connection. According to DANE, there are 4.8 people and 4.9 people per household in El Charco and Timbiqui, respectively.	
Female beneficiaries		Percentage	0.00	50.00	Twice a year	Contractor and supervision reports.	UNGRD
Poor beneficiaries		Percentage	0.00	80.00	Twice a year	Contractor and supervision reports. Poor people are considered those who belong to socioeconomic strata 1 and 2, as classified by the Departamento Administrativo Nacional de Estadística (DANE).	UNGRD
<p><b>Description:</b> This indicator measures the cumulative number of people in urban areas of the municipalities of El Charco and Timbiqui who benefited from “improved sanitation facilities” that have been constructed under the Project. This includes people newly provided with household sewer connections and adequate on-site sanitation solutions, and does not include people benefiting from rehabilitation works.</p>							
<b>Name:</b> Water quality poses no risk for human consumption in the selected municipalities (IRCA < 5)		Yes/No	N	Y	Yearly	This indicator is measured using the Colombian Index for water quality risk for human	UNGRD (MoH)

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
						consumption (Indice de riesgo de la calidad de agua, IRCA) that is regulated by the Ministry of Health (MoH), as approved by Resolution No. 2115, June 22, 2017. The MoH carries out regular monitoring of the quality of drinking water supply in Colombian municipalities based on the 22 quality parameters defined by the IRCA index. Water Quality is considered to pose no risk for human consumption when the IRCA rating is below 5 points	
Description: This indicator measures whether the quality of the water supplied poses no risk for human consumption in the participating municipalities.							

**Intermediate Results Indicators**

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> Number of docks built, of which include		Number	0.00	5.00	Yearly	The contractor will report the completion of the works	UNGRD

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
gender based violence prevention environmental design and the specific needs of the elders and people with disabilities						under the specifications pointed in the final designs. The UNGRD will ensure the dock has been built.	
<p><b>Description:</b> The indicator will measure the number of docks infrastructure built. Considering the fragile and post conflict context, as well as the presence of illegal cargo, the team suggested to set as a target 5 of the 7 docks. This will introduce flexibility in case the context become more challenged to complete the works.</p>							
<b>Name:</b> Number of maintenance works in docks		Number	0.00	5.00	Yearly, after implementation	The contractor will report the completion. The PIU will verify the maintenance works are being carried out.	UNGRD
<p><b>Description:</b> The indicator will measure the number of floating docks with maintenance works.</p>							
<b>Name:</b> Citizens and communities involved in project implementation		Yes/No	N	Y	At the end of works	Contractor and supervision reports.	UNGRD
<p><b>Description:</b> The indicator will measure the participation of citizens and communities in the design construction and maintenance of the infrastructure (docks and WSS).</p>							
<b>Name:</b> Percentage of indicative and informative signals implemented		Percentage	0.00	100.00	At the end of works	Contractor and supervision reports.	UNGRD

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Description: The indicator will measure the percent of informative signals installed to improve navigation.							
<b>Name:</b> Number of navigation charts approved		Number	0.00	25.00	At the end of works	The contractor will report the completion and provide the information to the PIU.	UNGRD
Description: The indicator will measure the number of indicative and informative signals placed in the South Pacific Region.							
<b>Name:</b> New piped household water connections that are resulting from Project intervention		Number	0.00	1910.00	Twice a year	Contractor and supervision reports. The contractor should have a registry of all new household water connections constructed.	UNGRD
Description: This indicator is measured as the cumulative number of piped household water connections resulting from the Project intervention t in the municipalities of El Charco and Timbiqui that are new (not rehabilitated). Piped household water connections are defined as connections that provide piped water to consumers through either house or yard connections.							
<b>Name:</b> Piped household water connections that are benefiting from rehabilitation works undertaken by the Project		Number	0.00	1080.00	Twice a year	Contractor and supervision reports. The target value is the existing water supply clients who are expected to see improvements in their water service quality and/or	UNGDR

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
						quantity.	
<p><b>Description:</b> This indicator is measured as the number of piped household water connections benefiting from rehabilitation works in the municipalities of El Charco and Timbiqui. Rehabilitation works are undertaken so that existing customers see the quantity and/or quality of their water supply services enhanced.</p>							
<b>Name:</b> New household sewer connections constructed under the Project		Number	0.00	740.00	Twice a year	Contractor and supervision reports. The contractor should have a registry of all new sewer connections constructed.	UNGRD
<p><b>Description:</b> This indicator is measured as the cumulative number of new sewer connections constructed under the Project in the municipalities of El Charco and Timbiqui.</p>							
<b>Name:</b> Water supply continuity in participating municipalities supported by the project (hours per day)		Text	2 hour per day	> 16 hours per day	Twice a year	Supervision and operators reports.	UNGRD
<p><b>Description:</b> Weighted average of the number of hours of water supply per day in El Charco and Timbiqui.</p>							
<b>Name:</b> Level of non-revenue		Text	No Data	< 50 %	Twice a year	Supervision and operators	UNGRD

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
water in selected municipalities supported by the project (%)						reports. Considering the situation of participating municipalities, it is acceptable if the operators reach a value of less than 50% and adopt a non revenue water program to execute after the project.	
<p><b>Description:</b> Non-revenue water is the difference between the volume of water put into the water distribution system and the volume of water billed to the customers. This indicator will be calculated as the average percentage of non-revenue water in participating municipalities weighted by population.</p>							
<b>Name:</b> Percentage of women employed through the project		Percentage	0.00	20.00	Yearly	The constructor will report gender data of workers and performance .	UNGRD
<p><b>Description:</b> This Indicator measures the percentage of women employed by the project to deliver different tasks during construction and operation.</p>							
<b>Name:</b> Percentage of waterway operators with license (formalization)		Percentage	50.00	75.00		The selected entity will set up a record of the number of waterway pilots with license and compare to the total number of waterway pilots. The entity will provide the information to the PIU.	UNGRD

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
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Description: The indicator will measure the percentage of waterway pilots with licenses and complying with the regulation in the South Pacific Region.

<b>Name:</b> Data base of waterway transport operations		Yes/No	N	Y	Yearly	The Ministry of Transport (MT) will recorded the operation to track unsafety operation and to incentive formalization. MT will provide the information to the PIU.	UNGRD
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Description: The indicator will measure the number of passengers, cargo and boat operations from/to the municipalities (El Charco and Timbiqui).

<b>Name:</b> Number of transport operators trained (safety transport operation and docks management which incorporate a gender approach)		Number	0.00	80.00	Yearly	The National Education Agency (SENA) will deliver the courses and will provide the information to the PIU.	UNGRD
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Description: The indicator will measure the number operator and courses delivered in the South Pacific Region in: (i) operation (waterway navigation, first aids with gender perspective, boats mechanic, gender based violence prevention), and (ii) docks management.

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> WSS Institutional and Operational Management Models for El Charco and Timbiqui developed and in implementation (Yes/No)		Yes/No	N	Y	Twice a year	WSS Institutional and Operational Management Model. In addition to reporting whether the model has been developed, comments should be included in progress reports to indicate the steps taken to implement it.	UNGRD
Description: WSS Institutional and Operational Management model for El Charco and Timbiqui developed and in implemented.							
<b>Name:</b> Percentage of waterway transport users satisfaction		Percentage	0.00	70.00	During the fourth and sixth year of project implementation.	Surveys conducted by the PIU to relevant sample of waterway transport users, to capture the level of satisfaction and the more access to transport.	UNGRD
Percentage of women beneficiaries with access to waterway transportation		Percentage	46.00	75.00		Construction and supervision reports	UNGRD
Description: Surveys on the quality of waterway transport provisions before and after the improvement of navigation and floating ducks. The results will provide evidence on the safety, reliability, and performance of transport operators, as well as feed back to improve the service. This survey will be focus specially on female users, elderly and people with disabilities.							



Target Values

**Project Development Objective Indicators**

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
Time savings (minutes) per 2.5-hour trip using navigation aids and rehabilitated/upgrade floating docks.	0.00	0.00	0.00	5.00	10.00	15.00	15.00	15.00
Number of trips per month due to improved infrastructure.	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Female users	0.80	0.80	0.80	0.80	1.00	1.50	1.70	2.00
People in urban areas provided with access to improved water sources, of which women (% coverage), of which poor (% coverage)	0.00	0.00	0.00	0.00	0.00	9550.00	9550.00	9550.00
Female beneficiaries	0.00	0.00	0.00	0.00	0.00	50.00	50.00	50.00
Poor beneficiaries	0.00	0.00	0.00	0.00	0.00	90.00	90.00	90.00
People in urban areas provided with access to "improved sanitation facilities" under the Project, of which women (% coverage), of which poor (% coverage)	0.00	0.00	0.00	0.00	0.00	7350.00	7350.00	7350.00
Female beneficiaries	0.00	0.00	0.00	0.00	0.00	50.00	50.00	50.00

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
Poor beneficiaries	0.00	0.00	0.00	0.00	0.00	0.00	80.00	80.00
Water quality poses no risk for human consumption in the selected municipalities (IRCA < 5)	N	N	N	N	Y	Y	Y	Y

### Intermediate Results Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
Number of docks built, of which include gender based violence prevention environmental design and the specific needs of the elders and people with disabilities	0.00	1.00	1.00	3.00	4.00	5.00	5.00	5.00
Number of maintenance works in docks	0.00	0.00	0.00	1.00	3.00	4.00	5.00	5.00
Citizens and communities involved in project implementation	N	N	N	Y	Y	Y	Y	Y
Percentage of indicative and informative signals implemented	0.00	0.00	0.00	25.00	50.00	100.00	100.00	100.00
Number of navigation charts approved	0.00	0.00	0.00	15.00	15.00	20.00	25.00	25.00
New piped household water connections that are resulting from	0.00	0.00	0.00	127.00	382.00	1145.00	1910.00	1910.00

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
Project intervention								
Piped household water connections that are benefiting from rehabilitation works undertaken by the Project	0.00	0.00	0.00	72.00	216.00	650.00	1080.00	1080.00
New household sewer connections constructed under the Project	0.00	0.00	0.00	50.00	148.00	440.00	740.00	740.00
Water supply continuity in participating municipalities supported by the project (hours per day)	2 hour per day	2 hours per day	>12 hours per day	>16 hours per day	> 16 hours per day			
Level of non-revenue water in selected municipalities supported by the project (%)	No Data	no data	no data	no data	no data	<50%	<50%	< 50 %
Percentage of women employed through the project	0.00	0.00	0.00	10.00	20.00	20.00	20.00	20.00
Percentage of waterway operators with license (formalization)	50.00	50.00	50.00	60.00	60.00	75.00	75.00	75.00
Data base of waterway transport operations	N	N	Y	Y	Y	Y	Y	Y
Number of transport operators trained (safety transport operation and docks management which incorporate a gender approach)	0.00	0.00	50.00	70.00	80.00	80.00	80.00	80.00

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	End Target
WSS Institutional and Operational Management Models for El Charco and Timbiqui developed and in implementation (Yes/No)	N	N	N	Y	Y	Y	Y	Y
Percentage of waterway transport users satisfaction	0.00	0.00	0.00	0.00	50.00	50.00	70.00	70.00
Percentage of women beneficiaries with access to waterway transportation	46.00	46.00	46.00	46.00	50.00	50.00	75.00	75.00

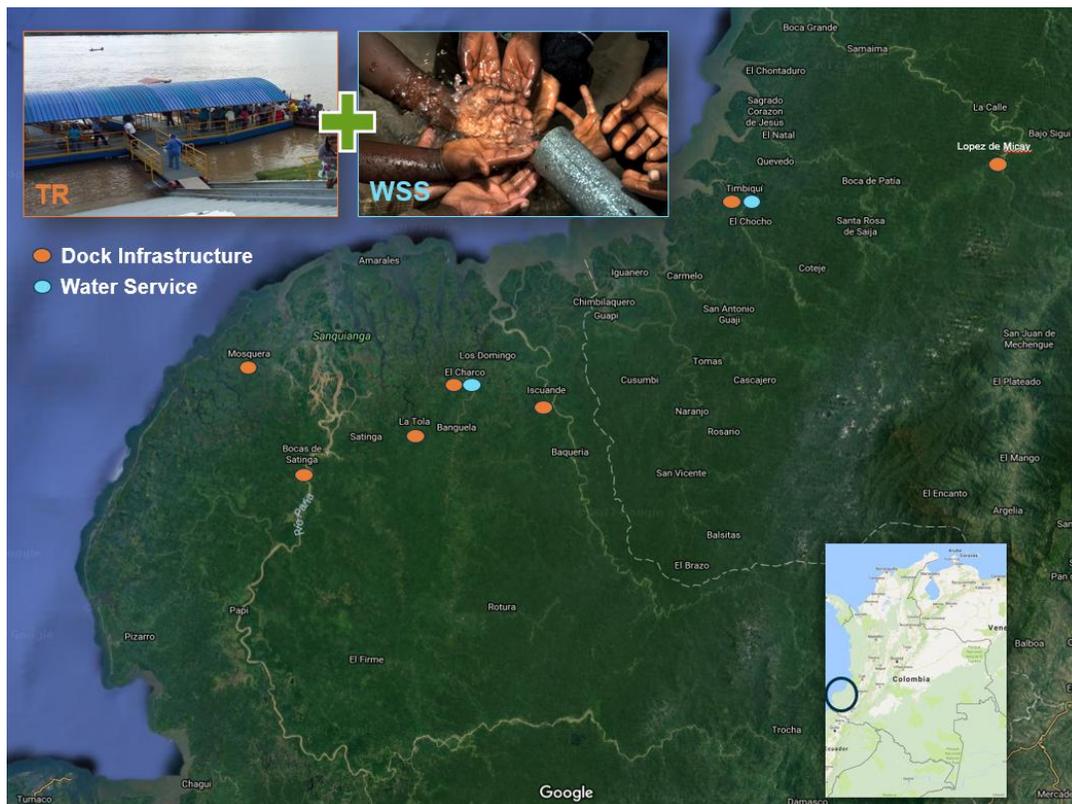
**ANNEX 2: DETAILED PROJECT DESCRIPTION**

**COUNTRY: Colombia**

**Enhancing Waterway Connectivity and Water Service Provision in Colombia's Plan Pazcifico**

1. **The proposed IBRD loan will finance activities aimed at** improving the reliability, access, and safety of navigation and transport waterway, travel time saving and operational costs and improving coverage and quality of water supply and sanitation services in participating municipalities.

**Figure 1. Components of the project and locations**

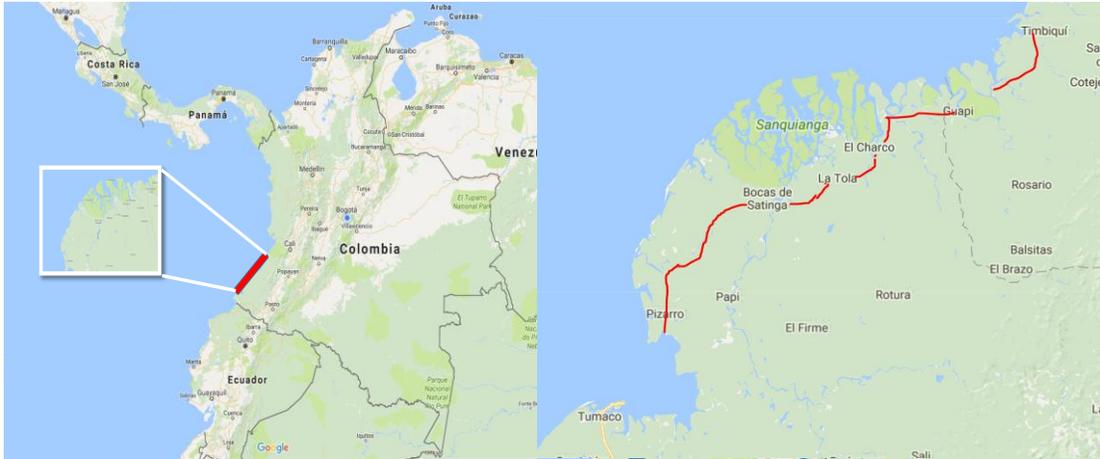


*Source: Own elaboration based on Google Maps*

2. **Component 1: Improving waterway transport in participating municipalities (US\$ 23.5 million IBRD).** The project would finance designs, civil works, supervision, land, resettlement costs, installations, services to improve waterway navigation and safety in the Departments of Nariño and Cauca and to improve access to waterway transport in participating municipalities.
3. The southern coast of the Pacific Region is a mangrove forest zone, which includes different and extensive bodies of water and waterways, such as: river mouths, rivers, channels, and estuaries. In this context, the construction of ground transportation (road or rail) to/from or in the region is difficult or not allowed by law to maintain the environment, which is why connectivity is limited. In

the case of the coast of the Pacific Region, the waterway (*acuapista*) played a critical role integrating the region through the rivers and estuaries or by maritime transport of large cargo. Waterway transportation presents big challenges, particularly in the navigation window (five hours) in which watercourses depend on the high- and low-tide periods of the Pacific Ocean and the variable flow of rivers that affect navigation on a daily basis ( $\approx 4$  meters). Furthermore, navigation is also affected by erosion and sedimentation processes, trunks and sticks found in estuaries, and the narrowing of the channel as a result of the vegetation characteristic of this region, mainly mangrove forests.

**Figure 2. Location and connectivity in the southern Pacific Region**



Source: Google Maps

4. The project will benefit municipalities located in the southern part of the Pacific Region: Olaya Herrera, La Tola, Santa Bárbara de Icuandé, El Charco and Mosquera (located in the Department of Nariño); Timbiquí and López de Micay (located in the Department of Cauca), or any other municipalities agreed. In the Pacific Region, transport operations are unsafe, informal, and include rudimentary docks without facilities for vessels, passengers, and cargo. Some municipalities possess rudimentary concrete docks (with variable length) that are near the end of their lifetime; others manage rudimentary wooden docks that create the conditions for difficult and dangerous operations and accidents, and one of them does not have any dock facility. The docks include stairs for cargo loading and unloading purposes and passenger access, which are usually located on one side of the structure allowing operation during the ocean's high- and low-tide periods. However, this is a very risky operating system since passengers have access through small, wet areas, which are especially dangerous for elderly people, pregnant women, and children. There is a comparable situation when it comes to cargo mobilization—stevedores have to carry the cargo on their backs over narrow stairs.

**Figure 3. Stairs in rudimentary concrete docks**



5. The situation becomes worse when boats arrive and operate simultaneously. The congestion is partially resolved by mooring one boat to another obliging the stevedores to pass unsafely among the boats to reach the stairs with the cargo on their backs. This congestion results in an inefficient and risky operation. Boats are smaller in size (2 tons capacity), multipurpose (for passengers and cargo) and cargo is not transported unified.

**Figure 4. Boats operating simultaneously at the docks**



6. For the reasons highlighted above, the municipalities on the Pacific coast need important investments in navigation aids and docks, and operators need to improve their skills to ensure safe waterway transport. The current infrastructure condition is detailed in the following table.

**Table 1. Dock infrastructure conditions**

Department	Municipality	Infrastructure Condition
<b>Nariño</b>	Mosquera	<p>Rudimentary wooden dock of 16 meters attending small boats.</p> 
<b>Nariño</b>	Olaya Herrera	<p>Rudimentary wooden dock of 16 meters and concrete stairs where the operations are carried out attending vessels up to 120 tons.</p> 
<b>Nariño</b>	El Charco	<p>Rudimentary concrete dock attending vessels that weigh more than 120 tons. Passenger and cargo operations are performed using concrete stairs located on one side.</p> 

<p><b>Nariño</b></p>	<p>La Tola</p>	<p>Rudimentary wooden dock.</p> 
<p><b>Nariño</b></p>	<p>Santa Bárbara de Iscuandé</p>	<p>Rudimentary concrete dock attending vessels that weigh more than 120 tons. Passenger and cargo operations are performed using concrete stairs.</p> 
<p><b>Cauca</b></p>	<p>Timbiqui<sup>34</sup></p>	<p>Rudimentary concrete dock with concrete stairs on one side.</p> 

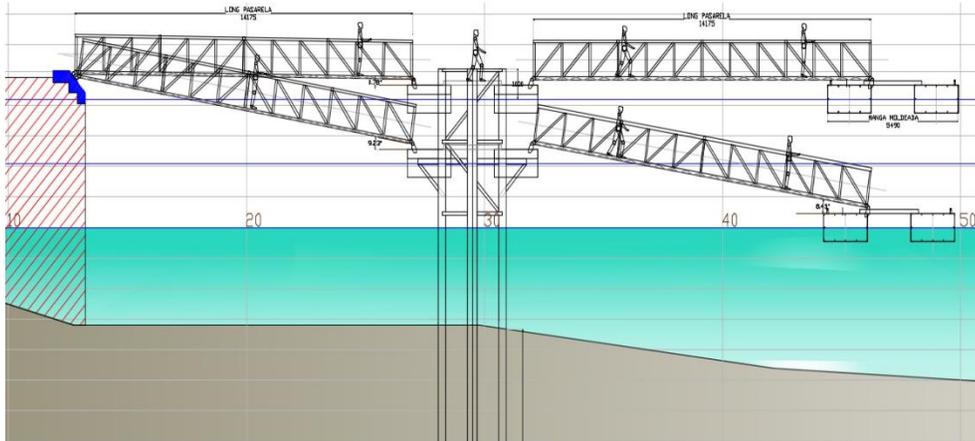
<sup>34</sup> The Timbiqui River has serious sedimentation problems caused by illegal mining taking place upstream. According to authorities, the dock should be moved to the River Bubuey located around 4 km from Timbiqui where close to 1,000 people live. Timbiqui and Bubuey are connected by a tertiary paved road that was partially constructed (1.5 km) by INVIAS.

Cauca	López de Micay	Non-dock infrastructure. Boats use the banks of the Micay River. 
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Source: Own elaboration

- International experience shows floating docks allow a safer and more efficient operation when watercourses depend on the high- and low-tide periods, as is the case of the Pacific Ocean. Floating docks are prepared to adapt to water level by swinging the platform. Being able to safely attend boats at any time can increase the window for operations.

**Figure 5. Design of a floating dock**



- Subcomponent 1.1: Improving waterway navigation and safety (US\$ 2.6 million IBRD).** This subcomponent will contribute to improving the reliability and safety of navigation and transport operations between the municipalities of Francisco Pizarro (Nariño) and Guapi (Cauca), around 215 km, travel time savings and operational costs. The project will finance, final designs, works, equipment, supervision (to ensure technical quality and the inclusion of the environmental criteria), and maintenance of, *inter alia*, bathymetric survey and navigation charts and transport signaling.

**(a) Final designs of signaling.** The project will finance technical assistance, consultancy services, and supervision to update and improve designs to implement a comprehensive navigation system to enhance security and reliability for the Pacific Coast in the Departments of Nariño and Cauca. In this sense, the studies will define goods, equipment, and facilities that comply with Colombia's regulations for signaling.



**(b) Signaling installation.** The project will finance the provision of goods, works, and supervision for the installation of the necessary signaling equipment along the Pacific Coast in the Departments of Nariño and Cauca, according to detailed designs. The project will include a bathymetric survey between Francisco Pizarro and Guapi to identify the navigation channel.

9. **Subcomponent 1.2: Improving access to waterway transport in participating municipalities (US\$ 20.9million, all IBRD).** This subcomponent will contribute to improving safe access to/from the waterway, including basic facilities for passengers and cargo. The project will finance the final designs, works for the upgrade/rehabilitation and equipment of seven docks, land, and 3-km access or tertiary road from the center of the municipality of Timbiqui to the dock location.

**(a) Final designs of floating docks.** The project will finance consultancy services and supervision to carry out studies for the design and environmental management plans of six floating docks in the municipalities of Olaya Herrera, Santa Bárbara de Iscuandé, El Charco, Mosquera, La Tola, Timbiqui, and López de Micay, or any other municipalities agreed. The floating docks will be designed according to the traffic and specific needs of each municipality, including basic facilities and equipment needed. Floating docks were selected keeping in mind the capacity to adapt to tide variations (up to 4 meters) and the effect of climate change on tides (climate adaptation).

