

## **Decentralization and now what?**

### **Analysing governance arrangements and service delivery performance in the water supply sector in Peru**

A Research Paper presented by:

***Naira Romina Aimeé Manga Cambría***  
(Perú)

in partial fulfilment of the requirements for obtaining the degree of  
**MASTER OF ARTS IN DEVELOPMENT STUDIES**

Major:

**Governance and Development Policy**  
(GDP)

Specialization:

**Local Development Strategies  
Public Policy and Management**

Members of the Examining Committee:

Farhad Mukhtarov

Sunil Tankha

The Hague, The Netherlands  
November 2019

***Disclaimer:***

This document represents part of the author's study programme while at the International Institute of Social Studies. The views stated therein are those of the author and not necessarily those of the Institute.

***Inquiries:***

International Institute of Social Studies  
P.O. Box 29776  
2502 LT The Hague  
The Netherlands

t: +31 70 426 0460  
e: [info@iss.nl](mailto:info@iss.nl)  
w: [www.iss.nl](http://www.iss.nl)  
fb: <http://www.facebook.com/iss.nl>  
twitter: [@issnl](https://twitter.com/issnl)

***Location:***

Kortenaerkade 12  
2518 AX The Hague  
The Netherlands

# Contents

<i>List of Tables</i>	<i>iv</i>
<i>List of Maps</i>	<i>iv</i>
<i>List of Appendices</i>	<i>iv</i>
<i>List of Acronyms</i>	<i>v</i>
<i>Abstract</i>	<i>vi</i>
<b>Chapter 1 Introduction</b>	<b>7</b>
<b>Chapter 2 Defining and understanding decentralization</b>	<b>9</b>
2.1 Definitions and typologies for decentralization	9
2.2 Decentralization and service delivery	11
2.3 Influencing factors for decentralization outcomes	12
<b>Chapter 3 Methodology and conceptual framework</b>	<b>17</b>
3.1 Study design	17
3.2 Conceptual framework	19
3.3 Data collection	20
<b>Chapter 4 Results and cases</b>	<b>22</b>
4.1 Decentralization process in the water supply sector	22
4.2 Actors	23
4.3 Cases	25
4.3.1 Oyon	25
4.3.2 Cusco	27
4.3.3 Chincha	28
<b>Chapter 5 Analysis on decentralization and service delivery</b>	<b>31</b>
5.1 Decentralization type	31
5.2 Influencing factors	33
5.2.1 Oyon	33
5.2.2 Cusco	34
5.2.3 Chincha	35
<b>Chapter 6 Conclusions</b>	<b>38</b>
<i>Appendices</i>	<i>40</i>
<i>References</i>	<i>54</i>
<i>Notes</i>	<i>56</i>

## **List of Tables**

Table 1: List of influencing variables for the conceptual framework	41
Table 2: Rules in use	42
Table 3: Number of interviews by entity	43
Table 4: General conditions of the action arena, per case	44
Table 5: Service delivery performance data, per case	49
Table 6: Task-function framework application, per case	52
Table 7: Influencing factors, per case	53

## **List of Maps**

Map 1: Location of cases	18
--------------------------	----

## **List of Appendices**

Appendix 1: Decentralized water supply services in Peru	40
Appendix 2: List of influencing variables for the conceptual framework	41
Appendix 3: Institutional Analysis and Development	42
Appendix 4: Number of interviews by entity	43
Appendix 5: General conditions of the action arena	44
Appendix 6: Service delivery performance data, per case	49
Appendix 7: National arena	50
Appendix 8: Task-function framework application, per case	52
Appendix 9: Influencing factors, per case	53

## **List of Acronyms**

ATM	Municipal Technical Area
DAS	Water and Sanitation Division
EPS	Service Provider Company
GR	Regional Government
IAD	Institutional Analysis and Development
INEI	National Institute of Statistics and Informatics
JASS	Administrative Boards of Sanitation Services
MEF	Ministry of Economy and Finance
MVCS	Ministry of Housing, Construction and Sanitation
OTASS	Technical Agency of the Sanitation Services Administration
RAT	Regimen of Transitory Support
SEDAPAL	Lima Drinking Water and Sewerage Service
SUNASS	National Superintendence of Sanitation Services

## Abstract

This research seeks to analyse how decentralization affects water provision in Peru. Thus, it focuses on the variety of governance arrangements of responsibility between local and national entities that exist in the sector, and its relationship with service delivery outcomes. The research question then is: 'How decentralization influence service delivery performance for water supply in Peru?'. As part of the study, a conceptual frame was developed as a product of a literature review on the variables that influence decentralization outcomes, that proposes ten variables categorised between institutional, social and organizational factors.

Then, a multiple-case study was developed, that analysed the structures for water provision in the provinces of Oyon, Cusco, and Chincha. While primary qualitative data was the main source for the study, secondary data as documents, reports, and statistical data completed the information. For developing the analysis, first, the decentralization processes were analysed under the concepts of devolution, delegation, and deconcentration. Later, the proposed conceptual framework was contrasted with the cases.

This analysis has led to identifying the diversity within the governance arrangements that exists in Peru and the relevance and implications this has for service delivery. First the cases show that there are no perfect representations of the categories, displaying hybrid characteristics, but also representing devolution, delegation and deconcentration in reality. This diversity coexists in the water supply sector in Peru. Then, while there are shared obstacles, decentralization types require different mechanisms to improve. For a service devolved, the political framework and environment will be considerable factors for decision-making. For the intermediate scenery of delegation local human resources can be crucial to define the level of actual independence local entities can have and the improvements they can generate. Lastly, deconcentrated structures for service provision rely on their regulatory structure, which makes its improvement depend on central government capacity to understand local settings. Despite this, for the three cases agency and policy entrepreneurship were present, which are not collected in the conceptual framework. Lastly, context will be relevant for the way decentralization fits reality and generates its outcomes.

## Relevance to Development Studies

Decentralization is a public sector reform that is promoted with the expectation of increasing government efficiency. Because of that many countries, including Peru, have implemented it in their policies. For water supply, decentralization has been implemented approximately thirty years ago, and in that time has shaped how this service is provided. This study focuses on analysing the relation between decentralization and service delivery of water supply. By understanding this relationship, is expected to provide information on how decision-making performs for these services and which factors are relevant for its outcomes. These decisions affect people's daily life and will have impacts on their health and general living conditions, which are considered a fundamental part of a country's development.

## Keywords

Decentralization, service delivery, water supply.

# Chapter 1

## Introduction

Decentralization is a public sector reform promoted by international actors (Asthana 2008:182), to push for certain changes like increase citizen participation in policy decisions, diffuse internal conflicts of power and enhance efficiency in public provision (Laryea-Adjei 2006:22). According to Eng “Decentralization is increasingly adopted as a core governance reform program in many countries” (2016:250), and is expected to generate positive results, as good governance and democracy, and through them, improve service delivery.

In Peru, as other countries of the region, decentralization has been implemented to improve the country’s development. According to Oblitas (2010:50), the basis for the decentralization reform in Peru was 1979 constitution and officially established in 2001 through the enactment of Law N° 27783 “Law of Bases of Decentralization”, which made a significant transfer of functions and responsibilities to sub-national governments. The Council of Ministers understands decentralization as a “political-technical process”, “aimed at achieving good government” (USAID & ProDecentralización 2010:7) associated with service delivery improvement.

Within public services, water supply is a basic service prioritized in the Sustainable Development Goal 6: *Ensure availability and sustainable management of water and sanitation for all*, and at a global level there is still 29% of the global population that lacked safely managed drinking water supplies in 2015 (World Bank 2019).

In the water supply sector in Peru, services were handled by the central government, both in rural and urban areas during the 1980s. But for urban areas in the 1990s (Oblitas 2010:10), the sector was reformed, where the main roles were divided within different government levels. This resulted in a division of responsibility between the steering and regulation roles, at the national level, played by the Ministry of Housing, Construction and Sanitation (MVCS for its initials in Spanish) and the National Superintendence of Sanitation Services (SUNASS for its initials in Spanish) respectively, and service delivery at the local level, played by provincial municipalities.<sup>1</sup>

But this responsibility has been addressed differently across localities. While for metropolitan Lima, the capital city, the service is now managed by one public company called Lima Drinking Water and Sewerage Service (SEDAPAL for its initials in Spanish) property of the central government, in other big cities the service is provided by locally owned public companies, and in other urban areas is directly provided by the municipality (Oblitas 2010:26-27). Additionally, after the creation of the Technical Agency of the Sanitation Services Administration (OTASS for its initials in Spanish) with the aim to improve public companies sustainability and efficiency, 19 of them are now under a different legal frame, where local governments lose control to pass it to this entity. These differences produce a variety of governance arrangements within the sector, with varied stakeholders and decision-making processes.

Due to the relevance of the service for quality of life and health, the last governments have placed water supply as a priority sector. According to von Hesse, between 2010 and 2015 there was a considerable improvement in access to the service, through “...a national strategy of social inclusion that prioritized access to water and sanitation services by the poor.” (2017:57). Despite this, in 2018 there was still 10,6% of the national population without access to water for human consumption, and in urban areas only 42,9% of the population consumed adequate water<sup>2</sup> and 39,6% only received the service intermittently from public

networks (INEI 2018). These deficiencies in access, frequency, and quality of the services are also different across localities.

Decentralization is a complex process that can be analysed from different perspectives. Although plenty studies that analyse decentralization trying to answer the debate in favour or against this reform, for many contexts stopping or retracting it could be more detrimental. This research proposes to explore the process whereby decentralization can influence service delivery, to give insights into this dynamic and help to understand its problematics. The analysis of the various governance arrangements within water supply in Peru can serve to explore decentralization in this sector, and its relationship with service delivery performance. The research aims to contribute to the discussion of decentralization outcomes, but also to identify which conditions affect them. In the Peruvian context, decentralization is already underway, therefore the research aims to inform the discussion on how to enhance its outcomes by understanding the interactions in place. This analysis could inform the decision-making process about governance arrangements, as well as the selection of management strategies, and boundaries for interaction among government levels. Also, this understanding could be relevant for the decentralization debate in general, feeding the discussion on its implications and limitations.

For achieving this aim, the research question to answer is: **‘How decentralization influence service delivery performance for water supply in Peru?’**

From here arise the following sub-questions:

- a) How the governance arrangements from water supply in Peru can be characterized, in terms of decentralization?
- b) What variables influence service delivery performance of the water supply sector in Peru, under a decentralized context?
- c) To what extent these variables enable or hinder improvement in service delivery performance?

# Chapter 2

## Defining and understanding decentralization

As a theoretical base for this study, three sections have been developed. First, there is a revision of the main decentralization definitions and typologies that help understand and analyse the concept. Secondly, a brief review of some studies upon decentralization outcomes. Lastly, is a review on literature about the factors that influence the relationship between decentralization and service delivery, with a systematization proposed as a conceptual framework for the study. In addition, Appendix 1 presents the revision of two diagnostics studies from decentralization in water supply in Peru.

### 2.1 Definitions and typologies for decentralization

Decentralization has different conceptualizations and each one can have different implications in terms of analysis and results. Several authors have developed decentralization understandings that sometimes come along with categorizations, giving additional tools to analyse different contexts.

