Private Sector Provision of Water and Sanitation Services in Rural Areas and Small Towns: The Role of the Public Sector

Country Report: Colombia

March 2016
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<th>Full Form</th>
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<tbody>
<tr>
<td>ACUANTIOQUIA</td>
<td>Water and Sewer Antioquia S.A.</td>
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<td>ADR</td>
<td>Asociados en Desarrollo Rural, Associates in Rural Development</td>
</tr>
<tr>
<td>ANDESCO</td>
<td>Asociación Nacional de Empresas de Servicios de Colombia (National Association of Public Services Companies)</td>
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<tr>
<td>CAN</td>
<td>Comunidad Andina, Andean Community</td>
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<tr>
<td>CARICOM</td>
<td>Caribbean Community Secretariat</td>
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<td>CBO</td>
<td>Community Based Organisation</td>
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<tr>
<td>CONPES Document</td>
<td>Policy document issued by the Consejo Nacional de Política Económica y Social, the National Council for Economic and Social Policy</td>
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<tr>
<td>CRA</td>
<td>Comisión Reguladora de Agua Potable y Saneamiento, Regulatory Commission for Drinking Water and Sanitation</td>
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<td>DNP</td>
<td>Departamento Nacional de Planeación, National Planning Department</td>
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<td>DPSP</td>
<td>Domestic Private Sector Participation</td>
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<td>ECA</td>
<td>Economic Consulting Associates</td>
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<td>EICE</td>
<td>Empresas Industriales y Comerciales del Estado, Industrial &amp; Commercial State Enterprise</td>
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<td>EMP</td>
<td>Empresas Públicas de Medellín</td>
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<td>ESP</td>
<td>Empresas de Servicios Públicos, Public services enterprises</td>
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<td>EU</td>
<td>European Union</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>IDB</td>
<td>Inter-American Development Bank</td>
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<tr>
<td>MAVDT</td>
<td>Ministerio de Ambiente Vivienda y Desarrollo Territorial, Ministry of Environment, Housing and Territorial Development</td>
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<td>MERCOSUR</td>
<td>Mercado Común del Sur, Southern Common Market</td>
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<td>MHCP</td>
<td>Ministerio de Hacienda y Crédito Público, Ministry of Finance and Public Credit</td>
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<tr>
<td>MSPS</td>
<td>Ministerio de Salud y Protección Social, Ministry of Health and Social Protection</td>
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<tr>
<td>MVCT</td>
<td>Ministerio de Vivienda, Ciudad y Territorio, Ministry of Housing and Territory</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<tr>
<td>PAP</td>
<td>Programa Aguas para la Prosperidad, Water for Prosperity Program</td>
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<td>PDA</td>
<td>Planes Departamentales de Agua, Departmental Water Plans</td>
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<td>PGN</td>
<td>Presupuesto General de la Nación, General National Budget</td>
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<td>PND</td>
<td>Plan Nacional de Desarrollo, National Development Plan</td>
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<td>PPP</td>
<td>Public Private Partnership</td>
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<tr>
<td>RAS</td>
<td>Reglamento Técnico para el sector de Agua Potable y Saneamiento Básico, Sector Technical Regulation</td>
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## Abbreviations and acronyms

<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>RUPS</td>
<td>Registro Único de Prestadores de Servicios Públicos, Unique Services Provider Register</td>
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<td>SGP</td>
<td>Sistema General de Participaciones, General Revenue Sharing System</td>
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<td>SOP</td>
<td>Standard Operating Procedures</td>
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<tr>
<td>SPI</td>
<td>Strengthening Public Institutions</td>
</tr>
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<td>SSPD</td>
<td>Superintendencia de Servicios Públicos Domiciliarios, also Superservicios, Superindendency of Public Services</td>
</tr>
<tr>
<td>SUI</td>
<td>Sistema Único de Información, Single Utility Information System</td>
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<tr>
<td>VAS</td>
<td>Viceministerio de Agua y Saneamiento, Vice-Ministry of Water and Sanitation</td>
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<tr>
<td>WACC</td>
<td>Weighted Average Cost of Capital</td>
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<td>WSP</td>
<td>Water and Sanitation Program</td>
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<td>WSS</td>
<td>Water supply and sanitation</td>
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Executive summary

This document is the Colombia Country Report one of the country reports from the four countries selected for the Study on Domestic Private Sector Provision of Water and Sanitation Services in Rural Growth Areas and Small Towns: The Role of Public Sector. This Country Report analyses the Colombian institutional framework which was developed with the intention of corporatizing the provision of WSS services in Colombia. Moreover, the experiences with DPSP are assessed and key lessons learnt from such experiences are presented. The case study was prepared by Economic Consulting Associates Ltd under the guidance of Mouhamed Fadel Ndaw, Sr. Water & Sanitation Specialist at the World Bank.

Water supply and sanitation service provision

In the 1990s, Colombia introduced a policy of decentralisation together with an emphasis on the corporatization of public services (which are typically managed at the municipal level) and the involvement of the private sector in the provision of public services. In addition, decentralisation gave municipalities the responsibility for WSS provision, with support from the central government.

The key central government institution in the WSS sector is the Vice-Ministry of Water and Sanitation (VAS), which sits under the Ministry of Housing and Territory (MVCT). VAS is responsible for implementing national policies, plans and programmes in the WSS sector. The National Planning Department (DNP), working closely with the Ministry, sets the policies through development plans and sector specific policies (CONPES).

Since the passing of Law 142 in 1994, the government’s policy has been to encourage provision by specialised entities, rather than having the municipality provide public services directly. The option of direct provision by the municipality is only allowed when no other alternatives exist. If providing services directly, there are strict procurement rules that municipalities must follow. However, there are a number of other delivery models available to municipalities that fall outside public procurement rules. Important amongst these is the public service company (ESP).

Regulatory responsibilities in the WSS sector are divided primarily between the Comisión Reguladora de Agua Potable y Saneamiento (CRA), which regulates WSS tariffs, and the Superindendency of Public Services (SSPD), which monitors and enforces the performance of WSS operators.

A key characteristic of the Colombian WSS sectors is that service providers are characterised as being either small, if they supply less than 2,500 connections, or large, if they supply 2,500 connections or more. This is in large contrast to the classification employed in other jurisdictions which focuses instead on urban versus rural provision. It is worth mentioning that WSS service coverage in Colombia’s rural areas is far below that of urban centres. The government is introducing policies to address this disparity.
Experience with DPSP in water supply

The most common form of private participation in the WSS sector in Colombia is through public service companies, called Empresas de Servicios Públicos (ESPs). These are organisations established specifically for the provision of public services and can be publicly owned, privately owned, or jointly owned by public and private entities.

ESPs in most large urban centres in Colombia have been established with private capital. However, the experience with DPSP in small towns and rural areas is limited due to the dispersion of the population in these areas, which increases the cost of developing infrastructure and results in high cost of supply, making it less attractive for private investment.

Nevertheless, certain ESPs, which involve private shareholders, have recently started exploring the possibility of providing WSS services in areas surrounding the large cities in which they operate.

One of the key lessons learned is that it is not realistic to expect the private sector to provide investment capital for large WSS investments. Concession contracts in larger urban areas (where theoretically the population can afford higher tariffs) that were designed for the private operator to recover the costs of its upfront investment through the tariff have almost all been renegotiated, either formally or informally. The renegotiations suggest that it is unlikely that in practice much private capital (if any) was ever invested.

The more successful contractual arrangement is a lease arrangement where the bulk of upfront costs are covered by the public sector. Tariff revenues collected by the private operator are used to pay a lease fee to the state, operation and maintenance expenses and making defined investments in maintaining and expanding the system.

Regionalization and DPSP

Colombia has acknowledged that amongst infrastructural services WSS in particular requires specific expertise that is not typically found at the municipal level. It has therefore made it a policy to encourage regionalisation of WSS services by implementing Departmental Water Plans, which are a set of planning and inter-institutional coordination strategies that municipalities can voluntarily opt into. This brings a better resourced and more corporate approach to WSS provision and ultimately makes it easier for large private operators to expand services to small towns and rural areas. Although the concept of the Departmental Water Plan is relatively new and therefore is only just beginning to be applied in most departments, the initial indications are that this approach can be very successful in encouraging DPSP.

Additionally, large private operators are currently proposing the concept of regional tariffs to the regulator. The innovative ‘regional tariff’ will allow an operator to charge a uniform tariff across WSS systems that are not physically interconnected, effectively enabling large urban centres to cross-subsidise small towns, such that provision to the small towns would then be profitable for the operator. In November 2014, the first proposal for regionalization
of tariffs had been approved for Triple-A, the operator in the department of Atlántico. The benefits listed of the regionalization approach are the following:

- Long-term sustainability: users will be served by an operator who can guarantee the continuity of service and quality at a price that takes the economic reality of smaller municipalities into account
- Financial sufficiency: the regionalization of service provision tackles the challenge of supplying small municipality’s, without compromising the financial standing
- Economies of scale: these will be realised thanks to the expansion of use of existing facilities, such as water treatment plants.
- No exclusivity in service provision: a key point made by MVCT is that regionalization does not imply exclusive service provision, as other operators are free to enter the WSS market in that department.

**Key lessons learnt from the Colombian experience**

The most important step that Colombia has made to encourage DPSP is to successfully involve private sector operators in large urban areas. For small towns, the most successful instances of DPSP have been when large water operators extend their services to nearby small towns.

Colombia has been successful in encouraging municipalities to relinquish direct control of WSS services by making some central government funding conditional on corporatisation and other efficiency criteria. The option of establishing a joint venture ESP to provide WSS services has also opened up the DPSP market in Colombia, as this type of arrangement allows the municipality to circumvent public sector PPP procurement rules (which can sometimes be restrictive, because they are not tailored to WSS service contracts).

Colombia has recognised the challenge of fully recovering WSS investments from tariffs. It has consistently set aside significant funding for WSS infrastructure and has launched a number of projects (with the support of organisations like the World Bank) that contract WSS services to the private sector, paired with a grant that covers the bulk of the upfront investment costs. CRA recently published separate tariff methodologies for large and small operators. The key differences between the two are that the tariffs charged by small operators foresee a government contribution to cover investment costs (users will cover administration and O&M costs fully). In the case of large providers, all costs are to be paid for by users.

There are a variety of funding channels for the WSS sector, including general budget allocations and funds that are available for capital investments based on pre-defined criteria. Colombia is characterised by having a harmonised cross-subsidy scheme, which relies on the stratification of households through the country. The scheme implies that richer households make net contributions while poorer households receive those contributions in the form of demand-side subsidies for public services, including WSS services.

1 MinVivienda 2014, available [here](#).
Executive summary

Areas for improvement

In the past, little attention has been given to the provision of WSS services in rural areas in Colombia. It remains to be seen whether there is any scope for DPSP in rural areas, given that all of the experience to date suggests that populations are too dispersed and affordability of services is too low.

Regulation and monitoring of the WSS sector in Colombia is overwhelmingly positive. However one criticism is that the separation of regulatory functions (CRA) and monitoring and enforcement functions (SSPD) creates a disconnect that ultimately leads to less effective regulation and increased the risk for private operators.

The regulations, and to some extent related policies, need to cater specifically to small operators. In Colombia, the vast majority of operators (mostly community-based) are not registered with SSPD and therefore fall largely outside of the regulations and SSPD’s support mechanisms.
Introduction

1. Introduction

Economic Consulting Associates Limited (ECA) has been engaged by the Water and Sanitation Program (WSP) of the World Bank to conduct the Study to Strengthening Public Institutions in Engaging and Regulating Domestic Private Sector for the Provision of Water and Sanitation Services in Rural Growth Areas and Small Towns.

1.1 Overview of the Study

As stated in the Terms of Reference (TOR), the objective of this study is “to consolidate knowledge so far gained by the World Bank Group and its partners at global level and provide operating procedures and guidance to developing countries and WBG task teams on how to support public institutions in effectively engaging the local private sector to deliver better water and sanitation services specially to the poor in rural growth centres and small towns”.

This study is being conducted in three phases: a desk review phase, field-diagnostic phase and knowledge dissemination phase. The specific objectives, activities and tasks for each phase and the resulting deliverables are summarised in

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**Figure 1 Summary of study objectives, activities and deliverables**

<table>
<thead>
<tr>
<th>SPECIFIC OBJECTIVES</th>
<th>ACTIVITIES AND TASKS</th>
<th>DELIVERABLES</th>
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| Analyse socio-economic characteristics of small towns & challenges of WSS service delivery | **Phase 1 – Desk Review**  
- Analyse the evolution of and challenges faced by small towns  
- Define what small town means for each region  
- Identify examples of different initiatives to promote domestic PSP in WSS service delivery and other sectors (health, education, etc)  
- Develop analytical framework using examples from different countries in each region of the role of public institutions in promoting PSP | **Global Desk Review Update (Preliminary)** |
| Document good practices of how public institutions create enabling environment for PSP | | |
| Prepare Draft Operational Guidelines to support public institutions create enabling environment for PSP | **Phase 2 – Field-based Diagnostic**  
Conduct local research and stakeholder discussions to:  
- Identify key enabling factors and approaches to designing public institution reforms conducive to PSP  
- Learn how to identify, design and implement reforms to strengthen public institutions so as to encourage PSP  
- Learn what strategies are effective in improving or encouraging PSP | **Global Desk Review Update (Final)**  
**Best Practice Report**  
**Strategic Guidance Note and Standard Operating Procedures** |
| Organise workshops and discuss lessons learnt on strengthening public institutions in creating enabling environment for PSP | | |
| Finalise Standard Operating Procedures in engaging private sector in WSS service delivery | **Phase 3 – Knowledge Dissemination**  
- Distill lessons learnt from case studies from Phase 1 and Phase 2  
- Present findings in regional workshops | **Final Report and Recommendations** |
Introduction

The study focuses on piped water schemes in rural and small towns where local private actors increasingly represent a significant group of stakeholders, using lessons learnt and experiences from the selected countries: Bangladesh, Colombia, the Philippines and Uganda.

1.2 Objective of this Country Report

This document is the Colombia Country Report, one of the four country reports from the four countries selected for the study. The Colombia Country Report aims to identify good practices in Colombia in strengthening public institutions to effectively engage domestic private sector in providing water and sanitation services.

The identified good practices from this Country Report and from the other three country reports will be used to define a set of key factors and approaches to designing pro-private sector participation reform, which will be described and elaborated in the next set of deliverables: the Strategic Guidelines and Standard Operating Procedures.