- The consultancy will review, update, and complement the designs developed by INVIAS for the municipalities of Olaya Herrera, Santa Bárbara de Iscuandé, and El Charco. For La Tola, the GoC will update the detailed designs and the environmental management plan<sup>35</sup>.
- The consultancy will develop new design studies in the municipalities of Mosquera, Timbiqui, and López de Micay.
- In the case of Timbiqui, a consultancy service will carry out the technical study to design a 3-km of the tertiary road connecting the center of Timbiqui and the selected dock location defined in the studies.

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<sup>35</sup> Designs for La Tola will be completed and approved before June 30, 2018.

**Figure 6. Connection between the municipalities of Timbiquí and Bubuey**



Source: Own elaboration

- The updated designs for the floating docks will include facilities for waiting area, service areas, illumination, safety equipment, among others. Designs with gender approach will also allow better access to and from the floating docks for people with disabilities, women, and the elderly, and works will be carried out applying the corresponding environmental safeguards. The structural condition will be assessed to include reinforcement, improvement, demolition or conditioning, among others.
  - The designs will consider the need to carry out works for the aquatic access to the floating dock facilities and maneuvering areas to ensure the established draft and minimize operational risks. Likewise, the study will evaluate erosion of the banks where the floating dock facilities will be located with the goal of including protective works, if necessary. In particular, for establishing the location of the floating docks and their facilities, the following aspects, among others, will be considered: (i) area for adequate land access, (ii) area for future developments, (iii) distance to navigation channels, (iv) suitable soil for structures' foundation, (v) stable banks, (vi) adequate depths, (vii) suitable floating docks to the water-level variation.
- (b) Infrastructure construction and rehabilitation of floating docks.** The project will finance goods, land acquisition, resettlement costs and works for the construction and rehabilitation of floating docks in the municipalities of Olaya Herrera, La Tola, Santa Bárbara de Iscuandé, El Charco, and Mosquera in the Department of Nariño, and Timbiquí and López de Micay in the Department of Cauca, or any other municipality agreed. Three-km of the tertiary road to connect the center of Timbiquí and the floating dock that will be defined in the studies.
- (c) Maintenance of floating docks and facilities.** The project will finance maintenance services to ensure the appropriate operation and the facilities only during the implementation period. The maintenance tasks will start the year after the floating dock has been constructed and will include painting of metallic elements, tilting system elements revision and lubrication, fenders and bollards, support structures, among others.

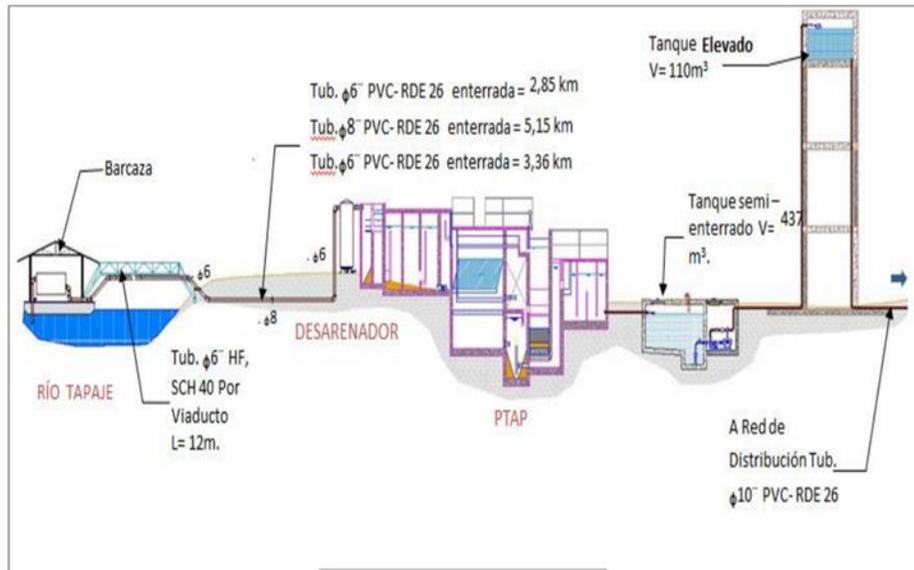


10. **Component 2: Improving water supply and sanitation services in participating municipalities (US\$ 14.0 million, all IBRD).** This component focuses on delivering the necessary infrastructure, equipment, goods, services, technical assistance, training to improve water supply and sanitation coverage and service quality in the urban perimeters of the participating municipalities. The participating municipalities for WSS investments are identified on the basis of: (i) number of beneficiaries and poverty level, (ii) need to ensure provision of integrated services (water and sanitation), (iii) amount of investment, and (iv) readiness. The municipalities of El Charco (Nariño) and Timbiqui (Cauca) have been initially identified for this component.
11. This component will finance the rehabilitation and/or construction of the adequate water supply and wastewater systems, alternative sanitation solutions for hard-to-reach areas and stilt houses, land acquisition, resettlement cost and works supervision (*interventoria integrada*) to ensure the technical quality and the inclusion of environmental, climate change, gender, citizen engagement, and social criteria. It will also finance technical studies and consultancies for the development or updating of WSS master plans, detailed designs,<sup>36</sup> environmental instruments, and emergency and contingency plans for the WSS service providers in participating municipalities.
12. The component will be structured in two subcomponents described below.
13. **Subcomponent 2.1: Improving water supply services in participating municipalities (US\$ 5.6 million, all IBRD).**
  - (a) **El Charco**
14. Only 35 percent of the urban residents (2017) of El Charco (Nariño) are connected to the municipal drinking water supply system, which does not meet the minimum service delivery levels established under Colombian regulations. Although there is no official information, it is estimated that water service is provided only three hours per day (from 6:00 a.m. to 9:00 a.m.). Moreover, the quality of the water is inadequate for drinking, resulting in low levels of consumption per household (4 m<sup>3</sup>/month). In such a scenario, many residents meet their water needs through the collection of rainwater and raw river water. In addition, the distribution networks are not adequately designed and operated to prevent, reduce, and control real water losses (physical losses) and the high number of illegal connections to the system (commercial losses). The municipality lacks basic data on operational and commercial performance, but non-revenue water (NRW) losses are estimated to be greater than 60 percent.
15. This subcomponent aims to improve coverage and service quality of drinking water in the urban area of El Charco (Nariño) with a current population of 9,636 (2017), projected to be 15,809 by 2042. The project aims to reach a water supply coverage of 100 percent, a continuity of at least 12 hours per day, and a water quality level lower than five points, according to the IRCA index (no risk associated with human consumption). In addition, the project aims to improve operational efficiency by reaching acceptable levels of water losses (10 m<sup>3</sup>/conn-month) and improving revenue

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<sup>36</sup> Detailed design will be based on an assessment of alternative water sources and cost-effective solutions that comply with environmental and social safeguards, are gender-informed, and mitigate climate change-related risk.

collection rate to 60 percent.<sup>37</sup> To that end, this subcomponent will finance the preparation of the water supply master plan, the update and optimization of detailed designs, and the construction, rehabilitation, and supervision of works, including, inter alia, the following: i) a new water-intake floating structure and related water mains;<sup>38</sup> ii) a new water treatment plant; iii) new storage facilities, iv) distribution water mains and networks; v) installation of micro- and macro-metering and pressure-monitoring systems; vi) an energy redundancy project; vii) intra-domiciliary connections and public water supply facilities; and (viii) works supervision (*interventoria integrada*).



**Figure 7: Current scheme water supply system in El Charco (Nariño)**

**(b) Timbiqui**

16. In Timbiqui, only 45 percent of the 8,500 urban residents (2017) are connected to the municipal drinking water supply system. This does not meet the minimum service delivery levels established by Colombian regulations. Water quality is inadequate for drinking and service continuity is very low, although it is not officially reported. As a result, many residents meet their water needs by collecting rainwater and raw river water. Water distribution networks are not adequately designed and operated to prevent, reduce, and control real water losses (physical losses) and the high number of illegal connections to the system (commercial losses). The municipality lacks basic data on operational and commercial performance, but NRW losses are estimated to be greater than 60 percent.

<sup>37</sup> Using the Global Water Practice GHG Accounting Tool, reduction in water losses are expected to lead to a 882 t-CO2 eq reduction due to lower pumping (energy) requirements.

<sup>38</sup> That will protect water sources from pollution in light of an expected increase of extreme rainfall events and landslides due to climate change.

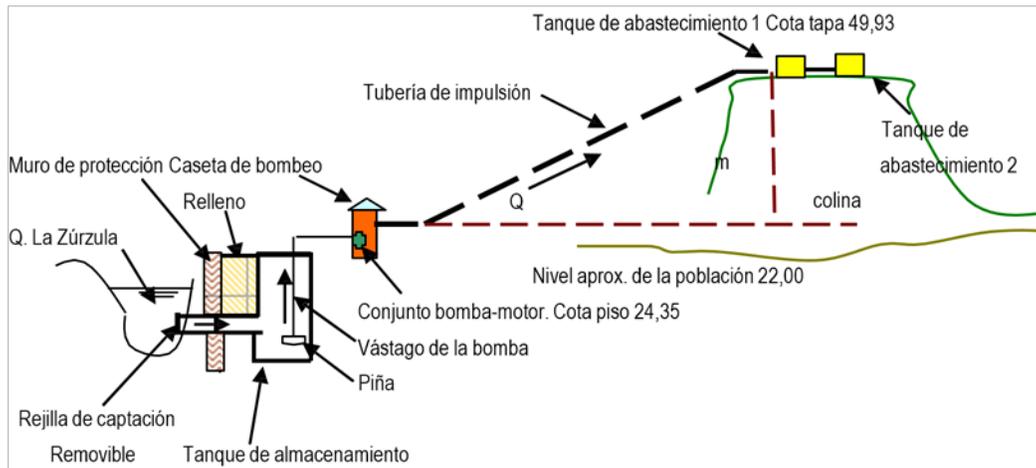


Figure 8. Current scheme water supply system in Timbiqui (Cauca)

17. In Timbiqui, this component aims to improve coverage and service quality of drinking water in the urban area of Timbiqui (Cauca) with a current population of 8,500, projected to be 13,310 by the year 2042. The scope is to reach a water supply coverage of 100 percent, continuity of at least 12 hours per day, and a water quality level lower than five points (no risk to human consumption), according to the IRCA index. In addition, the project aims to improve operational efficiency by reaching acceptable levels of water losses (10 m<sup>3</sup>/conn-month) and improving the revenue collection rate to 60 percent. To that end, this subcomponent will finance the preparation of the water supply master plan, the update and optimization of detailed designs, and the construction, rehabilitation, and supervision of works, including, inter alia, the following: i) a new water-intake floating structure and related water mains;<sup>39</sup> ii) a new water treatment plant; iii) new storage facilities, iv) distribution water mains and networks; v) installation of micro- and macro-metering and pressure-monitoring systems; vi) an energy redundancy project; vii) intra-domiciliary connections and public water supply facilities; and (viii) works supervision (*interventoria integrada*).

**18. Subcomponent 2.2: Improving sanitation services in participating municipalities (US\$ 8.4 million, all IBRD).**

**(a) El Charco**

19. The existing sewerage infrastructure system in El Charco covers only 30 percent of the urban area and is precarious and obsolete. Sewerage pipelines constructed along the main streets have low capacity and have deteriorated due to lack of maintenance and inadequate solid waste management. Some households have latrines that are poorly constructed and operated. There are also a considerable number of stilt houses that do not have adequate sanitation facilities. The sewerage pipelines produce overflows and discharge untreated sewage at several points directly

<sup>39</sup> That will protect water sources from pollution in light of an expected increase of extreme rainfall events and landslides due to climate change.



into street canals and water bodies such as the Chiriqui Creek and the Tapaje River, affecting public health and ecosystems. Increased flooding due to climate change poses an additional vulnerability, with higher incidences of extreme rainfall events and landslides posing risk health risks to the population and risk of pollution of water sources.

20. In El Charco, this subcomponent seeks to finance the design, construction, and supervision of a wastewater system for the collection, treatment, and disposal of wastewater generated in the urban perimeter.<sup>40</sup> The wastewater treatment system is envisioned to discharge into the Tapaje River, which has an average flow of 5,900 liters per second. The project would directly benefit about 4,341 people, who represent nearly 40 percent of the urban population. Specifically, the subcomponent would support a comparative analysis of wastewater treatment and collection alternatives,<sup>41</sup> the optimization and updating of the existing design and the implementation of the wastewater system, including an adequate wastewater treatment solution, main collectors, pump stations, force mains, secondary networks, intra-domiciliary connections, as well as public sanitation facilities and alternative sanitation solutions for hard-to-reach areas and stilt houses.

**(b) Timbiqui**

21. According to consultancy reports' estimates, the existing wastewater collection system in Timbiqui covers only 30 percent of the urban perimeter and is in poor condition. Raw wastewater is discharged directly into the Timbiqui River. Some households have latrines that are poorly constructed and operated. The lack of cleaning and emptying services for the latrines and septic tanks generates additional water pollution and public health risks due to the high level of the water table and expected higher incidences of extreme rainfall events and landslides due to climate change. There are highly populated areas with stilt houses that dispose fecal matter directly into watercourses, mainly on the Timbiqui River. This situation has resulted in sewage running along the streets and contamination of water bodies, significantly affecting public health and ecosystems. Increased flooding due to climate change poses an additional vulnerability, with higher incidences of extreme rainfall events and landslides posing risk health risks to the population and risk of pollution of water sources.
22. This subcomponent seeks to finance the design, construction, and supervision (*interventoria integrada*) of a sewerage system for the collection, treatment, and disposal of wastewater generated in the urban perimeter of Timbiqui. The project would directly benefit about 5,680 people, which represents around 60 percent of the urban population. Specifically, the subcomponent would finance the review and optimization of the existing design<sup>42</sup> and the implementation of the wastewater system main collectors, pump station of Bellavista, secondary networks, inter-domiciliary connections, and a wastewater treatment and disposal system, as well

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<sup>40</sup> In light of increased future hazards of flooding and landslides due to climate change, establishing a functional sanitation solution is key to adapting to these events and preventing the spread of disease and pollution of water sources due to waste.

<sup>41</sup> The wastewater collection and treatment system favored by the sewerage master plan for El Charco is a conventional sewerage with an Upflow Anaerobic Sludge Blanket (UASB) plant plus a facultative lagoon network without considering alternative solutions. The analysis will look at more adequate and cost-efficient alternatives, such as the use of condominal sewerage for wastewater collection and primary treatment with a river outfall.

<sup>42</sup> The wastewater treatment system favored by the preliminary analyses done to date is a series of lagoons that should be carefully revised and compared to other alternatives of wastewater treatment.



as public sanitation facilities and onsite solutions for difficult-to-reach areas with stilt houses. The wastewater treatment system is envisioned to discharge into the Timbiqui River. The wastewater treatment system adopted would need to comply with water quality standards and effluent regulations set by the CRC.<sup>43</sup>

23. **Component 3: Capacity Building and Institutional Strengthening for waterway transport operators and WSS service providers (US\$ 2 million IBRD).** The project will finance goods and services to formulate and establish capacity building and institution-strengthening activities to support transport operators, water and sanitation service providers, and relevant public authorities.
24. **Subcomponent 3.1: Capacity building and institutional strengthening for transport operators and authorities in participating municipalities (US\$ 1 million IBRD).** The project would finance goods, consultancy services, and technical assistance for capacity building and institution-strengthening to support improved performance and enhance an efficient, sustainable, and safe waterway transport operation. The activities to be carried out under this component are: (i) technical assistance for INVIAS and local authorities on dock management (operation and maintenance), (ii) trainings and courses for waterway transport operators (safety navigation, first aid, boat mechanic, etc.), (iii) regional transport plan for the Pacific Coast and intermodal pre-feasibility studies for the connectivity options between Tumaco-Francisco Pizarro and Santa Bárbara-Guapi, (v) technical assistance for regulatory framework improvement, (vi) traffic database data and equipment, (vii) satisfaction surveys to track safety, quality, and performance of waterway transport before and after intervention, particularly in specific target groups, such as women, elderly, and people with disabilities and (viii) other studies identified during project implementation aligned with capacity building and institution strengthening.
25. **Subcomponent 3.2: Capacity building and institutional strengthening of service provision in participating municipalities (US\$ 1 million IBRD).** The municipalities of El Charco (Nariño) and Timbiqui (Cauca) have been initially identified for this subcomponent. In El Charco (Nariño), the water supply and sewerage systems are administered by a Special Administrative Unit attached to the municipal planning secretary. In the case of Timbiqui, the systems are managed by a local cooperative. In both cases, there is a weak organizational capacity and limited control of administrative, commercial, and operational processes, which results in low service quality. The fact that the municipalities are certified by the SSPD to administer the resources of the General Participations System for Drinking Water and Basic Sanitation is not reflected in the quality of the water supply, wastewater management, and solid waste management services provided, especially in hard-to-reach areas with stilt houses where there is limited access to WSS services.
26. The project will finance goods, equipment, services, technical assistance, training, and learning exchange to support and strengthen the capacity of authorities and WSS service providers to improve WSS service delivery in participating municipalities. Specifically, the component will support: (i) the development and operationalization of long-term, climate change and gender-informed WSS service institutional and operational management models; (ii) the development and implementation of administrative, technical, and commercial tools, including demand management

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<sup>43</sup> In light of increased future hazards of flooding and landslides due to climate change, establishing a functional sanitation solution is key to adapting to these events and preventing the spread of disease and pollution of water sources due to waste.

and non-revenue water management programs, to improve operational efficiency; (iii) the development and implementation of social mobilization, citizen engagement, and communications activities for water and sanitation, including monitoring tools for tracking service status and for routine capturing of consumers' feedback on the quality of service provided by operators; and (iv) technical studies and learning exchange activities on relevant areas, such as demand management, non-revenue water, integrated urban water management, sanitation solutions for hard-to-reach areas and stilt houses, fecal sludge management, and climate change mitigation and adaptation.

27. Additionally, the project would finance consulting services to update water supply and sanitation master plans and detailed designs for additional municipalities under the PTSP, including La Tola, Olaya Herrera, Mosquera, and Santa Bárbara de Iscuandé in the Department of Nariño; and López de Micay in the Department of Cauca to establish actual requirements for water supply service in these small towns.
28. **Component 4:** Project Management and Environmental and Social Management (US\$ 2.4 million IBRD). Supporting Project implementation in the areas of, *inter alia*, financial management (including audits), procurement, disbursement, and safeguards management, including but not limited to, the financing of Operating Costs..



**Table 2. Summary of project delivery method for main contracts**

Project component /Contracts	Total Ammount (USD)	Studies	Bidding documents preparation	Approval MCT Ventanilla Unica	Supervision & quality control	Operation
<b>Component 1 – Water Supply and Basic Sanitation Improvements in the Municipality of El Charco (Nariño).</b>						
Improving water supply delivery in El Charco (Nariño)	3.313.494	To be updated	PIU	MCT	Supervision consultant (Interventoria) & PIU	6 month with contractor then transfer to operator
Construction of a wastewater management solution in El Charco (Nariño).	5.989.880	To be updated	PIU	MCT	Supervision consultant (Interventoria) & PIU	6 month with contractor then transfer to operator
Supervision consulting	465.169	N/A	PIU	N/A	Supervision consultant (Interventoria) & PIU	During works implementation and transfer
<b>Component 2 – Water Supply and Basic Sanitation Improvements in the Municipality of Timbiqui (Cauca).</b>						
Improving water supply delivery in Timbiqui (Cauca)	4.132.455	To be updated	PIU	MCT	Supervision consultant (Interventoria) & PIU	6 month with contractor then transfer to operator
Construction of a wastewater management solution in Timbiqui (Cauca).	4.515.309	To be updated	PIU	MCT	Supervision consultant (Interventoria) & PIU	6 month with contractor then transfer to operator
Supervision consulting	432.388	N/A	PIU	N/A	Supervision consultant (Interventoria) & PIU	During works implementation and transfer
<b>Component 3 - Update water supply master plan and detailed designs</b>						
Update water supply master plan and detailed designs for Olaya Herrera, La Tola, Mosquera, Francisco Pizarro and Lopez de Micay.	425.000	To be developed	PIU	MCT	Supervision consultant (Interventoria) & PIU	
<b>Component 4 – Capacity Building and Institutional Strengthening of Service Providers in El Charco (Nariño) and Timbiqui (Cauca)</b>						
Establishing an Adequate Service Delivery Model in El Charco (Nariño)	70.000	Developed by CINARA	Consultant & PIU	MCT	Supervision consultant (Interventoria) & PIU	1 year with consultant
Establishing an Adequate Service Delivery Model in Timbiqui (Cauca)		To be developed	Consultant & PIU	MCT	Supervision consultant (Interventoria) & PIU	1 year with consultant
Promoting social accountability on the quality of service provided					Supervision consultant (Interventoria) & PIU	
Supporting Technical Studies and Learning Exchange.					Supervision consultant (Interventoria) & PIU	
<b>Component 5 – Project Management and Environmental and Social Management</b>						
Project Management and Environmental and Social Management					Supervision consultant (Interventoria) & PIU	



## ANNEX 3: IMPLEMENTATION ARRANGEMENTS

COUNTRY : Colombia

Enhancing Waterway Connectivity and Water Service Provision in Colombia's Plan Pazcifico

### Project Institutional and Implementation Arrangements

- 1. Project implementation arrangements for *Plan Todos Somos PAZcifico* (PTSP) have been developed based on lessons learned from previous projects in the WSS sector in Colombia.** Donor-financed WSS projects in Colombia have typically been implemented through one of the following two arrangements: (i) the borrower is the NG and the executing agencies are the MVCT and municipalities; or (ii) a subnational government acts as borrower and executing agency (e.g., the Department of La Guajira and the Bogotá River Environmental Authority are current WB borrowers) with a sovereign guarantee from the GoC. Previous projects have been delayed by institutional capacity constraints at the subnational level. Based on this experience, the proposed project adopts a more centralized implementation approach in which national authorities act as the borrower and lead the execution of the project in close collaboration with municipal and departmental authorities and service providers. This section describes the proposed implementation arrangements for the PTSP in general and for this project specifically. This proposed arrangement is currently in place for the IDB multisector water and energy project (approved in December 2015 with a loan amount of US\$ 231.4 million) and the IBRD *Plan PAZcifico: Water Supply and Basic Sanitation Infrastructure and Service Delivery Project* (Approved in October 2016 with a long of US\$ 126.7 million).
- 2. Borrower.** The borrower for the project will be the *Fondo para el Desarrollo del Plan Todos Somos PAZcifico* (FTSP) represented by its fiduciary agent and trustee *Fiduciaria La Previsora Sociedad Anonima* (Fiduprevisora, S.A.). The GoC established the FTSP through Article 185 of the 2014-2018 National Development Plan (approved through Law 1753 of 2015) as a standalone trust fund to make infrastructure investments in the Pacific Coast. The FTSP Fund provides the GoC the legal, financial, and operational vehicle to execute strategic multi-sectoral investments. The trust fund will be administered and represented by Fiduprevisora S.A., a mixed capital fiduciary company linked to the Ministry of Finance and Public Credit (MHCP), and will operate under the commercial provisions applicable to the fiduciary.<sup>44</sup> This scheme provides flexibility, efficiency, and effectiveness to project implementation because it eliminates the need to apply public budget management norms and allows the trust fund to enter into contract arrangements. The borrower will assume responsibility for debt service to the WB with resources that the GoC will allocate to it in the National General Budget, which are guaranteed by available future appropriations under Colombian law. The Republic of Colombia will provide a sovereign repayment guarantee.
- 3. Implementation arrangements consider local, departmental, and national actors.** Key implementation agencies include: (i) a qualified PIU established by the National Unit for Disaster Risk Management (*Unidad Nacional de Gestión del Riesgo de Desastres - UNGRD*) and (ii) an

<sup>44</sup> Ministry of Finance Resolution 4060 of November 10, 2015, establishes the UNGRD as the implementing agency.



independent fiduciary agent, Fiduprevisora S.A., to administer fund flows. The implementation of the project will also involve coordination with other stakeholders, including DNP, MVCT, *La Gerencia de Pacífico*, departmental authorities, regional environmental authorities (CARs), the participating municipalities, and service providers.