One perspective that has stuck was proposed by Rondinelli et al (1983). They proposed that “Decentralization can be defined as the transfer of responsibility for planning, management and resource raising and allocation from the central government and its agencies to: (a) field units of central government ministries or agencies, (b) subordinate units or levels of government, (c) semiautonomous public authorities or corporations, (d) areawide, regional or functional authorities, or (e) nongovernmental private or voluntary organizations” (Rondinelli 1981a as cited in Rondinelli et al 1983:13). This definition emphasises the type of entity towards responsibility has been transferred, and the variability in the level of “responsibility for and discretion in decision-making”. This can go from a workload adjustment to divesting many central government responsibilities (Rondinelli et al 1983:14). They propose to differentiate four types of decentralization: deconcentration, delegation, devolution, and privatization.

*Deconcentration* is defined as “handing over of some amount of administrative authority or responsibility to lower levels within central government ministries and agencies” (Rondinelli et al 1983:14). It focused on handing responsibility to officers outside government centre and it may give partial discretion for parts of the policy process, but it usually includes centrally designed guidelines and local officers are consider part of the central government structure. *Delegation*, by the other hand, “transfers managerial responsibility for specifically defined functions to organizations that are outside the regular bureaucratic structure and that are only indirectly controlled by the central government” (Rondinelli et al 1983:19). Here the relation between central and the local government is less tight and local agents are given broader discretion, but, “ultimate responsibility remains with the sovereign authority” (Rondinelli et al 1983:19). Sometimes these parastatal entities are thought upon innovative public agencies that embed a corporate management perspective, so are considered out of the bureaucracy.

Third, *devolution* represents the “creation or strengthening (...) of subnational units of government, the activities of which are substantially outside the direct control of the central government” (Rondinelli et al 1983:24). This decentralization type identifies the transfer to autonomous public entities, where central government has an indirect role and civil society is considered to influence decisions. This autonomy gives local governments a more horizontal relationship with central government, with negotiation capacity. Lastly, Rondinelli et

al (1983:28) define the transfer of responsibilities to organizations outside of government privately owned as *privatization*. They highlight that these organizations represent different interests in society and that privatization can be useful to implement controversial or experimental activities, to bring specialized knowledge to certain areas, to reduce state risk, and even to meet needs that go beyond the government capacity. They recognise that “the distinction between privatization and delegation is blurred.” (Rondinelli et al 1983:29).

Another point of view of decentralization was developed by Litvak et al (1998). They define decentralization as “the assignment of fiscal, political, and administrative responsibilities to lower levels of government” (Litvak et al 1998:4). The authors emphasise the wide range of decentralization forms, and although they refer to the categories proposed by Rondinelli, they propose to differentiate another aspect of decentralization.

The authors distinguish decentralization based on the type of government instruments used, that devolved fiscal, political or administrative responsibilities. *Fiscal decentralization* is understood as “who sets and collects what taxes, who undertakes which expenditures, and how any ‘vertical imbalance’ is rectified” (Litvak et al 1998:6). This will determine the financing scheme of the decentralization model and is probably the most discussed decentralization type in the literature. Then, *political decentralization* refers to “the extent to which political institutions map the multiplicity of citizen interests onto policy decisions” (Inman and Rubinfeld, 1997 as cited in Litvak et al 1998:6). This focuses on the relevance given to the citizens' voice into public decision-making, and the mechanisms that exist for that. Lastly, *administrative decentralization* is concerned with how institutions “turn policy decisions into allocative (and distributive) outcomes” (Litvak et al 1998:6), or the implementation process of the policy. These three aspects will interact with each other to determine the general decentralization scheme and the interrelations between the local and central government entities.

For last, Falleti (2005) proposes another perspective into the understanding of decentralization which emphasize the nature of decentralization as a process and not as a fixed situation. Then, decentralization is defined as “a process of state reform composed by a set of public policies that transfer responsibilities, resources, or authority from higher to lower levels of government in the context of a specific type of state” (Falleti 2005:328). Here, the author proposes to highlight the relevance of the type of state for the decentralization process, and to use the Litvak' classification between administrative, fiscal and political in terms of the type of authority devolved (Falleti 2005:328-329).

Falleti points out that the order in which different types of decentralization policies are implemented and interact can have a relevant impact on its outcomes. He states for example that “if administrative decentralization takes place without the transfer of funds, this reform may decrease the autonomy of subnational officials” (2005:329). For fiscal decentralization, their outcomes will depend on who has the responsibility for the revenue collection and whether this comes in hand or not with the administrative capacity to implement it. Lastly, political decentralization, as stated by Falleti “should almost invariably increase the degree of autonomy of subnational officials from the centre” (2005:329), and this increase will have an impact on the accountability relations between citizens, subnational officials and central officials. In this regard, Falleti states that “the institutional design of decentralization policies is highly dependent on when those policies take place within the sequence of reforms” (2005:329) and identifying this sequence will be helpful to understand the process and its outcomes.

For this research, while decentralization is understood as a process, specific contexts will be analysed at certain point in time, which is why both understandings (as a process and as a static moment) of decentralization will be applied. Taking up on the definitions by Rondinelli and Falleti, for the purpose of this research decentralization will be understood as a

**process or as a stage on a process of transferring responsibilities to lower levels of government**, that is represented in certain interaction between different levels of actors (national, regional and local) in a governance arrangement. While few categorizations have been reviewed, the categories presented by Rondinelli are considered the most relevant for the research, since they are focused on the responsibility and discretion transfer which shapes governance arrangements.

## 2.2 Decentralization and service delivery

As stated, decentralization is a public sector reform implemented with various aims, and service delivery improvement is a usual objective. According to Ahmad, “Even when it is not explicit, improving service delivery is an implicit motivation behind most of these decentralization efforts” (2005:1). This reform has been promoted by the World Bank and other international actors to address public management deficiencies (Asthana 2008:182). This is based on the idea that “decentralization is often thought to ‘bring government closer to the people.’” (Azfar 1998:1). Thus, it makes public officers closer to local needs (Faguet 2014:5) and is expected to promote local governments competition and increase transparency and accountability (Smoke 2015:98). These elements should lead to service delivery performance improvement in terms of efficiency (Faguet 2014; Smoke 2015).

Several studies that contrasts this idea with reality, and some evidence shows supporting results. For example, Matheson and Azfar found improvement in health outcomes on decentralized provinces in the Philipines (1999 as cited in Azfar et al 1999:4), and other studies identified governance improvements arising from local efforts in decentralized systems (Litvack et al. 1998; Klitgaard 1988 as cited in Azfar et al 1999:4). More precisely, several studies claim decentralization can help water supply services to improve. Isham and Kähkönen observed a better match between services and user preferences in community-based water systems in Central Java, and an improved performance (1999b as cited in Azfar et al 1999:4). The World Bank argues that in Albania decentralization helped improve delivery effectiveness (as cited by Mwihaki 2018:253). Also, Pearce-Oroz compared the effectiveness of centralized and decentralized systems in Honduras and identified that decentralized operators “are more efficient in the provision of basic services and the more likely of the two to achieve sustainability” (2006:32).

But are authors also analyse the risks and dangers of decentralization. Prud'homme (1995), explains how decentralization can increase disparities, jeopardize stability and undermine efficiency if not adequately handled. Azfar et al. (1999:4) indicates studies from China and Chile where “decentralization increased regional disparities in the provision of health and education services” (West and Wong 1995; Winkler and Rounds 1996 as cited in Azfar et al 1999:4). Bellaubi proposes similar risks for water supply, suggesting that, as Lambsdroff notes ‘the alternative to a large centralized public sector is sometimes a weak local government that is captured by strong local players’ (as cited by Bellaubi 2016:14).

As these studies show, and some authors as Ahmad et al. point out “the experience with decentralization has been quite mixed” (2005:2). This is also supported by the World Bank, and Burki et al (as cited by Ahmad et al 2005:2), Adams (2016), Smoke (2015), Azfar et al (1999), and Rondinelli el at (1983). Adams also points out that the theory has not been able to make sense of these findings (2016:821). In that sense, there are many attempts to try to identify the elements behind these outcomes. While looking for these elements, many authors have generated various frames that consider certain elements as relevant to determine decentralization results. In the next section, some of them will be revised.

## 2.3 Influencing factors for decentralization outcomes

This section is a review of the literature on influencing factors for the relationship between decentralization and service delivery. This review included six frameworks that have different proposals to analyse decentralization and its relationship with policy outcomes.

A first frame was proposed by Rondinelli et al. (1983), that identified four factors that affect the success or failure of decentralization policies based on worldwide experience. From a more focused perspective, Dillinger (1994) developed a frame to identify elements to reform urban service delivery in a decentralized context and proposed three relevant elements. Then, Litvack et al. (1998) explored variables that can affect decentralization reforms in changing incentives and influencing outcomes, based on that “Evidence suggests that the problems associated with decentralization in developing countries reflect flaws in design and implementation” (Litvack et al 1998:8)<sup>3</sup>. A fourth framework developed by Azfar et al. (1999:2) states that decentralization will improve service provision in three ways: efficiency of resource allocation, accountability, and cost recovery, and identify six factors that are “likely to influence the performance of decentralized public service delivery” on those ways (1999:5).

Ahmad et al., conversely, present “a framework that explains both why decentralization can generate substantial improvements in service delivery, and why it often falls short of this promise” (2005:3). They focus on the relevance of accountability relations under decentralization and how different design and contextual aspects will affect them and recognize decentralization as a process and how this influence its outcomes. Then twelve factors are distinguished for the service delivery outcomes of decentralization. Lastly, Adams developed “a theoretical framework that explicates the causal mechanisms through which decentralization may alter policy outcomes” (2016:822). The framework proposes that decentralization generates more and less populous jurisdictions, and that these will affect resources and constraints of policy makers. This will then affect preferences, incentives, and capacities of policy makers, and therefore will shape policy decision and policy outcomes. Adams then, analyses five elements that are affected by decentralization and can affect policy outcomes (2016:824-827).

From the review of these frameworks some similarities were recognised between the factors considered. Due to this, through a systematization of these elements ten factors were recognized as relevant for the relationship between decentralization and service delivery. These ten factors are proposed to be used as part of the conceptual framework for this study, and they will be presented below, where it will be indicated what is comprised in each factor in relation with the literature.

- ***Organization of service delivery.*** Four concepts feed this factor. First, Rondinelli et al. point out the importance of an effective *design and organization of decentralization* programs, referring to “the clarity and simplicity of the structures and procedures used to decentralize, the ability of the implementing agency staff to interact with higher-level authorities, and the degree to which components of decentralized programs are integrated” (1983:62). This emphasise the need of balance between complex rules, that could make the process harder for local, and clear coordination rules, required to accomplish downward accountability and support local governments. Dillinger supports this, making an emphasis on the relevance of *clarification of functional responsibilities*, considering that unclarity could reduce local accountability and debilitate local governments financial negotiation position (1994:6). A third related concept is proposed by Litvack et al., where they state that the *organization of the service delivery*, which refers to the institutional structure required for service efficiency and equity that defines the division and distribution of functions,

will influence the production and provision of public services and therefore its performance (1998:20-21). Lastly, Ahmad et al. state that *administrative responsibility and building capacity*, are necessary for service efficiency, and consider that incomplete administrative functions can reduce local capacity building and weaken accountability of local staff (2005:10-12). Taking these discussions in consideration, comprehends the division of functions, process systematization and coordination mechanisms that are part of a decentralization arrangement.