The Colombia Country Report was based on a desk study research, followed by field visits to Bogota and surrounding areas from Monday 1st of September 2014 to Friday 5th of September 2014. A list of the institutions visited and interviewed are included in Annex 1.

1.3 Structure of this Country Report

The rest of this Country Report is structured as follows:

- Section 2 provides a background to the water sector and public-private partnership development or profile in Colombia
- Section 3 discusses the dynamics of urban hierarchy in Colombia, and how this affects public service provision, especially water supply and sanitation services
- Section 4 focuses on Colombia’s experience with domestic private sector participation in the water supply and sanitation sector
- Section 5 highlights key success factors and good practice used in Colombia in encouraging domestic private sector participation, and summarises areas to be improved in Bangladesh.

In addition, Annex 1 provides a list of the institutions visited during the field visit, including key information discussed.
2 Country Background

This section provides a background summary of Colombia, including its economic, social and administration profiles, the current situation in the water supply and sanitation sector and current development of Public Private Partnership (PPP) framework in the country.

2.1 Administration, economic and social profile

<table>
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<tbody>
<tr>
<td>Colombia is a large country with coastlines on both the Pacific and Atlantic Oceans. It has high rainfall and therefore many water resources.</td>
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<tr>
<td>It is the third most populous country in South America, with almost 50 million people. Population growth is only 1-2% and is slowing.</td>
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<tr>
<td>Colombia is a middle-income country, with GDP per capita of US$ 7,826.</td>
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<td>The key administrative divisions in Colombia are the 32 departments (i.e. states) and 1 capital district. Departments are divided into 1,101 municipalities. Each department has a governor and each municipality has a major. All legislative power is retained by Congress (at the national level).</td>
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**Country geography**

Colombia is located in the north-western corner of South America. Colombia has coastlines on the Pacific and the Atlantic Oceans, neighbouring Panama and Venezuela alongside the Caribbean Sea, bordering Panama and Ecuador on the Pacific Ocean and neighbouring Brazil and Peru to the south. Colombia has an area of 1,138,903 square kilometres (439,733 square miles) and a total coastline of 3,207 kilometres (1,993 miles) distributed between the Caribbean Sea and Pacific Ocean. Figure 2 shows the geography of Colombia.
Colombia signed its independence from the Spanish crown on 20 July 1810.

Colombia has an annual precipitation of 3 billion m$^3$ in the continental area, making it a water-rich country. Comparatively, it has nearly 2.5 times the amount of global rainfall, which stands at 1.2 billion m$^3$ per year.\(^2\) In addition to precipitation, the country’s water resources come from two major rivers, the Magdalena and Cauca rivers to the north of the country, as well as the smaller Orinoco and Amazon rivers to the east.

**Population and population growth**

Colombia is the third most populous country in Latin America after Brazil and Mexico. According to the last census in 2005, Colombia’s total population was 41,468,864. In 2014 its total population is 47,661,787\(^3\). Colombia’s major cities are Bogotá, Medellín, Cali, and Barranquilla. Historical data on the distribution between the country’s rural and urban population is shown in Figure 3. According to the World Bank’s World Development Indicators, Colombia’s population has been growing at 1-2% since 2004. The figure below shows decreasing growth rates for both urban and rural populations.

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\(^2\) World Bank, World Development Indicators, Average precipitation in depth, 2014  
\(^3\) National Administrative Department of Statistics (DANE)
Country Background

**Figure 3 Colombia’s urban and rural population**

![Population Graph](image)

*Source: World Development Indicators*

The majority of Colombia’s population is concentrated in mountainous areas which have insufficient hydrological resources relative to other areas with less population, such as the Pacific, the Amazon and Orinoco regions.⁴

Over the longer term, the urban-rural growth trends evident in the graph above are expected to continue, but relative to a lower overall rate of population growth. Over the period 2014-2050, the United Nations projects that the national average rate of population growth will be 0.7% per year, with urban and rural growth averaging 1.0% and -0.5% per year respectively. By 2050, the total population is projected to be 63 million, with an urbanization rate of 84%⁵.

**Economy and economic activities**

According to the World Bank, the country’s 2013 GDP of USD 378 billion categorises it as an upper middle income country. Colombia’s GDP has grown significantly at an average rate of 5% since 2004.⁶ This growth is explained basically by the good performance of lead sectors including construction, agriculture, social services and financial institutions⁷.

Figure 4 below illustrates the annual growth rate of GDP over the past six years. At the same time, unemployment rates have been falling since 2008 and currently stand at about 10%⁸. GDP per capita in 2013 GDP was US$7,826.⁹

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⁴ Colombian Geographical Society (SOGEOCOL), Colombia: Potencia Hídrica.
⁵ UN World Urbanisation Prospects, 2014
⁶ World Development Indicators
⁷ DANE, GDP Statistics, first quarter 2014.
⁸ World Development Indicators
⁹ World Development Indicators
Colombian international trade has grown during the past 20 years. The country is now on the list of largest exporters of coffee, coal, oil and its derivatives, and ferronickel.


Furthermore, Colombia is member of the Andean Community of Nations (CAN) which is a customs union comprising Bolivia, Colombia, Peru and Ecuador. In addition, Colombia has agreements with: CARICOM, an organisation of 15 Caribbean nations and dependencies; EFTA, a free trade organisation between four European countries not part of the European Union (EU); and MERCOSUR, which is composed of Argentina, Brazil, Paraguay, Uruguay, Venezuela and Bolivia.

### Levels of administration

Colombia has 32 administrative departments (States), 1,101 municipalities, five special urban districts and 20 commercial urban areas depending on a municipality.

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10 Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago.

11 It has as associated States: Colombia, Chile, Peru, Ecuador, Guiana y Suriname.

12 In adhesion process to MERCOSUR.

13 DNP and DANE, 2014.
Country Background

- **Departments**— are territorial entities which must follow the law and the 1991 National Constitution. These departments are governed by their own authorities, administrate their own resources and establish the necessary taxes for its functioning. The executive power is vested in the elected governor and the municipal councils, which are popularly elected for a four year term.

- **Municipalities**— Each department is divided into municipalities, each headed by a mayor, who is popularly elected for a four year term. Every municipality has an urban capital (cabecera in Spanish) and may include rural areas surrounding it. Consequently, the entire territory, whether urban or rural, is split into municipalities. The municipalities’ main objective is to contribute and promote the sustainable development of society through the formulation and adoption of territorial and urban development programs, plans and policies.

- **Districts**— There are five urban districts in Colombia: Bogotá, Barranquilla, Buenaventura, Cartagena and Santa Marta. Districts are governed by Law 1617 of 2013 that gives them special status, including different powers than municipalities enjoy. The district of Bogotá is the only autonomous district, not dependent on a departmental government. It therefore receives its share of the budget directly from the national government.

Neither of the above administrative units have legislative power, this branch of government is concentrated in the Republican Congress located in the Capital District of Bogotá. Only the executive and judicial powers have a departmental representation.

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14 Each district has different powers and degrees of autonomy established in the Constitution and at the time of their creation.
2.2 Water supply and sanitation profile

## Section summary

Water coverage in Colombia is relatively high, at 88.5% for the nation as a whole. However in rural areas coverage is much lower, at 59%. Sanitation coverage is 76%, although the majority of this is on-site sanitation, with relatively little sewerage network coverage outside of the main urban centres.

In the 1990s Colombia introduced a policy of decentralisation and also introduced an emphasis on the corporatisation of public service companies (which are typically managed at the municipal level) and the involvement of the private sector in the provision of public services.

The key institution in the WSS sector is Vice-Ministry of Water and Sanitation (VAS), which sits under the Ministry of Housing and Territory (MVCT). It is responsible for implementing national policies, plans and programs in the WSS sector. The National Planning Department (DNP), working closely with the Ministry, sets the policies through development plans and sector specific policies (CONPES).

Regulatory responsibilities in the WSS sector are divided primarily between the Comisión Reguladora de Agua Potable y Saneamiento (CRA), which regulates WSS tariffs, and the Superindendency of Public Services (SSPD), which monitors and enforces the performance of WSS operators.

The National Development Plan (PND) sets out the guiding policies for public service provision, including the WSS sector. The most recent Plan establishes the provision of WSS services in the rural areas of Colombia as a priority, providing for contributions from the national and regional budgets.

CRA recently published separate tariff methodologies for large and small operators. The key differences between the two are that the tariffs charged by small operators foresee a government contribution to cover investment costs (users will cover administration and O&M costs fully). In the case of large providers, all costs are to be paid for by users.

There are a variety of funding channels for the WSS sector, including general budget allocations and funds that are available for capital investments based on pre-defined criteria. Colombia is characterised by having a harmonised cross-subsidy scheme, which relies on the stratification of households through the country. The scheme implies that richer households make net contributions while poorer households receive those contributions in the form of demand-side subsidies for public services, including WSS services.

From the supply-side perspective, operators may receive supply-side subsidies funded through the national budget to cover the costs of investment in those cases in which users cannot afford to cover them through the tariff.
Country Background

Introduction to WSS service coverage

Below we provide a brief introduction to the Colombia water and sanitation (WSS) sector. We provide a more detailed breakdown of WSS services in small towns and rural areas in Section 3.3.

According to a statistical study made by the DANE in 2013 in the WSS sector, Colombia has a coverage rate of 88.5% at a national level. The water supply and sewage coverage is shown in Figure 5.

According to Figure 5, the highest water supply coverage is in those locations where the administrative capital of each municipality is located (cabecera in Spanish), which are generally the urban centres. There is a high dispersion between the coverage of sewerage networks in municipal capitals in comparison to rural areas. In 2007, the World Bank reported on the large disparities in access to WSS services between urban and rural areas. As shown below, such disparities remained in 2013. Over the 10-year period illustrated, aqueduct coverage has grown by nearly 2% while sewerage increased by 3% nationally. The largest change was experienced in the coverage of water supply service in rural areas which saw an increase of 5% from 2003 to 2013.

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<th>Figure 5 Change in aqueduct and sewerage coverage in Colombia</th>
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In terms of the population that has access to WSS services, Figure 6 shows that both water and sanitation access in urban areas has remained constant since 2000. In the case of rural areas, access to water has also remained at approximately 70%, increasing very slowly to approximately 72% since 2000. However, access to sanitation services in rural areas of Colombia has improved more significantly since then, increasing from about 52% in 2000 to 65% in 2013.

15 Urban areas are geographical areas defined by an urban perimeter whose limits are established by municipal agreements.
16 Rural areas are defined in Colombia for the disperse disposition of its houses and streets, roads or avenues are not named or marked.
The following chart provides an overview of sanitation by type of service or connection. The chart shows a clear distinction in coverage between urban areas, denoted as \textit{cabeceras}, and rural areas, denoted as \textit{Rest}. Whereas in the former, most homes have a toilet connected to the sewerage system (92% in 2013), sanitation service coverage in the rest of the country is much lower, with the most common sewerage option being a septic tank (55% in 2013).

The Colombian WSS sector is recognised for its fragmentation, heterogeneity and geographical dispersion. Currently, there are estimated to be more than 12,000 WSS operators. Of those, fewer than 3,000 are registered water services providers and are located in 887 municipalities. In the case of sanitation services, there are approximately 1,180
operators registered. This illustrates the sector’s disperse structure with a high number of operators that lead to the underutilisation of economies of scale and fail to maximise the benefit of national resources provided to the sector.

**Overall legal framework**

The Colombian Constitution establishes that public services are inherent to the social purpose of the State and it is therefore its duty to ensure the efficient delivery of such services to all inhabitants of the national territory both in urban and rural areas. Under this framework, the State must provide financial, technical and administrative support to utilities, companies or municipalities providing public services. Public services may be provided by the State, directly or indirectly, organised communities or individuals. In the case of indirect provision by the State, this may be done by different types of operators including private WSS service operators as contracted by each municipality.

**Policy making institutions**

The institutional framework is also defined in Law 142 of 1994. The institutional structure relevant to WSS service provision, summarised in Figure 8 below, is based on the division of functions and policy formulation, regulation, and control headed by the National Government.

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17 SSPD, 2012.
Country Background

The National Planning Department (DNP) is responsible for formulating national social, economic and environmental policies. DNP elaborates these within the framework of the development policies established by the national government.

The Law of Public Services (Law 1432) provides a clear functional separation, assigning the Ministry of Housing and Territory (MVCT), through the Vice-Ministry of Water and Sanitation (VAS), the responsibility for the implementation of national WSS policies, plans and programs, as well as defining sector standards and providing technical assistance to urban and rural operators (see the box below).

In addition, other national government institutions involved in the WSS sector include:

- The Ministry of Health and Social Protection (MSPS) defines the minimum quality parameters for water supply and supervises them through its health offices.

- The Ministry of Finance and Public Credit (MHCP) coordinates macroeconomic policies and defines, formulates and executes the fiscal policy of the country. It manages the public resources of the nation from the budgeting and financial perspective. It thus exerts an influence on the economics, governance and general policies of the WSS sector.
Box 1 Vice-Ministry for Water and Sanitation

The Vice-Ministry for Water and Sanitation was created by Decree 3137 of 2007. It is the entity responsible for policy setting and planning in the WSS sector. Specifically, its functions are to:

- Submit proposals related to the formulation, implementation, monitoring and evaluation of policies, strategies, programs and plans for drinking water and sanitation to DNP.
- Propose guidelines for the identification of funding sources for WSS and coordinate the allocation of those sources.
- Present the criteria and guidelines for the viability and monitoring of the WSS projects.
- Develop schemes to finance subsidies in public services of water, sewerage and waste, linking resources to establish regulations.
- Other activities assigned by law.

One of the primary functions of the Vice-Ministry is to coordinate, with the Ministry of Agriculture and Rural Development, the development of policies related to drinking water and basic sanitation for rural areas. Also, the Vice-Ministry establishes The Departmental Water Plans were designed to achieve full harmonisation of resources and the implementation of efficient and sustainable schemes for the provision of public services for potable water and basic sanitation. They take the institutional capacity of local authorities into account as well as public service provisions and the effective implementation of regionalisation schemes.

Source: Decree 3137 of 2007

Sector regulator

Law 142 also establishes a national tariff regulator, the Comisión Reguladora de Agua Potable y Saneamiento (CRA). It is a special administrative unit attached to the MVCT. CRA has the responsibility for regulating monopolies in WSS sector, and promoting competitiveness of Public Service Companies. Its aim is to guarantee the quality and breadth of coverage of public services at reasonable tariffs.