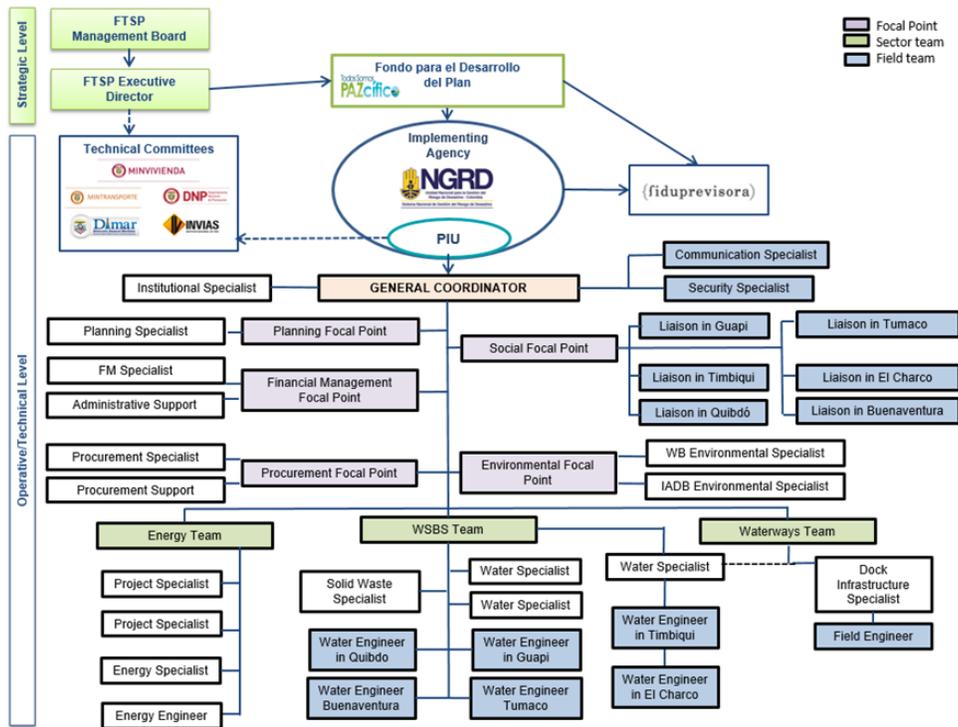
4. **The UNGRD is the implementing agency for the project and the overall PTSP.**<sup>45</sup> The UNGRD is a national-level entity, which reports directly to the presidency of the republic, though its operation is decentralized throughout the country. The UNGRD has legal status and financial and administrative autonomy and has the legal mandate to coordinate the National Disaster Risk Management System.<sup>46</sup> The UNGRD also operates as the implementing agency for several grants and loans that are a national priority, including the Program to Support Sustainable Development of San Andrés (US\$ 70 million loan financed by the IDB and approved in 2013).<sup>47</sup> The UNGRD, with technical assistance from IDB, has created a Project Implementing Unit (PIU) that is responsible for overall project implementation of both IDB and World Bank *Plan PAZcífico* projects, including compliance with the WB's fiduciary management, reporting requirements, monitoring activities, and implementation of the environmental and social requirements. The PIU has established a proposed organizational chart and budget allocation, which includes social and environmental staff.
5. **The PIU team's responsibilities include:** (i) providing technical, financial, legal, social, communications, and environmental support to specialized operators and municipalities to facilitate the implementation of the project; (ii) preparing and regularly updating the program execution plan, the annual work plan, and the procurement plan when necessary; (iii) carrying out the selection process for works, goods, and consulting services, and interfacing with the fiduciary agent to enter into contracts financed by the project; (iv) undertaking supervisory and follow-up tasks associated with the works as well as compliance with WB safeguards, program execution, monitoring, evaluation, and reporting; and (v) performing sound financial management of the project, including the preparation of supporting documentation for disbursement requests, (withdrawal applications, SOEs), verification of expenditures, and submission of financial reporting documents as required by the WB. The PIU also carries out the following roles to ensure compliance with WB safeguards policies: (i) ensure knowledge of and compliance with social and environmental safeguards policies on the part of all government stakeholders, consultants, and works contractors; (ii) work with the municipalities to obtain all necessary environmental permits, licenses, and authorizations; and (iii) work closely with all government stakeholders, consultants, and works contractors to ensure compliance with the EMF, RPF, SIP, and Information, Communication, and Participation Plan (ICPP). The PIU will work in coordination with the line ministries (MVCT for this project) to obtain technical approvals as needed. The PIU is led by a project coordinator and supported by thematic focal points, as indicated in Figure 10, as well as local liaisons embedded in municipal governments to work proactively with local authorities.

<sup>45</sup> Ministry of Finance Resolution 4060 of November 10, 2015, establishes the UNGRD as the implementing agency.

<sup>46</sup> The UNGRD acts as the coordinator of the National Disaster Risk Management System and is the lead institution for the three disaster risk management processes: understanding risk, risk reduction, and disaster response and established under Decree 4147 of 2011 and Law 1523 of 2012.

<sup>47</sup> See: "*Program to Support the Sustainable Development of the Department of the San Andrés, Providencia, and Santa Catalina Archipelago*"; <http://www.iadb.org/en/Projects/Project-description-title,1303.html?id=CO-L1125>.

**Figure 1. PIU organizational structure**



6. **The PIU created under the UNGRD currently has** a project coordinator, lead procurement specialist, lead water specialist, lead planning specialist, planning specialist, lead social specialist, lead environmental specialist, financial specialist and two liaisons in Tumaco and Guapi. The PIU will complete hiring the core team and in accordance with the Operational Manual (OP). The PUI has drafted and update the OP that integrates the two WB operations.
7. **Interagency and intergovernmental coordination.** An executive committee (*junta administradora*) is comprised of senior representatives from MHCP, DNP, two governors and two mayors from the Pacific Coast, and three representatives from the presidency. The executive committee's main function will be to approve the annual work plans, define strategic guidelines, and carry out general monitoring of the plan's execution. To complement the executive committee, the UNGRD will establish one or more technical committees (*comités técnicos*) with technical staff from the departments, INVIAS, MVCT, PIU, and municipalities as a platform to ensure adequate coordination and provide support for the preparation and the approval of sub-projects. The OP defines the role of the technical committee(s) as well as the frequency of meetings.
8. **Municipalities.** The municipalities will play an active role in the design of the project and have defined functions throughout project implementation. While the UNGRD serves as the implementing agency, municipalities participate in the executive and technical committees. Collaboration Agreements between the UNGRD, the participating municipalities and other relevant stakeholders will be signed. The agreements will be signed prior to carrying out the works in each participating municipality. Institutional strengthening activities under Component 3 will seek to



build capacity in both municipalities. Under the agreement, the municipality will support the implementation of the ICPP, led by the PIU. The municipalities will receive WSS works financed under the project and be responsible for operations and maintenance. The municipalities will obtain the necessary licenses for operating the water and sanitation services. They are also responsible for land acquisition and easement permits.

9. **INVIAS and DIMAR.** For the transference and long-term maintenance of waterway signaling and docks, the UNGRD will agree with INVIAS and DIMAR on respective coordination, implementation, operation and maintenance roles and responsibilities, prior to carrying out any works under Part 1 of the Project. DIMAR will provide navigation aids that will strengthen the waterway navigation.
10. **FTSP Executive Director or *Gerencia Pacífico*.** The presidency of Colombia established the *Gerencia Pacífico* to coordinate national-level policy in the Pacific Region by promoting dialogue, planning, and follow-through.<sup>48</sup> The *Gerencia Pacífico* has converted to FTSP Executive Director.
11. **Construction supervisor (consulting firm).** The UNGRD will hire a construction supervisor (*interventor integrado*) to strengthen supervision of the design and construction of sub-projects, as well as conduct oversight of the implementation of the social and environmental project instruments. The consulting firm will function as a technical interface and a conduit to transfer knowledge by coordinating interaction between the PIU, municipalities, specialized operators, and contractors. It will provide on-the-ground supervision of sub-projects through personnel based in the Pacific Region.
12. **Service providers/specialized operators.** The municipalities are the providers of WSS. The operational models for the sustainability of services will be financed by the project, including the main recommendation for the institutional strengthening and capacity building of providers.
13. **Fiduciary agent and flow of funds.** All project funds—including loan proceeds and local funds when applicable—will be managed by an independent fiduciary agent (*fiduciaria*). The fiduciary agent (Fiduprevisora S.A.) will handle the contracting of works, goods, and services and make the related payments based on the selection process conducted by the UNGRD, as well as loan repayment. The UNGRD will charge the costs for these services approximately 0.75 percent of the total loan to cover the operating costs for the fiduciary management of the project. The vice-presidency of fiduciary administration within Fiduprevisora S.A. will be the division responsible for the fiduciary aspects of the project.

## Financial Management

14. **A financial management (FM) assessment of the UNGRD and Fiduprevisora S.A. was conducted in accordance with the World Bank Policy OP/BP 10.00 for the implementation of the Project.** The UNGRD, as the implementing agency, has experience executing investment projects. However, it is a relatively new organization with limited experience in infrastructure operations financed by multilateral banks. Fiduprevisora S.A. will be the fiduciary agent as well as the loan recipient and

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<sup>48</sup> CONPES Document 3847 of November 3, 2015. An overview of the *Gerencia Pacífico* is available at [www.somospazcifico.gov.co](http://www.somospazcifico.gov.co).



legal representative. Both entities have sound internal control procedures in place. However, given the substantial inherent risk of the project, the assessment has concluded that to ensure that the adequate financial management arrangements are in place for project implementation, important mitigation measures must be required, including: (i) a Project Operational Manual with clear roles and responsibilities of participating entities in the program, including but not limited to the UNGRD, Fiduprevisora S.A., MVCT and INVIAS; (ii) implement the Operating Regulations (*Reglamento Operativo*) between UNGRD and Fiduprevisora S.A.; and (iii) that the financial information system has been modified by Fiduprevisora S.A. to meet project needs and be operational.

15. **The overall FM-assessed risk for the project is substantial at entry, considering the limited experience of the UNGRD implementing multilateral financed projects,** and the close supervision and coordination required for the implementation of project activities at the beneficiary municipalities. Furthermore, the rating also reflects that the project will be implemented through a new mechanism established by the GoC, which considers: (i) the FTSP Fund with Fiduprevisora S.A. as the borrower and the fiduciary agent, with a guarantee from the government; and, (ii) the UNGRD as the implementing agency. To mitigate these risks, an action plan will be determined with the executing entity and be monitored by the FM during project implementation.

16. **FM action plan and FM-related conditions.** The action plan agreed upon as a result of the assessment is described in Table 6.

Table 1. FM Action Plan

Description of Action/Condition	By When
The project Operational Manual has been adopted by the borrower in a manner satisfactory to the World Bank.	By effectiveness.
Operating regulations ( <i>Reglamento Operativo</i> ) between the UNGRD and Fiduprevisora S.A. approved by the World Bank.	By effectiveness, the operating regulations have been agreed by Fiduprevisora S.A. and the UNGRD.
Fiduciary team has been hired/appointed at the UNGRD and Fiduprevisora S.A.	A core team has been hired and appointed. Not later than 60 days after the effective date, the UNGRD shall ensure that the PIU is fully staffed with the fiduciary professionals set forth in the project Operational Manual. No legal requirement is necessary.
Financial information system software has been modified by Fiduprevisora S.A. to meet project needs.	The modification of substantial FM-assessed risk could be considered by the implementation of this action, has been addressed.

17. **Budgeting arrangements.** The UNGRD, as the executing entity, will be responsible for preparing and monitoring the annual operating plan and the respective budget. The budget, and any modifications made to it, will be recorded and monitored by the UNGRD through the PeopleSoft information system housed by Fiduprevisora S.A., with access made available to the UNGRD. The procurement process will be the responsibility of the UNGRD once the selection process is completed and the contract is signed and recorded in the information system by Fiduprevisora S.A. Upon review and approval by the UNGRD, project payments will be processed and recorded by Fiduprevisora S.A. through the PeopleSoft information system.

18. **Staffing arrangements.** The UNGRD will guarantee to keep qualified financial staff at all times, including, but not limited to, a financial lead and two assistants, and that Fiduprevisora S.A. assigns



the staff, in numbers and qualifications as agreed between the entities, for the adequate financial management of the funds.

19. **Fiduciary agent.** Fiduprevisora S.A., as the fiduciary agent and loan recipient, will sign contracts for works, goods, and services based on the selection process conducted by the UNGRD; make payments to suppliers for works, goods, and services; facilitate the software for budget and accounting of the project; conduct project accounting; and handle loan repayment, the latter through budget allocated by the MHCP. The vice-presidency of fiduciary administration within Fiduprevisora S.A. will be the division responsible for the fiduciary aspects of the project.
20. **Accounting and financial reporting.** Budget and project accounting will be integrated within the PeopleSoft information system housed at the fiduciary agent (Fiduprevisora S.A.), a system where budgeting, accounting, and treasury modules are interfaced. Fiduprevisora S.A. has incorporated improvements into the system to keep separate records for the activities financed by the loan, and capture and report budget and accounting information by component and subcomponent according to the project needs. The UNGRD is responsible for the overall project FM and will have concurrent access as a user to the PeopleSoft information system, with query profile. This access is for budget monitoring, consultations, and generation of information to manually prepare project financial reports and disbursement requests submitted to the WB on the basis of SOEs.
21. **The unaudited interim financial reports (IFRs) prepared by the UNGRD,** under formats agreed with the WB and documented in the Project Operational Manual, will be submitted on a semiannual basis within 45 days after the end of each such period. The IFRs will serve as a basis for the annual financial statements and audits.
22. **The UNGRD and Fiduprevisora S.A. shall retain all records (contracts, orders, invoices, bills, receipts, and other documents),** evidencing expenditures under their respective parts of the project until at least the later of: (i) one year after the WB has received the audited financial statements covering the period during which the last withdrawal from the loan account was made; and (ii) two years after the closing date. The UNGRD and Fiduprevisora S.A. shall enable the WB's representatives to examine such records.
23. **Operating costs.** The FTSP is to be funded through three operations, one financed by the IDB and two by the WB. The WB operations include the *Plan PAZcifico: Water Supply and Basic Sanitation Infrastructure and Service Delivery Project* (P156239); and the Enhancing Waterway Connectivity and Water Service Provision of Colombia's *Plan PAZcifico Project* (P156880). The operating costs are estimated at about 5 percent of the cost of each operation. Individual operations will finance specific technical leaders and other specific project operating costs. IDB and WB operations will co-finance proportionally the payment of the project coordination, the fiduciary costs, technical teams, as well as other operating costs that support the three projects, as defined in the Operational Manual. Other project operating costs co-financed by the IDB and the WB include fiduciary operating costs up to 0.75 percent by individual loan, bank charges, and travel costs of the PIU. The fiduciary operating costs have been approved by the Ministry of Finance based on the proposal submitted by Fiduprevisora S.A.; proposal based on operating costs, such as the team assigned for project management, legal support, elaboration of the project contracts, processing payment and



accounting of project transactions, reporting, internal audit review, and other administrative costs needed to manage the project funds. The proposal is considered reasonable to cover such operating costs. The WB FM team will monitor, during the FM supervisions, the reasonability of the fiduciary operating costs.

24. **Retroactive financing.** Up to an aggregate amount not to exceed US\$ 2,500,000 in retroactive financing will be available for payments of eligible expenditures made after July 1, 2017, but in no case more than 12 months before the date of the loan agreement.
25. **Front-end fee.** The borrower will pay the front-end fee from its own resources and it shall be equal to one quarter of one percent (0.25 percent) of the loan amount. The borrower shall pay the front-end fee no later than 60 days after the effective date pursuant to Section 2.03 of the loan agreement.
26. **External audit arrangements.** The project's annual financial statements will be audited by a private firm under terms acceptable to the WB with an interim review to conduct onsite visits to the project within the first nine months of the period being audited. The project's annual audited financial statements will be submitted to the WB no later than six months after the end of each audited period. There will be just one audit covering the FTSP, which includes the project financed by the IDB, and two projects financed by the WB.
27. **Access to information.** According to the access to information policy for the WB-financed operations, the borrower will disclose the audited project financial statements on the UNGRD's website. Following the WB's formal receipt of these statements from the borrower, the WB will make them available to the public.
28. **Implementation support and supervision strategy.** The WB FM team (PRMM-LCR) will monitor all the FM action plans to ensure successful implementation and that the deadlines are met; and it could update the FM-assessed risk for the project. Additionally, during project implementation, semiannual FM supervisions will be conducted, and periodic unaudited IFRs and the annual external audit reports will be reviewed.

## Disbursements

29. **General flow of funds.** The WB will disburse the loan proceeds into a Designated Account (DA) in US dollars in the name of the project held at *Banco de Bogotá* (NY), which is a commercial bank acceptable to the WB, from where, upon approval by the UNGRD, the funds will be transferred to a project operating account in local currency (Colombian pesos). Both accounts will be managed and held by Fiduprevisora S.A. (the financial agent, *fiduciaria*), monthly conciliations will be provided to the UNGRD. The disbursement methods under the project will be advances, reimbursements, and direct payments of eligible expenditures reported through statements of expenditure (SOEs) as indicated in the Disbursement and Financial Information Letter (DFIL). The advances to the DA will be based on the estimated cash flow for commitments for one semester, as approved by the UNGRD. Within the IFRs, the UNGRD, periodically, shall submit the cash flow report to the WB. Based on the financial management assessment, the project justifies this as a better flow of funds



option to be implemented under controls that are in place to support advances with a variable ceiling. The borrower will request approval from the Task Team Leader before submitting a request for each advance.

30. **Disbursement arrangements.** The proposed disbursement arrangements<sup>49</sup> are summarized in Tables 2 and 3 below. These will be incorporated in the Disbursement and Financial Information Letter (DFIL); including, as well, additional information related to other disbursement procedures.

**Table 2. Disbursement arrangements**

Disbursement method	Advance, reimbursement, and direct payment
Type of designated account and frequency of documentation	Segregated and quarterly
Supporting documentation	Statement of Expenditures (SOEs)
Designated account ceiling	Variable

**Table 3. Disbursement categories**

Category	Amount of the Loan Allocated (expressed in USD)	Percentage of Expenditures to be financed (inclusive of Taxes)
(1) Goods, works, non-consulting services, consulting services (including audits), Training and Operating Costs under the Project	41,481,000	100%
(2) Land Acquisition and Compensation under Parts 1.2 (b), 2.1(b) and 2.2 (d) of the Project	419,000	100%
<b>TOTAL AMOUNT</b>	<b>41,900,000</b>	

**Procurement**

31. **Procurement has been conducted according to the WB Group’s Procurement Regulations for IPF Borrowers**, issued in July 2016, for the supply of civil works, goods, consultants and non-consultants’ services.

32. **A full assessment of the UNGRD’s capacity to implement procurement activities was conducted** in between July and September 2017 to verify that the agreed arrangements have been fulfilled. The

<sup>49</sup> For details, refer to the disbursement letter and see the *Disbursement Handbook for World Bank Clients* as well as the *World Bank Disbursement Guidelines for Projects*.

analysis concluded that UNGRD has the adequate capacity to implement the procurement activities. However, it is necessary to complete the procurement team per the structure proposed in the project implementation arrangements. Fiduprevisora S.A., for the project implementation, will maintain the implementation arrangements established for the FTSP.

33. **Procurement arrangements.** The UNGRD, with World Bank support has completed the Project Procurement Strategy for Development (PPSD) and identified the appropriate selection methods, market approach, and type of review by the World Bank, as follows:

**Civil works, goods and non-consulting services** will be procured following Request for Bids, Request for Quotations, and Direct Selection methods. Under the open international competitive procurement approach, the World Bank's Procurement Standard Documents will apply. When approaching the national market, the procurement documents will be agreed with the World Bank.

**Consulting services** will be procured following Quality and Cost-Based Selection, Fixed-Budget-Based Selection, Least-Cost-Based Selection, Quality-Based Selection, Consultant's-Qualification-Based Selection, Direct Selection, and Individual Consultants methods. Under the International Market Approach, the World Bank's Request for Proposals standard document will apply. When approaching the national market, the procurement documents will be agreed with the World Bank.

34. Risk mitigation plan. The following table summarizes the mitigation actions proposed for the procurement-related risks identified above.

**Table 4. Procurement improvement action plan**

<b>Risks - Areas for Improvement</b>	<b>Mitigation Actions</b>	<b>Responsible</b>	<b>When</b>
A PPSD and a project procurement plan	A comprehensive PPSD and a detailed procurement has been completed.	UNGRD	Completed before negotiations
Responsibilities related to the procurement activities	A clear definition of the processes, roles, and responsibilities of the staff related to the implementation of the procurement activities. An updated OP was drafted by UNGRD.	UNGRD	Completed before effectiveness
Lack of staff with expertise in procurement processes with the World Bank Group's guidelines	The UNGRD will strengthened the capacity of procurement team in accordance with the implementation arrangements of the project.	UNGRD	After effectiveness



Understaffing since it should cover processes for three operations at once	<p>It should periodically review the workload of staff hired to manage procurement, if necessary reinforce the team with additional staff to ensure quality processes.</p> <p>It should encourage capacity building to enable the UNGRD to take advantage of the experience and capitalize on behalf of their teams, creating their own capacity on issues related to such projects.</p>	UNGRD	During project implementation
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35. **The overall project risk for procurement is substantial.** Consider the implementation arrangements' complexity and the geographic location of the municipalities where it will be implemented.

**Environmental and Social (including safeguards)**

**Environmental**

36. **Environmental Assessment (OP/BP 4.01).** The project is expected to generate important environmental sustainability and public health benefits in the participating municipalities through the elimination of (i) latrines and septic pits that contaminate surface water and groundwater sources; (ii) discharge of municipal wastewater into surface water sources and beaches; (iii) the contamination of the drinking water network due to infiltration of domestic wastewater from septic tanks and latrines; and (iv) the practice of solid waste disposal in open dumps in urban areas and public roadways. Investments financed by the project are expected to improve the quality of life in the participating municipalities, as well as increase property values. In the case of aqueduct and sewerage projects, no significant environmental impacts are expected. Impact can be prevented and controlled by standard environmental control measures, since works such as aqueduct and sewage are located mainly in urban areas (populations less than 10,000 inhabitants). The main impacts are expected in the construction phase, where land movements will be carried out on urban roads and platforms, which will cause temporary interruption in the movement of people and vehicles.

37. **The location of the wastewater treatment plant is critical** as it will generate noise and odors during its operative stage, which is why it is recommended that it be located in areas of low population density and incorporate areas of environmental damping. It is also considered relevant that the discharge points of the treated wastewater are located as far away from urban areas, taking into account that in the municipalities there is a significant variation in sea levels and rivers, which can generate backflow in the mixing zone (a mass of water in the river with high pollution), which would affect the quality of water in the urban area. All environmental measures required in the design and construction phase have been established in the Environmental Management Framework (EMF). The EMF incorporates environmental criteria in the designs, bearing in mind that these designs will be financed by the WB.

38. **Though the improvement of access to waterway transport and safety related to the construction, rehabilitation, and/or improvement of docks, the project will have the following benefits:** (a) travel time savings; (b) reduce waiting time and increase the number of trips; (c) improve safe



access to waterway transport and (d) strengthen the capacity of operators on safe transportation in the region southern coast of the Colombian Pacific. The environmental impacts during the construction phase are temporary and limited to the area of works. During its construction phase, the following environmental impacts are expected: (i) impairment of the physical-chemical quality of the bodies of water associated with the excavation of the bottom sediment; (ii) effect on air quality by emissions of gases and noise, due to the use of machinery and equipment for construction; (iii) possible damage to natural water bodies, conflicts with neighbors due to demolition and generation of debris; and (iv) discomfort to the community due to interference with the movement of passengers and cargo in the current docks. In the operational stage of the docks, the main environmental impacts have to do with oil spills and fuels, as well as garbage thrown in the natural water bodies.