- **Regulatory framework.** For this factor two authors have proposed contributing concepts. Litvack et al. indicate the relevance of the *regulatory framework*, that according to them will shape the decentralization scheme through the clarity and predictability of its rules, and emphasise that establishing regulations and enforcement procedures could be in that sense beneficial for the interaction of the actors involved (1998:16-20). Then Dillinger support this, stating the relevance of a *system of accountability* as a way of generating incentives for local officers, and pointing out that upward accountability comes via central government regulation that should still try not to distort services that require local knowledge. Then, the regulatory framework consists of the rules that keep service delivery in control, that come from central government and provide upward accountability mechanisms.
- **Information and participation system.** Four of the frames revised propose elements related to this factor. First, Litvack et al. point out that while decentralization is supposed to enhance the information of local needs this should not be an assumption and in that sense the *information systems* can have considerable consequences in service delivery. Additionally, the authors mention the influence this can have on accountability, which they also relate to *competition* and voice (elections, surveys, public forums, etc.) and exit (the possibility to move from one jurisdiction to another promoting competition) mechanisms of citizenship (1998:21-23). Ahmad et al. support this by proposing *information, participation and monitoring* mechanisms as necessary for assuring downward accountability, and they highlight the need for participation incentives, the importance of citizen perceptions on power distribution and local government capacity, and the use of information sources such as media and local leaders (2005: 14-15). Then Azfar et al. propose *transparency* as a relevant factor, defined as the “Access to information on the actions and performance of government”, as again mention that is “critical for the promotion of government accountability” (1999:12). Lastly, the previously mentioned *system of accountability* of Dillinger stresses this point by referring to downward accountability and notes that it requires civil participation. Then this factor refers to the rules of information gathering and processing, and on participation mechanisms for civil society.
- **Fiscal scheme.** Four variables refer to aspects in relation with the fiscal scheme. Dillinger first, highlights the importance of the *revenue sources* scheme, defined as a mixture of policy tools (including charges, taxes, transfers, and loans) and mentions how this scheme should be developed according to each service needs, and that this structure will affect the dependence relationship between local and central government (1994:6-7). Secondly, Azfar et al. mention the *fiscal aspects of decentralization*, which refers again to the financing scheme designed for the decentralized services and are consider important in terms of economic efficient size for expenditures and incentive effects (1999:10). Then, Ahmad et al. propose two related variables. One is the *fiscal issues*, that are again about the fiscal scheme design and its implications on accountability relations, through monitoring tools and incentives, and the second is the *financing*, described as the implications of the regulation to local government capital market access on the dependency relationship between

central and local government (2005:6-10). All of these are summarized in the factor of fiscal scheme, as the structure of revenue sources for service delivery, which might include the rules for access to capital.

- **Political framework.** Three frames have relevant arguments for this factor. Azfar et al. propose the *political framework*, referring to the main rules that shape the political processes and mention that decentralization is expected to 'bring government closer to the people' by putting in place local electoral systems and mechanism of local representation (1999:5). Then, Ahmad et al. mention the *political parties and electoral rules* that will affect the incentives of local politician and citizens to participate and the way they interact with each other (2005:17-18). Lastly, Adams describes the concept of *interjurisdictional competition* as the competition between local governments, which according to previously mentioned authors is supposed to enhance incentives to answer to local needs. In this regarding, the author states that these incentives might not work as expected since citizens interests might not be in service efficiency or certain groups might capture them, and that while incentives might be in place this does not mean policymakers will decide to follow them as they have to counterbalance with other elements (Adams 2016:830-832). There, several arguments support the relevance of political rules, as the electoral framework, over decentralization outcomes.
- **Decentralization sequence.** Two frameworks support and define this factor. Forst, Litvack et al. propose to look for *policy synchronization*, that refer to the mixed of fiscal, administrative and political decentralization policies at the same time, and explain that depending on the nature of the service this mixture can generate mismatches between responsibilities and capacities (Litvack et al 1998:24-25). Then, Ahmad supports this, by proposing to consider the *sequencing of political, fiscal and administrative decentralization*, which refers directly to Falleti's discussion. This last is considered as the ground for this factor.
- **Citizen participation.** This variable is directly included in two frameworks. Azfar et al. first, mention that while physical proximity might help to improve service delivery, this also requires mechanisms to ensure participation, since and it provides more tools for local government decision-making processes and promotes local government accountability, through pressure channels (Azfar et al 1999). Then, Adams also mentions this concept and argues that decentralization is likely to change the way citizens interact with policymakers, which might lead to changes in service delivery (2016:838).
- **Social structure.** Three concepts are related to this factor and support its relevance. Rondinelli et al. propose the relevance of the *attitudinal, behavioural and cultural conditions*, mentioning that having the support of national government for decentralizing services will not be enough if the local community behavioural norms and traditional customs do not align with the needs of a decentralized system, and mention elite capture and paternalistic relations within this concept (1983:57). Azfar et al. then suggest to consider *civil society and social structure*, referring to the advocacy role of civil society organization in rights claims and to aspects of social structure such as "the extent of social and economic heterogeneity of the population, trust among different groups of people, and cultural norms and traditions that affect relations among people and cohesiveness of the society" (1999:19-20). Lastly, Ahmad et al. analyse the significance of *social polarization and elite capture* as possible obstacles for political competition, downward accountability and a comprehensive (without minorities exclusion) participation (2005:15). Then social structure will comprehend different characteristics of the social composition in a decentralized

context, that range from social norms and perceptions to social and power divisions within the communities.

- **Political environment.** For this factor three frames have address relevant aspects. First is the degree of *political commitment and administrative support*, mentioned by Rondinelli et al., where they recognize that when political leaders have deployed decentralization reforms without the support of the state officers this generates problems in their implementation (1983:51). Then, Ahmad et al. point out to the risk of clientelist relations between local government and citizens when political competition is distorted, which will be affected by the *credibility of political promises* and will impact decision-making. Finally, these authors also recognise the possibility to encounter political resistance as part of the *politics of decentralization* and is analysed as an impeding factor for service delivery enhancement. Therefore, the political environment comprehends the political relations between the actors, particularly between civil society and politicians (mainly local), that will affect the service decision-making process.
- **Resources.** By last, three frameworks mention elements related to resources. Rondinelli et al (1983) identify adequate *financial, human, and physical resources* as a condition for decentralization outcomes, where for example the lack of expertise could lead to efficiency problems and limitations on the political influence of local entities, or the lack of financial resources could lead to limited administrative improvement. Then, Azfar et al. discuss the relevance of the *capacity of subnational governments* as “the ability, competency, and efficiency of subnational governments to plan, implement, manage, and evaluate policies, strategies, or programs” (Shafritz 1986 as cited in Azfar et al 1999:24). Lastly, Adams refers to *local knowledge* as the information on local needs and policy-relevant knowledge from local officers experience, and points that “that knowledge needs to either alter officials preferences or increase their capacity to design effective policy” (2016:830) to have an impact in service provision. While the three concepts support the relevance of resources in service delivery, each one emphasises different aspects of it. Then for this study four subcategories are identified: financial resources, infrastructure, natural resources, and human resources.

Then the factors collected have been classified into the three categories: institutional factors, social factors and organization factors. The first group refer to the different types of rules that give the institutional framework to the service provision, that might be formal or informal. Then the social factors are related to the social composition of the community analysed. Lastly, the organizational factors are associated to the characteristics of the organization that delimit its capacity, the resources the organization have for delivering the services. Appendix 2 shows a summary of the groups, the factors proposed, the concepts associated, and the authors that proposed them. This is suggested as the conceptual framework for answering to sub-questions 2 and 3 of the research.

Is relevant to notice that some variables included in the frameworks were not considered in this framework, that were excluded because they analyse aspects that were not aligned with the purpose of identifying influencing factors. For example, *asymmetric decentralization*, that recognizes the diversity of contexts and its impact in decentralization outcomes (Litvack et al 1998), *innovation and policy experimentation*, the possibility to increase policy innovation through decentralization, and *accommodation of heterogeneous preferences*, where local governments might have a better match between preferences and policy (Adams 2016), are expected results from the decentralization process more than characteristics that will affect it. By the other hand, the analysis of the *forms of decentralization* (jurisdictional or functional) and

*decentralization to community-based organizations* (Ahmad et al 2005) are too specific characteristics of certain decentralization processes that do not seem relevant for the analysed context.

# Chapter 3

## Methodology and conceptual framework

Through an analysis of the Peruvian context, this research proposes to explore and contrast the conceptual frame of decentralization and its relationship with service delivery. This section first presents the study design, then, describe the most relevant concepts, picked from the previous chapter or explained, and lastly, described the data collection process, along with some limitations.

### 3.1 Study design

This research has conducted a case study design, which allowed to focus on deepening the knowledge on the relationship between decentralization and service delivery in the water supply sector and explore the mechanisms behind it. A case study design, according to Gerring, is an adequate approach for analysing mechanisms in a causal relationship, and to address a more profound and narrow scope of analysis (2007:38). Also, considering the varied governance structures that derive from the decentralization process in Peru, a multiple-case design was proposed.

Taking into consideration the structures for urban areas around the country, three main governance arrangements have been identified: (i) localities within the capital, where service is managed by SEDAPAL (centrally owned), (ii) localities within other major cities, where the service is managed by public companies locally owned, and (iii) localities in the rest of the country, where service is managed by the municipality. Lastly, a fourth type was identified during fieldwork, a sub-group of the second: (iv) localities within other major cities, where service is managed by public companies controlled by OTASS.

The population analysed is the governance arrangements in the water supply sector in Peru. As a sample, the governance arrangements (ii), (iii) and (iv) have been considered, seeing that the type (i) is centrally owned. The cases are the provinces of Cusco, Oyon, and Chincha, which location is shown in Map 1. In Cusco services are managed by a public company locally owned (group ii); in Oyon services are provided by the municipality (group iii); and finally, in Chincha services are provided by a public company controlled by OTASS (group iv).

**Map 1: Location of cases**



Sources: author's elaboration

For this study qualitative information has been used, from both primary (collected through interviews) and secondary sources (from official documents and reports collected before and after fieldwork), and quantitative secondary information collected from available national statistical sources (mostly from the National Population and Housing Censuses from 2017).

To present the results, the Institutional Analysis and Development (IAD) framework has been used as a general structure. This scheme proposes a conceptual frame, where certain factors that influence behaviour are classified in three groups: physical and material conditions, community attributes and rules-in-use (within which seven rules are specified). The main definitions of this frame are presented Appendix 3. For describing the findings, the three groups of factors have been used as a tool to organize the general conditions of the cases.

From this description, the analysis of this information is focused on the three localities, in context and story to understand its service delivery performance. For addressing the research question and sub-questions the analysis has triangulated the different sources to deliver clearer findings on the process as well as on the relations between the variables analysed. In terms of Yin's five analytic techniques (2014), despite being an exploratory research, an explanation building technique have been applied. This technique proposes to consider empirical facts and theoretical relations to understand the outcomes of each case, to analyse a theory, which is aligned with the research objective.

To answer the first research sub-question, the Type-Function Framework developed by Silverman (1992) will be applied. Silverman (1992:25) "argues for the importance of disaggregating the concept of decentralization (..) by five key economic management functions" for its analysis: (1) planning, (2) fiscal policy formulation and generation of revenue, (3) public expenditure programming and management, (4) public sector staffing and (5) operations and maintenance. Then, this framework takes the typology presented by Rondinelli et al (1983),

and connect them with these five functions, to tackle the complexities that decentralization schemes have. This is useful for the analysis of the cases and its decentralised structures.

Later on, for the second and third research sub-questions, the variables identified from the literature and collected in Appendix 2 that affect decentralization relationship with service delivery performance will be contrasted with the actual situation encountered in the cases, and its influence will be analysed through the data collected.