As an economic regulator, the CRA also has the functions of merging or dividing companies when it considers that this is economically important and technically appropriate, and of ordering the liquidation of inefficient public service operators.

In addition, the following agencies and entities are also involved in various different ways in the regulation of the WSS sector:

- The Superindendency of Public Services (SSPD) was created as an agency for supervising, monitoring and evaluating public service companies. It is responsible for monitoring public service providers’ compliance with sector-specific regulation. For the water and sanitation sectors, regulation is formulated by the CRA. In this role, it conducts site inspections, monitors under-performing...
Country Background

The Single Utility Information System (SUI) was created by the Law 689 of 2001 as a supra-institutional system aimed at harmonising and avoiding duplications in information regarding public utilities.

*FINDETER* acts as second tier bank providing financing to local authorities and service operators, especially for intermediate cities which find it difficult to obtain national sovereign guarantees and thus cannot easily access the capital market.

*IDEAM* is the entity responsible for generating information for the management of natural resources.

Key sector policies

The primary national policy that guides the WSS sector is the National development Plan.

*National Development Plan* (PND) – The most recent plan is that for 2010-2014, published in 2011. The general objective of this PND is to achieve prosperity for all. Specifically, the Plan defines as a key objective for the WSS sector to focus on a water, sewerage and waste collection policy for the rural areas of Colombia which shall be financed with contributions from the national and regional budgets.

The key WSS sector specific policies are as follows:

- **Water for Prosperity Program (PAP)** and **Departmental Water Plans (PDA)** – these two strategies were designed by the national government to increase access to water and improve the management of water and sanitation services. The PAP and PDA are to be executed by the municipal authorities, service providers and departmental governments.

- **CONPES 3810 of July 2014** – this is the latest policy document issued by DNP which guides water sector policy. This document provides guidelines specific to rural water and sanitation policy according to the objectives set out in PND 2010-2014. The first implementation phase is the strengthening of institutions and planning for regional authorities (2014-2016). The second phase consists of the execution of necessary actions and investments (2016-2024).

- **CONPES 091 of 2005** – sets the objective to support the CRA and SSPD to foster the divestiture of inefficient service providers. Relatedly, the policy focuses on the fitness of the business structure and models employed by public service providers. In particular, a Programme of Corporate Modernisation is to be carried out and private operation and service provision encouraged. New organisational structures will be promoted for small towns and rural areas, involving community or mixed organisations.

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18 PAP stands for Programa Aguas para la Prosperidad
The objectives of these policies can be summarised as improving quality, continuity and availability of WSS service. The specific medium and long term objectives defined in the Water for Prosperity Program (PAP) are provided in the box below.

**Box 2 Water for Prosperity Program objectives and achievements**

- Contribute to the achievement of the sectorial targets referred to in the Millennium development goals, defined in CONPES 3810, as well as in territorial development plans.
- Promote processes of business transformation and institutional strengthening in the municipalities.
- Articulate and focus on the different sources of financing for the implementation of the PDA.
- Facilitate access to financing for the sector schemes.
- Focus on investment in concrete projects that generate impact indicators to sector based planning articulated between the nation, departments and municipalities in its urban and rural areas.
- Consolidate an operational structure in the sector of drinking water and basic sanitation by Department.
- Consolidate a sanitation program.
- Encourage appropriate investment planning and the formulation of comprehensive projects.
- Articulate the resources of local authorities, with public-private partnership schemes.
- Maintain direct rotation to avoid the fragmentation of resources in the sector and ensure the sustainability of investments and the provision of drinking water and basic sanitation public services.
- To date, the equivalent to 350,000,000 USD have been invested in 603 projects under the PAP programme. Approximately 21% of the investment was done implemented in rural areas.

*Source: Colombian Ministry of Housing, Viceministry of Water*

The implementation of WSS policy is further discussed in Sections 3 and 4.

**Key sector regulations**

The *Sector Technical Regulation (RAS)* establishes the technical standards for designs, works and procedures in water supply, sanitation and solid waste collection.

The WSS tariff regulator, CRA, in general, *tariffs charged by operators* (paid by consumers) have been designed to provide the recovery of operation and investment costs by operators.

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19 RAS stands for Reglamento Técnico para el sector de Agua Potable y Saneamiento Básico
The general tariff methodology is defined by the regulator (CRA), which publishes tariff methodologies for both water and sanitation provision. However contracts may set an alternative tariff which will be contract-specific. Nevertheless, the tariff formulae provide room for supply and demand subsidies to be introduced when users cannot cover the investment cost or operation cost recovery component of the tariff due to their low income.

The current regulations are summarised as follows:

- **Large water and sanitation providers** – the tariff methodology for large operators servicing over 5,000 connections in urban areas, is set out in CRA Resolution 688 of June 2014. The new methodology is based on a ‘building block’ approach to defining tariffs and defines service standards for operators. Operating and maintenance costs are set based on target levels, such that operators are incentivised to improve efficiency over time. Capital costs are passed-through based on the actual expenditure levels, which minimises the risk of operators but does not create incentives to improve investment levels. The components of the new tariff methodology are shown in the figure below.

![Figure 9 New tariff methodology, large providers in urban areas](source)

- **Small urban operators and rural providers** – CRA is currently defining a new tariff methodology to be applied solely to small providers serving less than 5,000 connections in urban areas, and rural operators. The objective is to ensure affordability of the tariff while ensuring that providers see their costs being covered. The key differences from the methodology for large operators are that it does not set a maximum tariff, but rather makes a provision for government contributions to the investment cost, as shown in the figure below:

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20 Providers are further split into two categories: above 10,000 connections, and between 5,001 and 10,000 connections served.

21 Previously there was a single methodology for all operators, with exemptions for small operators.
Country Background

The regulations define a five year period between tariff updates, although in the past a ten year period has been applied in almost all cases.

A recent CRA study using data from the most recent population census (2005), estimates that the share of the population that will be served by small operators will represent approximately 13% of Colombia’s population. The importance of small providers is illustrated in Figure 11 showing the number of municipal capital cities and rural areas that are covered by small WSS providers. The percentages presented represent the share of the respective locations that are supplied by small providers.

Because water and sanitation services are considered public services in Colombia, firms providing these services enjoy certain special features.22

Public service enterprises

Law 142 defined Public service enterprises (abbreviated as ESPs for their Spanish acronym) as a new form of corporation with the sole purpose of managing public service provision. The goal of creating these specialised entities was to corporatize the management of public services.

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22 A noteworthy fact is that companies established legally as PPPs are not attributed the same features.
services in contrast to having the municipality provide the service (and manage it) directly. There are several features which are characteristic of ESPs:

- Because the services provided by ESPs are always of public interest, ESPs may apply for various types of government subsidies funded from the national budget.

- Public services are not required to be procured via open tender. This implies that each municipality is allowed to unilaterally select any ESP as a service provider.

- In addition to subsidies, ESPs may apply for funding from the national budget for infrastructure investments.

ESPs may take one of three ownership forms: fully publicly owned, usually by the municipality, fully privately owned or they may be of mixed ownership involving the municipality and the private sector as shareholders. Consequently, ESPs are a critical institutional form for the involvement of the private sector in WSS. Many ESPs are formed initially as publicly owned entities but established on a commercialised basis. This framework enables the private sector to participate in the delivery of public service either in partnership with the public sector or taking full ownership and control of the WSS system. A noteworthy fact is that ESP companies are much easier to establish than formal public private partnerships (PPPs). The procedures and legal requirements for PPPs, which apply in most sectors other than public services, are far more complex than those for ESPs.

Implementation of WSS regulations is further discussed in Sections 3 and 4.

**Sector funding**

The Colombian government’s strategy to fund WSS sector infrastructure investment, and sometimes even operation, relies heavily on government funding, both in the case of public utilities and private operators.

There are several main funding channels for WSS provision are:

1. **General Revenue Sharing System (SGP)** – 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. Decree 4475 of 2008 defines how SGP funds are to be distributed for WSS resources according to municipalities and districts. Of all allocations to the WSS sector, 15% are allocated to departmental budgets directly, with the remaining 85% going to municipalities. These national resources are used to fund operational subsidies as well as investments.23

2. **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. Therefore, municipalities have to compete for such funding. The criteria for

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selection include the size of population impacted by the project, how the project improves coverage, as well as the income levels of the targeted population.

3. **Royalty schemes** – Allocated directly to municipalities for capital investment works. The distribution of royalties is overseen by DNP.

4. **FINDETER** – Following the latest National Development Plan, Decree 1310 of July 2014 established a dedicated credit line for programmes and projects in the WSS sector. Specifically, the line will finance investments in the WSS sector, as well as new programmes established by the national government. In parallel, FINDETER has a specific credit line to finance the Departmental Water Plans (PDAs).

The MHCP is the entity in charge of distributing the share of the National Budget allocated to each sector in the Colombian economy. It is then presented for approval to the country’s Congress every fiscal term. The congress has the freedom to make any modification to the budget allocation. It also has the autonomy of proposing additional incomes in case these are not enough to cover the projected expenses in the national budget.

At the national level the MVCT, through the Vice-Ministry, is the entity in charge of assessing and approving investments for WSS projects that need leverage from the national resources. The investment plan for the water sector is defined according to the National Development Plans and has to be approved by the Ministry of Finance and Public Credit.

The territorial entities, i.e. departments, have the responsibility of presenting the regional investment projects for its further technical, financial, legal, socio-economic and environmental evaluation through the Ventanilla Unica mechanism. Once approved, investment projects are presented to the technical committee.

The share of the national budget assigned to WSS service is 5.4% annually, according to the legislative act 04 of 2007.

**Subsidies**

Colombia has a unique system to distribute its national budget to help those with lower incomes called *Sistema General de Participaciones* (SGP), the General Revenue Sharing System in English. The SGP corresponds to the resources transferred from the central government to the regional entities, such as departments, districts or municipalities. These resources were originally only destined to health and education, and were expanded to potable water and basic sanitation purposes in 2005.

The SGP scheme consists of many different types of subsidies. The relevant types to the WSS sector are listed below:

- **Supply-side subsidies**— are meant to assist firms in covering the cost of production/service provision. Indirectly this subsidy aims to reduce the price of the good/service whereby making it more affordable to consumers.

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24 CONPES 3381 of 2005
**Country Background**

- **Demand-side subsidies**— are granted to users of public services as an assistance for low incomes, or with the objective of increasing consumption of particular services.

- **Cross-subsidies**— are defined as those that raise the price of a service to certain users of that service while using that income to reduce the price of the same service to other users.

Cross-subsidies are applied according to the stratification of the population within the municipality. It is each municipality’s responsibility to classify each household into one of six stratum according to the socio-economic characteristics of the family’s residence (building). We note that WSS service users can be further classified into *Industrial or Commercial* groups which will also participate in the cross-subsidies scheme. There are thus eight categories into which a user of WSS service can be classified, as shown in Figure 12 below. The percentages indicated to the left of each category show the maximum net contribution (positive percentages) or net receipts (negative percentages) to the cross-subsidy scheme for that stratum.

![Figure 12 National cross-subsidy scheme in Colombia](image)

*Source: ECA elaboration based on SSPD*

Strata 1, 2 and 3 are considered poor, and therefore are net recipients of cross-subsidies. Strata 5 and 6 are high income and thus net contributors. Stratum 4 is considered to have an average income level and is therefore a contributor nor a recipient of cross-subsidies. Industrial and commercial users are by default contributors to the scheme.

**Tariffs and subsidies**

According to Law 142 of 1994, the tariff regime of public services should be guided by the criteria of efficiency and financial sufficiency (the fee charged should reflect the economic costs of providing the service and not transfer the burden of inefficient service to the cost of users), management, solidarity and redistribution (users with greater capacity to pay should help those of lower capacity to pay the fees), neutrality (all users have equal tariff treatment), simplicity and transparency.
As described earlier in this section, the CRA defines the tariff regime and costs applicable to the entities providing water and sewerage services throughout the country. Resolutions 151 of 2001 and 287 of 2004 present the methodology to calculate costs and rates for private providers with fewer than 8,000 customers and for entities with fewer than 2,500 customers.

In general, in small towns and rural areas, tariffs are set through consultation between local governments, managers and operators of WSS systems and communities in order to determine a fee which is suitable to the conditions of the area.

### 2.3 Public Private Partnership profile

<table>
<thead>
<tr>
<th>Section summary</th>
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<tr>
<td>Colombia introduced a PPP Law in 2012, which is focused on a procedure for dealing with unsolicited infrastructure proposals by the private sector. However at this stage the PPP Law does not extend to WSS services. Municipalities/departments are able to create corporatized public service companies (ESPs), which are not constrained by public sector procurement procedures, and therefore there are very few barriers to contracting the private sector. However, because the PPP Law includes a specific list of sectors that it is applicable to, which does not include WSS services, WSS ESPs that are of mixed ownership fall outside the scope of the PPP Law.</td>
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</table>

**Overall private sector involvement in WSS**

Here we introduce Colombia’s experience with private sector involvement in the WSS sector. We discuss specific experience and contracting models in Sections 3 and 4.

As described earlier, Colombia has put a strong emphasis on private sector participation in the WSS sector since the 1990s. There is a clear policy framework to support the commercialisation of public utilities (the creation of commercially independent and financially viable utilities for providing WSS services\(^{25}\)) as well as explicitly supporting the concept of public utilities using private sector operators to deliver services.

As a consequence of decentralisation, several large public service enterprises (ESPs) have been established to provide WSS services. Because most operators in small towns and rural area remain informal community-based organisations, data on the number of providers by type is unavailable.

Experience from incorporating private firms in operation of WSS systems and service provision has mostly been in large urban areas. The ESPs established with private capital are typically also partly public, but as mentioned previously the arrangements are not subject to the strict requirements (described below) of a formal PPP.

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\(^{25}\) CONPES documents 2775, 2912, 3253, 3383, and 3385
The experience reported by stakeholders, including operators, is that tariffs only allow a very small profit to be made from their operations. A larger profit can be made from infrastructure investments as the tariff allows for this by setting the WACC at approximately 12-15%. However, if communities are unable to pay their share of the tariff that goes into recovering investment costs such profit potential is never realised.