39. **The project is categorized as Environmental Category B based on the fact that the project works (sub-projects) are considered not to present significant environmental impacts, which can be mitigated with standard measures.** The following environmental safeguards have been triggered: Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Forests (OP/BP 4.36); and Physical Cultural Resources (OP/BP 4.11). Detailed designs and site selection for all civil works have not been completed during project preparation. Detailed designs and site selection for all civil works will be completed during project implementation. As such, the UNGRD prepared an Environmental Management Framework (EMF) to guide the assessment and management of the environmental impact of the proposed sub-projects. The EMF includes baseline data; policy, legal, and institutional framework; identification of environmental impacts; mitigation measures; and control and supervision measures. The EMF also includes the environmental management instruments for the construction of floating docks, aqueducts, and sewage systems, which will be applied to ensure that each activity has a tool to control the environmental and social impacts of the project, and allows the UNGRD adequate supervision and control.
40. **The annexes to the EMF include guidelines that are required to comply with WB's environmental safeguards.** The annexes include the guidelines for the elaboration of Environmental Management Plans (EMP)<sup>50</sup> for the works of docks, aqueducts, and sewers, guidelines for obtaining environmental permits, environmental criteria for the location of works, occupational health and safety, environmental obligations of contractors, and guide for the supervision and/or environmental audit of sub-projects, among others.
41. **The EMF identified potential environmental risks during the construction phase,** such as disruptions to traffic and noise associated with construction machinery and activities; possible impacts on water bodies associated with earthworks and wastewater generated from construction; emissions of particulate matter by earthworks and removal of vegetation cover; community resistance to land acquisition and installation of water metering. The impact during construction phase will be temporary. During the operation phase, the potential impacts include unpleasant odors and noise from the operation of sanitation facilities, inadequate sludge management, and

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<sup>50</sup> The EMPs can be developed at the design stage, including all of the necessary environmental permits. The EMP is required for all sub-projects, including master plans for water supply and sewerage, and for improvements in the efficiency of the water supply system. The EMP can also be prepared during the construction phase before the beginning of the works and needs to be approved by the supervising agency. Annex 3 and Annex 4 of the EMF provide more detail in this respect.



wastewater effluent discharges. All adverse impacts associated with the project are expected to be managed with known technology, good practices, and management solutions. The wastewater facilities are relatively small with a design flow below 0.05 m3/s for both El Charco and Timbiqui. Furthermore, national and regional environmental institutions and regulations provide assurance of the compliance of environmental measures identified for the project. Due to the potential of finding of asbestos cement water supply pipes, no new pipes purchased will contain asbestos as per current legislation. The project expects a generation of asbestos cement waste from pipe handling in the water pipe grid in El Charco and Timbiqui. Therefore, the EMF and the subsequent sub-project EMPs include management measures for the removal, packaging, transportation, and disposal of existing asbestos waste.

- 42. **Environmental management of the project.** One of the environmental management instruments established by the EMF is the Environmental Management Plan (EMP), which needs to be elaborated from the design stage in such a way that it can be approved by the WB prior to the construction works and can be implemented by the contractor during the works. Taking into account the various types of works to be carried out, one EMP is required for the master plans of aqueduct and sewerage and another for the construction and operation of the docks. The EMP should contain a description of the works to be developed, the use and exploitation of the natural resources to be used by the project (including their emissions), the environmental characterization of the area of influence of the project and/or activity, the environmental and social management programs. The EMP should contain management measures for each component of the environment (geosphere, atmospheric, biotic, and socioeconomic) that are necessary to prevent, mitigate, and control the impacts identified in the environmental assessment with the respective costs. The following tables present in detail the environmental management instruments that apply to the components of the project.

Table 5. Environmental management instruments

Table with 3 columns: Type of Work, Instrument for Environmental Management\*, and Reference and/or Reach. It lists four types of work: drinking water treatment plant, aqueduct networks, sewerage network, and docks, each associated with an EMP instrument and specific references like RAS 2000 and World Bank guidelines.

		Bank recommendations, if necessary
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\* Require no objection from the World Bank

**Table 6. Instruments for the environmental and social management of sub-projects**

N	Component	Environmental Instrument									Comments	
		RAS	PMA	Permit	PSMV	PGRMV	EAV	GLO	SG-SST	CCONT		GSA
<b>1</b>	<b>Improvement of navigation infrastructure and mobility in waterways (<i>acuapista</i>)</b>											
1.1	Improvement and rehabilitation of docks		X	X					X			The construction of docks requires occupy channels permit
1.2	Traffic control system		X	X					X			Tree intervention requires forest permit
1.3	Maintenance of installations and equipment during the execution period of the works								X			
1.4	Supervision of studies and works								X		X	
<b>2</b>	<b>Water supply and sewerage in the municipalities of El Charco (Nariño) and Timbiquí (Cauca)</b>											
2.1	Construction and/or improvement of the aqueduct networks	X	X	X					X	X		The construction of the water intake requires permits of water concession and occupation of channels
2.2	Construction and/or improvement of the sewerage network	X	X	X	X	X	X	X	X	X		The construction of the waste water treatment plant (WWTP) requires permits of water discharge
2.3	Consultancy for the supervision of work								X		X	

RAS: Colombian Technical Regulation for water a basic sanitation (2000)

EMP: Environmental Management Plan

PSMV: Sanitation and Discharge Management Plan

PGRMV: Risk Management Plan for Discharges

EAV: Environmental Evaluation for Discharges

SG - SST: Occupational health and safety management system

GLO: Environmental guide for location of water and sanitation infrastructure

CCONT: Environmental contractual clauses for contractors work

GSA: Guide to environmental supervision of works

**43. The EMF provides guidance on a range of activities that can generate environmental and social impacts during the construction phase**, including removal of vegetation, demolition and excavation, excavation of contaminated solid waste, construction materials, construction staging areas, and



special procedures for activities in stilt house areas. The operational and maintenance phase implies a distinct set of potential social and environmental impacts. The EMF identifies potential risks and mitigation techniques to incorporate at the design stage, including buffer zones around drinking water and wastewater treatment plants to lessen the impact of noise and odors, as well as the selection of technologies and equipment.

44. **Natural habitats (OP/BP 4.04).** While no significant negative impacts on natural habitats, including, in particular, mangroves, are anticipated by project works, this policy is triggered given the fact that environmental regulations restrict infrastructure works in protected areas. Regional autonomous corporations (CARs) will verify that the construction and operation of water supply, sanitation infrastructure, and docks does not unduly impact protected areas or sensitive ecosystems (based on Decree Number 1076 of 2015). Additionally, the EMF includes an annex that establishes environmental criteria for the location of civil works and clearly outlines relevant restrictions. CARs also verify compliance with wastewater discharge permits as well as proposed sites and impacts of sewerage systems and wastewater treatment plants.
45. **Forests (OP/BP 4.36).** The policy is triggered because mangrove forests are present in the municipalities of El Charco, Timbiqui, López de Micay, La Tola, Mosquera, Olaya Herrera (Bocas de Satinga), and Santa Bárbara de Iscuandé. However, the project will be designed in such a way as to prevent any adverse impacts on the mangrove or any other forests. Decree Number 1076 of 2015 restricts the construction of infrastructure works in protected areas or sensitive ecosystems. The EMF includes an annex that establishes environmental criteria for the location of civil works and clearly outlines relevant restrictions.
46. **Physical cultural resources (OP/BP 4.11).** This safeguard is only triggered in a preventive manner. Based on a preliminary assessment, it is unlikely that physical cultural resources would be found in the areas directly affected by the project's sub-projects. As a precaution, the EMF includes measures and protocols for chance finds.
47. **EMF has been consulted and disclosed in-country and on the WB's external website.** The EMF of the project has been socialized properly by the UNGRD in the following scenarios and dates: (i) GoC entities: INVIAS, DNP and MVCT, May 2, 2017; Ministry of Transport, June 8, 2017; (iii) regional public consultation, mayors of municipalities: El Charco, La Tola, Santa Barbara de Iscuandé, López de Micay, and Mosquera, and the Association of Municipalities of the Pacific Coast (ASOMPAS), June 14, 2017; public consultations with the municipalities of El Charco and Timbiqui, July 31 and August 1, 2017. In relation to the scope of the EMF, participants are agreed with the responsibilities and institutional agreements proposed, as well as with the proposed environmental management instruments. As part of the socialization process, a virtual consultation of the Environmental Management Framework (EMF) and social documents of the project was carried out. The EMF and social documents of the project were sent to the different representatives of the entities invited to a public consultation. Additional comments have been received through the email [pazcifico@gestiondelriesgo.gov.co](mailto:pazcifico@gestiondelriesgo.gov.co), or the account of the Executive Director of the PTSP. The final version of the EMF became available as of August 17, 2017, at <http://portal.gestiondelriesgo.gov.co/Paginas/Gestion-ambiental-y-social-PTSP.aspx> and at Bank's website on August 18, 2017.



### Social

48. **Consultation of safeguards instruments.** The Indigenous People Plan, the Resettlement Policy Framework and the Information, Communication and Participation Plan have been properly consulted in the following scenarios and dates: (i) GoC entities: INVIAS, MVCT and DNP, May 2, 2017; Ministry of Transportat, June 8, 2017; (iii) regional public consultation, mayors of municipalities: El Charco, La Tola, Santa Barbara de Iscuandé, López de Micay, and Mosquera, and the Association of Municipalities of the Pacific Coast (ASOMPAS), June 14, 2017; public consultations with the municipalities of El Charco and Timbiqui, July 31 and August 1, 2017. The participants are agreed with the scope and the content of the social safeguards documents. The final versions became available as of August 17, 2017, at <http://portal.gestiondelriesgo.gov.co/Paginas/Gestion-ambiental-y-social-PTSP.aspx> and at the Bank's website on August 18, 2017. The social safeguards instruments have been disclosed in-country and on the WB's external website. An English-language executive summary of the Environmental Management Framework and Social Safeguards Instruments will be submitted to the WB's Board of Directors.

### Monitoring and Evaluation

49. **The UNGRD is being strengthened through the implementation of P156239 (WSS Project).** Through the improvement of procurement, safeguards, and fiduciary system and planning. The UNGRD will prepare semiannual reports detailing financial and physical progress of the activities, including citizen engagement.
50. **PDO indicators and targets have been set in coordination with the UNGRD, DNP, the MVCT, INVIAS and MT before appraisal.** The UNGRD will consolidate the data at the project level and produce semiannual reports to monitor progress. These reports will indicate the progress made under the different components and measure performance against the results indicators established in the results framework. The semiannual progress reports will allow a better monitoring of the implementation of agreed activities by also providing information on (a) investment and disbursement performance over the period covered by the report and an updated disbursement calendar; (b) procurement performance and an updated procurement plan under each of the components and subcomponents of the project; (c) accounting and FM performance; (d) progress in the implementation of the Environmental and Social Management Plan, including problems identified and documentation of positive environmental and social impacts in the areas of intervention; (e) potential developments that could affect project implementation, including a review of the main risks and the impact of mitigation measures envisioned at appraisal; and (f) other operational and administrative information judged relevant by the UNGRD or the WB team accompanying project implementation. The second semiannual report of each calendar year should also include an annual operation plan for the following year. The UNGRD progress reports will be presented and submitted to the WB in accordance with the format established in the project's Operational Manual.

51. **At the mid-term evaluation of the project**, the WB team and the UNGRD will undertake a detailed review of the M&E system to verify fulfillment of the agreed targets and compliance with other contractual commitments. They will recommend any necessary corrective action.
  
52. **The WB will support the UNGRD** in ensuring suitable monitoring progress and the achievement of the project indicators and results by supporting a better understanding of social inclusion and gender impacts in the social context.
  
53. **Independent monitoring.** The WB may hire an independent and qualified firm/NGO to assess the progress of the project and/or its contribution to the PDO objectives.



## ANNEX 4: IMPLEMENTATION SUPPORT PLAN

COUNTRY : Colombia

Enhancing Waterway Connectivity and Water Service Provision in Colombia's Plan Pazcifico

### Strategy and Approach for Implementation Support

1. **The implementation of the project will require substantial support and strong supervision from the Task Team.** The UNGRD has important weaknesses in technical, social, procurement, and political support. It will need strong results-oriented implementation support from the WB, in particular, during the first 24 months of the project. Implementation support from the WB will consist of the regular semiannual full supervision missions by the WB team; meetings and audio conferences between the WB team, the UNGRD, and other relevant stakeholders (MT, MVCT, INVIAS, DIMAR etc.); and close coordination with the WB staff located in Colombia. Through the supervision missions, the team will also carry out field visits to major construction sites and meetings with key stakeholders. Additional support will be provided by the WB's procurement, financial management, and safeguards specialists. Implementation support will emphasize the planning of the final designs, the quality of the terms of reference for the preparation of the key studies and works contracts of the project, the strategy for the implementation of the ICPP and IPP plans, and the implementation of the EMF. In addition, there will be a strategy for the implementation of the capacity building and institutional strengthening of service providers (transport waterway operators and WSS). The Implementation Support Plan will be reviewed at least once a year to ensure that it continues to meet the implementation support needs of the project and PDO.

### Implementation Support Plan

2. **The full semiannual supervision missions**, short follow-up technical missions, and video and audio conferences, as needed, will focus on the following areas:
3. **Strategic support:** Supervision missions will meet with national and local authorities to: (a) review progress on the project's activities; (b) discuss strategic alignment of the project, especially at the planning level between the relevant stakeholders; (c) promptly address any deviations from good project implementation; and (c) evaluate progress on cross-cutting issues such as monitoring and evaluation, training, communication, dissemination of project results and experiences, and coordination between relevant stakeholders.
4. **Technical support:** Supervision will concentrate on ensuring the technical quality of bidding documents, evaluation reports, and review construction plans. The WB will ensure that it has adequate technical capacity in its team. During construction and commissioning, technical supervision will be provided to ensure that technical contractual obligations are met. The team's engineer will conduct regular site visits during project implementation and involve technical specialists as needed.



5. **Fiduciary support:** Periodic supervision of procurement and financial management aspects will be provided by the WB team specialists. In particular, these specialists will (a) perform desk review of project IFRs and audit reports, following up on any issues raised by auditors, as appropriate; (b) look into the operation of the control systems and arrangements described in this assessment; (c) update the FM rating in the FM Implementation Support and Status Report (FMISSR), as needed, (d) provide training and guidance on the conduct of procurement processes in compliance with the Procurement and Anti-Corruption Guidelines and the project Operational Manual; (e) work with the UNGRD to enhance capacity in procurement and financial management to facilitate project implementation; (f) review procurement documents and provide timely feedback to the UNGRD; and (g) help monitor project progress against the procurement plan. Supervision of both the procurement and financial management aspects of the project will be carried out semiannually during the regularly scheduled WB supervision missions, with continued contact between these visits as needed.
  
6. **Procurement:** Supervision will focus on the improvement of the prospect that consultants and contractors selected are of good quality, bring value to the GoC, and improve the chance of successful implementation of the project.
  
7. **Safeguards support:** The coordination begun during preparation would continue throughout project implementation, especially to ensure that relevant safeguards concerns are included in the works financed under Components 1 and 2. Supervision from the WB safeguard specialists will take place at least twice a year and close communication will be maintained if requested by the GoC.

**Table 1. Main focus in terms of support to implementation**

Time	Focus	Skills Needed	Resource Estimate
First twelve months	Project management and project implementation support coordination	Team leaders	10
	Social safeguards	Social specialist	7
	Environmental safeguards	Environmental specialist	6
	Technical and quality procurement review of Terms of Reference and bidding documents	Task Team Leader, technical specialists, procurement specialist, and FM	12
12-48 months	Procurement review of bidding documents	Procurement specialist	4 per year
	Technical review of Terms of Reference, technical reports, and bidding documents	Team leaders and technical specialists	10 per year
	FM supervision	FM specialist	4 per year
	Social safeguards management	Social specialist	5 per year
	Environmental safeguards management	Environmental specialist	4 per year
	Contract execution and contract	Task Team Leader, technical	12 per year

management

specialists

**Table 2. Skills mix required**

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Team leaders	14	6	Headquarters
Waterway specialist	8	3	Lima
Water engineer	6	3	Bogotá
Waste water engineer	6	3	Bogotá
Non-revenue water specialist	2	2	Bogotá
Environmental specialist	4	2	Bogotá
Social specialist	5	4	Bogotá
Procurement specialist	4	1	Bogotá
Financial management specialist	4	1	Bogotá
Legal counsel	1	0	Headquarters
Gender specialist	2	1	Headquarters

**ANNEX 5: ECONOMIC EVALUATION**

**COUNTRY : Colombia**

**Enhancing Waterway Connectivity and Water Service Provision in Colombia's Plan Pazcifico**

**Component 1: Access to waterway transport along the southern Pacific Region**

**Economic Evaluation Methodology**

1. **The economic evaluation was carried out using the consumer-surplus approach**, which compares flows of the economic costs and benefits of a with-project scenario and a reference (a without-project scenario) and estimates net economic benefit (or loss).
2. **The sub-components may impact, among others, on travel time (TT), operational costs (OP), and waiting time (WT).** These three main benefits can be assessed by the Generalized Cost of Travel (GCT) equations with and without project.

$$GCT_{without\ project} = \beta_0 + \beta_1 TT + \beta_2 OP + \beta_3 WT + \omega \quad (1)$$

$$GCT_{project} = \beta_0' + \beta_1' TT + \beta_2' OP + \beta_3' WT + \omega' \quad (2)$$

Benefits = (2) – (1).

The sub-components will be associated to benefits and costs. Three main benefits can be assessed given the available information:

<b>Sub-component</b>	<b>Potential Benefits</b>	<b>Potential Costs</b>	<b>Approach/Proxies</b>
1.1 Improving waterway navigation in participating municipalities (safety (signaling and navigation charts).	a) Travel time saving (TT) b) Cost operation reduction (OP) c) Increase window of navigation d) Increase number of trips e) Increase frequencies f) Reliability	Investments and maintenance	a) Average speed of typical vessel will increase from 25 to 30 nautical miles (Source: traffic study). b) Regression equation between travel time (TT) and operation cost (OP): $CO = 13,646 + 13,651TT$ . c) Lower travel time per trip may increase number of trips, frequencies and reliability.
1.2 Improving access to waterway transport in participating municipalities	a) Waiting time reduction in docks (WT) b) Increase in the window	Investments and maintenance	a) Reduction from 60 to 30 minutes waiting time for 25 percent of



(floating docks)	<p>navigation</p> <p>c) Increase number of trips and frequencies (in particular for user like women, children, elderly and people with disabilities)<sup>51</sup></p> <p>d) Reduction of costs per passenger may increase demand</p>		<p>passengers (Source: traffic study).</p> <p>b) Window navigation can increase one additional hour to 6.0 hour per day. Floating docks can operate if draft is 0.8 meters. Fix current docks can operate if draft is 2.00 meters.</p> <p>c) Floating docks will allow more access to selected users.</p>
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The project will construct/rehabilitate signaling, docks at seven locations, which will reduce travel time, reduce operational costs, and improve accessibility to/from waterway transport when passengers get on and off vessels, particularly for a vulnerable group of waterway transport users: women (42 percent of the total users), children, seniors, and people with disabilities (given the unsafe access conditions). Passengers will not need to wait at docks until the level of tide reaches 2 meters. Current informal docks (or just stairs) are not usable while the tide is low (under 2 meters). In addition, the new floating docks can adapt better to tides and work if draft is at least 0.8 meters, are more stable, and attached to boats. This gives women, disabled and elderly people greater access to waterway transport, since some of them cannot use boats at the current informal facilities. Furthermore, the project will shorten the boarding and disembarking time. The other activity is navigation safety improvement, which will ensure that the vessels navigate on the safer and shorter route and could reduce travel time.

3. **The project's economic benefits are defined as following:** (i) travel time savings (TT), (ii) vessel operation saving costs (OP), (iii) waiting time savings at floating docks for increase in the window navigation (WT). Other benefits, for example, additional impact of the increase in window navigation, more trips give more access for a target group of waterway users (women, children, elderly, and the disabled). Improved safety and cargo travel time savings are not discussed as necessary data is not available. Since this analysis employs a consumer-surplus approach, the indirect benefits, such as fishery or agriculture industry development, or benefits in the health and education are not considered.

4. **The traffic demand in the project area is estimated based on the traffic survey done by the GoC in 2014.** According to the report,<sup>52</sup> the total numbers of passengers and cargo in the waterway (Tumaco-Guapi) were 1,055 and 29 tonnages per day in 2014, respectively. While the report included traffic in only five municipalities (Department of Nariño), the project now has two additional municipalities. Accordingly, these values are adjusted assuming that the two

<sup>51</sup> Nine percent of total population in the departments of Nariño and Cauca have disabilities. *Ministerio de Salud y Protección Social Oficina de Promoción Social*, August, 2015.  
<file:///C:/Users/wb374831/AppData/Local/Microsoft/Windows/INetCache/IE/D793KUHO/Sala-situacional-discapacidad-Nacional-agosto-2015.pdf>.

<sup>52</sup> The economic analysis done by the Government of Colombia: *Instituto Nacional de Vias, "Actualización Y Complementación De Los Estudios De Factibilidad De Los Esteros del Litoral Pacífico, Incluye Estudios Y Diseños Definitivos Tendientes A Las Obras De Protección De Las Cabeceras Municipales Y Los Muelles Que Se Requerian, En El Departamento De Nariño,"* 2015.



municipalities (Timbiqui and López de Micay in the Department of Cauca) increase the total traffic by 32 percent. The passenger and cargo traffic is assumed to grow at a rate of 1.74 percent and 1.5 percent per year, respectively, which corresponds to the expected population growth in the region. Based on this, the study estimated that 1,489 passengers and 40 tonnages per day are transported by vessels in the project area in 2018, the starting year of the analysis period.

5. **The economic benefit from savings in vessel operation costs will come from shorter operation time for each trip due to:** (i) less waiting for high tides (over 2 meters) at floating docks, (ii) shorter embarking and disembarking times at docks, and (iii) better route as a result of improved navigation and signalizations. According to the GoC study, each trip transports 14 people on average; there are 106 trips per day. The operation cost/trip was estimated by a regression between the travel time and the cost of the trip is COP 382,158 per hour.<sup>53</sup> The analysis also considers a main origin-destination, from Francisco Pizarro to Mosquera in the Department of Nariño, that without project takes 2.5 hours (62.5 miles). With the project the trip will be 2.08 hours and operation costs will be reduced by 17 percent for each trip, resulting in a saving of COP 159,233 per trip.
6. **The saving in passenger travel time will be made possible by: increase in average speed of the vessels and shorter waiting time as the improved floating docks make it possible to embark and disembark at low tide.** According to the GoC's study, the average speed of vessels in the current situation is 25 nautical miles and can be increased to 30 nautical miles. The effect is a travel time reduction by 0.42 hours between Francisco Pizarro and Mosquera (from 2.5 hours to 2.08 hours). In addition, the shorter waiting time for users at the floating docks—from 60 to 30 minutes for the 25 percent of the demand<sup>54</sup>—contributes only 0.17 percent to the total economic benefits. The time value for passengers is estimated as one hour of work at Colombian Pesos (COP) 1,351.78, based on COP 973,280 as the monthly minimum wage for workers, including social benefits. Accordingly, each passenger will save of COP 213,267 per year.
7. **The investment and maintenance costs of the component considered in the economic analysis consists** of costs for civil works of floating dock improvements, navigation safety facilities (bathymetry, navigation charts, and signaling), and associated consulting services, such as design preparation and supervisions, but excludes taxes and land acquisition costs as these are considered a mere transfer of assets. The capital total cost is US\$ 14,938,500 or COP 44,815.5 million. Construction will be completed in three years. In addition, the maintenance costs for the ports and navigation safety facilities are estimated at US\$ 650,000 or COP 1,950 million for every two years.
8. **Based on the above calculations for a 20-year project life, the present value of the economic benefits exceeds the economic costs.** The overall net present value of the waterway infrastructure component is COP 37,122 million at a 6 percent discount rate over 20 years and the economic internal rate of return for this component is 15.7 percent.

## CO2 Accounting Analysis

<sup>53</sup> Operational Cost = 13,646+13,651 (Travel Time). Source: Demand study.

<sup>54</sup> Traffic study, government of Colombia, INVIAS.



9. **CO2 emissions generated from fuel consumption by boats will be reduced due to the shorter operation hours as assumed in the economic evaluation above.** Fuel consumption is estimated at 20 gallons of gasoline per hour. A typical trip is 2.5 hours (between Francisco Pizarro and Mosquera) without the project, and 2.08 hours with the project based on the travel time saving of at least 0.42 hours. Five gallons of gasoline will be saved on each trip. Given the emission factor of 8.9 kg-CO2 per gallon of gasoline, the gross and net CO2 emissions are calculated at 1,297 t-CO2 and 216 t-CO2 respectively over 20 years.