### 3.2 Conceptual framework

This section presents the most relevant concepts for carrying out the study. While some of them have been already reviewed in the previous chapter, others are going to be presented and described. Considering the main research question, the central relation for this study is between decentralization and service delivery performance. Then, the focus of this study is on the variables that influence this relationship. In that sense, the most relevant concepts for the study are presented: *decentralization*, the *influencing factors* and the *service delivery performance*.

In the case of decentralization, as seen, many definitions exist that present different perspectives on the concept. For this research two main aspects are being taken that are relevant for the case of Peru. First, decentralization as a process (as defined by Falleti) is recognised as a dynamic concept. Decentralization changes through time in a specific context, and in that sense, it can show different faces. To analyse decentralization then is necessary to identify the specific stage for the current situation. For this, by looking to certain structure or arrangement of entities in different governmental levels (national, regional, local) decentralization can be identified, characterised and analysed. Then, decentralization for this research is understood as a governance arrangement, which represents a structure of governmental entities around a policy that share responsibility and interact with each other. Secondly, decentralization comprehend many types of structures that can be categorized according to several aspects. This research is taking the categorization developed by Rondinelli to categorize the cases analysed: deconcentration, delegation and devolution.

The influencing factors refer to different conditions or structural variables of a specific setting where a decentralization process is taking place, as for the cases analysed, that can affect how this process unfolds for certain policy and therefore its outcomes. The section 2.3 of the chapter 2 developed a literature review on the influencing factors for decentralization outcomes from several authors frameworks. This review generated a list of ten factors that gather the different elements proposed by the authors based on their similarities and affinities. Then, these factors are organized into three groups: institutional, social and organizational. This three groups are a parallel from Ostrom's IAD groups of factors that influence the behaviour (rules in use, attributes of the community and physical or material conditions), but they have been called differently because the actual factors are different from Ostrom's proposal. Here is relevant to mention that while IAD is useful to present the cases, it has not been used to analyse them to be able to incorporate the literature that specifically addresses decentralization outcomes. Then, the analysis of this research was done using the factors from Appendix 2.

Then, the last concept to tackle is service delivery performance. While several decentralization outcomes could be analysed, service delivery performance answers to the focus of this research in decentralization for the provision of a service. Then, there are several ways this performance could be conceptualized. Again, taking into consideration the context, to ground service delivery performance the Peruvian regulation have some relevant guidelines. According to the Law on the Management and Provision of Sanitation Services of Peru (Ministry of Housing, Construction and Sanitation 2016), which gives the guidelines for service provision and defines the roles of the entities of the sector, there are four sector

objectives. The fourth of them seeks to “Increase levels of efficiency in the provision of services with high indicators of quality, continuity and coverage”. Therefore, for this research, the water supply performance indicators will be coverage and continuity. Also, some aspects of water quality will be considered, due to its relevance for the service, but due to an information restriction, is not taken as part of the main indicators.

The regulatory entity SUNASS have a System of Management Indicators for Sanitation Services Companies (SUNASS 2006) which details the indicators used to monitor and evaluate the service performance. There each indicator is defined and explained, and thus the definitions from that document will be considered as the guideline for this research. There, drinking water coverage is defined as “The proportion of the population living in the areas administered by the Service Provider Company (or EPS for its initials in Spanish) who have access to drinking water service, either through a home connection or through a public swimming pool.”. Then, continuity is defined as “The weighted average of the number of hours of drinking water service that the Service Provider Company supply to the user. This indicator varies between 0 and 24 hours.”. This indicator is highly related to pressure, that refers to the waterpower as it comes out of the pipes, since similar actions are required to improve both pressure and continuity. Lastly, although there are several water-quality measures, the main indicator in the Peruvian system is presence of residual chlorine, which is a measure of the level of chlorine that stays in the water after treatment, and it shows not only that the level of chlorine is in an adequate level for human consumption, but also that the water has been treated with chlorine to remove pathogens from the water. Then, this indicator is defined as “The percentage of adequate samples in terms of the concentration of residual chlorine within permissible limits”. These concepts are used along the document, and its improvement is considered a policy objective, as stated in the sanitation law. Then, decision-making towards these objectives is described and analysed.

### 3.3 Data collection

The data collection for this research required both field and desktop work. The desktop work has been developed during the entire process of the research, and required to collect secondary information through legal documents, reports, and quantitative information from open sources. Most of the documents and reports were gathered from the web pages of the main entities of the sector (the Ministry of Housing, Construction and Sanitation, SUNASS, OTASS, the municipality and the public companies). Then the quantitative information was gathered from some documents, but mainly from query systems of the National Institute of Statistics and Informatics (INEI for its initials in Spanish).

The fieldwork for the primary data collection was developed in three weeks and was conducted in the cities of Oyon, Chincha and Lima. The case of Cusco was identified and decided to incorporate during fieldwork, so the data gathering was developed in Lima through available sources. Also, for the case of Chincha, while another province was initially intended, due to the lack of response from the entity, it had to be changed. In total the fieldwork comprised 21 in-depth interviews in Spanish with government officials at a national and local level and representatives of the public companies. This included personnel from the Ministry of Housing, Construction and Sanitation; SUNASS; OTASS; the local government of Oyon; and the public companies (SEMAPACH in Chincha and SEDACUSCO in Cusco). Two questionnaires were developed to conduct the interviews, one for national and another for local actors.

Additionally, one interview was carried out to an expert on the water sector member of the Pan American Health Organization and of academic entities that have researched this sector. Appendix 4 summarizes the interviews conducted in the field. Also, during the

primary information collection and as a result of the meetings, relevant documents, and statistical information was collected from the informers.

Lastly, is relevant to point out some limitations of the data collection. One important limitation from the fieldwork was the difficulty for arranging the interviews, due to the time availability of some of the informants. Because of that, some of the interviews lasted shorter than planned and had to be adapted from the designed questionnaire. The other main limitation was the reservation of some of the public officers. On account of their positions, two of them did not accept the interview to be recorded, and some others were reluctant to go deeper into negative aspects. Then, while it was initially intended to interview civil society representatives, due to lack of time this was excluded from the data collection. This has limited the views to mostly public officers' perspectives. Lastly, because the cases are provinces, which is a small territorial unit, there are very few statistical sources that have desegregated data at that level. This limited the quantitative information, specially to gather information from a longer period, since most of the information comes from the censuses from 2017.

## Chapter 4

### Results and cases

As previously mentioned, to present and understand the urban water supply services in Peru under a decentralized context, the IAD will be used as a conceptual framework to organize the information and describe the different elements that affect the outcomes of this policy.

The IAD proposes as a first step to identify a policy issue and the action situation around it. For this research the focus is in the improvement of the urban water supply services performance, measured in the outcomes of coverage, continuity and quality. Then, the action situation will be the interinstitutional setting that exists in Peru to deliver these services, which in the case of Peru answers to a decentralized arrangement.

Thus, the results will be presented in three parts. First the decentralization process for the water supply sector in Peru will be described, to better understand the action situation development. Secondly, the actors of this action situation will be described and the relationship between them will be outlined. Lastly, for each of the selected cases there will be a description of the general conditions of the action arena, in terms of their physical and material conditions, the attributes of the communities where these services are provided and the rules in use to which the actors respond.

#### 4.1 Decentralization process in the water supply sector

In Peru the water supply is a responsibility of the state, that together with the sewage system are part of the basic sanitation services, jointly handled and delivered due to their similar infrastructure, their effect in water management and their impact on infectious diseases reduction (Lifewater 2015). For the urban areas, through history these services have been managed differently according to the population density in each area. In that sense, the management process of the urban water supply services can be divided between: (i) metropolitan Lima, (ii) other major cities and (iii) the rest of the country.

For the capital city, until the beginning of the 1960s, the service was managed by a public council, that then past to form a public company. Since 1981 this company takes the name of SEDAPAL and is constituted as a public company property of the central government (Oblitas 2010:10). During the 1990s there was an attempt to privatize the company, but due to several obstacles in the process, it was dismissed. This company is supervised and works together with the Ministry of Housing, Construction and Sanitation, and is supervised by the regulatory entity.

For the group of other major cities, the process is the most complex and with significant changes. Until the beginning of the 1980s water supply services were handled by the central government. Then, one national public company was established, and 15 branch offices were created. At the end of the 1990s, through the Legislative Decree N° 574 “Law on the Organization and Functions of the Ministry of Housing and Construction”, these branches were transferred to the local governments and the central entity only kept its technical assistance functions (Oblitas 2010:10; von Hesse 2017:5). In 1992, SUNASS is created as a supervision and control entity, and the other central body was deactivated. Also, the subsidiary companies were established as independent public firms with shares owned by the local governments. After that, according to Oblitas (2010:14) “in order to limit the political interference of municipalities” a restructuring of the composition of the boards of the public companies is made, promoting to include representatives of the Regional Government (GR for its

initials in Spanish) and civil society. As a last step in this process, in 2013 the OTASS was created as a technical agency to give support to the service provider companies. To reinforce that and enhance their participation in the service provision, the Regimen of Transitory Support (RAT for its initials in Spanish) was created, which gives OTASS the authority to change high-ranking officials in the Service Provider Companies, as well as to have direct monitoring of the companies ascribed to it (von Hesse 2017:19).

Lastly, for the rest urban areas of the country, that comprehend approximately 20% of the urban population (roughly 490 localities), services have been historically managed by municipalities (Oblitas 2010:10). While SUNASS also has the legal responsibility to supervise the service provision for these localities, in practice the service is not supervised by the regulatory entity, and only the Ministry of Health apply its jurisdiction to supervise the water quality and safety, but not in a constant and systematic manner (Oblitas 2010:27; von Hesse 2017:19).

As previously mentioned, the cases selected only answer to the second and third groups here presented, that are the cases where local entities have a clear role and therefore can be characterized as decentralized contexts.

## 4.2 Actors

Due to the decentralization process in the urban water, a structure of stakeholders nowadays exists around the provision of these services, which have different roles and interactions with other entities and the society in general. This structure includes national, regional and local entities.

The national entities that are relevant for the water supply service provision in urban areas are:

- ***Ministry of Housing, Construction and Sanitation (MVCS)***. As previously mentioned, has the tiering role within the water supply sector. This implies that is in charge of generating the national policies in this regard, the national planning, as well as to set the general sanitation law. These tools give the guidelines for the regulation as well as set the policy priorities and goals. The water supply services are overseen within the construction and sanitation vice ministry.
- ***Urban Sanitation National Program (PNSU for their initials in Spanish)***. Is part of the ministry and is constituted as a program in charge of designing, evaluating, funding and executing public investment projects to generate, renovate or improve water and sanitation infrastructure. They also give support to local governments to develop their projects, gives them funds and monitors their execution.
- ***SUNASS***. As stated, is the regulatory entity of the water and sanitation services. In that sense, their main tool is the Tariff Study, through which SUNASS regulates and approves the water tariff but also establishes improvement goals and an investment plan to Service Provider Companies. SUNASS has established deconcentrated offices to have more constant contact with the service providers. While regulation was mainly focused on major cities, since the last sanitation law, Legal Decree N° 1280(MVCS 2016), was enacted, SUNASS also has the role to regulate services in the rest of rural and urban areas, monitoring all the service providers. These functions are still in process of implementation.