PPP Law

The Government of Colombia has recently developed a PPP framework, starting with the enactment of the PPP Law (Law 1508) in 2012. It is essentially focused on a procedure for processing and compensating unsolicited bids by the private sector to provide infrastructure services.

At this stage the PPP law does not apply to WSS services, although this is expected to change in the near future. This is unlikely to have a large effect on the WSS in Colombia, given that municipalities/departments are able to create ESPs, which are not constrained by public sector procurement procedures. We discuss the ESP delivery model in more detail in Section 3.

The PPP Law (Law 1508) sets out the responsibilities of the public and private sectors within the PPP arrangement:

- **The private sector** is responsible for the construction, operation and maintenance of the infrastructure in the long term (as set by the PPP contract). It is also responsible for meeting the quality standards and service levels set by the public entity

- **The public sector** has the responsibility to specify the quality standards and service levels, and to provide the requirements and specifications needed for the infrastructure. In addition it has to guarantee the asset performance, availability and services requirements by the public sector in support of the private operation and management

Decree 1467 of 2012 provides the regulation for the implementation of the PPP Law and has since been modified by Decree 301 of 2014.

Modifications of the PPP framework have been made since its original creation in order to improve the procurement process and make it more transparent and to provide incentives for the public and private sector. According to PPP framework, PPPs can be initiated by either the private sector or public sector:

- Public initiative PPP has to be evaluated by the Ministry of Finance and Public Credit (MHCP), followed by a contract model justification analysis (DNP), and finally MHCP has to analyse and evaluate the financial and contractual terms.

- Private initiative PPP has similar processes, but in addition, the private sector must include a prefeasibility study to be evaluated by the MHCP and DNP.
3 Urban Development and WSS Provisions

This section looks at the dynamics of the urban hierarchy and how this affects public service provisions, in particular water supply and sanitation service provision in small towns and rural growth centres.

3.1 Dynamics of the urban hierarchy

<table>
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<th>Section summary</th>
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<tbody>
<tr>
<td>A characteristic specific to Colombia is that populated areas are split into municipal capitals and the rest. The municipal capital is the administrative centre of the municipality, which is an urban area by definition. The remaining parts of a municipality are classified as the rest, which may include smaller urban centres and rural areas. Population growth in Colombia peaked in the 1960s and has since declined to an annual growth rate of 1.3%. As a result, the split of the population between urban and rural areas remains largely unchanged since then. Colombia’s population is highly concentrated around 10 large cities with a population above 500,000. The impact of such urbanisation is that Colombia has been able to benefit from denser populations in large urban centres, which are much more cost effective to provide WSS services. With urbanisation slowing, the emphasis is now on finding ways to extend these services to nearby smaller urban populations, either through physical interconnection or by regionalising operation and tariffs.</td>
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The National Planning Department defines the hierarchy of municipalities in terms of population size and economic variables. Following Resolution 705, municipalities are ranked according to their size and income as shown in Table 1. As expected, the largest share of Colombia’s rural population lives in the smallest municipalities.
Table 1 Categorisation of Colombian municipalities according to size

<table>
<thead>
<tr>
<th>Category</th>
<th>Population size</th>
<th>Income (in thousand minimum salaries)</th>
<th>Number of municipalities</th>
<th>Share of population living in rural areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100,001 - 500,000</td>
<td>100 - 400</td>
<td>22</td>
<td>4.7%</td>
</tr>
<tr>
<td>2</td>
<td>50,001 - 200,000</td>
<td>50 - 100</td>
<td>19</td>
<td>3.3%</td>
</tr>
<tr>
<td>3</td>
<td>30,001 - 50,000</td>
<td>30 - 50</td>
<td>16</td>
<td>3.6%</td>
</tr>
<tr>
<td>4</td>
<td>20,001 - 30,000</td>
<td>25 - 30</td>
<td>29</td>
<td>5.2%</td>
</tr>
<tr>
<td>5</td>
<td>10,001 - 20,000</td>
<td>15 - 25</td>
<td>33</td>
<td>4.0%</td>
</tr>
<tr>
<td>6</td>
<td>&lt; 10,000</td>
<td>&lt; 15</td>
<td>975</td>
<td>78.1%</td>
</tr>
<tr>
<td>Special</td>
<td>&gt; 500,001</td>
<td>&gt; 400</td>
<td>7</td>
<td>0.8%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>1,101</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: the legal minimum salary was fixed by the Ministry of Employment at 616,000 Colombian pesos
Note 2: the remaining 18 municipalities are unclassified, their rural population represents 0.5%.
Source: ECA based on Colombian Ministry of Employment and CONPES 3810

Moreover, municipalities are required to prepare and implement different kinds of Spatial Management Plans:

- **Spatial Management Plans** (*Planes de Ordenamiento Territorial*): are to be prepared by municipalities with populations exceeding 100,000 inhabitants.

- **Basic Spatial Management Plans** (*Planes Básicos de Ordenamiento Territorial*): ought to be developed by municipalities with populations ranging from 30,000 to 100,000 inhabitants.

- **Spatial Management Schemes** (*Esquemas Básicos de Ordenamiento Territorial*): shall be developed by the smallest municipalities, with populations below 30,000 inhabitants.

**Definition of a small urban town and rural areas**

The definitions of urban areas, small towns and rural areas employed in Colombia are used to different extents by different entities. As already described in Section 2 above, Colombia is subdivided into different administrative levels. Consequently, the definitions of rural and urban areas are drawn from such administrative levels.

The most commonly used definitions are those provided by the Colombian department of statistics, DANE:

- **Municipalities** are the fundamental territorial unit in terms of political and administrative divisions of government. Municipalities have political, fiscal and administrative autonomy within the boundaries established in the Colombian

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26 MAVDT, 2004
27 DANE, Law 136 of 1996 and “Conceptos básicos”
constitution and national laws. The key objective of the municipality is the efficient provision of public services for which it is responsible.

- **Urban areas** are characterised by having buildings grouped into blocks, as outlined by streets, roads and avenues. Urban areas generally count with basic services such as water supply, sewerage, electricity, hospitals and schools.

- **Municipal capital**: the geographical area defined by an urban perimeter, its boundaries defined by the Municipal Council. The administrative headquarters of the municipality are located here.

- **Rural areas (or “rest” of municipality)** are characterised by having disperse residential buildings and agricultural lands. In general, they do not have clearly named streets or avenues and public services are usually lacking.

It is worth mentioning that in most cases, for regulatory purposes, the Colombian institutions classify WSS users by the type of provider that serves them, instead than by the degree of urbanisation of the community they belong to.

**The economic challenges of Colombian cities**

On the whole Colombia’s population growth has been falling continuously since the 1980. As illustrated in Figure 13, the country exhibits relatively slow population growth at 1.2% per year. Nevertheless, urbanisation rates have continuously grown, although slowly, standing now at 75% in 2013. Colombia is a moderately urbanised country in comparison to other low and middle income countries in Latin America, where urbanisation rates are above 80% (e.g. Chile, Argentina, Venezuela, Brazil). This makes Colombia interesting as a case study for those countries that are still in the process of urbanisation, given that Colombia has already gone through its own.

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28 *Cabecera municipal* in Spanish
According to the projections of population by the national office of statistics, DANE, the five largest cities with populations above 1 million – Bogotá, Medellín, Cali, Barranquilla and Cartagena – count with 39% of Colombia’s population. (See Figure 13 above)

As expected given the large share of urbanization, the concentration of employment is centred in the five largest cities as shown in Figure 14 below. Historically, urbanization has been accompanied by poverty reduction. In its 2005 census, DANE found that the more urbanised an area was, the lower its population living in poverty, so proving a negative relationship between urbanization and poverty for Colombia. Nevertheless, despite the high concentration of jobs in urban areas, urban unemployment remains high at 12%.
The key challenges in the face of the high urbanization of Colombia are:

- **Infrastructure development and financing.** The most significant constraint is closing financing gaps for necessary investment in public infrastructure. Such gaps vary depending on the size of the urban centre: small municipalities depend strongly on national government transfer and technical assistance to achieve the best results in terms of infrastructure investment and subsequent operation. Medium-sized cities, although slightly less dependent on national funding thanks to a greater ability to collect fiscal revenues, face the challenge of implementing more complex infrastructure systems require complex investment planning. They therefore rely on learning from the experience in larger cities. Finally, large cities face large financing gaps for infrastructure development due to inefficient coordination between metropolitan planning and land use, among others.

- **Lack of connectivity between urban centres across the country.** At present, the economy of Colombia and its competitiveness, suffer from the lack of connectivity between domestic markets due to fragmentation, under-exploited industrial potential and low trade between cities and regions.

- **Decentralization and consequent incoordination.** Since the shift of government responsibilities to municipal authorities in the 1990s, Colombia is the most decentralized country in Latin America. However, the positive rate of urban growth means that urban centres have spread outside their municipal

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*Country Report: Colombia*
boundaries. This situation requires coordination between municipalities to achieve economies of scale in public service provision for those populations whose lives go across municipal boundaries.

The effect of population growth and urbanisation on WSS services

As discussed above, urbanisation has brought about challenges for the government to provide necessary and required public infrastructure to growing areas. This includes provision of WSS services. As areas become more urbanised, more sophisticated WSS systems are required, which also mean that different skills are required to manage these systems.

However, Colombia has also been able to benefit from denser populations in large urban centres, which are much more cost effective to provide WSS services. With urbanisation slowing, the emphasis is now on finding ways to extend these services to nearby smaller urban populations, either through physical interconnection or by regionalising operation and tariffs.

3.2 Public service provision

Section summary

Municipalities have the primary responsibility for providing public services, including WSS, with support from the departmental authority. However, since Law 142, the government’s policy has been to encourage provision by specialised entities, rather than by the municipality providing public services directly.

The option of direct provision by the municipality is only allowed when no other alternatives exist. If providing services directly, there are strict procurement rules that municipalities must follow.

However, there are a number of other delivery models available to municipalities that fall outside public procurement rules. Important amongst these is the public services enterprise (ESP). ESPs may be publicly owned, e.g. by the municipality, privately owned or be a mix of the two.

Public sector responsibilities

The 1991 Colombian Constitution defined a model of increased decentralisation of the provision of public services and promoted a shift away from direct provision of services by the government by giving the responsibility for the provision of public services to the municipal government.

In support of these processes, beginning in the mid-1990s Colombia implemented a set of institutional reforms in the sector that provided a framework for indirect service provision, including private participation in the provision of domestic public services.
Under Law 142 the provision of Residential Public Services (which include WSS services) is decentralised and is therefore the responsibility of municipalities. Departments provide support and coordination. Municipalities have the mandate to guarantee the delivery of these services but are required to contract operations to specialised providers whenever possible. At present, municipalities are only allowed to provide the service directly when no alternative remains. According to stakeholders, in most cases, WSS is provided by community-based operators or by ESPs specifically established to provide the service.

**Regionalisation**

The National Development Plan (PND) of 2010-2014 makes regionalisation a priority by focusing Colombia’s development efforts on regional convergence. The PND establishes that policies and programmes shall be analysed at the departmental level. In particular, the PND identifies which departments need stronger focus in each of the three strategic axes:

- Sustainable growth
- Institutions and good governance
- Social development, equality of opportunities

The plan recognises the findings by MAVDT\textsuperscript{30}, DNP, SSPD and CRA that there are significant differences in the degree of availability of public services across the different departments, especially in rural areas.

With respect to the WSS sector, the 2010-2014 PND describes the progress made in the first phase of the Departmental Water and Sanitation Plans. The water sector policy had focused on two key aspects of the Plans:

- The institutional design of the legal and financial bases for the implementation of Departmental Water and Sanitation Plans for the corporate management of WSS services.
- The reform of the subsidies scheme, the SGP, and how the nation’s resources are assigned, distributed and controlled for water and sanitation.

The NDP recognises that despite progress achieved in the previous four years, the strategies of the Departmental Water Plans needed adjustments made to their structure in order to fit better with the specific characteristics of every region, in order to execute investments successfully.

Regionalisation is specifically discussed with respect to WSS public services in the sections below.

**Public service contracting**

There are different options for public sector contracting in Colombia that we describe below.

\textsuperscript{30} Former Ministry of Environment, Housing and Territorial Development
Urban Development and WSS Provisions

As per Law 142, the government may contract through various forms of contracts which are allowed for public service provision:

- **Contracts with government agencies to transfer ownership or use** of the assets especially intended to provide public services.

- **Concession contracts for the use of the natural resource, i.e. water.** These contracts are limited in time. They are signed by the authority responsible for the administration of the water resource. Such contracts may specify the conditions under which the dealer will return the water after use.

- **Contracts under which two or more public services operators** regulate the charge or toll paid for shared access or interconnection of assets necessary for the provision of the service.

- **Contracts for the extension of the provision of a service that only benefits one person,** who assumes the cost of the respective works and undertakes to pay the company the value defined by it.

The contracts signed must specify the geographical area in which the service is provided, quality standards must be provided by the contractor and the obligations in respect of the service must be specified. They may also be agreed to extend new public service contributions.

### Delivery models

There are four formally recognised service delivery models in Colombia covering the full spectrum of legal form from private entities to delivery by municipal organisations (public provision):

- **Municipalities**— provide the service directly to their inhabitants or contract private operators to provide the service.

- **Public Service Enterprises (ESPs, Empresas de Servicios Públicos in Spanish)**— were established as a legal form under Law 142, requiring all existing providers of domestic public services, which used to be established as Commercial and Industrial Companies of the State (known in Spanish as EICE), to transform into an ESP. ESPs may be publicly owned, e.g. by the municipality, privately held or be a mix of the two.

- **Other organisations**— can be authorized or non-authorized organisations. The former types are registered at the SSPD while the latter are not. This includes community-based organisations and NGOs.

- **Self-supply**— individual self-supply is also foreseen.
3.3 Water supply and sanitation service provision

Section summary

As for all domestic public services, there are different delivery models for the provision of WSS services in Colombia.

The main classification of WSS providers used by regulators and authorities is according to size, rather than the population they serve. Small providers are those serving up to 2,500 connections, while large providers are those supplying from more than 2,500 connections. Given Colombia’s urban-rural split shown in the previous section, it is always the case that rural areas are supplied by small providers.

In such areas, the most common delivery model is the operation by community based organisations (CBOs). There are approximately 12,000 such organisations. However, most of them are not registered with the regulator.