## Component 2: Water supply and sanitation in the municipalities of El Charco and Timbiqui

### Economic and Financial Methodology

10. **A cost benefit analysis was used for the interventions planned under Component 2.** The evaluation was carried out from economic and financial perspectives to test for sustainability and economic viability. Both analyses calculated the net benefits generated by component on an incremental basis. From a financial point of view, the project was evaluated measuring its costs and benefits at market price in the same way they would be paid for and received from the service operators. From an economic point of view, each component was evaluated converting financial cash flows into economic cash flows. Financial prices were transformed to economic prices using conversion factors to eliminate market distortions, such as taxes and subsidies. Economic benefits were quantified beyond financial benefits, including the impact on households and the society in general. Net benefits equal the difference between the incremental benefits and the incremental costs of two scenarios: with and without the project. The with-project scenario was built including the expected targets of the interventions. The without-project scenario was built assuming that the current situation prevailed. The evaluation was complemented with distributive and sensitivity analyses.
11. **To measure economic benefits from water and sewerage, the “avoidable cost” approach was used.** Benefits of the water component were estimated as savings on prices paid by households when service improves. Benefits of sanitation were estimated as savings on costs of health when sanitation improves. Financial benefits were estimated as the increase of revenue and gains from efficiency improvement. Increase of revenue comes from expansion of the services and efficiency gains in the operation. The activities were appraised measuring the flow of costs and benefits for the lifetime of the project, estimated at 30 years for water and sanitation. The flow of costs and benefits were discounted with a 6 percent rate. Cost and benefits were expressed at 2017 prices.<sup>55</sup>
12. **Costs consisted of investment and operating costs. Estimated cost of water and sanitation component is US\$ 15 million.** Institutional strengthening is crucial for the successful implementation of the project and, therefore, is included in the evaluation and distributed proportionally among the municipalities. Thirty-five percent of this corresponds to water, 54 percent to sanitation, and 10 percent to institutional strengthening and studies. Water investment consists of: (a) works at production and distribution system; (b) energy efficiency; (c) metering; (d) in-house connections; and (e) studies and supervision. Sanitation investment consists of: (a) main collector

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<sup>55</sup> Exchange rate: COP 2,865 = USD 1.



pipelines; (b) in-house connections; and (c) waste-water treatment systems. Operating costs were included in the evaluation based on requirement of all planned interventions.

Table 1. Investment cost (000 US\$)

	Water	Sanitation	Total
El Charco	1,994	3,964	5,959
Timbiqui	3,437	4,363	7,800
Institutional strengthening			700
Master plans			900
Total	5,431	8,327	15,359

- 13. **Operating costs were estimated per service** (water, sewerage, and sewage treatment) and municipality based on the type of works planned under the project. Electricity cost is an important component of the operation given that some of the interventions require important energy usage and the high price of electricity in the region.<sup>56</sup>
- 14. **Economic costs were adjusted taking out the 19 percent Value Added Tax (VAT).** Operations and maintenance costs to be generated by the interventions were included in the evaluation.

**TIMBIQUI**

- 15. **Water service. About 45 percent of the 8,500 urban residents are connected to the municipal water system, yet the water is supplied untreated and sporadically.** According to the water service operator, *Cooperativa de Servicios Públicos de Timbiqui*, the water is supplied with a frequency lower than three hours per day, when available. The infrastructure is in a dire situation and the operation is frequently interrupted due to breakdowns of the equipment, especially the pumping station that elevates the water from the intake to the storage tank and distribution pipeline. The water is supplied untreated. The Ministry of Health, through the National Institute of Health (*INS-Instituto Nacional de Salud*) supervises the water quality using the indicator of risk of the drinking water quality (*IRCA-Indice de Riesgo de la Calidad de Agua*). The IRCA results in 2015 showed Timbiqui as the municipality with the second-worst level of water quality in the country; the indicator showed high risk (96 percent) of the water for human consumption. High risk may translate into illnesses such as cholera, typhoid, paratyphoid, and acute diarrhea.
- 16. **The population is aware of the poor quality of water and consequently it uses it only for household cleaning chores and never mixes it with water from other sources.** The main source of water in the municipality and the most reliable in terms of quality and quantity is rainwater, regardless of availability of water connection. The average precipitation is 6,000 mm per year and rain occurs all year long with the exception of short dry periods that last at maximum two to three weeks. For longer dry periods, the municipality faces a water crisis, as was the case in 2016 when there was no rain for a month. The municipality and population had to buy water from other municipalities and pay high prices for transportation by boats. The river is another source of water, but it is highly polluted mainly due to mineral extraction, sewage discharge, and chemical runoff

<sup>56</sup> Electricity is operated by the private sector and is not interconnected with the national grid.



from agricultural activities. The river is used only for washing clothes, which has become a regular practice at least twice a week. Although the river is alongside the municipality, some women hire motorbike taxis to transport heavy loads of wet clothes.

- 17. **The lack of a proper water service comes with high prices paid by households to cope with the difficult situation.** Among the prices paid are: a) collection of water, implies purchasing of containers and spending time supervising the filling of water in containers up to a point where it does not overflow; b) bottled water for drinking and cooking; c) time spent going to do laundry at the river and the associated transportation cost. All houses have reservoirs installed either underground, on the rooftop, or on the ground close to the house. The capacity of the reservoirs ranges from 1,000 to 5,000 liters. Households also have water barrels ranging in capacity from 50 to 500 liters; and jerry cans with capacities of 5 to 25 liters. The price paid for all containers is as follows: (a) price of installation of two 1,000 liter-tanks, pump, and hoses required to distribute the water is COP 660,000; and (b) several containers of lower capacity is COP 100,000. Equivalent monthly price is COP 12,715.<sup>57</sup>
- 18. **Water for drinking and laundry is relatively expensive.** The cost of buying bottled water—needed for drinking and cooking—was estimated at COP 123,311/month (US\$ 41/month). This estimation is based on a consumption of 1 liter per day per person and a price of COP 15,000 per container of five gallons. Including value of time spent doing laundry. Doing laundry at the river is a regular practice despite the fact that it is polluted. This is because there is a lack of water at home to do laundry. Women wash clothes at least two times a week and spend on average 15 minutes walking to and from the river. To value the time, the minimum salary in Colombia was used adjusted by 50 percent to account for children and unemployed.<sup>58</sup> About 50 percent of households hire motorbike taxis for a return trip at COP 6,000/trip. Total cost per household per month is estimated at about COP 165,000 (US\$ 55).

**Table 2. Coping cost of facing poor water service in Timbiqui**

	<b>COP per household per month (COP/conn/month)</b>
Price of storing water	12,715
Purchase of bottled water	123,311
Value of time doing laundry and transportation	29,406
Population with water connections	165,432

- 19. **The planned interventions aim to expand coverage and improve the service in terms of quality of drinking water and quantity in the urban area, which will have an estimated population of 13,310 by 2042.** The project’s objective is to reach 100 percent coverage of water supply, available 12 hours a day, and a water quality level measured by the IRCA index that is lower than five points (no risk to human consumption). The project also aims to improve operational efficiency by reaching acceptable levels of water losses and improving the revenue collection rate to 60 percent.

<sup>57</sup> The monthly price was estimated assuming the following lifetime period: reservoirs 10 years; pump, hoses, and minor containers five years.

<sup>58</sup> Monthly minimum salary in Colombia in 2017 is COP 737,737, or about US\$ 250 per month, which corresponds to about US\$ 1.5 per hour.



20. **The sewerage coverage in the urban area is estimated at 30 percent.** These neighborhoods in Timbiqui are connected to a basic wastewater collection system, though it is in poor condition and none of this wastewater is treated before discharge into the Timbiqui River. Some households have septic tanks or latrines that are poorly constructed and operated. The lack of cleaning of latrines and septic tanks generates additional problems due to the high level of the water table. There are highly-populated areas with stilt houses that dispose fecal matter directly into watercourses mainly on the Timbiqui River. This overall situation has resulted in contamination of water bodies and presence of sewage running along the streets and houses, significantly affecting public health and ecosystems. The project will include the construction of a system for collection, treatment, and disposal of wastewater generated in the urban perimeter, with the project directly benefiting about 5,680 people (near 60 percent of the urban population).
21. **Unsafe water supplies and inadequate levels of sanitation and hygiene increase the transmission of diarrheal diseases (including cholera), schistosomiasis, trachoma, and hepatitis.** Malaria and dengue are caused by mosquitos that lay their larvae in stagnant water. According to figures provided by the secretariat of health of the municipality, the cases of acute diarrhea that needed hospitalization were about 37 per 1,000 inhabitants in 2014 and 2015. This statistic does not show the cases of diarrhea that did not need hospitalization and were treated by ORT (Oral Rehydration Therapy), which according to the World Health Organization (WHO),<sup>59</sup> corresponded to 55.4 percent of all cases of diarrhea in Colombia in 2010. When all cases are included—hospitalization and ORT—the incidence of diarrhea per 1,000 inhabitants increases to about 83.

**Table 3. Number of cases of hospitalizations from acute diarrhea per age group (2014-2015)**

Age Group (Years)	Number of Cases		Incidence per 100,000 inhabitants	
	2014	2015	2014	2015
< 1	39	47	3.13	3.84
1-4	91	107	7.30	8.75
4-14	32	28	2.57	2.29
15-44	82	80	6.57	6.54
45-64	36	27	2.89	2.21
>65	10	17	0.80	1.39
Total	290	306	23.25	25.02

22. **The cost of treating diarrhea varies depending on the severity of the case.** In the region, the ORT has a cost of about COP 80,000 when a visit to the doctor is needed, and of COP 20,000 when treated at home with salt solutions or other medications. When hospitalization is needed, the average cost registered at the hospital in El Charco was COP 594,000 in 2017 for four days of hospitalization. If transfer to another hospital is needed, the cost increases by COP 2.2 million for transportation, plus the additional hospitalization. The weighted average price paid per case of diarrhea was about COP 300,000 (US\$ 100). Information on mortality from acute diarrhea was not available at the municipality. The Ministry of Health<sup>60</sup> reports that in 2010, in Choco in the Pacific

<sup>59</sup> WHO. World Health Statistics 2010.

<sup>60</sup> Ministerio de Salud Colombia. Dirección de Epidemiología y Demografía. Análisis de Situación de Salud por Regiones de



Region of Colombia, the mortality rate was 4.2 times higher than the national level (5.78 deaths of children under five per 100,000 inhabitants). Applying this factor for Timbiqui results in a mortality rate of 24.27 per 100,000 people, which corresponds to about two deaths per year caused by diarrhea in Timbiqui.

### **EL CHARCO**

23. **Water Service.** The water service is provided by the municipality, and even though there are 1,500 households connected to the network, about 60 percent do not get water from the system. The water is distributed only two hours per day at the most. The infrastructure is in a poor state, the capacity of the water intake is insufficient, the 11-km conduction pipe is not maintained and has significant water losses caused by many illegal connections along the pipe. Most of the households, regardless of whether or not they have a water connection, try to get as much water as possible from the public system. The water quality is perceived as good, even though the Ministry of Health classifies it as medium risk for human consumption—the level of quality registered in the IRCA index was between 15 to 35. Households install electric pumps either inside the house (if a water connection is available), or directly from the network (if no water connection is available). Artisanal connections from the network to the houses are made. All households collect rainwater to supplement their water needs; and the river, which is highly polluted, is used only for washing clothes.
24. **The lack of a proper water service is associated with the high prices paid to cope with the difficult situation.** The prices paid by users are for: (a) installation and operation of an electric pump to use water from the public network; (b) collection of rainwater, which implies purchasing of containers and spending time supervising that the water does not overflow; (c) bottled water for drinking and cooking; (d) time spent going to do laundry at the river and associated transportation costs. The monthly payment is estimated as COP 166,000, which corresponds to the same price paid in Timbiqui, plus the cost of hoses for artisanal connections.
25. **The WSS component aims to expand coverage and improve service quality of drinking water in the urban area, whose population is projected to be 15,809 by 2042.** The targets are: water supply coverage of 100 percent, continuity 12 hours a day, water quality level lower than five points (no risk to human consumption) according to the IRCA index, improving operational efficiency by reducing water losses, and increasing the revenue collection rate to 60 percent. To that end, the project will finance the construction of a new water intake, water mains, water treatment plant and storage facilities, rehabilitation and construction of distribution water mains and networks, installation of micro- and macro-metering and pressure-monitoring systems, energy redundancy project, intra-domiciliary connections, and design update.
26. **Sanitation situation.** The existing sewerage network is partially constructed and covers 30 percent of the urban area. However, the operation of the system is inefficient, and the infrastructure is in a precarious state. The sewerage pipelines overflow and discharge untreated sewage at several points into Chiriqui Creek, Tapaje River, and street canals. Households use on-site disposal systems, which varies from septic tanks, pits, latrines or none. The sanitation project will construct a wastewater



system, which consists of main collectors, pump stations, secondary networks, in-house connections, and a wastewater treatment plant. It is expected to benefit 40 percent of the population.

27. **Unsafe water supplies, and inadequate levels of sanitation and hygiene increase the transmission of waterborne diseases.** According to figures provided by the Secretariat of Health of the Municipality of El Charco, the number of cases of acute diarrhea that needed hospitalization in 2015 and 2016 was 975 and 995, respectively, which corresponds to an incidence rate of 90 and 94 per 100,000 people, respectively. The incidence increase when the cases treated by ORT, which are estimated as 55.4 percent of all cases of diarrhea, are included. The average cost of treating diarrhea is the same estimated for Timbiqui, that is COP 300,000 per case. Number of diarrhea deaths in El Charco is 2.3 per year applying the same methodology as in Timbiqui.

### Economic Benefits of the Project

28. **The project will bring benefits associated with the expansion and improvement of water and sanitation.** It is expected to: (a) expand the water service to cover 100 percent of the urban population in both municipalities; (b) expand the sewerage service to 60 percent of the population in Timbiqui, and 40 percent in El Charco. The project will bring numerous benefits, such as: (a) savings on coping costs associated with inadequate water service; (b) improvement in health indicators; (c) improvement of quality of life; (d) enhancement of local economy; (e) environmental benefits associated with sewage collection and treatment. Not all these benefits were quantified in this evaluation. Only coping costs when dealing with poor water service and health improvement were included. The first benefit—reduction of coping costs—was attributed to water; while the second one—health benefit—was attributed to both water and sanitation. Consequently, sanitation was evaluated along with the water component.
29. **The benefits of the water component were measured as savings on water prices paid by the population when facing poor or nonexistent service.** Net benefits corresponded to the difference between prices paid in the without-project situation, compared to prices to pay in the with-project situation. The without-project situation was forecasted assuming that the current situation prevailed, which is a conservative assumption given that population will grow, and water will get scarcer. The scenario under the implementation of the works was projected assuming that the water was potable and supplied 24/7.
30. **Benefits from health improvement.** These were measured as benefits from reduction of premature death and savings of cost of treatment of waterborne diseases. Premature death has an economic impact due to loss of wages and economic outputs generated now and in the future. The human capital approach, which equates the value of a human life using the estimated future discounted income stream from a productive person based on a working life of 17 to 65 years and a 3 percent discount rate, was used. The value of life was estimated using the minimum salary of US\$ 250 per person per month, multiplied by 50 percent to account for the high level of poverty and lack of economic opportunities in the municipalities. Cost of treatment of waterborne diseases was based on statistics of incidence of diarrhea and associated cost of treatment in both municipalities.



- 31. **The effect of improved water and sanitation on health is assumed at 45 percent when accompanied by hygiene practices such as hand washing.** When hygiene practices are not present, the impact reduces to 37.5 percent. The assumptions of the impact of sanitation were taken from the results of the studies carried out by Prüss et al. (2002)<sup>61</sup> and Esrey.<sup>62</sup> The studies derived the relative risks of diarrhea from international literature and quantified the shift of risk when transitioning between different water and sanitation scenarios.
- 32. **The health benefits were applied to sanitation and so the chosen scenario assumed that water and sanitation will be in place at the same time for households that will have both services.** The expected impact is a 37.5 percent reduction of waterborne diseases. When the services are accompanied by improved personal hygiene, the impact increases to 45 percent. Health benefits were applied to both interventions (water and sanitation) as they will be implemented at the same pace and cannot be attributed to one or another.
- 33. **The project will positively impact socioeconomic development of the municipalities of Timbiqui and El Charco.** The economic evaluation shows positive results for the planned interventions and overall expected return of 17 percent. Water interventions show 36 percent return. Expected benefits surpass costs by 2.2 times, which gives ample room for uncertainties during implementation. Results err on the conservative side as the evaluation does not account for all expected benefits, such as the impact on the environment, local economy, and quality of life of the population.

Table 4. Results of the economic analysis of the project

	Present Value of Flows (000 US\$)			
	Costs	Benefits	Net Benefits	IRR
Water				
Timbiqui	3,848	16,439	12,590	29%
El Charco	3,774	18,782	15,008	45%
Total water	7,623	35,221	27,598	36%
Water and sanitation				
Timbiqui	8,138	16,911	8,772	15%
El Charco	7,672	19,513	11,841	20%
Total water and sanitation	15,811	36,424	20,614	17%

- 34. **The results are reassuring as significant additional benefits were not included, such as:** environmental impact when sewage discharges reduce, reduction of bad odors, improvement of quality of daily life of households, potential impact in the local economy, etc.
- 35. **Sensitivity analysis applied was focused on the variables selected as those conveying major risk to the project are:** (a) cost investment overrun; (b) implementation delays; (c) lower-than-expected benefits; and d) lower population growth rate. Results show that if cost increases by 50 percent, the

<sup>61</sup> Prüss, A., David Kay, Lorna Fewtrell, and Jamie Bartram. (2002). "Estimating the Burden of Disease from Water, Sanitation, and Hygiene at a Global Level." *Environmental Health Perspectives*. 110 (5).

<sup>62</sup> Esrey, S.A. "Water, Waste, and Well-Being: a multicounty Study" (1991). *American Journal of Epidemiology* 143 (6) 703-708.

project will still show positive results and 12 percent return. Only for increases above 120 percent the project would become unfeasible. Benefits can reduce as much as 60 percent and the project will show positive returns. If the project is implemented at a slower pace and benefits are only achieved six years after the expected time of the end of the project, returns will still be positive at 11 percent. If the population remains at current levels, the project will show 14 percent returns.

**Table 5. Results of the sensitivity analysis**

	Change	Results Applying Variation		Break-Even Point
		Net Benefit	IRR	
		000 US\$	%	
Investment cost	50%	13,850	12%	120%
Benefits	50%	3,003	8%	60%
Delays	6%	9,877	11%	
Growth rate	0%	11,781	14%	

**Financial Evaluation of the Project (WSS operators)**

36. **The financial evaluation of the project was conducted with costs and benefits as they will be paid and received from the service operators, including subsidies and taxes.** Investment cost will be funded entirely by the GoC and the operator will be responsible only for operating and maintaining the works. Therefore, the evaluation included only operation and maintenance costs. Benefits consisted of increase of revenues as a result of the project. Water tariffs are established in both municipalities, yet the billing and collection process is very poor if existent. In Timbiqui, the operators informed that out of 708 billed customers only 15 occasionally pay. In El Charco, the municipality does not even charge as households refuse to pay for a deplorable service. Both operations run with funds transferred by the municipality through the *Sistema General de Participaciones* (SGP) and currently do not recover operating costs.

37. **In both municipalities, households are low-income customers belonging to Stratas 1 and 2. According to Colombia's regulatory framework they are entitled to get subsidies up to 70 percent of the costs.** The regulatory entity, CRA, allows the application of the following subsidies on tariffs according to socioeconomic strata: Strata 1 up to 70 percent of the cost; Strata 2 up to 40 percent; and Strata 3 up to 15 percent. Strata 4 pays the reference cost. The subsidy is to be paid off by the municipalities with SGP transfers or overcharges on tariffs of high-income-level customers as well as industrial and commercial users. The operator has autonomy to set them within these limits. Given that Timbiqui and El Charco have all their customers classified in Strata 1—the lowest strata—they will require public financing to compensate the deficit through transfers from the GoC earmarked for the Solidarity Fund. Results show that the project will only be viable if resources to cover operating costs are guaranteed. Current tariffs, which correspond to a fixed monthly amount charged per connection of COP 10,000 in Timbiqui and COP 12,000 in El Charco, are not enough to cover operating costs.<sup>63</sup> Therefore, a mix of actions is needed, including adjustment of tariffs,

<sup>63</sup> The regulatory framework in Colombia defines a methodology to estimate the fixed monthly tariff charged per connection,



implementation of a revenue collection strategy, accomplishment of efficiency targets, and resources from the SGP earmarked for water and sanitation.

### Fiscal Performance of Municipalities

38. **Revenues in Timbiqui consist of own revenues, transfers from the SGP, and from royalties.** Own revenues correspond to 9 percent, transfers from SGP have decreased from 91 percent in 2012 to 44 percent in 2016, while royalties and others increased to 47 percent in 2016. Own revenue in Timbiqui covers current expenditures and transfers go to fund mostly capital investment.

**Table 6. Financial statements of Timbiqui (2012-2016)**

(Million COP)	2012	2013	2014	2015	2016
1. Revenues					
1.1 Revenues from taxes	1,799	2,372	-	2,919	2,456
1.2 Other municipal revenues different than taxes	50	-	-	-	-
1.3 Transfer from SGP	19,807	22,066	-	20,756	12,190
1.4 Royalties and other	-	2,402	-	14,450	13,063
Total Revenues	21,656	26,840	-	38,125	27,709
2. Expenditure					
2.1 Current	2,588	2,830	-	2,421	2,503
2.2 Capital	16,820	18,614	-	41,054	27,017
Total Expenditures	19,408	21,444	-	43,476	29,520
3. Total surplus (deficit) (1-2)	2,248	5,395	-	(5,351)	(1,811)
4. Operational surplus (deficit) (1.1+1.2)-2.1	(739)	(458)	-	497	(47)

Source: DNP (Departamento Nacional Planeacion). Desempeno Fiscal de los Departamentos y Municipios and financial records in the municipality.

39. **Revenues in El Charco correspond to own revenues (6 percent), and transfers from SGP and royalties (94 percent).** In 2014 and 2015, El Charco could cover current expenditures with its own revenues and dedicate most of the transfers from the government to capital investment.

**Table 7. Financial statements of El Charco (2012-2016)**

(Million COP)	2012	2013	2014	2015
1. Revenues				
1.1 Revenues from taxes	411	227	990	1,325
1.2 Other municipal revenues different than taxes	174	129	24	-
1.3 Transfer from SGP	12,485	17,939	7,064	7,597
1.4 Royalties and other	-	10,497	-	12,761
Total Revenues	13,071	28,792	8,078	21,683
2. Expenditure				
2.1 Current	-	536	538	599

where there is no micro metering.

2.2 Capital	-	21,613	13,692	13,651
Total Expenditures	-	22,149	14,230	14,251
3. Total surplus (deficit) (1-2)		6,643	-6,151	7,433
4. Operational surplus (deficit) (1.1+1.2)-2.1		(818)	453	725

Source: DNP (Departamento Nacional Planeación). Desempeno Fiscal de los Departamentos y Municipios and financial records in the municipality.

40. **The fiscal sustainability of the municipalities is evaluated annually by the NG following the criteria established by Law 617.** The criteria include five indicators: (a) ratio of current expenditure to current revenues; (b) share of capital expenditure to total expenditure; (c) savings capacity; (d) debt capacity; and (e) share of own revenues to total revenues. A final score is given based on levels attained in each indicator. The score is classified in one of five categories.

**Table 8. Categories of fiscal performance**

Fiscal Health	Strong	Sustainable	Vulnerable	Under Stress	Decline
Performance Index Score	≥80	≥70 and <80	≥ 60 and <70	≥ 40 and < 60	< 40

41. **Information from 2010-2015 shows that Timbiqui has improved its fiscal position, increasing the level from a vulnerable situation to sustainable.** This situation means that the finances are sound and in compliance with all the financial indicators established by law. El Charco was under stress from 2010 to 2014 and in 2015 improved its fiscal position and went to vulnerable situation. When a municipality presents a vulnerable financial situation, it means that it is highly dependent on NG transfers and its finances are highly vulnerable to imbalances due to changes in its financial structure.