- **OTASS.** As explained, is a technical agency, created to support Service Provider Companies to manage water and sanitation services. Through the RAT, it has the authority to monitor Service Provider Companies, and implement measures to help them become financially sustainable. This regimen has been implemented in 19 public companies until now, according to the interviews. For the Service Provider Companies that are not under the RAT, OTASS provides general support programs of training and funding for prioritised needs in the sector.
- **Ministry of Health.** This ministry's role is focused on the monitoring of the water quality, due to its relation to illness. They monitor water quality through the General Directorate of Environmental Health.
- **Ministry of Economy and Finance.** This is the ministry in charge of the transfer of funds to national, regional and local entities. They approve the funds request and transfer resources to local governments, which can be for current or capital expenditure. This ministry has also implemented certain measures to improve public spending, like the creation of a budgetary structure for the sector, and an incentives plan of conditional transfer, which also includes goals for water supply services.

There is only one regional entity per region, which are:

- **Regional Governments (GR).** This level of government has a Directorate of Housing, Construction, and Sanitation, which has the role to monitor these services. These offices also give support to local governments and can finance investment projects to improve service delivery in the region.

Lastly, there are two local entities identified for the water supply services in urban areas:

- **Municipalities (provincial and district).** They are the main local government entities. They are responsible by law to provide water supply services to citizens in their jurisdiction. Within the municipalities, Municipal Technical Area (ATM for its initials in Spanish) is the division that should be created and assigned the responsibility of service provision. They can provide the water supply services directly or through the Service Provider Companies.
- **Service Provider Companies (EPS).** They are responsible for the service provision in the major cities when this has been handed by the local government. They are public companies, constituted as independent entities but locally owned through their stocks. Usually they have a general board constituted by the local government authorities, regional government authorities, and civil society representatives.

Though all these actors are relevant for the sector, they have a different roles or relevance for different localities. While all localities are under the MVCS steering role, the regulatory role is not yet enforced to less dense urban areas (the last group). Also, while the service delivery is a local responsibility, for the capital metropolitan area, the central government has the actual management through its interaction with SEDAPAL. Additionally, while the GR are supposed to have a role in the regional water supply policies, this role is not clearly defined and varies depending on the approach taken by each region.

## 4.3 Cases

Continuing with the IAD structure, to be able to analyse the water supply services performance in a decentralized context, the general setting of this policy arena will be presented through the IAD categories for each case. In Appendix 5, presents detailed information on the IAD elements that affect the policy situation. Below the most relevant aspects described. Then, at the end of the section the service delivery performance indicators of the cases are presented.

### 4.3.1 Oyon

For the case of the Oyon province, the entity that provides the urban water supply services is the Provincial Municipality. According to the head of the division, the provincial municipality is only in charge for Oyon district, the capital of the province, while the rest of districts are provided by their district municipalities due to their rural nature. Despite this, the provincial municipality also gives them support and provides financing for some maintenance activities.

Regarding the **attributes of the community**, this district has a population of 12,764, and the municipality is responsible for providing the service to almost 85% of them (10,755), its urban population. The main economic activity of the area is mining that concentrates 34.5% of the workers, and that have been present in the province since 1975, when the Uchucchacua mine started its operations on extraction of silver, lead and zinc, run by the Buenaventura company. While this activity has brought more resources to the area, there is still poverty (between 17.1% and 25.3% in 2013). Most of the population is not highly qualified, as 42% of the residents have only completed secondary education, and there is a considerable presence of Quechuas 34.6%, a national ethnic group from the highlands (INEI 2017).

Regarding water supply services, according to the municipality officers, citizens are not conscious about the value of water, "...they waste water, (...) is used for sowing and that is not allowed.", "...(people) waste the liquid element, and start wearing down the water, leave the pipes open, while another population lacks water, so there is no culture." (interviews 9 and 10). They associate this also to the lack of knowledge in the use of the water supply system, "...population does not know how to use it. A week ago, we found a trunk in a sewage matrix. (...) they have the sewer box open, so they pour everything, rags, plastic bottles, cutlery and all that obstructs." (interview 9). This causes water waste, malfunctions and service disruptions due to blockages.

Considering some **physical conditions**, the municipality provides the services through the Water and Sanitation Division (DAS for its initials in Spanish). This division is part of the City Services Management Unit, which is also in charge of other services. In terms of human resources, the division has 14 employees mostly not highly trained. Other units involved are: (i) Urban and Rural Development, for infrastructure projects; (ii) Administration and Finance, for tariffs collection and acquisitions; and (iii) Planning and Budget, for budget requests. Additionally, the municipality has constituted their ATM, but according to the municipality staff, right now is constituted only by the head of the DAS.

The DAS had a budget of approximately 9.3 euros per user allocated to maintenance activities<sup>4</sup>, used to preserve four water reservoirs and the distribution pipes. While there is no micro measurement (water meters) in Oyon, the distribution now is per house while until 2008 was every four blocks, which cause a considerable service improvement. Water sources are close, and in general there is not hydric stress in the area, except for seasonal events of pressure reduction.

Lastly, regarding the **rules in use** in water services, for the case of Oyon apart from the municipality and citizens the main *position rules* assign roles to the GR, the MEF, the MVCS, and SUNASS, although the regulation role is not enforced yet. Concerning *boundary rules*, for the service provider, the roles depend on the electoral results since changes in the head of DAS and other units is decided by the major. Despite this, technical roles usually stay longer in their positions.

*Authority rules* comprehend daily operational actions (mainly maintenance and service installation) and service improvement actions (for coverage, continuity and quality). For coverage improvement, expansion infrastructure projects are required, which can be developed by the municipality itself. Continuity can improve through maintenance activities that reduce disruptions, from pipe blockages (from air or objects) and leaks. These problems also generate complications for water pressure, particularly for higher parts of the city. Hence, for increasing pressure and continuity in higher areas investment for pumps is required. Then, water quality is highly connected to water treatment procedures, that are constantly being checked for improvement. Initiatives to develop infrastructure projects can also come from the GR or the MVCS, but this is only occasional. Lastly, there is service tariffs, that are nowadays a monthly fixed amount (due to the lack of water meters) assigned per categories (domestic, commercial, or social for smaller or low-income families). While SUNASS is the responsible for tariff regulation, this has not yet been enforced. Then, the municipality has also the authority to cut down the service for lack of payment but is not usually implemented according to the interviewees.

About *aggregation rules*, for the maintenance activities, they are periodically schedule at different intervals depending on each part of the system (water catchments, valves, reservoirs, distribution pipes, etc.), but they can also be done per requirement for specific reported malfunctions. Service installation activities are done on demand and sometimes do not need new infrastructure, but when the existing pipes are not close enough an expansion infrastructure project is required. For coverage improvement projects, first, there is the identification for the need, that can come from the municipality staff or the citizens through the participatory budget procedure. Then is the financing of the project. This can come from the general budget of the municipality, approved and transferred by central government, or from tariffs.

Additionally, Oyon received mining royalties, usually used for maintenance costs. According to the municipality officials, tariffs are usually not enough so projects funding can come from the municipality budget or through the external funding (mainly the GR or the MVCS), and due to the projects size is usually the second. Lastly, for service continuity, according to the municipality staff, they regulate this through the valves and have now water distribution from 5 am until 3 pm. But the continuity in a house depends on other factors, as proximity to water sources and altitude. The division analyses this per city areas or segments. According to municipality staff, part of the city has installed water pumps and elevated tanks, which also allows them to have a 24-hour water flow.

The *scope rules* for this case assigned water supply service for urban areas that is the capital, as mentioned, to the Provincial Municipality. For rural area there are Administrative Boards of Sanitation Services (JASS for their initials in Spanish), community-based boards for water self-management supported by the municipality. Then, on the *information rules*, only continuity and quality are monitored by the division through their staff measurement and there is not systematization of this information. Additionally, while municipality staff mentioned occasional visits from SUNASS, there are not clear monitoring tools established.

Finally, on *payoff rules*, while the MVCS and SUNASS have the steering and regulatory roles, neither of them has an active role in the water supply service provision for Oyon. For the ministry, is also among their functions to promote service improvement, and while there have been occasional infrastructure projects, they do not have clear tools to push for it. For

SUNASS, there are not clear standards to regulate neither mechanisms to enforce them. In this sense, there is a minimal to no existent upward accountability. Then, as for downward accountability, while there are mechanisms of open window spaces for users complains, there are mainly used concerning specific leakages and malfunctions.

### 4.3.2 Cusco

In Cusco province, the urban water supply provider is the public company SEDACUSCO. This company provides the service to five districts of the province, and since 2014 also to Paucartambo district from the colliding Paucartambo province. The company is owned by the provincial municipalities of those districts.

Concerning the **attributes of the community**, this area has a total population of 480,652, from where 96.3% are part of the urban population (462,683), with a considerable Quechua population (62.4%). The main economic activities are commerce and tourism, as a result of the increasing regional touristic attractions popularised. This has helped to reduce poverty rates (between 4% and 5.8% in 2013). In education, 16.6% of the population has reached university studies which is a high rate for other regions. While Paucartambo's population is only 4,329 (1%), they have some differences to the rest of districts. There are more children (26.8%), more population identified as Quechua (89.5%), and only 4.2% has reached tertiary education (INEI 2017).

As **physical conditions** regard, SEDACUSCO is an independent entity with approximately 230 workers (until 2017), where according to the officers, training is highly valued “We the managers and heads of department have been trained with courses in administration and management of drinking water companies” (interview 6). For 2018 there was a budget of approximately 88 euros per user for all activities. Regarding water sources, while for Cusco there are enough to generate a smooth water production through the year, for Paucartambo is not possible to sustain it through the seasonal changes. Lastly, regarding the infrastructure, SEDACUSCO has complete systems that even include laboratories and quality control facilities, and they have reached a high level of micro measurement for national standards (93.7% in Cusco city), but for Paucartambo this rate is still low (21.4%) due to their late incorporation.

Then, regarding the **rules in use**, the *position rules* set the EPS, SUNASS, OTASS, provincial and district municipalities, GR, and the MEF and MVCS as the main roles in the system for Cusco. In this case, SUNASS has a leading role and a constant interaction with the EPS, while OTASS has a supportive but minor role. For SEDACUSCO, as *boundary rules*, the designation of the institution heads is done by the board, composed by representatives of the provincial municipalities, the GR and civil society. Changes in the leading positions can generate changes in positions of trust in the entity, but part of the staff have not changed through time, especially technical roles.

For *authority rules*, as before actions are operational (maintenance, fees collection and service installation) or for service improvement. While service improvement requires investment, as stated earlier, some other actions can also help specially for continuity improvement, like leakages or clandestine connections detections programs where SEDACUSCO leads the sector in its implementation according to officers. Public company providers are expected to carry out continuity and quality improvement projects, but not coverage expansion projects. Therefore, for this case external initiatives (from municipalities, the GR or the MVCS) are usually for coverage projects. About tariffs, while SEDACUSCO is responsible of their collection they cannot determine them. The EPS can propose a tariff, but SUNASS has to approve it. The EPS can also take enforcement measures for lack of payment, like fines and

service cut down. Nowadays tariffs are a variable cost in function of the consumed amount for all the areas that have water meters and fixed for where there is not (mainly Paucartambo).

As to *aggregation rules*, tariffs and investment decisions mainly depend on the Tariff Study. Every five years each EPS is supposed to develop an Optimized Master Plan where they diagnose their needs to improve services and provide it sustainably, considering population growth. They can propose investments, and since EPS should be financially independent and sustainable through tariff collection, they propose a corresponding tariff. But this plan is checked by SUNASS, where they revise the justification of the actions and its feasibility in terms of user's payment capacity. According to the interviews, from SUNASS standpoint while the tariffs should allow financial sustainability, since the infrastructure gap is still too big, this should not be financed through tariff since it could become restrictive, especially for vulnerable groups, "...closing of gaps so that everyone has water connections has a cost, and public companies can hardly close this gap with their resources. We have seen over the years that closing the gap through tariffs has a big impact on users." (interview 20).