With the objective of increasing coverage of WSS services in rural areas, the government developed the Departmental Water Plans (PDAs). These follow the country’s general policy line of regionalisation. The PDAs are a set of planning and inter-institutional coordination strategies formulated and implemented in order to achieve the comprehensive harmonisation of resources and the implementation of efficient and sustainable schemes.

Outside of the small towns, the general consensus in Colombia is that in many cases the population is too dispersed to make a centralised water supply economically viable (centralised sewerage systems even more so). Colombia is fortunate to have good water resources and as a middle income country it is in a strong position to provide access to safe water supply through publicly provided stand-alone systems (i.e. standpipes). This is the current policy in Colombia (to grant fund such systems using funds from the national budget and with cooperation from multi-donor funds) and as such there seems little scope for private sector participation.31

In Section 2.2 we provide an overview of WSS provision in Colombia. In this section we provide more detail on WSS in small towns and rural areas specifically.

Types of WSS operators in small towns and rural areas

As described in the previous section, there are a number of different delivery models available for WSS provision in Colombia. In this context WSS service providers that wish to be registered have to follow a registration procedure at SSPD in order to be considered a Public Service provider. In Colombia, the law poses a legal requirement to register at the SSPD through the Unique Services Provider Register (RUPS32), nevertheless, many organisations still provide WSS services informally without having registered at the SSPD.

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31 CONPES 3715 of 2011 and CONPES 3810 of 2014.
32 Registro Único de Prestadores de Servicios Públicos
To tackle the issues of informal public service provision, and so to minimise the number of non-registered providers, the SSPD issued Resolution 16965 of 2005 which defined the procedures for subscription, update and cancelation of WSS providers in the Unique Register.

Following the national system for recording information on domestic public services, SUI, service providers are split between large and small:

- **Large providers** are defined as serving more than 2,500 subscribers. These organisations are subject to regulation and may therefore only charge regulated tariffs for the provision of WSS services.

- **Small providers** are consequently defined as serving less than 2,500 subscribers. As of 2014, a new tariff methodology aimed at small operators. Small providers can be registered with the SSPD or unregistered. In the latter case, they are considered informal providers as they do not follow the legislations or the normative related to the WSS Sector.

Section 4 below contains more detail on the different legal forms and business models adopted by operators in the WSS sector.

### Community-based operators

Despite efforts to push private service provision, the majority of providers remain community-based organisations (CBOs). Such organisations are established and administered by the community itself, and are recognised under Colombian law. Nevertheless, IDB reports that in 2005, 74% CBOs failed to comply with legal requirements for WSS service providers.

IDB found that the most difficult requirements for CBOs to comply with are reporting requirements to SSPD through the centralised SUI system, the frequency with which operators are required to conduct water quality sampling, the application of the tariff methodology and the granting of cross-subsidies to lower income users. Additionally, in contrast to ESPs, CBOs are not eligible to receive government subsidies to cover their operational costs.

Moreover, stakeholders reported that becoming a registered provider is often a barrier to the development of the operator for two reasons: first, once registered, even the smallest of providers is required to pay tax which often means that the cost of providing the service increases for the operator and is likely to become unprofitable. Second, experience has shown that once an operator becomes registered, the municipality in which it operates will try to transfer the ownership of assets to the operator, and with it the responsibility and costs associated with it.

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33 This definition was recently developed by SSPD and does not coincide with the one employed by CRA. It is the latter’s intention to move switch to the listed definition in the future.

34 IDB (2012) “Gobernanza y sostenibilidad de los sistemas de agua potable y saneamiento rurales en Colombia”
CBOs are considered the most appropriate organisation type for WSS delivery in rural in Colombia. At present, more than 12,000 community organisations (registered and unregistered) that provide WSS services to about 40% of rural inhabitants. They represent over 90% of WSS providers in rural areas. These are systems of community water systems that have been in place for many decades, surviving continuous administrative and political reforms. These systems, in many cases, are built on the initiative of communities to solve problems, in the absence of provision of service by the state and the municipality. The result is the existence of a significant player in the provision of public services, especially drinking water.

Table 2 summarises the different types of community based organisations:

<table>
<thead>
<tr>
<th>Basis for classification</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>By origin</td>
<td>De hecho. The need is satisfied independently without any legal form and is legitimized by the community. De derecho. Is legal and subscribed in the face of control entities</td>
</tr>
<tr>
<td>By method of administration</td>
<td>Community action (JAC) of Act 743 of 2000 is a civic, social and community organisation, non-profit, solidarity-based, legal and its own equity, voluntarily formed by local residents to promote the development. Board Administrator. Is derived from community action that administer the aqueduct User associations. It arises from the will of individuals in order to improve the welfare of the community</td>
</tr>
</tbody>
</table>

**Support mechanisms for community based operators**

The IDB report describes that municipalities have the responsibility of supporting CBOs, because of their legal responsibility for the provision of public services to their populations. As a result, in most cases, CBOs in rural areas are supported by the municipality who designates funds for the construction of necessary infrastructure. Municipalities may also delegate their role in supporting CBOs to large service providers who operate in urban areas.

As a last alternative, when the municipality fails to do so, it is the departmental government that will assign the necessary resources to support the construction of infrastructure for CBOs to operate.

Moreover, municipalities count with post-construction support programmes intended to aid CBOs in the operation of the infrastructure and provision of the service in rural areas.
Recognising the struggles of CBOs as small providers, MAVDT established its *Programme for Business Culture*[^35] which intends to aid rural providers to establish themselves as public service companies (ESPs). The IDB report states that 450 rural operators have been established as ESPs thanks to the programme.

### Regionalisation (through Departmental Water Plans)

The Vice-ministry of Water and Sanitation introduced the Departmental Water Plans (PDA) in 2006, followed by a national policy document, CONPES 3463 of 2007. PDAs are established from the National Development Plans by the Vice-Ministry and the Ministry of Agriculture and Rural Development who are the responsible government entities for setting the PDA’s technical basis.

The PDAs are a set of planning and inter-institutional coordination strategies formulated and implemented in order to achieve the comprehensive harmonisation of resources and the implementation of efficient and sustainable schemes in the provision of the public utilities of drinking water and basic sanitation, taking into account local characteristics, the institutional capacity of local authorities and people providers of public services and the effective implementation of regionalisation schemes[^36].

An important consideration to PDA schemes is that municipalities have the option of opting out of their department’s PDA. However, if they choose to do so, they become ineligible for certain departmental sources of funding.

### PDA objectives

Consequently, the objectives of the creation and development of the PDA are to:

- Contribute to the achievement of the sector targets included in the Millennium Development Goals and those that modify or add; and in the Territorial Development Plans

- Promote and consolidate effective inter-agency coordination between the different participants of the PDA.

- Promote operational structures that generate economies of scale in the formulation and implementation WSS policies

- Promote and consolidate business transformation processes and institutional strengthening

- Promote and strengthen regional schemes looking for economies of scale in the provision of services

- Contribute to environmental protection

[^35]: *Programa de Cultura Empresarial*

[^36]: *MVCT, Water for Prosperity PAP-PDA Program.*
Urban Development and WSS Provisions

- Articulate and focus the different sources of funding in the WSS sector
- Facilitate access to efficient financing schemes for the sector
- Optimize control over resource allocation and project implementation
- Encourage appropriate investment planning and formulation of comprehensive projects
- Coordinate project development with urban development policies

Figure 15 summarises the above objectives.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulation with handle of resources transparency and local commitments</td>
<td>CONPES 3463 of 2008</td>
</tr>
<tr>
<td>Efficient access to credits</td>
<td></td>
</tr>
<tr>
<td>Efficiency and geographical coverage of corporate modernisation</td>
<td></td>
</tr>
<tr>
<td>Departmental Plans of Water</td>
<td></td>
</tr>
<tr>
<td>Articulation with urban development tools</td>
<td></td>
</tr>
<tr>
<td>Regional schemes, conservation and sustainable use of resources of scale</td>
<td></td>
</tr>
</tbody>
</table>

In this context, PDAs should accomplish the above objectives under a decentralised structure with a regional, but integral, vision. With the Departments as coordinating agents, the national government should be able to support the development of the sector more efficiently.

The main change driven by the existence of PDAs is the management of the efficient provision of public services in the WSS Services. This is because PDAs have to be executed with transparency, publicity and efficiency in the management of WSS resources principles.

With respect to implementation, PDAs define how a department with support of its municipalities, compromises future resources of the SGP for the development of a WSS project. It also takes into account additional resources: PGN, Royalties General System (SGR), compensations, own resources or those with free destination with the purpose of doing investments and accomplish the goals according to the National Development Plans.

The National Development Plan (PND) of 2010-2014 mentions that PDAs have been linked to 31 departments accounting for approximately 600 municipalities. What is more, the PND sets out the changes necessary in the second generation of PDAs in order for them to be successful in achieving regionalisation:

- To adapt the structure of each PDA to the specific characteristics of each region, and the institutional capacity of the departmental government.
Urban Development and WSS Provisions

- To allow for the implementation of regional business models which will ensure efficiency and sustainability of service provision.
- To strengthen the evaluation and feasibility analysis of projects in order to accelerate their execution.
- To clearly describe the different public and private financing schemes available for PDA II projects.

Implementation of Departmental Water Plans

PDAs consist of the following four implementation phases:

- The first phase consists of the pre-investment diagnosis. Its aim is to establish the basis for the regionalisation of departmental funding, which requires municipalities relinquishing control of how the resources assigned to them through the SGP and PGN are distributed within the municipality, to its inhabitants and to service providers. Additionally, municipalities are required to make contributions from the general municipal budget towards the preparation of the PDA.

- In the second phase, the PDA’s boards conduct a diagnostic exercise of infrastructure, both existing and needed.

- The third phase, Departmental Water Boards design a plan for works and investments according to the findings from the diagnostic exercise of service infrastructure. This plan will define regional markets whereby ensuring that all benefits from economies of scale are realised.

- In the final phase, PDAs will support and monitor the performance of operators throughout their department.

At the time of writing, PDAs remained in their first phase. At present, some departments have agreed to create PDAs and have contracted the technical assistance required to design them. However, as of yet, no department has implemented a DPA, that is, no investments have been carried out to date.

For their implementation, it is foreseen that PDAs will contract large WSS service providers, as well as universities and consultancies, to provide technical analysis and assistance through each of the phases of the PDA. Public tendering of these services is envisioned for each PDA.

Moreover, it is a requirement that PDAs are carried out by a departmental registered ESP (effectively a management company). It contracts out new services to operators or in some cases allows municipalities service companies. If no operators can be found, the ESP may carry out services directly. The expectation is that public funding can leverage private
financing for investments. Existing services are monitored, as so long as they meet minimum levels they continue (otherwise they revert to the regional ESP).

Several stakeholders consulted are of the opinion that PDAs hold significant potential for regionalisation, but they need to be implemented for this potential to be realised.

**Regionalisation without Departmental Water Plans**

In parallel with the PDAs, there have been initiatives to regionalise WSS service provision by large operators. A key example is that of Triple-A, a public-private ESP providing WSS services to the city of Barranquilla in the Atlántico department. This case is discussed in detail in Section 4, however we here list the key characteristics of the initiative.

The large operators’ initiative recently approved by VAS and CRA consists of developing regional tariffs that enable operators to cross-subsidise the cost of supply between systems and even municipalities. Such arrangements are proposed both in cases where infrastructure is extended to cover neighbouring municipalities and in cases where the same operator provides the service to different municipalities whose infrastructure is not interconnected.

The innovative ‘regional tariff’ will allow an operator to charge a uniform tariff across WSS systems that are not physically interconnected, effectively enabling large urban centres to cross-subsidise small towns, such that provision to the small towns would then be profitable for the operator. In November 2014, the first proposal for regionalization of tariffs had been approved for Triple-A, the operator in the department of Atlántico. The benefits listed of the regionalization approach are considered to be the following:

- Long-term sustainability: users will be served by an operator who can guarantee the continuity of service and quality at a price that takes the economic reality of smaller municipalities into account
- Financial sufficiency: the regionalization of service provision tackles the challenge of supplying small municipality’s, without compromising the financial standing
- Economies of scale: these will be realised thanks to the expansion of use of existing facilities, such as water treatment plants.
- No exclusivity in service provision: a key point made by MVCT is that regionalization does not imply exclusive service provision, as other operators are free to enter the WSS market in that department.

In Section 4, we discuss the World Bank modernisation programme which facilitated the expansion of services by large operators in urban municipalities to their neighbouring municipalities. It is these providers that are proposing the creation of regional tariffs.

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37 MinVivienda 2014, available [here](#).
4 Experience with Domestic Private Service Providers

This section presents the experience of Colombia with domestic private service providers, in the water supply and sanitation sector.

### Section summary

The most common form in which private participation takes form in Colombia is through public service enterprises, called Empresas de Servicios Públicos (ESPs). These are organisations of mixed ownership specially established for the provision of public services.

ESPs have been established with private capital in most large urban centres in Colombia. The experience with DPSP in small towns and rural areas is limited due to the spread of the population in these areas which increases the cost of developing infrastructure and results in high cost of supply, making it less attractive for private investment.

Nevertheless, certain ESPs, which involve private shareholders, have recently started exploring the possibility of providing WSS services in areas surrounding the large cities in which they operate. In November 2014, the first proposal for regionalisation of tariffs was approved for Triple-A, the operator in the department of Atlántico. The regional tariff enables the operator to cross-subsidise the cost of supply from richer areas within a region with the objective of making the provision of service to poorer areas sustainable. Because the regionalization scheme does not require systems to be physically interconnected, it will enable large providers to service smaller towns located away from the main location of operation, and thus carries a large potential for PSP in small towns throughout Colombia.

### 4.1 Overview of DPSP

With the introduction of the national decentralisation policy in the 1990’s, which led to the re-organisation of public service provision, Colombia has experienced Domestic Private Sector Participation (DPSP) in the WSS sector mainly by means of large private utilities that operate in large urban centres. The NDP of 2010-2014 specifically mentions that the provision of WSS services through specialised operators in smaller urban centres is still low in all regions.