**Table 9. Fiscal performance of Timbiqui and El Charco (2010-2015)**

	Timbiqui		El Charco	
	Fiscal Indicator	Assessment	Fiscal Indicator	Assessment
2010	60.19	Vulnerable	51.11	Under Stress
2011	63.39	Vulnerable	59.27	Under Stress
2012	69.26	Vulnerable	58.65	Under Stress
2013	70.53	Sustainable	55.48	Under Stress
2014	74.51	Sustainable	55.70	Under Stress
2015	73.40	Sustainable	61.85	Vulnerable

Source: Financial structure of the WSS in Colombia.

42. **The government's strategy to fund WSS sector infrastructure investment and operation relies, apart from tariffs, on government funding.** The main national funding channels for WSS provision are: (a) SGP, which is a national resource transfer mechanism reformed under Law 1176 of 2007 whereby parts of the national budget are assigned to sectors and municipalities across Colombia. WSS service provision is one type of public service to which funds are assigned. Others include education, health, etc.; (b) General National Budget (PGN). In addition to the SGP resources, the central government may assign a portion of the national budget to fund specific capital projects in



the WSS sector. Such funds are provided to municipalities for specific projects; and (c) royalty schemes allocated directly to municipalities for capital investment works. The distribution of royalties is overseen by DNP. The GoC, through CONPES, annually assigns the SGP transfer for each municipality, as well as the specific amount that each municipality must use in each sector.

- 43. **The share of the annual national budget assigned to WSS service is 5.4 percent.**<sup>64</sup> Eighty-five percent of this funding is channelled through the SGP to the municipalities, and 15 percent to the departments. The amount received by each municipality to use in WSS is based on the following criteria: (a) deficit of WSS coverage; (b) socioeconomic category of population served; (c) efficiency of the municipality in increasing coverage; (d) poverty level of the municipality; and (e) fiscal and administrative efficiency of the municipality.
- 44. **The percentage of the SGP assigned to WSS in each municipality varies.** In Timbiqui, it was about 6 percent on average per year during 2012-2016; while in El Charco it was 28 percent. Law 1176 of 2007 (Article 11) establishes how to use the WSS funds: (a) subsidies on tariffs for low-income customers; (b) debt service of funds used to finance investment; (c) investment projects and activities to improve efficiency in the provision of the service. Paragraph 2 of the same article establishes that municipalities such as Timbiqui and El Charco have to apply at least 15 percent of the WSS transfer to compensate for subsidies awarded through tariffs to customers of low-income levels (Stratas 1, 2, and 3). Given that both municipalities have all the households in the lowest strata, the requirement to pay subsidies is higher than 15 percent, which is allowed by regulation.
- 45. **To apply the funds to subsidies, the procedure is as follows:** (a) the WSS operator estimates the total amount to bill, applying the formula established by CRA without subsidies; (b) it then applies the subsidies approved by the municipality's council following the limits established by CRA and also the contributions from high-income customers, if any; (c) the difference between subsidies and contributions constitutes the *Fondo de Solidaridad* and has to be paid or received by the municipality. In the case of Timbiqui and El Charco, as there is no contribution from high-income customers, all the subsidies applied on tariffs have to be funded by the municipality using SGP transfers assigned to WSS.

**Table 10. SGP with specific destination to WSS received by the municipality of El Charco**

El Charco SPG-WSS	2,014	2,015
SGP to spend mandatorily in WSS (million COP)	1,994	2,100
% SGP-WSS /total SGP	28.2%	27.6%
% SGP-WSS/ total revenues	24.7%	9.7%

Source: Municipality of El Charco

- 46. In Timbiqui, the funds transferred from SGP committed to WSS corresponded in average to 6 percent of total SGP funds received or 4 percent of total revenues.

**Table 11. SGP with specific destination to WSS received by the municipality of Timbiqui**

Timbiqui SPG-WSS	2012	2013	2014	2015
SGP to spend mandatorily in WSS (million COP)	1,101	1,193	1,293	1,096

<sup>64</sup> Legislative Act 04 of 2007.

% SGP-WSS /total SGP	6%	5%	6%	9%
% SGP-WSS/total revenues	5%	4%	3%	4%

Source: Municipality of Timbiqui

47. Results are robust under different discount rate.

**Table 12. Net benefits under different discount rates (000 US\$)**

Components	Base Case Scenario 6%	12%	15%
<i>Waterway transport</i>	12,374	2,828	315
<i>Water and sanitation</i>			
Timbiqui	8,772	1,779	208
El Charco	11,841	3,856	2,023
<i>Total water and sanitation</i>	20,614	5,635	2,230
<b>Total project</b>	<b>32,988</b>	<b>8,463</b>	<b>2,545</b>



## Annex 6: Poverty and Social Impact Analysis

COUNTRY : Colombia

### Enhancing Waterway Connectivity and Water Service Provision in Colombia's Plan Pazcifico

1. This annex provides a summary of key socioeconomic and demographic aspects observed in Colombia, and more specifically in the immediate and extended area of influence of the proposed Project. Highlighting the findings of the project's Poverty and Social Impact Analysis (PSIA),<sup>65</sup> the annex describes the major constraints facing project communities and identifies project beneficiaries, describing their livelihood conditions and critical mobility and accessibility constraints in the project area. Drawing on results, consultations, and policy recommendations from the study, the annex concludes by discussing how the poor and bottom 40 percent are likely to benefit from the proposed road rehabilitation and safety interventions.

#### Poverty and Shared Prosperity in Colombia and the Area of Influence

2. **Despite a robust and rapid growth trend over the last decade, challenges remained strong in Colombia for building a sustained and inclusive economy.** With 49.1 million inhabitants, Colombian Gross Domestic Product (GDP) per capita has increased by 17 percent between 2005 and 2016, reaching approximately US\$ 7,448.<sup>66</sup> During this period, real GDP growth reached 4.6 percent per year.<sup>67</sup> Although the international context played an adverse role in many Latin American economies, growth has also facilitated a systematic reduction of poverty from 45 percent to 28 percent during the same period. Growth has also been inclusive; between 2009 and 2014 the mean income growth of the bottom 40 percent was 6.1 percent against 4.2 percent for the overall population. Despite these major achievements, significant regional gaps remain, particularly between rural and urban areas. In 2016, rural poverty was 38.6 against 20.4 percent in urban areas and inequality in income distribution showed a poor performance. Between 2005 and 2016, the Gini coefficient changed modestly from 0.557 to 0.517,<sup>68</sup> being in the last tier of the most unequal countries in the region. Furthermore, there are noticeable differences between the regions in terms of their economic condition and poverty ratio, particularly that of the coastal zone of the Pacific Region.<sup>69</sup> This sub-region, which is home to more than 1.9 million inhabitants residing in 50 coastal municipalities of the Pacific, concentrates the poorest population in Colombia. Indeed, when comparing Unsatisfied Basic Needs (UBN) of the coast with the rest of the Pacific Region, the coastal sub-region's asymmetries stand out. While the average of the UBN index for the Andean Pacific is

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<sup>65</sup> The objective of the exercise was to assess the expected distributional and socioeconomic effects of improved waterway connectivity along the Tumaco-Guapi corridor and on the population in this isolated area, with a particular focus on welfare gains for the poor and other vulnerable groups. By utilizing a series of quantitative and qualitative techniques such as household surveys and focus group discussions, the study collected primary and secondary data and looked at the impact of improved connectivity with regard to labor markets, consumption, and access to basic goods and services among the lower-income population. Stakeholder consultation activities also took place in order to assess the ex-ante welfare effect of the intervention on women, fishermen, waterways transport operators, and enterprises, which are likely to be affected by the project. These included selected households and self-employed and salaried workers who may benefit from an expanded navigability window.

<sup>66</sup> Data from World Bank. World Bank national accounts data, and OECD National Accounts data files, <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD?locations=CO>.

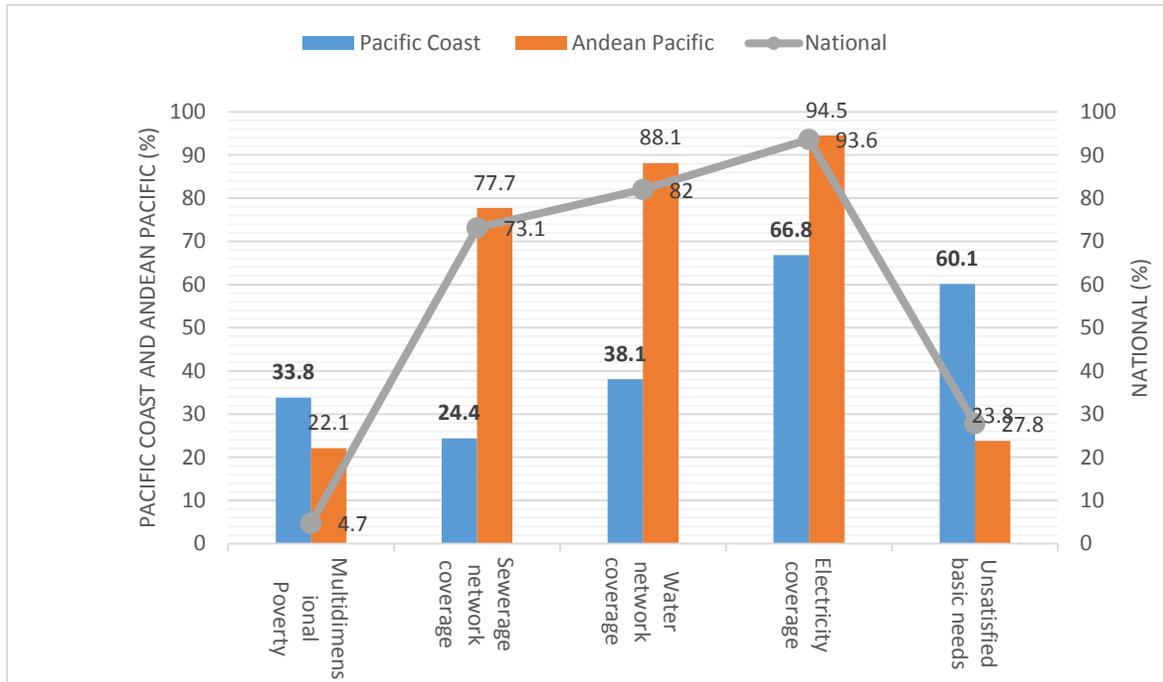
<sup>67</sup> Data from *Departamento Administrativo Nacional de Estadísticas* (DANE).

<sup>68</sup> DANE, <https://www.dane.gov.co>.

<sup>69</sup> Pacific Region includes the coastal and mountainous/Andean sub-regions. *Plan PAZcifico* targets the coastal sub-region.

30.3 percent, that of the 50 coastal municipalities reaches 60.1 percent. Indicators on access to services and human development outcomes also show significant disparities. As the following figure shows, water, energy and electricity coverage is significantly lower throughout all 50 coastal municipalities than in their Andean counterparts.

**Figure 1. Selected indicators for Colombia and for the two Pacific sub-regions (2015)**

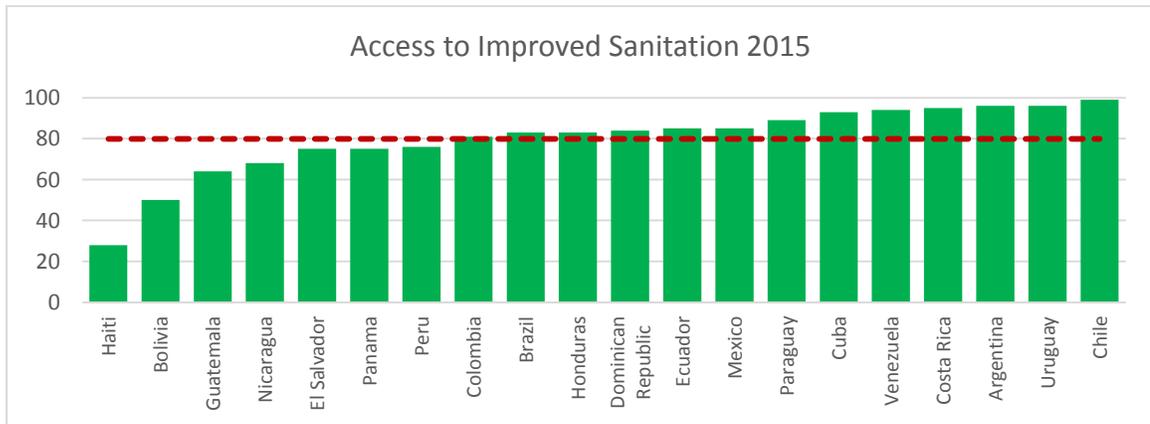


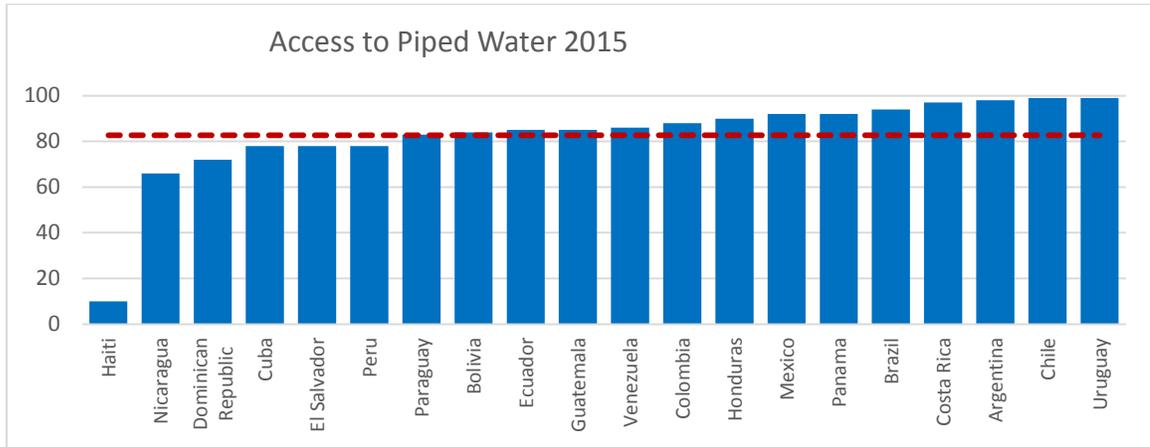
Source: DANE (2014)

- Colombia's reform efforts have resulted in important strides to improve national WSBS coverage, but challenges remain in small towns and rural areas.** Average levels of national coverage for water and sewer connections increased from 78 percent and 61.8 percent in 1993, respectively, to 94.3 percent and 89.7 percent in 2014. The main source of purified and drinkable water comes from the public water supply network. Nevertheless, the water supply grid primarily serves urban centers. Indeed, 88.9 percent of households in urban areas of the country are connected to a public source of water supply. Conversely, in rural areas, only 15.7 percent of households utilize this source of drinkable water and as much as 36.4 percent of households in rural areas depend on communal water systems, which usually lack treatment and are poorly maintained. National coverage of solid waste collection services was 81.9 percent in 2014. However, these advances mask disparities between urban small towns and dispersed rural areas, where coverage levels remain as low as 57.5 percent, 15.7 percent, and 24.1 percent for water, sewer connections, and solid waste collection services, respectively and only 42 percent of the water provided meets quality standards for drinking.
- A well-run, affordable, and reliable water service plays a direct role in alleviating poverty and boosting shared prosperity.** Consumers need reliable access to high-quality and affordable water

supply and sanitation services. To deliver these basic services efficiently and affordably requires high-performing utilities that on one hand can respond to the specific needs that distant communities such as the ones located throughout the project area have, and on the other hand that can be accessed affordably without putting a significant burden on users' disposable income. This is particularly important as water has become less affordable in many areas since the 2008 global financial crisis. Customers in low-income regions of a given country have substantially less ability to pay—as a proportion of their incomes—than customers in the better-off regions, particularly in larger cities. According to the WB, in 2010, median affordability for households in low-income countries was 1.47 percent, 0.60 percent in high-income countries, and 0.86 percent in middle-income countries. Utility customers in low-income countries paid significantly more than those in middle-income countries. In the specific case of Colombia, the median affordability measured as average revenue per capita as a percentage of GNI per capita has improved slightly in the 2008-2012 period passing from 1.59 to 1.30, but is still higher than in other countries of the region such as Brazil (1.20), Bolivia (1.08), Peru (0.83), and Mexico (0.83). Therefore, there is ample room for water and/or wastewater services to become more affordable in Colombia, particularly by scaling up rural WSA technologies and developing pricing structures that mitigate impacts on low-income households. In terms of access, Colombia also falls behind some its neighbors in terms of access to piped water (83 percent) and sanitation services (80 percent), while other countries such as Argentina, Chile, and Uruguay are close to universal coverage, as seen in the following figure.

**Figure 2. Access to piped water and improved sanitation in Latin American countries**





Source: Data from Joint Monitor Program (JPA) 2015

5. **While poverty and deprivation in the Pacific Coast have multiple roots, one of them can be traced to poor connectivity, low mobility, and inadequate access to water and sanitation (WSS) services as the socioeconomic diagnostic suggests.** The lack of transport options for most municipalities in the coastal region is considered one of the main causes for its unequal development vis-à-vis the more prosperous Andean zone. Similarly, low coverage, quality, and reliability of water and sanitation services in all the municipalities negatively affects a number of health and nutritional outcomes. Indeed, the PSIA shows that there is an unequivocal correlation between mobility of the population and WSA access and its levels of poverty and deprivation.

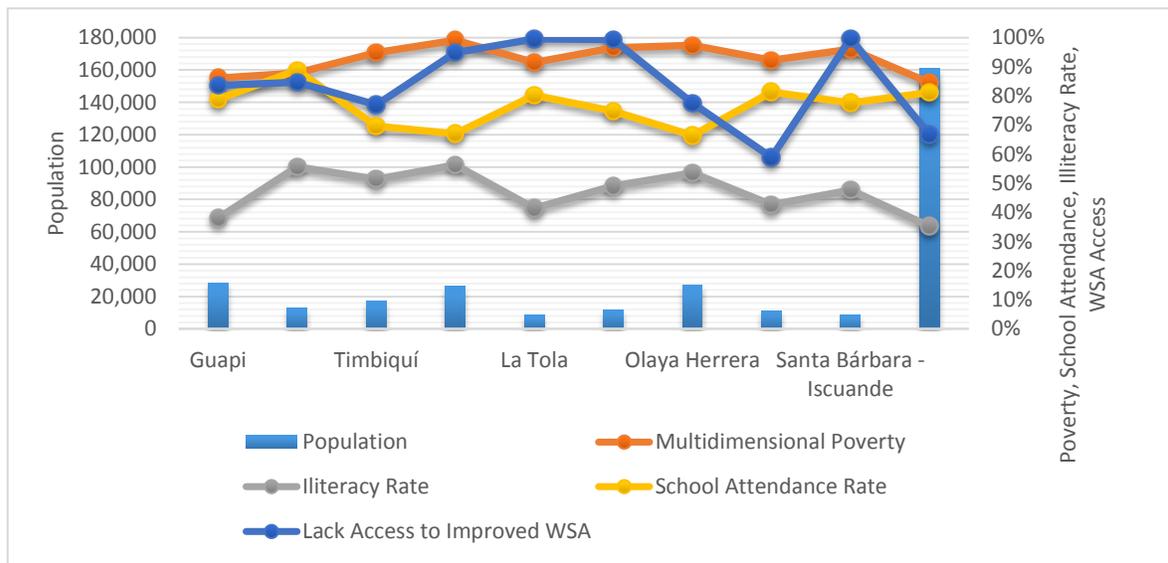
#### Area of Influence and Beneficiary Profile

6. **The World Bank Poverty and Social Impact Analysis (PSIA), which potential social benefits that the project can bring to the target population in the area of influence by significantly improving safety and security.** In this sense, it explored the socio-demographic conditions, mobility patterns (including access to services), and poverty levels of the target population with an emphasis on the sectors in a situation of vulnerability (women, youth, the elderly, and people with disabilities). The project's area of influence, defined as around a 215-km waterborne corridor between the municipalities of Francisco Pizarro and López de Micay, serves eight municipalities (Francisco Pizarro, Olaya Herrera, La Tola, Mosquera, Santa Bárbara de Iscuandé, El Charco, Timbiquí, and López de Micay) and a total of 172,026 inhabitants, of which 33 percent reside in urban areas. The extended area of influence includes the cities of Tumaco and Guapi and is home to 361,509 inhabitants.
7. **All municipalities comprise a high proportion of people who are below the multidimensional poverty line,<sup>70</sup> ranging from 84.5 percent in Tumaco to 99 percent in El Charco.** Access to education and infrastructure in the sub-region is limited and human development outcomes, particularly in education, raise some concerns. As an illustration, the literacy rate ranged from 65 percent in

<sup>70</sup> The multidimensional poverty line reflects the degree of household deprivation according to a number of attributes or dimensions that correlate with poverty. These dimensions include household consumption, education, childhood and youth conditions, employment, health, housing, and access to public services. In Colombia, a household is considered below the multidimensional poverty line if it depicts more than 33.3 percent of deprivations or five of the 15 variables needed to construct the indicator.

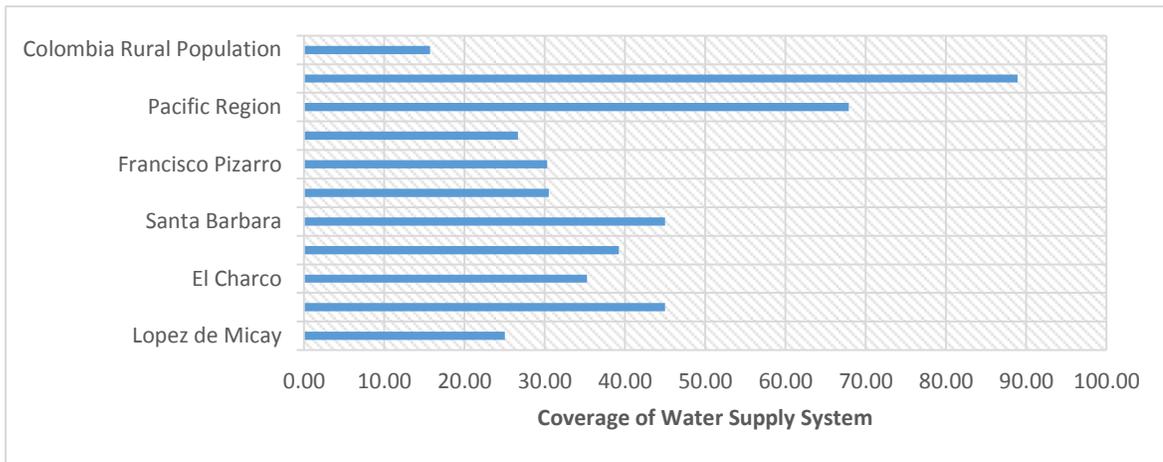
Tumaco to 44 percent in El Charco, against the national literacy average of 94 percent. Such alarming rates are high by international standards and attributable to several factors. Poor accessibility to schools may be one factor. Similarly, in eight out of 10 municipalities located in the area of influence, over 75 percent of the population lacks access to an improved water source and sanitation facility. Finally, waste collection services are ad hoc, and coverage is low with less than 90 percent of solid waste management practices considered sustainable (Figure 14). These conditions reflect the high vulnerability of the project's beneficiaries.

**Figure 3. Selected indicators for municipalities in area of influence**



- Water supply from a source with treatment is limited or nonexistent in the area of influence.** Water coverage varies substantially from region to region, with the highest proportion of households connected to an improved water supply system in the Central/Andean Region (76 percent) and the lowest one in the Orinoquía and Amazon Regions with coverages of less than 40 percent. With 67.9 percent, coverage to a public source of water in the Pacific Region tends to be higher than other regions. However, access to treated water supply in the area of influence is inherently limited ranging from 44.9 percent in Santa Bárbara de Iscuandé to a low of 25 percent in López de Micay (Figure 15). Service level indicators also demonstrate that reliability and quality of water and sanitation services is poor. While water runs on average for 20 hours for seven days a week at the national level, in project municipalities such as Olaya Herrera and El Charco it runs for four hours and three hours per day, respectively.