Then, for coverage projects, municipality initiatives can come from technical diagnostics or participatory budgeting, but just like for Oyon, financial restrictions limit their actions. For regional and national entities these initiatives come from internal priority or contextual interests (as natural disasters, or other extraordinary situations). For example, according to the PNSU, "Priority is given to those (projects) that are ready for execution, because it is with the execution that the need is going to be satisfied. (...) On those that are well elaborated, because otherwise it would be wasted (the budget)." (interview 16).

The scope of the EPS actions are the districts established in the exploitation contract, that formalizes the *scope rules*, approved by provincial municipalities. As *information rules*, the main monitoring activities are done by the EPS both in financial and operational indicators. They are required to collect that information as part of the SUNASS regulatory commands. Then, SUNASS does random check-ups of the indicators to verify the veracity of the reported information. Concerning this, as *payoff rules*, SUNASS has the main role in upward accountability. The Tariff Study specifies goals for the EPS expressed in indicators, including number of connections (related to coverage) and continuity. When minimal standards are not reached, SUNASS can impose financial or administrative sanctions. Then, as downward accountability, as for the previous case, open windows for users' claims are open as the main communication channel.

### 4.3.3 Chincha

SEMAPACH is the public company that provides water supply service to the urban areas of seven districts of Chincha province and is owned by the provincial municipality. As **attributes of the community**, within these districts the population is 223,310 and 96.1% is urban (approximately 214 thousand people). The main activities are commerce, manufacture and agriculture, and their growth has helped the region to reduce poverty rates in the province (between 6.7% and 9.9% in 2013). Regarding education, more than half of the population has only reached basic education, and in terms of identify, while most people identify as mestizo, there are also Quechua and Afro-Peruvian communities (INEI 2017).

As for **physical conditions**, the company has 167 employees organized in five management units, with most of them working on operations and maintenance. According to the interview, "There are people who have more than 20 years in the company. They have a vision of what has not been done, of what is needed." (interview 14). However, there is also the notion that employees in general are not highly trained. In financial means, the company have as an annual budget of approximately 20 euros per user.

Regarding water sources, districts in the higher part of the city are supplied from surface and underground sources with a seasonal flow, and for the lower part are supplied by underground sources. In recent years, climate events have affected the water supply in the area, and together with the agriculture increase have impacted the services. Last, on infrastructure, SEMAPACH has two supply systems which also have laboratories and quality control facilities, but only 7% of users have water meters.

Last, as for the *rules in use*, *position rules* set again the EPS, SUNASS, OTASS, municipalities, GR, and the MEF and MVCS as the main roles. On *boundary rules*, since October 2016, SEMAPACH has been admitted to the RAT, by which the company is handled by OTASS, as a result of the evaluation which concludes the company incurred in economic and financial insolvency. Thereupon, OTASS took over and change several managers at the beginning of 2019. Despite this, part of the staff has remained.

As *authority rules*, the main responsibilities of the Operations and Maintenance unit include water treatment and maintenance activities, service installation is requested to the Commercial unit and the Infrastructure unit is in charge of infrastructure projects for both new infrastructure and renovation of existing one. As before, the EPS does not propose coverage expansion projects, while continuity and quality improvement projects are, but for this case, they must be approved or supervised by OTASS. As explained in the interviews “OTASS sets goals (...) and the EPS sets out the strategy for achieving those...” (interview 12). Then, on continuity the company does continuous efforts to improve as reducing leaks and blockages of the pipes. Additionally, the Commercial area has implemented, with the OTASS help, a clandestine connections detection program, to reduce the water loss. Last, for the tariffs, it works as for Cusco, the EPS can propose a tariff scheme but SUNASS must approve it. Then, SEMAPACH has the authority to monitor payments and take actions against users in default.

For *aggregation rules*, projects to enhance existing infrastructure are required by the Operations unit, or as part of the Tariff Study. The last Tariff Study was developed by SUNASS with inputs from the EPS because the company could not achieve deadlines. For new infrastructure, the Tariff Study only includes projects for maintaining coverage considering population growth. SUNASS argues the “gap closure” is responsibility of all the sector entities, so central government programs should cover it, and most initiatives do come from local, regional or central entities. For programs implementation, they can come from SEMAPACH internal proposal or OTASS. Funding, that can be a limiting factor, comes again from its tariff collection and again is set by the Tariff Study and handled by the Commercial unit. As a result of their inclusion to the RAT the company has been receiving additional funds from OTASS to implement improvement programs. Since the area suffers from seasonal water scarcity, they need strategies to maintain service quality, like additional water sources, but usually end up reducing continuity seasonally.

As before, on *information rules* indicators collection is EPS responsibility, and monitored and verified by SUNASS and OTASS through sample checks. The *scope rules* are set in the exploitation contract. Finally, as *payoff rules*, the main difference with the previous case is the relevance of OTASS on upward accountability, forcing SEMAPACH to obtain good results and enforcing this through direct pressure to the company heads. According to the interviews, OTASS performs permanent and direct monitoring, asking for information constantly. OTASS director is seen as the direct boss of the company’s general manager and could take hard measures as fire him. Then, while downward accountability mechanisms are the same, officers mention that “Usually the claims are for lack of water, clogging, error in cutting the service. (...) The claim for lack of water, the user sees it as a way to reduce their billing. The user does not claim: ‘I have low pressure, improve my pressure’. It is: ‘I have low pressure, deduct my receipt?’” (interview 13).

To finish the cases description, is relevant to present information on the service delivery performance indicators. As seen in Appendix 6, all three cases show relatively positive results on coverage. While Oyon and Cusco show better results than Chincha, all three outperform national coverage (except Chincha when considering coverage of only EPS). Then on continuity, Cusco beats the national average, and while Oyon and Chincha are below it they show a small decrease. Also, there is no information on the national continuity for every service provider, so this datum might be overestimated.

# Chapter 5

## Analysis on decentralization and service delivery

For developing the analysis of the cases, two aspects will be revised. First, regarding the first sub-question of the research, the decentralization processes of water supply services in the context of the cases will be analysed under the concepts of devolution, delegation, and deconcentration. Later, to answer the second and third sub-questions, the factors that influence decentralization outcomes in terms of service delivery will be analysed, particularly for the decision-making processes in relation with service delivery performance improvement, considering the literature review and the conceptual frame proposed. In addition, a brief review of the national arena and debate on decentralization is presented in Appendix 7.

### 5.1 Decentralization type

For answering the first sub-question, as mentioned, the Task Function Framework will be applied, to unravel the complexity of the relations between the different entities that interact in the water supply provision for each case. This framework proposes a list of functions to divide the service provision. Relating each function to a responsible entity and analysing their discretion to take decisions, is proposed as a measure to classify them in a decentralization type among deconcentration, delegation and devolution. Appendix 8 shows the detail of this analysis. This allows to understand the decentralization process and the current situation for each case, and then categorize their governance structure.

For the case of Oyon, the municipality is the local entity responsible for all the service provision tasks but faces some restrictions for fulfil this role. The municipality can determine the water supply priorities, goals and the strategies to achieve them. Then, decisions on planning, staffing, information management and operations and maintenance are taken by the municipality through its different units, mainly through their DAS.

In contrast, for other actions, while the responsibility lies with the municipality the requirements for achieving them cannot be met by itself. This is linked with the municipality's financial dependency on central government. While the local entity is responsible and independent to take decisions on revenue generation, since this income is not enough for achieving service provision, and particularly for taking actions on service improvement, the fiscal management of the services becomes dependant on other entities (as the GR or the ministries). Also, while the priorities can be established by the municipality, its budgeting and expenditure management must be approved by the MEF. While this usually does not mean changes between items, it can imply cuts to the total budget. In that sense, part of the project implementation will depend on this approval, and for bigger projects there will be a greater dependence on the availability of external funds. Lastly, if regional or national entities finance projects for the municipality area, they might supervise the project execution or even to take charge. Despite this, in general the municipality has the decision-making power and the service provision will depend mostly on their actions, therefore is considered as a case of **devolution**.

In the case of Cusco, EPS SEMAPACH is the local entity responsibilities for service provision, but in this case central government role is bigger than for Oyon. There are two main functions dependant only on the EPS: staffing, where all positions are selected locally (the heads through a board), and the operation and maintenance, where all decisions are also taken locally. Then, for most of the functions, while choices can be proposed and implemented locally, final decisions will depend on central government entities. These functions

are related to the Tariff Study, which involves decisions on planning, fiscal policy and revenue generation, budgeting and expenditure management, and program and project implementation. Through this tool, the central regulatory entity monitors local service provision, and as stated above, has instruments to enforce its compliance. In that sense, these tasks are categorized as delegated since the responsibility is given to the local entity, but the central government keeps control mechanisms active. By last, the task of information management is categorized as deconcentration considering that while the EPS has the responsibility to collect the information it will do it under SUNASS guidelines and following their monitoring purposes. Due to these interactions, Cusco is considered a case of **delegation**, where for most of the service provision functions are responsibility of the EPS with decision-making power, but with clear control caps from central government. In general, this type of governance structure follows a relation of controlled autonomy between local and central entities.

Finally, for the province of Chincha, while the local entity (EPS SEMAPACH) is similar to the one from Cusco, recent changes for this public company makes its decentralization status very different. The main events that change the situation for Chincha are its inclusion to the RAT and that SUNASS had to develop its Tariff Study. Due to the inclusion of Chincha in the RAT, OTASS became involved in its management and took over some crucial decisions, like to change its managerial positions. Also, the RAT implies that OTASS supervises and supports most of the EPS activities, from the daily operations to the compliance of the Tariff Study and general targets. Then, since SUNASS was required to develop the Tariff Study, a task that EPS usually do, they were not able to even propose their priorities, goals and actions, and can only implement them under OTASS supervision. The EPS representatives recognize that the goals are not set by them but consider to still have room for decision-making power in daily and more operative actions. Despite this, the guidelines are set by central government that has a considerable role in the decision-making process that puts Chincha in a case of **deconcentration**.

In general terms, this analysis allows to understand the different structures of decision making for each case. As seen, each case reflects a complex arrangement that does not necessarily fits the ideal decentralization types proposed by Rondinelli et al. since within them contain different relations for different functions. As stated by Silverman, most arrangements are characterized by the coexistence of different decentralization types and refers to them as hybrids, where “some functions are decentralized in one way and other functions decentralized in other ways” (1992:15). Despite recognizing the nature of reality as hybrid, it was considered adequate for this study to give a general label to each case, contemplating its general trend.

Then, the three decentralization types in which the cases have been categorized coexist in the water supply sector, but their decentralization processes, their actors and the way they interact with each other have generated different settings for decision making on service provision. In that sense, to identify the decentralization type is a way to better understand these settings. Then, the next section will be focused on which other elements take a role on service provision, considering this setting.

## 5.2 Influencing factors

To address the second sub-question of the research the description of the cases through the IAD structure and the decentralization type will be taken as a general picture. Then the factors that have influenced service delivery performance will be identified for each case. For that is necessary to round their service delivery story, identifying the most relevant aspects of each case (turning points or critical moments on service delivery performance), and then relate them with the variables from the literature, consolidated in the Appendix 2. Here is relevant to recognize that while all three cases represent decentralization as a process and as a governance structure that includes local actors, the variety of decentralization types acknowledged in the previous section will have implications in policy implementation, and particularly in the service delivery performance through affecting the decision-making process. Due to this, the decentralization type, and the process to get to that type or stage, is a main element in this analysis.