The most common form in which private participation commenced is through specialised operators, established as enterprises of mixed-ownership dedicated to the provision of public services, called Empresas de Servicios Públicos (ESPs). As previously discussed, ESPs are usually involve a share of municipal ownership while the remaining is privately owned. A noteworthy characteristic of the Colombian model is that ESP cannot, by definition, be established under PPP law, even when their ownership structure is a mix of public and private ownerships. Alternatively, private participation in large municipalities has been through the contracting of private operators via concession or lease agreements.
Experience with Domestic Private Service Providers

In a draft unpublished report, the National Planning Department has recorded that WSS services are provided by private operators in 26 municipalities of more than 50,000 inhabitants across Colombia, including the 7 departmental capitals. Such firms operate under a contract for service provision signed either directly with the municipality, or signed with a company owned by the municipality. As a result, approximately 7.13 million Colombians are served by private WSS operators. In addition, according to the Vice-Ministry of Water, there are approximately 5 more firms which are joint ventures.

Table 3 below summarises the number of municipalities served by large WSS providers, specifying the ownership structure outlined above:

<table>
<thead>
<tr>
<th>Service provision modalities for WSS in large municipalities</th>
<th>Municipalities Number Share</th>
<th>Population Number Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct provision by municipality</td>
<td>2</td>
<td>126,890</td>
</tr>
<tr>
<td>ESPs, public, owned by the municipality in which the ESP operates</td>
<td>69</td>
<td>21,091,182</td>
</tr>
<tr>
<td>ESPs, public, owned by other municipality</td>
<td>17</td>
<td>2,866,610</td>
</tr>
<tr>
<td><strong>Subtotal fully public</strong></td>
<td><strong>88</strong></td>
<td></td>
</tr>
<tr>
<td>ESPs, mixed ownership with majority public</td>
<td>4</td>
<td>1,372,219</td>
</tr>
<tr>
<td>ESPs, regional/departmental</td>
<td>8</td>
<td>556,228</td>
</tr>
<tr>
<td>Contracts with a private operators</td>
<td>26</td>
<td>7,131,055</td>
</tr>
<tr>
<td><strong>Subtotal private and mixed</strong></td>
<td><strong>38</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>126</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: DNP, 2014 (unpublished)

**Numbers of private operators**

In Colombia, the most widespread type of registered WSS provider is that of small size, both in the case of water supply as in sewerage services (see Figure 16). From this split, it can be assumed that small providers are more likely to be the ones operating in small towns and rural areas.

The following figure summarises the total number of registered WSS service providers in Colombia. Out of all registered providers, there are approximately 1,110 which provide both water supply and sewerage services. It is therefore worth noting that Figure 16 counts such providers twice.

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39 The report notes that this figure is higher if small providers (servicing less than 5,000 connections) are also considered.
As suggested by stakeholders consulted, by far the most common approach in small towns and rural areas is community-based management. It has been the default approach for many years, but since the 1990s these operators have been formally recognised by policy makers, and are thus referred to as “Authorized Organisations” in Figure 17 below. The SSPD keeps a database of registered operators, both large and small.

The most up-to-date information on the number and type of small WSS service providers is provided in SSPD’s 2014 database. Figure 17 shows the split in delivery models among small WSS providers. Unfortunately, due to the legal definitions that public service providers are allowed to take, it is difficult to discern between public and private ownership from the information available. From the definitions used by SSPD, the following categories are considered fully public-ownership: Industrial & Commercial State Enterprise and Municipality. Moreover, Authorized Organisations and Public Service Companies (ESPs) may be private, public or mixed.

In the case of large WSS service providers, which represent about 10% of all providers, the most recent information stems from SSPD’s 2012 monitoring report. The chart presented
Experience with Domestic Private Service Providers

below was directly taken from such report, which uses the following split in categories: Industrial & Commercial State Enterprise (EICE) - as above; Municipalities (Municipio) - as above, direct provision; Authorized Organisations (Organización autorizada) - as above; and Society (Sociedad). SSPD notes that approximately 41% of the latter group of providers have private capital.

<table>
<thead>
<tr>
<th>Figure 18 Share of large WSS service providers in Colombia, by type</th>
</tr>
</thead>
</table>

![Pie chart showing share of large WSS service providers in Colombia, by type.](image)

*Source: SSPD, 2012.*

**Asset ownership, contractual relationship and business model**

The ownership of infrastructure depends on the nature of contracts. In a lease contract, the private firm uses the state infrastructure, while in a concession contract the operator also invests in assets, but in both cases the assets revert to public ownership at the end of the contract period. In the case of infrastructure operated by community associations, the assets are owned by the community.

In large urban centres, the most common are joint ventures with the private party taking the majority share in a mixed ESP. A key success factor for such firms has been to ensure the buy-in of municipality into the project.

Moreover, regional utilities have been established as ESPs. This has largely been a result of the government’s promotion of regionalisation. However, there are only a few examples to date.

Concession contracts have not been popular. The reason behind this is that there are the regulated tariff was the only provision made for investment cost recovery. However, due to the low purchasing and, thus paying, power of users in small communities, it has proven to be a largely unsustainable business model. There are no examples of these for small towns.

Another form of common contract has been the lease arrangement. Just like the lease contract, management contracts are considered to be less attractive to the private sector because there is no margin to be made on investments, as operators are only for the operation of the infrastructure.
Conditions where DPSP succeeds

Colombia’s experience with DPSP has been successful in large urban areas. The main reasons expressed by stakeholders are the following:

- **Large concentration of users**—implies that demand for public services is high.
- **Affordability of tariffs**—is high due to economic prosperity experienced in Colombian cities while there is also an established culture of payment for public services.
- **Economies of scale**—although infrastructure is mostly already in place, the recovery of any necessary investment costs would be split among a large number of users, enabling private firms to fully reap the benefits of economies of scale.
- **No water resource ownership issues**—unlike rural communities, there are typically no issues of water resource ownership, that is, operators are not required to seek permission from indigenous populations to exploit the water resource, and no compensation has to be paid.

All the above issues make the centralised provision of WSS services financially viable for DPSP.

The characteristics of WSS supply in small towns and rural areas in Colombia is quite different. The key constraint is finding water sources that are fit for human consumption without the need to significantly treat the water or transport it. It is often the case that water sources require expensive treatment to be made fit for human use. In addition, if water sources are in locations that are far from the small towns and rural areas they supply, significant costs would have to be incurred in order to transport the water to where it is consumed. Due to the small number of users among whom these costs would be split, serving these areas is usually not profitable for private operators. What is more, due to the large cost of supply, it is often also impossible for community schemes to operate, leaving these areas altogether unserved.

Another key constraint to the provision of services in rural areas, is that the level of affordability of the rural population is so low that the tariff that could be charged would not allow for recovery of investment costs. Naturally, in these cases, there are no advantages for private operators to establish themselves.

4.2 Experience with DPSP

In Colombia, there is no aggregate data available on performance of operators. The data of interest, pertaining to small towns, is difficult to isolate because of the nature of private sector involvement through the ESP legal form, with large firms generally providing services in small towns, as an adjunct to their main operations in a large city.
Box 3 provides specific examples of successful WSS provision in small towns and rural areas. The aim is to provide an overview of the existing arrangements in WSS services provision which have proven successful in Colombia.

**Box 3 Examples of successful WSS service providers in Colombia**

In the department of Chocó, the large ESP operating in the city of Medellin, *Empresas Públicas de Medellín (EPM)*, services much of the department, even in locations where operating is not profitable, that is operation in small towns surrounding the city. EPM provides such services as a social service to the communities at no profit to itself. Nevertheless, as one of the largest state-owned industrial and commercial enterprise in the department, it provides one of the main sources of revenue for the municipality of Medellin.

*Acuavalle S.A. ESP* is a regional company that provides drinking water and sewerage services to a population of 582,000 people in 33 municipalities of Valle del Cauca. The company was formed as a non-profit corporation. The shareholders of the company are the Department of Valle del Cauca, the Regional Autonomous Corporation of the Valle del Cauca and all 33 municipalities served by the company.

The *Aquaducto La Sirena* in Valle del Cauca in the South western edge of the city of Cali, manages 778 residential connections with continuous service to 4,200 users. The system includes a sewer, with slow filter treatment. Billing to customers is on the basis of water consumption metering. There is no stratification of clients and special rates are applied to those who consume more than 28 cubic meters. Any surplus is reinvested in preventive maintenance and sometimes in infrastructure.

*Triple-A* is the WSS provider for the city of Barranquilla in the northern department of Atlántico. The firm’s private capital is of Spanish origin, while the public share of ownership belongs to the municipality of Barranquilla. The operator has begun operating in neighbouring municipalities which are considered to be poor out of its own initiative. In order to make service provision profitable, Triple-A designed and proposed a regional tariff methodology aimed at cross-subsidising service costs between municipalities served by the same provider.

The *Black River Aqueduct Association* in Popayan, formed 10 years ago, includes 10 villages with 7,000 household connections. The Association is building a treatment plant for drinking water and is in the process of installing micrometres, with the support of the Colombian organisation Associates in Rural Development (ADR) and the American agency USAID.

*Water and Sewer Antioquia S.A.* (ACUANTIOQUIA) starts as a government-promoted programme to encourage the participation of small local private operators through the creation of small and medium enterprises that provide sanitation services. ACUANTIOQUIA serves 39 municipalities and 2 townships, while the rest of the municipal entities are directly served by the municipal authorities. The firm owns, manages, operates and maintains its systems.

A current list of private WSS service providers is provided in A1.
World Bank Modernisation programme

The most significant experience to highlight in respect of DPSP in small towns and rural areas, that is in poorer communities, is the initiative of developing a regional tariff by Triple-A in the department of Atlántico. Triple-A was a beneficiary of a World Bank programme aimed at helping the Colombian government in the upgrading of WSS service provision through modernised operational structures. The programme was implemented in 2000 in order to assist the Colombian water sector in improving service provision through the introduction of the PSP model for small town and rural areas.

In the following, the WB Modernisation programme is first described while Triple-A’s proposal of regional tariffs is presented in the following sub-section.

The aim of the WB programme was to support the WSS sector, specifically as described in the WB Implementation Completion Results Report:\(^{40}\):

The Project aims to improve the provision of water supply and sanitation services in Colombia in a financially efficient and sustainable manner through the provision of capital investment subsidies for poverty-focused coverage expansion and service quality improvement. Specifically, the Project will (a) scale-up the involvement of the private sector in medium-size cities through the introduction of performance-based management arrangements with specialised operators; (b) support service-improvement related investment through targeted capital grants in small- and medium size cities, and in some high poverty peri-urban areas of large cities served by public utilities; and (c) deliver appropriate water supply and sanitation investments in Colombia’s underserved rural areas.

The Bank specifically targeted municipalities with provision problems, both large and small municipalities. The objective was to combine private provision and funding with government grants. Several business models were employed:

- In large towns with up to 10,000 connections, **concession contracts** of 25 years were signed by specialised operators. The operators bid for a fixed tariff and a share of the funding necessary. Firms therefore competed on the lowest share of government funding to build the infrastructure.

- In small municipalities, turn-key contracts for construction of infrastructure were signed, bidding on the construction price, a **lease-type arrangement**. The government supplied all the necessary funding. Private operators were rewarded with tariffs collected, which were fixed at the contractual level for three years but would then switch to the methodology established by the CRA. The objective of these projects in small towns was to turn constructors into experienced new private operators.

The major problem experienced with contracts signed in small town was that infrastructure funding was restricted and resulting construction therefore initially undersized. As a consequence, service levels and customer satisfaction were low. Additionally, the firms that had been contracted to construct the infrastructure struggled to run it, due to lack of specific knowledge about its operation.

\(^{40}\) WB (2012) “Implementation Completion and Results Reports (IBRD-72810), ICR1316.”
The experience in large towns was more successful as a result of the private operator having decided on the necessary size of the infrastructure investment needed. Therefore, private operators found that this scheme gave them more control over the investments which they would later operate. However, there were still weaknesses present in the contractual arrangements which made it necessary to increase state funding to see the projects completed. Although not formally recorded, stakeholders consulted expressed that most of the projects in larger towns actually ended up with very little (if any) private financing provided.

The World Bank’s project in La Guajira was the first instance in which the initial concept of PDAs was implemented. The PDA structure was meant to tackle two key issues in the region:

- Low WSS coverage rates, poor water quality and service levels
- Poor management of utilities and weak institutional framework.

At the time, the Colombian government had designed a policy to foster the participation of the private sector in delivering residential public services. Before the implementation of the World Bank’s project, nine out of 15 municipalities in La Guajira involved private operators under concession contracts which were competitively procured. It was because of the difficulties encountered in the execution of the contracts, such as non-compliance by the private firm or the local municipality, that the Colombian Government sought the World Bank’s involvement. As a result, the government, supported by the World Bank, designed an institutional setup geared towards modernising the delivery of WSS in La Guajira. This project was the first operation to use the concept of a PDA. Consequently, this model was then used as a basis to design the national PDA program despite many modifications that did not involve the Bank.

A key constraint reported for both types of business models implemented was the lack of contract supervision at the municipal level. Although the World Bank projects that combined private provision with governmental grants preceded the introduction of PDAs by almost a decade, they can be seen as the pilot for the combined PSP-municipal business models. In conclusion, the World Bank projects led to the decision that in the future, PSP should take the form of lease contracts with public funding of upfront investments to ensure that the necessary infrastructure is built and is later run by specialised operators. For smaller systems, an Operation and Maintenance contract shall be preferred.

**Triple-A’s proposal for regional tariffs**

In the northern department of Atlántico, Triple-A was established as an ESP in 1992 to operate WSS services in the urban municipality of Barranquilla. The ownership structure of Triple-A consists of a large share of private capital from a WSS operator in Spain, and public ownership by the municipality itself.

Once the operator had established itself successfully in Barranquilla, it started expanding its services to the communities in surrounding municipalities. This was carried out by using the plants employed for Barranquilla to treat larger quantities of waters and so supply neighbouring municipalities. The system supplies seven additional municipal systems besides Barranquilla. Furthermore, the operator has included two additional water supply
systems that serve another seven locations. The three systems are illustrated in the map below:

**Figure 19 Water supply systems operated by Triple-A**

![Map of Water Supply Systems](image)

*Source: Triple-A*

The abovementioned expansion in service provision was done out of the operator’s own initiative as a contribution towards the wellbeing of the department’s population. Although the motivation for connecting the smaller towns is partly public service, there is also a stated intention to turn it into a profitable business in the future. At present, service provision costs vary largely for communities far away from the Barranquilla. These differences are illustrated in Figure 20.