**Figure 4. Selected indicators for municipalities in area of influence**



Source: DANE 2015

9. **Economic and social deprivation are not the only sources of vulnerability in the project area.** Household surveys carried out in the context of the PSIA showed that as many as 21 percent of inhabitants in the area were victims of forced displacement as a result of the country's armed conflict. Among the top reasons for displacement, affected populations cite: i) combat with the FARC/ELN (31 percent), ii) threats (23 percent), and iii) massacres (11 percent). Data from the household survey further reveals high vulnerability and instability persists for victims of the conflict; in fact, up to 54 percent of the respondents believe that in their municipalities they are subject to intimidation, with women being more vulnerable than men.
  
10. **More than 90 percent of the labor force is employed in the informal sector, with own-account and household "domestic" workers predominating.** A significant share of the low-income population resides in the rural peripheries, usually several kilometers away from the main towns and in virtual absence of any form of reliable, affordable, and safe transportation. In the absence of off-farm and fisheries employment opportunities, which sometimes are made available by improved connectivity to nearby towns and cities like Tumaco and Guapi, some groups are either confined to finding low-paying jobs in fishing or informal employment in their immediate proximity or making work-related trips for longer distances and time at substantial cost to their quality of life. Fishing and agriculture are the predominant economic activities in the area with these sectors employing between 70 and 89 percent of the population in the project area. These two sectors heavily depend on adequate,



reliable, and safe navigation along the waterway as a means of supporting the livelihoods of the population.

### Mobility Patterns of Beneficiary Population

11. **Transport constraints adversely affect the development of key sectors of the regional economy.** Findings from the PSIA suggest that inadequate transport connections have significantly restricted job creation, growth, and the trading potential of key economic sectors. The problem is more acute in the development of SMEs, as high transport costs constitute an entry barrier for small competitors and do not allow vulnerable groups such as fishermen and *concheras*<sup>71</sup> to market their products in markets with larger demand such as Tumaco or Buenaventura, or for other groups to diversify away from subsistence fishing into other sectors. Although over half of the respondents in the six surveyed municipalities carry out their daily activities walking, those engaged in fishing, trade, and other activities rely on water transport. Tumaco is the main destination of the inhabitants of the small municipalities that are immersed in the waterway and that must travel outside its municipal area (68 percent). Of these, 30 percent said that they travel to the regional capital once a month, 21 percent do it every 15 days, and only 1 percent of the household sample travel every day.
12. **Passenger services in the region are on the most part unaffordable, imposing a significant mobility constraint on low-income households.** Demand for passenger services has been increasing over the years, but supply has not kept pace. The main purposes for inter-regional trips continue to be for employment activities, to visit larger markets, or visit health centers with more advanced facilities. Evidence from the PSIA suggests that the demand for trips for other purposes, such as family visits, has also grown. Most of these trips take place in motorboats or canoes that charge different prices depending on demand and the price of fuel. Those residing in rural villages in the more remote areas may need to use personal transport or pay additional costs to get to the center of the municipality, incurring excessive costs. In terms of modal share for inter-municipal trips, the survey showed that in the municipalities of Francisco Pizarro, Olaya Herrera, Mosquera, La Tola, El Charco and Santa Bárbara de Iscuandé, up to 85 percent of the population relies on motorboats and 11 percent on canoes when they must leave their municipality. This is a relevant issue, especially considering the costs of inter-municipal transport in the region. When inquiring about daily transportation expenses to regular waterway users in the municipalities along the waterway (without differentiating the means used), 34 percent spent less than COP 10,000 per day, 20 percent spent between COP 10,000 and COP 50,000, while 40 percent spent more than COP 50,000. This means that a trip to Tumaco can represent as much as 30 percent of a poor household's income, making long-distance trips virtually impossible, and hence, severely curtailing a household's access to economic, social, and cultural opportunities outside its place of residence.
13. **Quality, reliability, and safety of existing public transport services is inadequate with the fleet of motorboats largely outdated and transport operators lacking skills and capacity.** The household survey reveals that as much as 72 percent of residents in Francisco Pizarro, Olaya Herrera, Mosquera, El Charco, La Tola and Santa Bárbara de Iscuandé believe that the quality of service of existing inter-municipal transport options is poor or very poor. In terms of safety, 43 percent of the surveyed population believes that navigability in the waterway is unsafe and could be significantly

<sup>71</sup> *Concheras* is a term used in local parlance for women working in the extraction of shells and mollusks in the mangrove.



improved by renewing the passenger fleet, improving signaling, investing in navigation aids, and rehabilitating existing docks.

### Gender Considerations

14. **In the last two decades, Colombia has achieved important advances reducing gender inequality.** It has signed and ratified all international treaties on women's rights, and has drafted important laws for the advancement of gender equality. For instance, in terms of the legal framework for women's rights protection (Law 1257): "Whereby regulations are issued to raise awareness, prevent and punish forms of violence and discrimination against women" and Law 1719 in 2014 by which measures are set in place to guarantee access to justice for victims of sexual violence, especially sexual violence during the armed conflict. Moreover, according to the Global Gender Gap report of 2015, Colombia is ranked 42 out of 145 countries with a score of 0.725 (0 = inequality and 1.0 = equality). Maternal mortality rate has decreased from 97 per 100,000 live births in 2000 to 64 per 100,000 live births in 2015.
15. **However, Colombia's Systematic Country Diagnostic (SCD) shows that significant gender gaps remain, for example, in terms of unequal opportunities in the labor market.** By 2014, female labor force participation was 42 percent. According to the International Labor Organization, women are overrepresented in the informal sector: 58 percent of women were in the informal sector in 2012.<sup>72</sup> Moreover, wage differential is still significant between women and men. As established by the SCD, education is the first barrier to quality of employment for women as they face difficulty in enrolling in competitive educational training or finishing college education.
16. **According to data from *Legal Medicine (Forensic 2015)*, violence against women is a generalized issue in Colombia.** According to the report, in 2015, 970 women were killed in Colombia, mostly women between 20 and 24 years old. The same document notes that during the same year, 47,248 cases of Intimate Private Violence were reported in Colombia. As described by the SCD, because of existing social and cultural norms, some young men are conditioned to adopt certain behaviors to assert their masculinity, which can lead to violence against women.
17. **These problems are enhanced for Afro-Colombian and indigenous women, mainly located in the Pacific regions, who have the highest inequality of opportunities in several indicators.** For instance, 60 percent of maternal mortality in Colombia is concentrated within the 50 percent of the poorest population,<sup>73</sup> which includes the Afro-Colombian and indigenous population living in the Pacific Region and in the north of the Department of Cauca.<sup>74</sup> By 2013, maternal mortality in indigenous populations reached 355 per 100,000 live births, which is more than five times the average. The Department of Nariño had the highest maternal mortality rate in the country, 66 percent higher than the national level.<sup>75</sup> Moreover, according to the Colombian Demographic and

<sup>72</sup> [http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---ifp\\_skills/documents/publication/wcms\\_232495.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_232495.pdf).

<sup>73</sup> *Ministerio de Salud y Protección Social*. (2016).

<sup>74</sup> <http://www.banrepcultural.org/blaavirtual/sociologia/estudiosafro/estudiosafro4.htm>.

<sup>75</sup> <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/ED/PSP/analisis-prioridades-departamentales-salud-colombia-2016.pdf> p. 223.



Health Survey (DHS), women living in the Pacific Region receive less prenatal care from doctors (below 90 percent of coverage).

18. **The main gender gaps identified in the PSIA coincide with those described at the national level and are worse in the Pacific area.** First, women who participated in the focus groups identified lack of economic opportunities and lack of access to more and better jobs as their biggest concerns. Women do not see formal jobs as an option, and they work mainly selling food, washing clothes or providing small tailoring services. Because of the lack of opportunities, women that work believe that the best income-generating option available in the region is to work as *concheras*. However, since this job may not be convenient for engaging with their families as workers may need to start early and end late; they consider it time consuming and not compatible with the rest of their household activities. In addition, 51 percent of women don't believe the available waterborne transportation is making job opportunities more accessible, and 41 percent consider water transport and its infrastructure to be unsafe.
19. **Second, there is a lack of proper access to health services in the area.** It is not surprising that a gap exists between health indicators in the Pacific Region and the better-off areas in the country. Women in the focus groups said the local capacity of the health services is inadequate to address the local population's needs. In the Pacific Region, there is a strong presence of *parteras* (midwives) in the region, who are recognized by the community and have a significant role assisting child birth. However, in case of emergency births, pregnant women have to travel by boat to Tumaco, and this mode of transport is infrequent, unreliable, and unsafe.
20. **Third, violence against women is a problem along the Pacific Region.** The DHS highlights that in the Pacific Region, 71.2 percent of women have suffered from physical violence and 12 percent from sexual assault, the highest in Colombia.<sup>76</sup> This culture of violence is enhanced by the control that armed actors have over women in the intervened area.<sup>77</sup> Women consulted through the PSIA also complained about the current conditions of the docks, emphasizing that the construction material is slippery and unsafe. Furthermore, there is little lighting around the docks at night, which threatens their personal security.

### Expected Project Impacts and Transmission Channels

21. **Consultations with low-income households, women, and relevant stakeholders carried out in the context of the PSIA suggest that the project can have a largely positive impact on their livelihoods.**

The following impacts were identified from the stakeholders' consultations:

#### Direct Outcomes

22. **Higher acceptability and reliability:** The most direct and short-term impacts will accrue to daily users of the waterway who will witness significant improvements in their inter-regional mobility

<sup>76</sup> This is based on percentage of women between 13 and 49 years old that reported cases of violence. Data can be underestimated.

<sup>77</sup> Helga, N. (2015). "Violencia sexual a mujeres afrocolombiana de Tumaco con ocasión del conflicto armado."



needs. Better navigation systems will improve traffic flows, enabling a potential increase in the number of operators who service the region. Low frequencies and unreliable services were commonly cited as major problems affecting the beneficiary population. The investments envisioned as part of Component 1 will benefit both men and women who depend on the waterway for their daily income-generating activities and for accessing services that are not offered in their municipalities.

23. **More affordable transport:** One of the salient topics raised during consultations in the context of the PSIA was the unaffordable price of fuel, which fluctuated significantly depending on weather conditions and other external factors. For instance, a motorboat operator mentioned that under scarce gas supply, a trip between Mosquera and Tumaco can cost anywhere between COP 420,000 and COP 630,000. These costs have implications that in many ways limit the lives of the residents of the estuaries whose household income barely exceeds a minimum wage. The project will improve navigability throughout the waterway by significantly reducing delays. All else equal, this should lead to a reduction in fuel consumption of a typical inter-municipal trip, thereby reducing the financial burden most households face when commuting outside their municipalities.
24. **Safer transport along the waterway:** Safety considerations included in project design are anticipated to have a positive distributional outcome. Project beneficiaries said that several boat accidents associated with their work could be prevented and that local authorities could improve post-crash and emergency response. In a distressing account, participants in one of the focus group discussions narrated the death of a peer on the high seas and the unfeasibility of taking the body to an urgent care center, even to verify death. Stakeholders unanimously consider that, despite some low-impact crashes between boats used in the estuary, the real risks are faced when sailing in the open sea. Changes in weather, water currents, and the inability to communicate with the maritime authority or the municipality means that any mobility taking place outside the estuaries is considered dangerous. Another factor that increases the risk of accidents involving water transport is the overloading or overcrowding of boats. The expected road-safety interventions envisaged under the project, such as improved engineering of passenger facilities and signaling, are aimed at reducing the number of deaths and injuries. However, additional efforts in transportation planning, including enforcement and post-crash emergency response, are needed to reduce the problem for users of the waterway.
25. **Job creation:** The project will create several jobs mainly in construction/rehabilitation of small-scale infrastructure needed to improve the navigation of the waterway.
26. **Bridging the gender gap:** The project proposes the following activities to contribute to closing existing gender gaps. The project will facilitate women's economic participation by employing them for the daily operations of the decks and providing, when possible, a space in the decks where they can sell their art crafts. Women's employment will also be encouraged within the Water Management System. This will be promoted through gender-sensitive recruitment practices that take into account gender norms, including women's barriers to access information on employment opportunities so that it can be distributed during times, at locations, and through mechanisms available to women. This will be complemented with gender sensitization training to transport operators and WSS service providers through the component of capacity building and institutional



strengthening (Component 3). To mitigate health risks related to travel conditions that sick and pregnant women from the intervened area face when traveling to Tumaco, and to access secondary and tertiary health services, transport operators will receive first-aid trainings from the *Servicio Nacional de Aprendizaje* (National Service for Education) under Component 3. As for personal security at the docks, the project will ensure that gender-based violence prevention is incorporated in their environmental design to take into account the concerns and needs of women from the focus groups of the PSIA and respond, where possible, to the gaps identified by a personal security audit that will be carried out by the engineer designer. Factors such as lighting, visibility, security, walk path, transport, diversity and feeling of safety will be taken into account. This will be accompanied by a training for transport operators on violence prevention.

### Indirect Outcomes

27. **Access to services:** Where transaction costs related to travelling to schools or hospitals falls and where safety improves, utilization should increase with a corresponding improvement in long-run outcomes. The quality of service delivery in these areas is low and the less well-off portion of population has limited access to social services, particularly health care. Consultations with local stakeholders pointed to a continued absence of qualified personnel in local health centers so villagers are forced to visit hospitals located in Tumaco when seeking qualified health care. The envisaged upgrade in the navigation conditions along the waterway will enhance access by residents of the smaller municipalities to improved education and health facilities in Tumaco and other cities, particularly higher education and the technical and vocational training system (TVET). Similarly, rural dwellers will have better access to hospitals and medical facilities that are often unavailable in their place of residence.
28. **Household welfare, employment, and income stability:** The project could potentially lead to improved employment stability and incomes of those already employed in the fishing sector. Since delays in navigation often cause sales to drop, more reliable navigation should increase productivity and earnings of fishermen and farms. The project may also ensure seasonal stability of the agricultural and fishery sectors thanks to improved supply chains and maintenance of navigation systems, docks, and facilities. This would help level the existing high fluctuation in production, which currently makes revenue streams more volatile.
29. **Cultural and social exchanges:** The project will increase economic and cultural exchanges between the 10 municipalities included in the corridor alignment and beyond to the rest of the Pacific Region, together with better information flows within the region.

### Water and Sanitation Component

30. **Associated improvements in health and household welfare:** Component 2 will improve coverage and service quality of water and basic sanitation services directly benefiting about 43,000, mostly poor and Afro-descendant inhabitants located in the urban and rural perimeters of El Charco and Timbiqui. The quality of life of residents in these areas is expected to improve significantly through increased access to quality water and sanitation services, and the associated reduction in transmittable diseases. A lower incidence of diseases will translate into lower school absenteeism, higher worker productivity and, hence increased short-run and long-run income-generating



possibilities. This is particularly the case for local residents involved in small-scale harvest of crustaceans and shellfish for subsistence and sale in nearby markets. Much like in the case of Component 1, improving the health of the waterway and marine ecosystems through the water project should improve the income-generating prospects of local inhabitants.

- 31. **Reduced household payments for water services and freed time for productive activities.** Expansion of municipal water supply and sewerage systems together with the actions envisioned as part of Component 2 tend to be less costly than obtaining it through other sources. As illustrated in Table 26, a typical household in the intervened communities of Timbiqui and El Charco spends up to COP 166,000 per month on water plus the cost of hoses for artisanal connections. For households situated below the poverty line (95 and 99 percent, according to the multidimensional poverty line), this figure can represent as much as 18 percent of total household income.<sup>78</sup> Since most households in the two municipalities earn less than this amount, the burden for them is even higher.

**Table 1. Average household expenditure on water in El Charco and Timbiqui**

Average Household Expenditure on Water (current estimate)	Proportion of Income Spent on Water Consumption (current estimate)	Average Household Expenditure on Water Consumption after the Project	Proportion of Income Spent on Water Consumption after the Project	Total Household Savings on with the Project
COP 166,000	18%	COP 30,000-60,000	3-6%	COP 100,000-130,000

Source: Economic analysis and task team’s estimates based on available poverty data for project municipalities.

- 32. **A reliable water system, together with an equitable, yet sustainable pricing structure that takes into account users’ willingness to pay for a private WSA connection could result in significant savings for project beneficiaries.** Assuming that the water tariff will be between US\$ 10 and US\$ 20 per household per month, this would correspond to 3-7 percent of household income for the majority of the population living below the poverty line.<sup>79</sup> While the burden on the poorest would still be considered high by international standards (the UNDP’s suggested affordability threshold for water is 3 percent of median household income) savings of between COP 100,000 and COP 130,000 (US\$ 33-43 per month per household) are expected, according to the economic analysis. This significantly increases the household’s consumption possibility frontier. Similarly, immediate access to water averts significant travel and wait time that is spent in collecting water (transport costs, purchasing of containers, waiting for containers to fill up with rainwater, etc.), and doing laundry by the river. This, in turn, would free up time for more productive economic and social activities,

<sup>78</sup> According to DANE, for 2016, minimum per capita consumption at the national level was COP 223,638 or roughly US\$ 75 (i.e. the minimum amount per capita needed to purchase the basic basket of food and services). Accordingly, if a household is composed of four members, it will be classified as poor if its total income is below COP 894,552 or US\$ 298.

<sup>79</sup> Assuming that the poverty line increases in proportion with the expected inflation rate (3 percent) and would correspond to COP 1,037,030 in 2021.

particularly for women and children who are usually the ones responsible for collecting water in these localities.



## ANNEX 7: Recommendations for project implementation in the fragility and post-conflict context

COUNTRY : Colombia

Enhancing Waterway Connectivity and Water Service Provision in Colombia's Plan Pazcifico

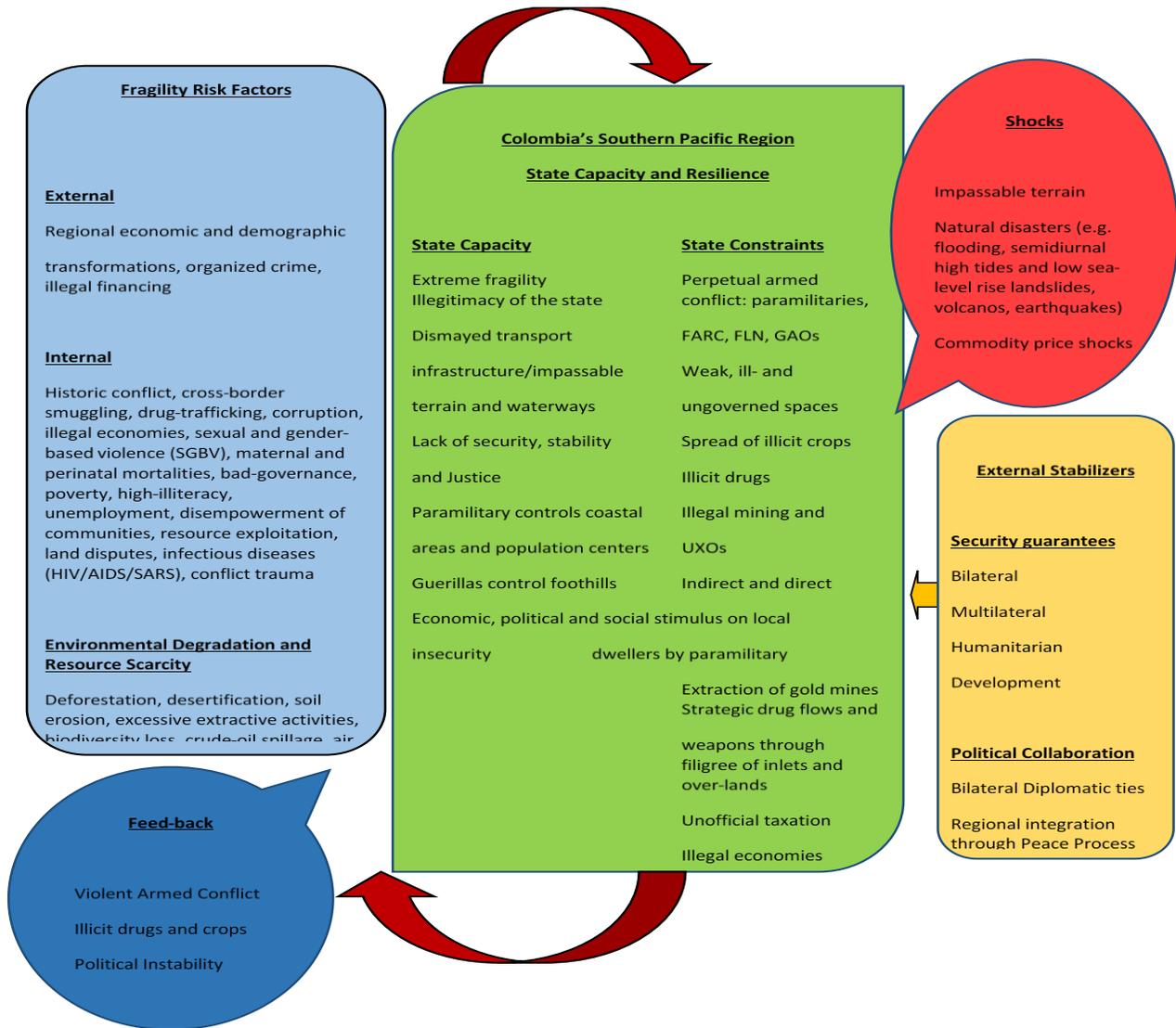
### Background

- 1. Colombia's political violence is fragmented, theoretically disarrayed, handicapped by a lack of data, and troubled by both the national and sub national levels.** Transport infrastructure could become a potent tool in counterinsurgency operations, development assistance, and peacebuilding. More recently, all counterinsurgency and capacity building operations, and humanitarian and development projects in fragility, conflict, and violence (FCV) countries, such as Afghanistan, Pakistan, Kosovo, Liberia, Nepal, Rwanda, Sierra Leone, and Timor-Leste have heavily involved Transport and ICT infrastructures. The Transport and ICT infrastructure will not only catalyze in improving economic growth, reducing violence, crime, poverty, and mortality, managing natural disasters and manmade crises, sustaining livelihoods and enhancing communications and livability, but also help support bottom-up community-driven development (CDD) and peacebuilding.
- 2. Although usually regarded as an economic process, the transport infrastructure development is in fact ignited and stifled by noneconomic factors.** Two crucial factors, above all, decide how a state's political, economic, and societal life evolves. The first factor is a population's capacity to cooperate, which primarily depends on the level of trust and social cohesion. The second factor is its ability to take advantage of a set of shared productive institutions, particularly its informal institutions, during the crucial stages of development (in fragile states). Far too many development projects designed to help fragile states build their transport infrastructure simply ignore these immeasurable, yet all-significant, drivers of entrenched historical, societal, and sociocultural conditions. The Achilles' heel of reconstruction and development is usually hinged on economics which fit well with the discipline. Its practitioners, through assumptions, definitions, and quantitative tools, have largely been limited in vision and scope, particularly in FCV environments such as the southern coast of the Pacific Region.
- 3. The task team must consider that the southern Pacific Region development efforts cannot be made to function from the outside.** The armed conflict in the southern coast of the Pacific Region, due to its geostrategic location, has become the heated side of the war in Colombia. The horizontal and vertical escalation of the armed conflict has facilitated the cultivation of illicit crops and drug-trafficking, as well as ethnic-territorial organization of the AFRO-Colombian and indigenous communities. The existence of state institutions that lack all legitimacy have dismantled the southern Pacific Region's security, stability, development, and peace. With a greater appreciation of the local context in which the team operates – and with a deeper understanding of how internal anomic drivers interact with fragile state structures to fuel conflict and violence– locally appropriate solutions become locally propelled, and thus sustainable. In contrast, obstacles and delays may aggravate unintended social and economic consequences that drive armed and violent conflicts.
- 4. The most challenging risks and situations are likely to arise during project implementation processes in the southern Pacific Region.** The task team must understand that their operational

sphere in the southern Pacific Region is highly weaponized, volatile and fluid. It is essential for a rebel movement and an organized armed group to obtain and maintain sufficient arms and ammunition for maintenance, sustenance, defense, and any planned operations. The recommendation adapts effective project implementation strategies to conquer 'risk and fragility traps' and potential failures. It saves valuable time and resources, and plays a crucial role in restoring citizen confidence faced with violence and trust-deficit, and all facets that contribute to the southern Pacific Region's fragility. It is incumbent upon TTLs and task team to fully comprehend the southern Pacific Region's conflict landscape – in which they operate and implement.