### 5.2.1 Oyon

The city of Oyon is one of the urban areas in the country where water supply services have been historically provided by the municipalities. While this means that the centralized scheme never considered this area, for the current system that is starting to recognize it as part of the water supply national system, the governance structure from Oyon could be called devolved due to its independence level to the central government. As previously recognized, central government role is minimal in terms of planning and implementing service provision. This implies that, although the central government could get involved, this is not systematic neither expected from local authorities, which mostly have relied on themselves to give these services to its population.

Oyon is a city that according to its public officers is growing and has been growing constantly in relation with the development of mining activities. Mining gave a push to the city and attracted people to stay or come back to it. This also increased the need for public services and gave financial resources to its government through royalties. While this is not significant to fund large projects, it allows to improve daily and operative activities.

Being part of the local government, water supply services have always depended on local representatives, and initiatives rely on political will and popular appeal as their main boost. An important improvement for water provision was going from shared water access to access per household. This change according to public officers happened through three main governmental terms. “There were several, we have Nancy Bahamonte, we have Delgado, and the last mayor, Mr. Aldo Huaraz. Yes, they are the ones who have made the procedures for water supply.” (interview 10). While this political will can be a strong push to improvement, the dependence on it, and even more, on the political actors that lead these projects can be also risky.

According to the interviews, there were large investments (for approximately 29 million “soles” or 8 million euros), but they were not well executed and were not enough for the city growth that could be envisaged. One public officer points out that there is high managers rotation, which generates bad decision making since they do not care about long-term consequences of their initiatives, and they will not listen to warnings about the risk of their decisions. The size of the pipes was given as an example, where city growth was not considered for selecting them and for executing the project faster it was not corrected despite warnings. Because of this, although these projects improve the infrastructure, is considered not to have been done in the best way.

Considering this, in relation with institutional variables, the *political framework* could be identified as relevant for this case. This type of rules will have a great influence in the political authorities, who as noted have a strong role in the decision-making process for the service. In Oyon, the direct election of the mayor through elections, and the close access to recall generated pressure in majors to align its political interests with the population priorities and works as one of the main downward accountability mechanisms. In relation with this, the *information and participation system* also play a role, where mechanism as participatory budget has also been used to push for this alignment. Then, from social variables, the *political environment*, in this case focused on the credibility of political promises, has a considerable impact in the electoral process as well and might shape electoral participation. In general terms for the case of Oyon, the size and closeness between the population and its political leaders lead to a more incisive accountability for political promises and a less forgiving electorate. Then, popular claim could be more relevant than in bigger cities.

Lastly, within the organizational variables, the two main aspects that influenced service delivery have been the *natural resources*, where the close water sources have facilitated the service provision, and the economic activity which brought *financial resources* to the area that allow more expenditure and investment in public services. Is finally, relevant to point out that SUNASS is developing an implementation plan for achieving its regulation role for the smaller urban areas as Oyon, so it is expected to start its monitoring functions and eventually enforce its standards to this area, which will increase the accountability mechanisms for the service in this area.

### 5.2.2 Cusco

For the city of Cusco, the water supply services have been given by a public company locally owned since the end of the 1990s. As previously seen, this has meant that the company is regulated by the central government but has a general independence in their priorities and strategies setting. A relevant consideration here is that SUNASS, as mentioned by public officers, has struggled to supervise all public companies but it has been improving since its creations. Due to this, the supervision to the EPS form Cusco might have not been constant and very incisive. Also, while the company has been owned by the local government for a long period, the relationship between the two entities has been changing according to the law and regulations, which have changed the composition of the board through time and its responsibilities. Nowadays while the only shareholders are the provincial municipalities, the board has a broader composition in an attempt to balance interests and represent different voices into it. In this way, the EPS Cusco has been delegated the functions of the water supply service provision but keeps an interaction with national and local entities that supervise its work.

This public company started struggling, as many other companies, with the financial sustainability and with their capacity to improve water supply services. Since then, is relevant to mention that there was a rise in tourist activities in the region, and particularly in Cusco city, due to the recognition of its tourist attractions like Machu Picchu (established as one of the new seven wonders of the world) in 2007. Also, the local municipality was able to increase its income due to mining royalties. Despite this, Cusco's EPS needed to accomplish financial sustainability through their income sources, and this required more than the increase on the city income.

For improving in service provision and sustainability, “The first thing that was done was to evaluate the company and determine as the first (priority) the source (of water). We worked with alternative solutions that could cover this deficit.” (interview 6). A proposal was identified, funding was sought and secured through a French loan. Then distribution problems had to be addressed. But once this was resolved it was identified that, despite providing

a better service (more hours of water available) invoicing did not rise because micro measurement was too low, and the turnover did not go up even with an increase in consumption. They also worked on the reduction of water losses, “we came to determine that around 60% was lost, we implemented a functional organ of the office at the level of the head of loss control, we worked intensely that over time we came to lower these levels of 60% around 32-30%” (interview 6).

Regarding how this change happen, the interviewee stated, “I believe that the factor of success was the change in the attitude of the workers” (interview 6). According to him, “through the unions they had the power to decide what worked and who did not, they had the power to remove managers”. This, as stated, was because the workers concentrated a high level of information not systematized and the decision-making depended on the person in charge, not the process. Then, one action was to “...extract all the knowledge from the workers (...) now there is a technical, sectorized, simulated or validated registry that allows us to manage the distribution of coverage” (interview 6). Then, there was a period of layoffs that send a message to poor workers. The *organization of service delivery* as the systematization of service provision processes was relevant to improve the institutional setting of the company.

The public company started to generate a change in the priority given to local capacity formation, process establishment and management skills, “...all the managers and department heads have trained with courses in administration and management of drinking water companies, that has practically changed our chip. Because universities not train professionals to manage sanitation systems, although it is true that there is hydraulic engineering or civil engineering but more than anything, they train us in design than in operation. So, with these courses, has made us already have enough criteria to make decisions and move forward.” (interview 6). Local *human resources* became a crucial aspect that influenced the sector. After its recognition, the improvement of specific skills is identified as a triggering point for service improvement.

This process also required the stepping out of the municipalities authorities, according to the interviews “In headquarters Cusco there was an occasion, that I include myself, of professionals with character with knowledge that we achieved legitimate respect that we have made career and we have not allowed much the political interference, in this case the municipalities that always had it but we have resisted.” (interview 6). Then, considering this confrontation, a favourable *political environment* in terms of political will, although was not voluntary was required to maintain the established path. Lastly, as mentioned, the access to *financial resources* was a necessary condition for improvement.

### 5.2.3 Chincha

In the case of Chincha, while the story is similar to Cusco in its early stage, the situation changed after recent events. The service provider SEMAPACH was recognized by SUNASS in 1995 and was registered being the Provincial Municipality of Chincha the only owner of its capital. However, since October 2016, the company has been admitted to the RAT of the OTASS as a result of the evaluation carried out by said entity, which concludes that the company incurred in economic and financial insolvency. While the service provision was delegated to SEMAPACH, after its inclusion to the RAT the power that OTASS has gained over the company leads to see the situation as a deconcentration of the service delivery, were SEMAPACH works more as a provincial branch highly overseen by OTASS.

Before the inclusion to the RAT, is relevant to mention that the service provision was able to improve but mainly through the investment of other entities: some minor projects from the provincial municipality, but mainly through considerable projects from the GR of

Ica. While this investment allowed to increase the houses with water supply connection, the service provision and maintenance was still responsibility of SEMAPACH, who had to receive the infrastructure and manage these operation costs. This led to a critical financial situation, where the company was not able to implement and manage the cost recovery system as it is expected by regulation, and the service provision became financially unsustainable. The *fiscal scheme*, where these investments decisions were not taken by the EPS generated a decision-making process that led to unexpected outcomes.

Then, since the inclusion in the RAT the changes have been felt in the company, according to public officers, the relation with the municipalities and GR has changed. Municipalities used to demand that the EPS carry out certain projects. The municipalities received demands from the population (for political commitments -mayors who have just been elected-, complaints, or participatory budgeting), which they wanted the EPS to carry out. This is labeled as “political interference” by some public officers, since they saw this as a disruption into the EPS decision-making process. The *political environment* in terms of political promises perception played a role here. While the diversity within boards should work as a balance for this, elite capture of these spaces, through divided *social structures* could be diminishing its success. After the inclusion in the RAT, municipalities can no longer do this. This independence of the EPS was conflictive at first, but now they have moved on to a negotiating relationship. The EPS offers technical support so that the municipalities can request resources from the regional or national entities to accomplish the projects.

Additionally, some officers state that “the objectives are clearer now and management is based on indicators. Base targets have been established, and there are targets for 2021. Every three months the indicators are evaluated as they go. You see the progress, setbacks, and improvements that can be made to reach the goals. There is more independence of the area, no interference in the work.” (interview 14). This answers to the structure and management tools OTASS have been transferring to SEMAPACH. Both are part of the *regulatory framework* that an EPS is expected to accomplish but the role OTASS has overseeing the EPS has worked as a stronger enforcement of this framework through due to more constant supervision and harsher consequences (such as changing directors). While this has meant an improvement for the EPS, it could be risky since it could lead to a dependence relation with OTASS where this improvement could be hard to maintain without OTASS’s enforcement.

Nowadays, while the financial situation is improving, there are still challenges in terms of the service provision. Water stress is a general concern, since the city is in the coast and a desertic part of the country. While there are continuous efforts to address this, the *natural resources* availability puts a cap into the improvements that the company can get in service provision.

Summarizing, for the cases of Oyon and Chincha five factors are considered to have influenced service provision, while for Cusco are four. Political environment has played a role in all the cases but from different perspectives for each, while in terms of institutional factors different rules have shaped each process in relation with their decentralization arrangement. Lastly, while natural resources are relevant for the case of water supply in general, and financial resources for most public services, human resources take a different role for the case of Cusco. Appendix 9 condenses these results.

Is important to say that while each case analysed answers to different factors, for all of them agency and policy entrepreneurship was present in the equation. There were specific public officers that pushed for improvement by taking initiative and advantage of the opportunities opened. This contrast and is hard to incorporate to the conceptual framework proposed, that is focused on structure instead of agents, this role should still be recognised.

Then, while this analysis has been developed focused on the cases, due to their relationship with some decentralization categories, some conclusions can be taken from it. For the case of a devolved service, the local political factors in terms of rules and social conditions are relevant. This is coherent with the idea of placing decision-making in local hands. Then the relation between local officers and its community and access to power will have more weight in the process. Later, for delegation settings local human resources can be crucial to define the level of actual independence the local entities can have and the improvements they can generate. The case shows that organization of service delivery through local tools can also be helpful to improve local management without central government dependence, and that political will is required to sustain improvements. Lastly, for deconcentrated arrangements, the regulatory framework will shape the possibilities for service improvement, and while it can be helpful to reduce local obstacles, improvement can be hard to sustain without local changes. This can also generate a dependence that could mean a difficult passage to delegation, if that is intended (as with the RAT that is temporary).

In addition, is pertinent to acknowledge the relevance of context in two ways. First, the cases analysed answer to and specific setting beyond how their governance arrangements might influence its results. Although the conceptual framework tries to incorporate structural elements to understand it, some other or even circumstantial events have also shaped the services. Secondly, as previously seen, while categories and lists of factors might be helpful to categorize different realities, decentralization is a contextual phenomenon that will not unfold in the same way twice and in that sense, context will always shape its outcomes.