**Figure 20 Actual cost per unit of water supply to Triple-A, by municipality**

![Cost per Unit of Water Supply](image)

*Source: Triple-A*

The figure above shows that the cost of supplying one unit of water to Barranquilla, which is located next to the water source and treatment plant on the Magdalena River, is $1,644. In
contrast, supplying the same quantity of water to the western municipalities of Piojó, Juan de Acosta, Usiacurí and Tubará carries a cost of $1,949 per unit.

Triple-A proposed a new regional tariff that allows the firm to earn a return on a larger asset base with minimal additional risk by charge a uniform tariff across a region, even when systems are not physically connected as is the case in Atlántico. Effectively, the regional tariff allows for cross-subsidisation of poorer municipalities by large urban centres without the need of physical interconnection.

A key fact to point out is that this same objective can already be achieved through physical interconnection of municipalities operated by the same service provider, without requiring the application of a special tariff.

Under Resolutions 628 and 633 of 2013, existing WSS sector regulation provides for the key characteristics of regional tariffs. Triple-A is the first operator to request CRA’s approval for the application of regional tariffs. It is worth mentioning that initially, CRA was surprisingly reluctant to support the concept of a regional tariff. However, as a result of significant lobbying by private water companies interested in this concept, the DNP decided to include regionalisation in the latest National Development Plan. In November 2014, Triple-A’s request was approved by CRA and VAS under Resolution 701 of November 2014 on the regional market for the department of Atlántico. The next step will be the public tendering of the remaining municipalities in Atlántico, which Triple-A hopes to win.

4.3 Key achievements and success with DPSP

The key achievement in introducing DPSP in Colombia followed from the corporatisation of public services through Law 142 of 1994. The law established a new form of corporation, public service companies (ESPs), with the sole purpose to manage public services, including WSS services. As such, it has proven a very effective first step to introduce private participation by enabling contracting with private operators.

ESPs are required to have a number of different shareholders and typically some private capital. The ESPs have a corporate culture that encourages participation by private firms because they are governed under Colombian private law. Therefore, their contracting is treated equally to that of private firms, regardless of whether there is any public ownership.

Additionally, Law 142 of 1994 declared that ESPs are to be operated under market competition in Colombia. In this way, the government removed any special rights that mayors were previously granted over public services. Consequently, any organization or person can provide them if it has the means and complies with the applicable regulation. Nevertheless, the mayor is traditionally the owner of the infrastructure built with public funds. Therefore, it may procure the infrastructure’s use, rather than the provision of the service, through public tendering. There are instances, however, when municipalities are exempt from issuing public procurement for the use of its infrastructure: when the provision of the public service is at serious risk and tendering procedures have been exhausted. In

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41 MinVivienda 2014, available [here](#).
such cases, the municipality may request an exemption to provide the services directly (thereby becoming private operators) as opposed to just managing assets and services.

We note that the inherent high cost of sewerage systems implies that, while most of these lessons apply equally to water supply and sanitation services, private sector involvement in the latter tends to be more difficult.

4.3.1 Public institutions’ perspective

As established by Law 142, the government’s objective of decentralising the provision of domestic services by establishing specialised providers, ESPs, has been achieved.

Concretely, with the establishment of ESPs, the public sector has been able to join forces with private firms to deliver services jointly, in a corporatized and hence efficient way. For example, the model of joint ventures has proven a successful tool to introducing PSP by municipalities and departments in large urban areas. Under such contracts, the governmental entity negotiates and signs a contract directly with the private firm.

By separating the administration of service provision from the municipality and having them delivered by specialised entities instead, the government was successful in shifting a large share of decision making that was left to the mayor in the past. In this way, both corruption in the delivery of public services has been reduced and the operation has been more efficient. As a result, the government sees its funding channels being directed to business-like providers whose corporate structure implies a more efficient use of such resources.

4.3.2 Private operators’ perspective

As intended, private participation is seen as a direct result of the specific structures introduced by the government for public service companies (ESPs). The clarity provided with respect to their form and how they are to be regulated is seen as instrumental in the success of private participation in large urban centres.

In particular, the independent treatment of ESPs from the PPP Law is perceived as particularly successful by the private sector, given that municipalities do not need to conduct public procurement of domestic public services.

In the private sector’s eye, a large success has been the recognition by the public institutions of the challenge faced by all operators of recovering investments. As a consequence, the government has consistently set aside funding for WSS infrastructure projects to be built throughout the country. What is more, although not yet implemented, it is expected that the new specific tariff methodology for small providers shall be beneficial in that it foresees a government contribution to the recovery of costs when users income makes it unaffordable to achieve full cost recovery from them.
4.4 Key constraints and challenges

In the past, the decision to put the responsibility for public service provision with the municipality has led to small towns and rural areas to be poorly served. Additionally, many consider that the state failed to provide adequate support to municipalities in the first place.

The result has been that many municipalities still lack capacity to ensure that WSS services are provided in small towns and rural areas. Constraints such as funding, scarce populations and the lack of a culture of paying for public services provide further obstacles for small municipalities to successfully meet their responsibility of ensuring service provision.

4.4.1 Public institutions’ perspective

The key challenged identified by the public institutions is achieving more service coverage in rural areas. Despite the government’s efforts to improve coverage of WSS services throughout Colombia, the physical constraints imposed by the extent to which populations are dispersed in rural areas, it remains to be seen if there is scope for private participation in WSS in such areas.

4.4.2 Private operators’ perspective

It is the general consensus among operators consulted, that the government has not succeeded in providing the necessary support to smaller municipalities to contract service provision. This is in line with a point made previously about the success of DPSP in large urban centres. The Colombian government has recently introduced a new policy to focus its efforts on improving service provision in rural areas specifically.

Additionally, the private sector is critical of the government’s slow response to the proposal of regional tariffs introduced. Under Resolution 701 of 2014, CRA and VAS approved the first regional tariff for Triple-A in the department of Atlántico, hopefully setting the way for further regionalisation efforts stemming from the private sector.
5 Conclusions and Lessons Learnt

This section summarises and concludes the experience from Colombia, and draws out lessons learnt so that other countries can learn from the successes, and also from failures, of Colombia.

5.1 Summary conclusion

The most important step that Colombia has made to encourage DPSP is to successfully involve private sector operators in large urban areas. For small towns, the most successful instances of DPSP have been when large water operators extend their services to nearby small towns.

Colombia has recognised that amongst infrastructural services WSS in particular requires specific expertise that is not typically found at the municipal level. The policy of regionalisation, implemented primarily through Departmental Water Plans, is a very effective way of encouraging a corporate approach to WSS service provision in smaller towns and rural areas, which ultimately makes it riper for private sector involvement. The approach of establishing public service companies (ESPs) to manage WSS services at the departmental level is very positive, because it instils a corporate approach that is attractive to private investors/operators.

The sound regulatory framework in Colombia is another key reason for its successes in DPSP. Its institutions are capable, stable, and relatively independent from political influence. Its tariff methodology ensures the cost-recovery of operators, which gives the private sector confidence to participate in the sector.

A distinctive feature of the regulatory framework is the split in the tariff methodology applied to small service providers and that applicable to large providers. In addition the Vice-ministry for Water and CRA approved in November 2014 the first regionalization scheme in the Department of Atlántico. This scheme was proposed by several large private operators which presented the concept of regional tariffs to the regulator. The innovative ‘regional tariff’ will allow an operator, Triple-A in Atlántico being the first, to charge a uniform tariff across WSS systems that are not physically interconnected, effectively enabling large urban centres to cross-subsidise small towns, such that provision to the small towns would then be profitable for the operator. Because infrastructure systems do not need to be physically connected, the new tariff provides room for large operators in urban centres to operate profitably in small town even if those are not located in the periphery of the cities they already operate in.

The dedicated tariff methodology for small operators is important because it is tailored to the simplicity of small systems and does not expect too much of small operators. Moreover, the specialised tariff methodology takes into account the government contribution to investment costs. In this way, the tariff structure faced by small operators helps them recover their costs and operate commercially, setting the scene for private involvement.

Colombia has piloted a variety of different private sector WSS contracts in small towns with assistance of the World Bank. The results have been mixed, but the lessons learned valuable.
Conclusions and Lessons Learnt

One key lesson learnt by consulting the stakeholders involved is that lease-type contracts are now typically preferred to concession-type contracts or basic operating contracts. The main reason behind this preference is that lease-type contracts incorporated initially by the World Bank allowed for generous public sector financing rather than private sector investment. Also, as reported by the World Bank, concession contracts did not perform as expected, leading to the preference of lease contracts:

“The original Project concept of awarding concession contracts based on the lowest cost subsidy was theoretically sound, but did not work well in practice. Original investments plans were not well formulated, tariff regimes not maintained, and actual subsidy levels varied widely.”

Therefore, stakeholders consider that because leases utilise public financing and include a government-developed investment plan, they are easier for small and medium sized private operators to implement while still giving them full control of the assets, and therefore the ability to improve service delivery. The consensus seems to be that concession contracts in practice attracted little upfront private investment capital and did not allow sufficient flexibility. Stakeholders reported that in concession contracts in which investment subsidies were planned to be received from the municipal government, construction and investment was hindered when such subsidies failed to arrive.

There is a general lack of capacity among small operators and those responsible for service delivery at the municipal level. This is a key reason for the regionalisation policy, but nevertheless municipalities will continue to play a part in WSS services, particularly in rural areas. The recent rural policy is a positive step forward, but more can still be done.

Similarly, more can be done to streamline the registration process for the thousands of small, community-based operators that remain virtually unknown and unsupported by SSPD. Ensuring that these operators are sustainable is important for creating an environment where the private sector can become involved.

The regionalisation of services holds much potential for increased DPSP in small towns, but a key barrier is the reluctance of municipalities to relinquish control of WSS service delivery (and associated funding).

From a regulatory perspective, WSS in Colombia is largely a huge success, but there are some issues still outstanding. The apparent reluctance of CRA to approve regional tariffs, despite their alignment with the national regionalisation policy, is particularly concerning.

Delivery models and the design of contracts are constantly being improved. Colombia has a very strong track record in learning from past experiences.

5.2 Good practices in encouraging DPSP

Policy and funding

The primary reason for Colombia’s progress in encouraging DPSP has been to successfully encourage private sector operators in the large urban areas. Since the 1990’s Colombia has

42 World Bank, CO-7077 ICR
Conclusions and Lessons Learnt

made it a clear policy to corporatize WSS services and to use private sector financing and expertise as much as possible. The most successful instances of DPSP for small towns have been the regionalisation of WSS services, with large water operators expanding operations to small towns on their own initiative. Without the presence of these experienced large water operators, there would likely be very little small town DPSP in Colombia today. As such, many of our lessons learnt apply to large operators as well as small operators.

Colombia has **recognised the challenge of fully recovering WSS investments from tariffs**. It has consistently set aside significant funding for WSS infrastructure and has launched a number of projects (with the support of organisations like the World Bank) that contract WSS services to the private sector, paired with a grant that covers the bulk of the upfront investment costs. These projects have been instrumental in establishing private sector operators and testing different contracting options.

In Colombia, decentralisation gave municipalities responsibility for WSS provision, yet most are small and lack capacity. Colombia has since recognised that amongst infrastructural services WSS in particular requires specific expertise that is not typically found at the municipal level. It has therefore made it a policy to **encourage regionalisation of WSS services by implementing Departmental Water Plans** that municipalities can voluntarily opt into. This brings a better resourced and more corporate approach to WSS provision and ultimately makes it easier for large private operators to expand services to small towns and rural areas. Although the concept of the Departmental Water Plan is relatively new and therefore is only just beginning to be applied in most departments, the initial indications are that this approach can be very successful in encouraging DPSP.

Colombia has been successful in **encouraging municipalities to relinquish direct control of WSS services** by making some central government funding conditional on corporatisation and other efficiency criteria. This puts pressure on municipalities to bring in private sector expertise. Similarly, funds which require operators to compete for investment subsidies are an effective way to prioritise those most capable of delivering services.

**Regulation and monitoring**

Colombia has been very successful in **creating a regulatory environment that is generally trusted and protected from political influence**. Its semi-autonomous nature and the fact that it has been in place for a reasonably long period of time appears to give private operators sufficient confidence to invest in the Colombia WSS sector.

More specifically, the **detailed tariff methodology applied is crucial to ensuring the cost recovery** of operators. For large providers (that may also be operating in small towns and rural areas), the pass-through of capital costs seems to have been an important way of reducing their risk. Similarly, the long regulatory periods provide operators with certainty about revenues and cost-recovery.

The fact that the **tariff regulations are extensively consulted on** prior to being implemented is also important. This gives the private sector confidence that it can have some influence on regulatory decisions and thereby prevent decisions which would be detrimental to their continued operation in the WSS sector.
Although it has only recently been introduced, a **new tariff methodology that is dedicated to small operators** (typically operating in small towns and rural areas) seems to be an important way of transitioning existing operators to cost recovery. The failure of previous methodologies in Colombia is evidence that they need to reflect the simplicity of small systems and not expect too much of small operators. By helping them recover their costs and operate commercially, the scene is set for direct private involvement in small towns. However, if systems become dilapidated and service levels drop, a culture of non-payment is often created which makes private operators very reluctant to become involved.

Although only recently developed as an idea, **regional tariffs are likely to encourage large operators to expand services to small towns**. Regional tariffs would allow an operator to charge a single uniform tariff across WSS systems that are not physically interconnected, where the populations have economic/political ties. This would effectively enable the large urban centres to cross-subsidise services in small towns and areas in which the cost of provision is much higher, due to natural characteristics. This strategy would mean that operators could fully recover the cost of its small town investments without jeopardising affordability.

**Delivery models and private sector contracting**

The approach of **encouraging public service companies (ESPs) to manage WSS services is a very effective way of enabling contracting with private operators**. ESPs are required to have a number of different shareholders and typically involve some private capital. As such, even ESPs that are mostly owned by public shareholders will establish a corporate culture. Another key advantage is that ESPs circumvent public sector PPP procurement rules (which can sometimes be restrictive because they are not tailored to WSS service contracts). In some cases, ESPs will also provide services directly (thereby become private operators) as opposed to just managing assets and services.

As described above, Colombia has successfully **piloted a variety of different private sector contracts**. These contracts have been applied in small towns as well as larger urban areas. The results of these pilots have been mixed, but the lessons learned have been invaluable for improving future results and creating an environment where the private sector is accepted.