Colombia's conflict, fragility, and security analysis will integrate "Do No Harm," inclusive, flexible, transparent, committed, invested, balanced, and participatory processes by employing 'change theories', entry-points, contextual realities, linkages between conflict and resources, conflict-triggers, peace-engines, peace processes, and gender sensitivities.

**Figure 1: Understanding FCV landscape in the southern Pacific Region**



- The recommendation advises** the WBG staff, constructors, and supervisors on how to conduct conflict-analysis in the southern Pacific Region, increase the implementation level and mitigate FCV risks to facilitate procurement, works, the project, ownership, and the restoration of confidence. The implementation process must be tailored to the southern Pacific Region's specific context, which may differ from municipality to municipality.
- A detailed conflict-analysis is needed for an effective project implementation, Table 1 delineates measures, which must demarcate between the Effective Context-Sensitive Approach and Ineffective Broad-Brush Indicators Approach.** Considering our key principle, "do not exacerbate" conflict, the task team must contemplate conflict-analysis and local context for effective project implementation; rather, it must mitigate and prevent new conflict, realizing that Colombia's southern Pacific Region is ill-governed, ungoverned in specific areas, inaccessible, poverty-ridden, and has the harshest mountainous terrain – deeply cut by damp forests, fiery volcanos, and winding



rivers. Furthermore, the WBG personnel, consultants, constructors, and supervisors will face the higher probability of being confronted by illegal organizations, such as FARC dissidents, ELN and Organized Crime Groups (GAOs), both in rural and urban settings. They can face illegal checkpoints, armed assaults, armed burglary, mines, and unexploded ordnances (UXOs). The recommendation also underscores that GAO tactics are based on intelligence, ambush, deception, sabotage, and espionage; the guerillas and their leadership cadres are diffused in the communities. Any confidence building, trust restoration, and project implementation measures must take that into account.

- 7. A deeper situation and stakeholder analysis is needed for successful project implementation.** This needs to scan Colombia's current and emerging historical, political, security, economic, socio-cultural, and environmental context in an FCV situation, at a given time, and serve as an 'entry-point' to understanding the conflict drivers and the engines of peace. It will help to deep-examine the root and structural factors, as well as the long-term drivers. It exhibits proximate factors, and visible manifestations of the conflict. It will identify "conflict factors" and "peace factors" – both are deeply rooted. Identifying conflict drivers and peace engines can unlock trust deficits among clients and host communities. Stakeholder analysis will explicate how they interconnect for peace and instigate conflict. It will also enable task team to resolve capacity-building needs of critical partnerships, implementers, third party monitoring (TPM), state owned enterprises (SOEs), small and medium enterprises (SMEs), and the private sector, with gender-sensitive approaches of both women and men, and include relegated and vulnerable communities. Colombia's conflict drivers trigger manifestations of violence and organized crime, which contribute to ignite already destructive and protracted conflict.
- 8. These conflict drivers and their 'associated undercurrents' disrupt the peace process.** Despite prevalent conflict, Colombia's peace engines, which refer to elements within its society, can mitigate the resurgence and proliferation of violent conflict, and can strengthen the columns of peace by drawing upon the distinctive features of resilience in the communities, institutions, individuals, processes, areas, and symbols of social construction. Conducting Colombia's conflict and fragility analysis present synergistic opportunities for the project team, such as tagging gender into waterways projects, which will help assess overlap between project scenarios and timelines, and reduce duplication.
- 9. Conflict prevention works, is cost-effective, save lives and communities, and brings peace.** Colombia's conflict is becoming increasingly complex in today's rapidly changing world, as risks transcend national borders. It is protracted and involves many actors. Incentives to collaborate and act early lack in project implementation. Since the legitimacy of the state is weak, trust-deficits and grievances are often reinforced in communities. Prevention for peace in Colombia through WBG Transport and ICT projects needs to detect very early signs of risks and needs a long-term perception; focus on prevention is essential at all stages (when early risks are traceable, when crisis is impending, during conflict, and long after violence has stopped). Waterways projects need to address host communities' grievances around exclusion, economic and social opportunity and security, gender-sensitivity, and the way they can be mobilized for both conflict and peace. The conflict analysis will enable "tools" of prevention; it will enhance meaningful participation of women and youth through WBG projects that are fundamental to sustaining peace at all levels. It will equip and prepare task team during 'high-risk and risk-buildup' phases of the project. Based on on-the-



ground conflict and situational analysis, recommendation in Table 2 on implementation process in the southern Pacific Region’s FCV Context, will position the task team strategically for entry-points through differentiated approaches and strategic communication (STRATCOMM) to integrate development policies and interventions, mediation mechanisms, conflict-resolution, security, and stability in collaboration with the clients, to create a strong esprit de corps.

**Table 1: How to do it: Project Implementation: from vision to action**

<b>EFFECTIVE CONTEXT-SENSITIVE APPROACH</b>	<b>INEFFECTIVE BROAD-BRUSH INDICATORS APPROACH</b>
<b>Demands centralized ‘fragility-spectrum’ adaptations and ‘differentiated and ethnographic approaches’, entails greater flexibility, creativity, and adaptability to local dynamics, fully acclimate to conflict-drivers, peace-engines, gaps, and opportunities for effective project implementation</b>	Overlooks conflict dynamics and possible trajectories, fragmented approaches (lacks analytical understanding of how conflict is conditioned incrementally or fluidly)
<b>Invests in resourceful specialized conflict analysis, qualitative and quantitative research, field research, and case studies/examples to provide uniformed knowledge across Transport and ICT GP, Water Global Practice</b>	Devalues conflict-sensitivity solutions, conflict management, conflict mitigation, conflict prevention, and peacebuilding capacity through transport infrastructure projects
<b>Includes integrated inclusive-cohesive approaches to formulate sustainable implementation processes such as procurement, contracting, works, project facilitation, ownership, and restoration of confidence</b>	Engages exclusively through template-driven, impervious linear thinking, lacks context-driven inclusiveness and transitions, adopts single or fragmented approaches
<b>Collaborates and leverages resources among staff, constructors, supervisor, CMU, CD, and other enabling personnel and services to enhance implementation level</b>	Constitutes participation in Pro forma consultations based on assumptions and surface projections
<b>Modifies differentiated approaches to project implementation according to level of tensions, polarization, local context, and mitigates and prevents conflict, mitigates with government and communities</b>	Gauges ineptly in controversial contexts, has unintended consequences, impedes project implementation, exacerbates conflict
<b>Helps break fragility traps, restore citizens’ trust in the state, wins “hearts and minds,” secures assets, and builds able institutions through collaborative and cordial dialogues, consultations, and spaces</b>	Approaches asset building without a genuine interest in solving host communities’ grievances and dynamics between socio-economic groups, not invested in the local context, and lack personal rapport and interface with communities
<b>Collaborates with host governments and communities, implementing partners, and constructors to ensure security and conflict resolution to facilitate effective transport operations and project implementation</b>	Feeds into the narratives of host governments and elite groups, seeks approval for a pre-determined choice of political alternatives for project implementation, buys time to implement projects, delays monitoring and evaluation for desired outcomes
<b>Disseminates two-way information, asks tough questions, encourages active-participation, remains timely and transparent, takes feedback from frontlines to fill upstream gaps</b>	Tends to be a vehicle of one-way dissemination of information, asks irrelevant questions, does not fulfil the feedback loop, avoids handholding across teams and GPs, gaps remain



<b>Does not skip implementation steps, remains transparent with communities, commits wholeheartedly, honor commitments</b>	Lacks collaboration, skips implementation process steps, discredits commitments
<b>Strong collaboration with port and local authorities and SMEs, imparts integrated strategic communications (STRATCOMM)</b>	Multiple signals to communities, results in communication gaps, frustration, trusts-deficits, damage to assets, prevents effective implementation
<b>Task teams and staff identify with communities, i.e., AFRO-COLOMBIAN, associate through language, culture, and local norms, invested in project processes and peacebuilding resulting in region's sustainable development, honor timetables</b>	Disinterested in the south Pacific region and communities, untimely delivery of goods and services
<b>Provides visual, tangible, and valued goods and services, invests in small auxiliary projects or measures to build confidence among communities, such as working with local churches or schools, allocates small budgets for small goodwill gestures with judicious expectations</b>	Delayed actions, goods, and services, imperceptible measures, undermines the 'soft-power' of smaller investments to build peace in the region
<b>Pursues interface between the south Pacific Afro-Colombian communities and the central government in Bogotá</b>	Reluctant on interfacing, undervalues bridging communities and the central government
<b>Helps form Truth Reconciliation Committees (TRCs), based on the South African and Rwandan models to bring adversarial communities face-to-face, learns from each-others' grievances and experiences to mitigate conflict and foster peace</b>	Leaves grievances unaddressed, root causes of conflict persist and can resurge anytime
<b>Conducts surveys to gauge teams and TTLs' knowledge base, provides customized conflict and context-sensitive training to staff for operations and project implementation, engages in interactive learning forums, advocates constant feedback and training, the translucent information exchange remains</b>	

**Table 2: Implementation Process in the southern Pacific Region's FCV Context**

<b>Southern Pacific Region FCV: Project Implementation Constraints</b>	
<b>Security conditions are worsening in the southern</b>	If the Colombian government hires a constructor,

<p><b>Pacific Region of Colombia.</b></p>	<p>there is an elevated risk for extortions that presents a high reputational risk for the World Bank. The Bank must find a state-owned enterprise (SOE) directly linked to the “Armada Nacional,” the Colombian Navy, Ministerio de Defensa Nacional (the Ministry of National Defence), that has the capacity and extensive maritime experience to build the docks.</p> <p>Given the sensitive and perilous nature of the conflict in the southern Pacific Region, it is highly recommended and advised that the Bank must reconnoiter possibilities and hire and work in agreement with highly specialized units or enterprises of the Ministry of National Defence, Colombia.</p> <p>The Navy-linked SOE would have more robust relationships with communities, steadfast performance, logistical command and control, agility and adaptability, and better drill to handle contingencies. However, the price must be lower than in the private sector.</p> <p>The constructors are risk averse, and there is a dearth of competitors in the region. The firms are reluctant to build the docks far from urban centers, such as López de Micay, a town and municipality in the Cauca Department, Colombia. The primary reasons are extremely high price due to heightened security risks and extortion risks from illegal armed groups.</p>
<p><b>Procurement Process in the Southern Pacific Region, the task team should:</b></p>	<p>Take a structured and planned “step-by-step” transparent and competitive approach to procurement. The FCV context in the southern Pacific Region will render challenges, and often hindrance, to full implementation process, yet processes must be thorough and time-oriented.</p> <p>The processes must retain clear government ownership, service delivery must reflect the local context and situation, including the government capacity, and the capacity of the targeted providers to comply with them. The strategic approaches then must be built into the horizon of the “Waterway Connectivity” project.</p>
<p><b>Contractual Approaches</b></p> <p><b>TIP: Structured, competitive consultations/</b></p>	<p><b>Sole-sourcing contracting</b> as the only de facto choice may meet urgent service delivery, will exacerbate the conflict, and has very limited to zero conflict</p>



<p><b>negotiations in the FCV context will allow stakeholders to mitigate conflict, build and uphold peace among various vendors, across markets, and within / between communities.</b></p> <p><b>The goal should be not to award more than two contracts to any vendor.</b></p> <p><b>Example 1<sup>80</sup></b></p>	<p>mitigation capacity, will setup sub-standard practices to become embedded within the government.</p> <p>Technical merit and bidding will alter that mindset; given the FCV context in the southern Pacific Region, <b>competitive bidding</b> will reduce the rent-seeking behavior. With competitive selection, a customized concept of "slice and package" while balancing the multiple operational constraining factors and boundary and local context conditions, will increase reasonable competition, accountability, and consultations.</p>
<p><b>Planning and Monitoring the Procurement</b></p> <p><b>The task team must warrant adequate mechanisms for monitoring and enforcement, and supervise the UNGRD, MT, DIMAR, and MCVT.</b></p> <p><b>Value for citizens/communities must be embedded.</b></p>	<p>Closely supervise, the partner government or elements (based on their allegiances and biases) within may limit the requirements to a statement of the price, the designation of the key personnel, and a signed statement that bidder understands, and create competition and maximize vendor participation.</p> <p>Integrate transparency and inform the community that arrangements for the services deliveries are underway, ensure monitoring and evaluation is done through sustained and statistically-sound sampling hinging on situational context. The borrower and implementing agency must meet its contractual obligations, given the weak capacity issues.</p>
<p><b>Contract Risks</b></p> <p><b>TIP: The TPM linked to Colombian Navy can help diffuse and eliminate those risks; however, the task team must safeguard operational sovereignty.</b></p> <p><b>Performance bonds will mitigate conflict, and will protect from the non-compliance and non-performance due to 'visible-invisible' factors and underlying conflict currents.</b></p>	<p>The payment risk, demand risk, performance risk, political risk, regulatory risk, foreign exchange risk, and security risk must hinge on the local context.</p> <p>The fluidity of the armed conflict, the dynamics and variations in the southern Pacific Region's predictable-volatility, and the task team must ensure tight-controls and taut-deadlines to restrain the government's ability to either delay, resume, or begin services directly or indirectly.</p>
<p><b>The task team, staff, constructors, and all stakeholders must invest in honest and efficient dispute resolution through open, transparent, and "Strategic Communication" (STRATCOMM) in procurement processes and with the communities.</b></p>	<p>Whether formal or informal, must ensure that disputes with the communities (which are an inevitable-inherent part of the procurement processes) are resolved promptly and fairly. The alternative solution is political; given the FCV context, it will encourage corruption and political or armed</p>

<sup>80</sup> For an in-depth competitive bidding, refer to the WBG Afghanistan health projects, especially under the local Taliban elders.



<p><b>Example 2</b> <sup>81</sup></p>	<p>interference.</p>
<p><b>Time Control in Works</b>  <b>Candid Commitments Restore Confidence</b></p> <p>Within the time stated, the task team, staff, constructors, and supervisor:</p>	<p>Must retain candid commitments and timing for all the activities in the Works. An update must be given to stakeholders and communities showing the actual progress achieved on each activity, the effects and impacts of the progress, the exact timing of the remaining Works (including constraints), including any changes to the sequence of the activities – to restore citizen confidence.</p>
<p><b>Geotagging Using Global Positioning System (GPS) Technology and Web-based Mapping in Isolated and Impassable Terrain of the Southern Pacific Region.</b></p> <p>The task teams, consultants, constructors, and supervisor must “Geotag” in isolated and harshest terrains.</p> <p><b>Example 3</b> <sup>82</sup></p> <p>Given physical isolation and impassable high-risk routes become a challenge to the implementation process. The MCA model has improved the efficiency of contracts, works, materials, labor, construction, which in turn enhance project implementation. The MCA model can be tailored to address the climatic conditions, terrain, and high-risk FCV factors in the southern Pacific region.</p>	<p><b>Geotagging is:</b></p> <ul style="list-style-type: none"> <li>• A readily available, inexpensive, web-based technology that helps get broader participation in project implementation, monitoring, and evaluation.</li> <li>• It will enhance procurement processes, transparency, supervision, and fighting fiduciary corruption in project implementation, and enables task team, government, port authorities, implementing partners, and communities to “virtually” participate, monitor, evaluate, give feedback, and will enhance grievance redressal and feedback mechanisms.</li> <li>• It will reduce threat level in high-risk, violence-prone, and hard-to-reach areas, and will provide access to information on project’s components and subcomponents, facilitation, and increased and uniform interaction among all stakeholders.</li> <li>• A thrust of scaled-up Geotagging in Works, facilitation, environmental rehabilitation, cohesion, governance, institutional capacity, and gender will restore social integration, induce conflict mitigation and prevention, and achieve peace.</li> </ul>
<p><b>Breaking Down Communication-Information Barriers Between Buyers, Suppliers, and Communities</b></p>	<p>A dearth of interaction and information in FCV context in the southern Pacific Region, the project</p>

<sup>81</sup> IRAQ – EMERGENCY OPERATION FOR DEVELOPMENT PROJECT (P155732), illustrates a comparative analysis between and SOE and a private construction firm. The SOE was complacent in dealing with the local conflicting groups and did not mitigate, rather exacerbated conflict which resulted in kidnapping and killing of five local contractors. The conflict mitigation approaches adopted by the Project Team Leader underscore the significance of Iraqi ownership and commitment for effective project implementation.

<sup>82</sup> For detailed impacts of Geotagging, refer to the WBG’s Mindanao Rural Road Project (MRDP), an archipelago of 7,000 islands in Philippines, which proved highly useful in combating FCV contexts in Mindanao. Also refer to Community Modules for Adoquines (MCA), which are local entities formed under the local leadership in Nicaragua.

<p><b>The task team must re-verify information every six months throughout the project horizon.</b>  <b>Example 4</b><sup>83</sup></p>	<p>implementation entails inherent barriers. Widening communication-information gaps in FCV context will result in elevated risk scenarios.</p> <p>To scaleup the horizon of successful project implementation will require directories and communication channels to effectively interact with SMEs for sustainable, local SME-based procurement, leading to local job creation, competitive business practices, trust and confidence through tangible results, capacity-building, and will be best coupled with training programs, workshops, and seminars that encourage high-quality implementation processes.</p>
<p><b>Reforming Project Implementation Along with Good Governance and Institutional Capacity</b></p>	<p>Must exert efforts to reform implementation processes for the longevity and peaceful sustainability of the project, while it is equally crucial to engage in the larger governance context of instability, corruption, and lack of capacity.</p> <p>Establish an inter-stakeholders task force for consultations to avoid fragility traps and elusive implementation processes, which addresses disorganization, vulnerability to crime, abuse, and waste in FCV situations.</p> <p>Adapt fair, non-restrictive, and comprehensive communication. Pursuit for smaller reforms will be more impactful for achieving the projects' overall aims and objectives, rather than assuming to fix the entire system as an outcome of the project. The smaller institutional reforms will foster skillset, capacity, demand for services, and would facilitate larger reforms and demonstrate how to approach operations in Colombia's FCV context.</p> <p>The simultaneous reforms process will ultimately achieve the project's three-tiered goals in the southern Pacific Region. Gradual fixes translate reform priorities into actionable implementation and successful project completion, and most importantly, project ownership. At the nexus of fragility, project implementation and governance implies task team and clients build transparent and accountable institutions that deliver effective services to citizens.</p>

<sup>83</sup> Iraq – Transport Corridors Project (P131550), based on crucial local context, the Project Team Leader re-strategized and adopted a differentiated approach based on outputs, not outcomes to deliver goods and services in parts, to bridge gaps and built trust between citizens and the state.



<p><b>The nature of reforms must consider Colombia's larger picture, vested interests, weak credibility, lack of top-level and legislative support.</b></p>	<p>Decentralization will provide necessary space for participation, increased accountability, broad consensus, and strategic communication incentivize toward improving project implementation.</p> <p>Decentralization of the PIU with competent and local staff will enhance the interaction with government, port authorities, and community elders, and build credibility and confidence.</p>
<p><b>"Do No Harm," Be Inclusive, Flexible, Translucent, and Committed</b></p> <p><b>Community Driven Development (CDD) in the Southern Pacific Region: Through Transparency and Accountability</b></p> <p><b>The Implementation of the "Waterway Connectivity" Project Components and Subcomponents: Learning Through Examples</b></p> <p><b>The task team in the southern Pacific Region must incorporate rapport among communities through regular interaction, sustained participation, transparency, accountability, integrity, value for money, and community ownership principles.</b></p> <p><b>Action is a byproduct of empowerment. Engaging communities galvanizes a more formidable force to participate constructively in project implementation</b></p>	<p>Backdrop: Water project in Tombo, a fishing town in the Western Area Rural District of Sierra Leone.</p> <p>A small community organization 'Concerned Citizen Group' acted to demand transparency and accountability from its local authorities in an IBRD water project for which they were beneficiaries, but were not engaged or consulted, except for a few clan chiefs. Their intervention made clear to the authorities:</p> <ul style="list-style-type: none"> <li>• They were left out in the process, while the legislation provided clear community participation in the implementation of the community project, and that the project comprises local councils, the constructors, and the communities.</li> <li>• The council is responsible to award the contract, the constructors, implement the contracts, and the communities serve as "watch dogs," because they are the ultimate beneficiaries, and thus could not be marginalized or left out from the process.</li> <li>• Their alienation from the process will exacerbate conflict.</li> </ul> <p><b>The 'Concerned Citizen Group' sent strong signals:</b></p> <ul style="list-style-type: none"> <li>• Community awareness and involvement is crucial to the implementation process.</li> <li>• It is IBRD's, constructors and implementing partners' paramount responsibility to keep the communities informed through honest consultations and communication.</li> <li>• This creates peaceful amicable co-existence and facilitation during the project implementation, and unites communities – attains confidence.</li> <li>• The community's role and responsibility is to participate in the implementation process</li> </ul>



	<p>and demonstrate its capacity to take ownership of the project.</p> <ul style="list-style-type: none"> <li>The 'Concern Citizens Group' made their voices heard to all stakeholders that community exclusion in CDD and secrecy in project implementation is unacceptable.</li> </ul>
<p><b>Gender Sensitization</b>  <b>Sexual and Gender-Based Violence (SGBV) in the southern Pacific Region's FCV Context</b></p> <p>According to the UN Special Representative on Sexual Violence in Conflict, Zainab Hawa Bangura, "sexual violence in conflict needs to be treated as the war crime that it is; it can no longer be treated as an unfortunate collateral damage of war."</p> <p>The task team:</p>	<p>Country diagnostics and risk assessments diagnose and underscore gender sensitization in the project, with recommendations for measures to mitigate GBV in the region.</p> <p>However, it is highly recommended that the SGBV is not seen as a byproduct of conflict in the region. The southern Pacific Region has endured more than five-decades of armed insurgency, which is ongoing to date. Women's bodies and lives have become part of the terrain of conflict in the region.</p> <p>While recommending, and embedding gender assessments and rehabilitative measures, must collaborate with a security policy specialist for gender-conflict analysis under protracted insurgency, to devise not only tangible project assets for women, but also non-tangible measures for confidence, trust restoration, project implementation, and project ownership.</p>
<p><b>Think Local! Empathize and Harmonize with the Local Communities</b></p> <p>Project implementation in the southern Pacific Region should not overlook local scenarios build-up. Communicate, educate, and organize communities into take-action groups. Adopting gradual fixes through prioritized interventions that build on small opportunities for project success and confidence measures will be the most effective approach.</p> <p><b>Must help establish the Truth and Reconciliation</b></p>	<p>Designate staff that is invested in the project and can identify and empathize with the AFRO-Colombian and indigenous communities in the region through candor and compassion.</p> <p>Local conditions, traditions, and identities will play a vital role in successful implementation and completion of the project. It will strengthen social protection and safety nets through accurate and timely interventions, to improve functionality, eliminate constraints, and access to local markets.</p> <p>Must adopt the "Envelop Approach," by building together, not just building. Proactive civil society engagement and participation, sensitization events, and dissemination of strategic communication explaining the processes are the 'key enablers' and 'entry points' which will facilitate strong connections through harmonization of stakeholders.</p> <p>Must sow the seeds of political will and commitment,</p>



**Commission (TRC) to identify the roots of the conflict and provide a vision moving forward, to address years of conflict, bad governance, endemic corruption and crime, denial of basic human rights, and grievances that created the deplorable conditions that made conflicts inevitable.**

which will augment more assertive, less fragmented civil society – and will lead to less disagreement, more peace. More 'FaceTime,' adequate dialogue, and consultations between the task team, constructors, supervisor, and communities will pay off and win 'hearts and minds'.

Must devise strategies, allocate budgets, and invest in auxiliary measures, such as working on a small project in a local church, school, or community health center, to open 'entry-points' and navigate to an 'enabling-environment.'