One of the key lessons learned is that it is **not realistic to expect the private sector to provide investment capital for large WSS investments**. Concession contracts in larger urban areas (where theoretically the population can afford higher tariffs) that were designed for the private operator to recover the costs of its upfront investment through the tariff have almost all been renegotiated, either formally or informally. The renegotiations suggest that it is unlikely that in practice much private capital (if any) was ever invested.

The **more successful contractual arrangement seems to be a lease arrangement** where the bulk of upfront costs are covered by the public sector. Tariff revenues collected by the private operator are used to pay a lease fee to the state, operation and maintenance expenses and making defined investments in maintaining and expanding the system. This is the Ministry’s preferred model going forward because it harnesses cheaper public financing while still giving the operator full control of the assets, and therefore the ability to improve service delivery.
In some smaller towns a turn-key construction contract was combined with an operating contract, which on the whole was not a successful experience. This is because the private sector was interested primarily in the construction contract and paid little attention to operation of the system. In a number of cases the municipalities under-sized the systems due to funding constraints, leaving the private operator to run a system without sufficient capacity to deliver services and therefore a very challenging operating environment. The key advantage of a lease arrangement is that the private sector did not carry out the upfront investments, but had strong incentives to check the design of the system and monitor its construction, so that it could then earn a profit from its operation.

Another lesson is that contracts linked to the regulated tariff methodology, rather than the tariff being fixed in the contract, are typically preferred because they allow the flexibility to deal with events that were not foreseen at the time the contract was signed. This of course hinges critically on Colombia’s stable and trusted regulatory regime.

To regionalise WSS services, two different models have been piloted. One is to combine a number of smaller operators, thereby creating one larger operator. The alternative, which has proved to be much more successful, is for a large capable operator to subsume small operators. It is important to note that the capability of the operator is key to any successful contract, regardless of how optimal the design is.

Joint ventures have also proven to be an effective WSS delivery model. They are mostly in large urban centres, but through regionalisation and the regional tariff joint ventures have the potential to move into small towns and rural areas. They are typically negotiated directly between municipalities or departments and the private sector, but have the advantage of combining private financing with the ability of the municipality to maintain community and political solidarity. This model has so far been particularly successful in establishing well-functioning ESPs as part of Departmental Water Plans.

It is important to note that while most of these lessons apply equally to sewerage services as they do water supply services, private sector involvement in sewerage services tends to be more difficult. This is because of the inherently high costs of sewerage systems and the fact that in Colombia the population served by these systems (and therefore the potential for revenue generation) is much less than piped water systems.

### 5.3 Areas to be improved

#### Policy and funding

Most municipalities still lack capacity to effectively provide WSS services in small towns and rural areas. This is a key reason for the regionalisation policy, but nevertheless municipalities will continue to play a part in WSS services, particularly in rural areas. One apparent faults of the Colombia approach is that it failed to provide adequate support to municipalities in the first place, in particular with respect to contracting of private operators. Perhaps this could have been remedied by expanding the emphasis on capacity building by CRA and/or SSPD.
Similarly, there appears to have **been relatively little attention given to the provision of WSS services in rural areas** in Colombia. Large urban areas and smaller towns have understandably been given priority, but Colombia has only recently prepared a policy dedicated to rural provision. It remains to be seen whether there is any scope for DPSP in rural areas, given that all of the experience to date suggests that populations are too dispersed and affordability is too low.

Another related issue is that while Colombia has taken the sensible approach of shifting WSS provision to the departmental level as much as possible (by encouraging Departmental Water Plans), most municipalities are reluctant to relinquish control to a departmental level ESP or private operators. Colombia cannot simply shift responsibility directly to the departments, given that the decentralised approach as defined in its constitution, so instead it must **find more ways to encourage municipalities to relinquish control of WSS services and funding**. For example public awareness campaigns at the national level could be an effective way to put pressure on mayors to prioritise service delivery over their personal position of influence.

In some cases, private operators are deterred from providing services in rural areas because of indigenous water access rights. Our understanding is that the process for resolving water access rights and providing suitable compensation is burdensome and could be streamlined.

Colombia’s somewhat unique approach of providing demand-side subsidies for WSS services through income stratification is in theory an effective way of improving the affordability of services and making poorer small towns and rural areas attractive to private operators. However in practice many households in rural areas have not been registered/classified and are therefore ineligible for subsidies. As such **the mechanism that is intended to improve affordability often fails to reach the poorest populations**. Although clearly beyond the scope of WSS policy alone, this is a potential area for improvement.

**Regulation and monitoring**

Despite huge promise and significant pressure from the private sector, Colombia has been **slow in implementing and approving regional tariffs**. In the case of Triple-A in Barranquilla, they have already invested heavily in expanding services to nearby small towns, without any prior assurance that a regional tariff would be approved. It is fortunate that a private company was willing to take such a risk and CRA should not expect others to do the same. We encourage CRA to move forward as soon as possible with the regional tariff approach, at least in a few pilot cases, with a view to rolling it out to a number of other operators.

Regulation and monitoring of the WSS sector in Colombia is overwhelmingly positive. However criticism from operators and sector stakeholders is that the separation of regulatory functions (CRA) and monitoring and enforcement functions (SSPD) has led to inefficiencies in monitoring that ultimately lead to less effective regulation and increased the risk for private operators. An example that the private sector sights is when penalties are been incorrectly applied because SSPD does not fully understand the regulations set by CRA.
**Conclusions and Lessons Learnt**

The regulations, and to some extent related policies, needs to cater specifically to small operators. In Colombia the vast majority of operators (mostly community-based) are not registered with SSPD and therefore fall largely outside of the regulations and SSPD’s support mechanisms. This impacts on the sustainability of the operators and makes it more difficult for future private sector involvement. The situation could be improved by making the conditions for registration less burdensome and making small operators exempt from paying regulatory levies.

**Delivery models and private sector contracting**

Colombia has had a range of experience, both good and bad, in involving the private sector in the delivery of WSS services. Rather than present the lessons as criticism or areas to be improved, we have described the key lessons learnt in the previous section. Colombia is to be commended that is has learnt from past experience and is constantly improving its delivery models and approaches to contracting the private sector.
### Current list of private WSS service providers

#### Table 4 Private WSS operators active in 2005, 2013 and 2014

<table>
<thead>
<tr>
<th>Organization</th>
<th>2005</th>
<th>2013</th>
<th>2014</th>
<th>Number of municipalities</th>
<th>Municipalities</th>
</tr>
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<tbody>
<tr>
<td>Acueductos y alcantarillados sostenibles A.A.S. (Antioquia)</td>
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<td>X</td>
<td>X</td>
<td>8</td>
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<td>Girardot, Ricaurte, Tocaima</td>
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<td>X</td>
<td>X</td>
<td>33</td>
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</tr>
<tr>
<td>Aguascol Arbelaez (Antioquia)</td>
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<td>X</td>
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<td>X</td>
<td>X</td>
<td>3</td>
<td>Bucaramanga, Floridablanca, Girón</td>
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<tr>
<td>Uniaguas (Córdoba) (ERAS)</td>
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<td>X</td>
<td>4</td>
<td>Cerete, Ciénaga de Oro, Sahagún, San Carlos</td>
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</table>

*Country Report: Colombia*
## Current list of private WSS service providers

<table>
<thead>
<tr>
<th>Organization</th>
<th>2005</th>
<th>2013</th>
<th>2014</th>
<th>Number of municipalities</th>
<th>Municipalities</th>
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<td>6</td>
<td>Chima, Lorica, Momil, Purísima de la Concepcion, San Andrés de Sotavento, San Antero</td>
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<td>Empresa sanitaria del Quindío (Quindío)</td>
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<td>X</td>
<td>X</td>
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<td>Buenavista, Circasia, Finlandia, Genova, La Tebaida, Montenegro, Pijao, Quimbaya, Salento</td>
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<tr>
<td>Ingeniería total servicios públicos (Antioquia)</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>Andes, Ciudad Bolívar, Jardín, Segovia</td>
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<tr>
<td>OPERADORES DE SERVICIOS (Antioquia)</td>
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<td>Fredonia, Santa Bárbara</td>
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<td>Sociedad de acueducto, alcantarillado y aseo de Barranquilla (Atlántico)</td>
<td>X</td>
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<td>Barranquilla, Baranoa, Galapa, Juan de Acosta, Palmar de Varela, Piojo, Polonuevo, Ponedera, Puerto Colombia, Sabanagrande, Sabanalarga, Santo Tomas, Soledad, Tubará, Usiacuri</td>
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<td>Acueductos y alcantarillados de Colombia (Bolivar) (ARAT)</td>
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<td>Arjona, Turbaco, Turbaná</td>
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<td>Conhydra (Antioquia)</td>
<td>X</td>
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<td>Chigorodó, Marinilla, Mutatá, Puerto Berrío, Santa Fe Antioquia Sonsón, Turbo</td>
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<tr>
<td>Aguas de la Sabana (Sucre)</td>
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<td>Aguas del sur de la Guajira</td>
<td>X</td>
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<td>El Molino, Fonseca, Hatonuevo, San Juan del Cesar, Barrancas, Villanueva, Distracción</td>
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<td>Empresa de acueducto, alcantarillado y aseo de Bogotá (Bogotá y Cundinamarca)</td>
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<td>X</td>
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<td>Bogotá, D.C., Gachancipá, Soacha</td>
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<td>Sistemas públicos (Antioquia)</td>
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<td>Aguas Kpital Cúcuta (Norte de Santander)</td>
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<td>Cúcuta, los Patios</td>
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<td>Presea (Magdalena)</td>
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<td>Fundación</td>
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<td>Centroaguas (Valle del Cauca)</td>
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<td>Palmira, Tuluá</td>
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<td>Hydros</td>
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<td>Compañía de servicios públicos domiciliarios (Risaralda)</td>
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<td>Pereira, Dosquebradas</td>
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## Current list of private WSS service providers

<table>
<thead>
<tr>
<th>Organization</th>
<th>2005</th>
<th>2013</th>
<th>2014</th>
<th>Number of municipalities</th>
<th>Municipalities</th>
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<td>Compañía de servicios públicos de Sogamoso (Boyacá)</td>
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<td>Nobsa, Sogamoso, Tibasosa</td>
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<td>Ruitoque (Santander)</td>
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<td>X</td>
<td>Floridablanca, Girón, Piedecuesta</td>
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<td>Aguas de Manizales (Caldas)</td>
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<td></td>
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<td>Manizales, Villamaría</td>
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<td>Asociación de usuarios prestadora de servicios públicos del Teusacá</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>Chía, Guasca, La Calera, Sopo</td>
</tr>
<tr>
<td>(Cundinamarca)</td>
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<td></td>
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<tr>
<td>Empresas municipales de Cali (Valle del Cauca)</td>
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<td>Cali, Yumbo</td>
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<td>Aguas y aseo de El Pital y Agrado (Huila)</td>
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<td>Ingeniería y gestión del agua SAS ESP (Consultoría y Construcciones SAS</td>
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<td>Agua de Dios, Tocaima</td>
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<td>ESP) (Cundinamarca)</td>
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</table>

*Source: World Bank Colombia*
The table below summarises the stakeholders interviewed during the Colombia visit conducted from 31 August to 5 September 2014 by the consultant team.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Contacts</th>
<th>Information needed / topics of discussions</th>
<th>Meeting details</th>
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<td><strong>National level institutions</strong></td>
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<td>CRA</td>
<td>Julio Cesar Aguilera Wilches, Executive Director</td>
<td>• WSS sector regulation</td>
<td>1 September 2014, CRA offices in Bogotá</td>
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<td></td>
<td>Alejandro Gualy Guzmán, Expert Commissioner for regulation</td>
<td>• Tariff methodologies for large and small providers</td>
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<tr>
<td>SSPD</td>
<td>Jorge Andrés Carrillo Cardozo, WSS Delegate</td>
<td>• Distribution of small and large providers in Colombia</td>
<td>2 September 2014, SSPD offices in Bogotá</td>
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<tr>
<td></td>
<td>Samuel Alfonso Forero, WSS Advisor</td>
<td>• WSS service provision in small towns and rural areas</td>
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<tr>
<td>VAS</td>
<td>Jorge Silva, Juan Manuel Flechas, Juan Luis Mesa (former Vice-minister)</td>
<td>• World Bank WSS PPP projects</td>
<td>3 September 2014, VAS offices in Bogotá</td>
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<tr>
<td></td>
<td></td>
<td>• Experiences in DPSP</td>
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<td></td>
<td></td>
<td>• Business models</td>
<td></td>
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<tr>
<td>DNP</td>
<td>Sirly Castro (Deputy Director for Water and Sanitation )</td>
<td>• DPSP experience in WSS sector</td>
<td>3 September 2014, DNP offices in Bogotá</td>
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<tr>
<td></td>
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<td>• PPP experience in the sector</td>
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<td><strong>Sector organisations</strong></td>
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<tr>
<td><strong>Federación de Gobernaciones</strong> (National Federation of Departments)</td>
<td>Álvaro Andrés Franco, Water advisor</td>
<td>4 September 2014, Local consultants’ offices in Bogotá</td>
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<tr>
<td></td>
<td></td>
<td>• Departmental Water Plans</td>
<td></td>
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<td>• Financing schemes for WSS sector</td>
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<tr>
<td><strong>ANDESCO</strong> (National Association of Public Services Companies)</td>
<td>Pierre Urriaga, Director of Chamber for WSS</td>
<td>2 September 2014, ANDESCO offices in Bogotá</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• WSS sector organisation</td>
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<tr>
<td></td>
<td></td>
<td>• Experience with DPSP in Colombia</td>
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<tr>
<td>Institution</td>
<td>Contacts</td>
<td>Information needed / topics of discussions</td>
<td>Meeting details</td>
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<td><strong>Operators</strong></td>
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</table>
| *Empresas Públicas de Cundinamarca* (Public Service Companies of Cundinamarca) | Juan Carlos Penagos Londoño, Technical Deputy Director | • Public service provision in large urban areas  
• Perspective of private sector on WSS provision in small towns and rural areas | 4 September 2014  
EPC’s headquarters in Bogotá |
| **Aguas de la Sabana** | Hector Arango, Managing Director | • DPSP experience | 5 September 2014  
Operator’s headquarters outside Bogotá |
| **Triple-A** | Jorge Navia, Manager for regulation  
Angela Choperena | • DPSP experience  
• Regionalisation  
• Site visits  
• Engagement with WSS service users | 5 September 2014  
Triple-A headquarters in Barranquilla and site visits to small towns in the Department of Atlántico |