Finally, there is a national level objective and push from the main central government entities to go towards an integration policy of the municipal provision into the public companies. although the general policy withstands over a decentralized structure, the national discussion has been diverted from this foundation with the creation of the RAT, that generated the recentralization of some EPS. While there are mechanisms to come back to local management, a discourse from some central government authorities seems unsupportive of this. Appendix 7 elaborates further on this idea.

## Chapter 6

### Conclusions

This research seeks to analyse how decentralization affects people's lives. While there are several definitions, this study analyses decentralization as a process, or as a stage on a process of transferring responsibilities to lower levels of government, that is represented in certain interactions between different levels of actors (national, regional and local) in a governance arrangement. Then, more specifically, the study looks how governance arrangements of responsibility between local and national entities affect people's lives through the public services they provide.

To achieve that, first, a theoretical review was developed on the variables that influence the decentralization reforms and its relationship with service delivery performance. This led to a systematization of the elements that several authors identified into ten variables, and a categorization of these variables into three groups. There are six institutional variables, related to the rules of the process, three social variables, focused on characteristics of the community, and four organizational variables, that are focused on the resources that the entities have through this process. This attempt to systematize the variables can be useful to further develop a theoretical framework on decentralization and service delivery performance. The systematization was latterly used as a framework to analyse the cases.

Considering local entities as a central actor in a decentralization process, it has been necessary to understand local decision making. This analysis has led to identifying the diversity within the governance arrangements that exists in Peru and the relevance and implications this has for service delivery. The three cases, Oyon, Cusco, and Chincha, although are not ideal types and show the complexity of reality through hybrids of the decentralization categories, can be considered a representation of each type, devolution, delegation, and deconcentration, respectively. All of them coexist in the water supply sector in Peru, but their processes, actors and the interactions within them generate diverse settings for decision making on service provision.

While there are shared obstacles the sector in general faces, each case and type require different mechanisms to improve. For a service devolved, the political framework and environment, expressed in electoral rules and the population's perception of politicians will be a considerable factor for decision-making. While resources, in general, may represent an opportunity or an obstacle for service delivery, how to use them will depend on political will and popular demand. The case of Oyon shows a story of alignment between political interests and needs in a short term that allowed an improvement but also reveals its shortcomings.

Then, for the intermediate scenery of delegation, local human resources can be crucial to define the level of actual independence the local entities can have and the improvements they can generate. While the emphasis in local capacity has been generally recognised for decentralization, the case of Cusco shows the use of the organization of the service (process systematization) as a tool to maximize its benefits, incorporating the local knowledge and capacities to the institutional tools of the local entity. It also recognises the need for political will to have a sustained improvement and proposes to use local capacity for reducing these interferences.

Lastly, deconcentrated structures for service provision rely on their regulatory structure, where this type of rules will lead the decision-making processes. For the analysed case, Chincha's EPS incorporation to the RAT worked as a strategy to reduce the obstacles that the political environment and social structure (political interference and elite capture) represented to the company and has helped to enhance its institutional setting. While according

to the public officers this strategy has brought progress, there is no clarity about how to maintain it without the role of OTASS. The additional obstacle that natural resources represent for the service in Chincha makes this task more complicated. In general, deconcentrated structures will depend on central government rules and its enforcement and in that sense its improvement will depend on its capacity not only to fulfil this role but also to understand the local setting and address its problems according to its needs and resources. This requires more involvement and resources from the central government, which could be inefficient and wasteful.

It is relevant to notice that while each case and type show different triggers and strategies to achieve improvement in service provision, for all agency and policy entrepreneurship were present in the equation. Leading local roles have been relevant to generate improvement, taking the initiative to generate progress through the tools that the structure gave them. While the variables collected on the relationship between decentralization and service delivery can influence and give incentives to local actors, this systematization does not consider the relevance of agency within the structure. Also, each specific case answers to certain context conditions. In that sense, although the cases may represent a governance arrangement present in other parts of the country, these conditions have affected its process and outcomes and the relation between them. Then, even considering different decentralization types, context will be relevant for the way decentralization fits reality and generates its outcomes.

Taking a view on the national context in Peru, there is a national level objective and push from the main central government entities to go towards an integration policy of the municipal provision into public companies. This pushes to a national structure of delegation, with a regulated local service provision. But, although the general policy withstands over a decentralized structure, the national discussion has been diverted from this foundation with the creation of the RAT, that generated the recentralization of some EPS. While there are mechanisms to come back to local management, a discourse from some central government authorities seems unsupportive of this. It is considered relevant that this discussion reflects on the reality of the different decentralization experiences in the country, the different structures that exist and the implications this have had in their service provision. While there is no perfect model, structural and specific factors of the country and its multiple realities should be considered, reflecting on the short, medium- and long- term consequences of the structure is decided to use and recognizing how it affects people's lives.

Finally, this study has faced several limitations in terms of data availability and collection that could be addressed in further research. Regarding the qualitative information, data collection focused on public officers of different level entities. While this provides insightful and reaches information and perceptions on the internal work within the government, the civil society perspective is missing in it. By addressing this, additional analysis could be developed on the downward accountability mechanisms and its usefulness towards the increase of local need recognition. In terms of quantitative data, there was a limitation on the secondary information available and the possibility to gather primary information. This reduced the possibility to contrast some of the qualitative findings and add more detail to the contextualization of the cases. Lastly, the selection of a case study design although generated the possibility to do an in-depth analysis and storytelling and allowed to identify the relevance of the context, makes harder do generalizations and proposals. Considering the current national situations and debate, further research on this topic at a national level could be beneficial to the decision-making on water supply provision.

# Appendices

## Appendix 1: Decentralized water supply services in Peru

Two main studies have been reviewed that analysed the water supply sector in Peru, with an emphasis on its decentralization process and governance structures. One was developed by Oblitas (2010) and the most recent is from von Hesse (2017). Both are attempts to develop diagnostics of the sector obstacles for improvement focused on its organizational structure and its relationship with service delivery performance.

The study by Oblitas identifies obstacles from the beginning of the decentralization process, stating that the reform was poorly planned and did not consider local governments' capacity to take over this responsibility (Oblitas 2010:10), point supported by von Hesse (2017:57). Oblitas associates the low results in the sector with management and governance problems, like the decision-making structure, the resources availability, the tariff systems and absence of a long-term view (2010:14). Also, planning instruments are not considered to represent reality which makes them unsuitable for local authorities (Oblitas 2010:30).

Likewise, Oblitas identifies evidence on decision-making interference by local actors with personal interests, stating that "many of the directors of the companies have been appointed by municipal authorities", instead of being hired through regulated processes, and that they have interfered with management decisions, especially in tariff setting "opposing the application of the approved increments", central for services sustainability (Oblitas 2010:36). Lastly, this study states "it has not been defined how they (government levels) relate to each other, nor have their roles been clearly delimited and less of all defined coordination mechanisms" (2010:51).

Similarly, von Hesse notes that "the providers face institutional problems, political interference and pressure, corruption, lack of qualified staff, insufficient financial resources, inadequate management, commercial and fees collection problems, weak monitoring and inspection, and limited private participation" (2017:57). He states this has led to central government dependence where "Its participation is mainly through the financing of capital infrastructure and reposition of inoperative facilities" (von Hesse 2017:57). While several reforms from central government entities are recognized as improvement efforts focused on monitoring and management structure modernization, these are not considered enough to achieve the required progress (von Hesse 2017:57). Then, von Hesse proposes changes in the service provision process and strengthening administration to reach sustainability in water supply provision.

Both studies give a broad vision on the sector in Peru that already seems to show that the decentralization process has developed with difficulties that might affect its performance. But this vision has limitations as it misses the specificities of different locations. As previously mentioned, the three structures resulting from the decentralization process in Peru have implications for the decision-making process, the accountability mechanisms and other aspects of the water supply governance, which relate to the elements identified in the theoretical frame. The discussion about the relationship between decentralization and service delivery performance is important in this context, where is pertinent to deepen the understanding of its influencing factors. The context of Peru not only presents a setting where these relations can be explored but also can be helpful to identify possible bottlenecks that could be hampering the water supply services improvement.

Appendix 2: List of influencing variables for the conceptual framework

**Table 1: List of influencing variables for the conceptual framework**

	Proposed factors	Author's concepts	Author
Institutional factors	<i>Organization of service delivery</i>	design and organization of decentralization	Rondinelli et al (1983)
		clarification of functional responsibilities	Dillinger (1994)
		organization of service delivery	Litvack et al (1998)
		administrative responsibility and building capacity	Ahmad et al (2005)
	<i>Regulatory Framework</i>	regulatory framework	Litvack et al (1998)
		system of accountability	Dillinger (1994)
	<i>Information and participation system</i>	information systems and competition	Litvack et al (1998)
		Transparency	Azfar et al (1999)
		information, participation and monitoring	Ahmad et al (2005)
	<i>Fiscal scheme</i>	revenue sources	Dillinger (1994)
		fiscal aspects of decentralization	Azfar et al (1999)
		fiscal issues, financing	Ahmad et al (2005)
	<i>Political framework</i>	political framework	Azfar et al (1999)
		political parties and electoral rules	Ahmad et al (2005)
		interjurisdictional competition	Adams (2016)
	<i>Decentralization Sequence</i>	policy synchronization	Litvack et al (1998)
		sequencing political, fiscal and administrative decentralization	Ahmad et al (2005)
Social factors	<i>Citizen participation</i>	citizen participation	Azfar et al (1999)
		citizen participation	Adams (2016)
	<i>Social structure</i>	attitudinal, behavioural and cultural conditions	Rondinelli et al (1983)
		civil society and social structure	Azfar et al (1999)
	<i>Political Environment</i>	social polarization and elite capture	Ahmad et al (2005)
		political commitment and administrative support	Rondinelli et al (1983)
Organizational factors	<i>Financial resources</i>	credibility of political promises, politics of decentralization	Ahmad et al (2005)
		financial, human, and physical resources	Rondinelli et al (1983)
		capacity of subnational governments	Azfar et al (1999)
		local knowledge	Adams (2016)

Source: own elaboration. Compilation of concepts from Rondinelli et al (1983), Dillinger (1994), Litvack et al (1998), Azfar et al (1999), Ahmad et al (2005) and Adams (2016).

### Appendix 3: Institutional Analysis and Development

According to Ostrom, the IAD “helps to organize diagnostic, analytical and prescriptive capabilities” (2006:26). The IAD is a multitier conceptual map that divides and organize an institutional setting and relates it into an interaction space, and latter to its results. This framework proposes to identify an *action situation*, which is the isolation of a structure that affects a process of human behaviour, and to identify its *actors*. Then the IAD aims to identify factors “that influence the behaviour of individuals and groups in the policy situation” (Polski and Ostrom 1999:6). These factors are divided into three groups: *physical and material conditions*, that are “the attributes of states of the world that are acted upon in these arenas”; *community attributes* (culture), “the structure of the more general community within which any particular arena is placed”; and *rules-in-use*, “rules used by participants to order their relationships” (Ostrom 2006:28). The IAD also identifies seven types of rules that are part of this scheme, that are presented and explained in Table 4. Later, this framework intends to recognize *patterns of interaction* that will lead to decisions and actions and interactions, and in the last stage into policy *outcomes* (Polski and Ostrom 1999).

**Table 2: Rules in use**

Type of rule	Definition
Position	They establish position or roles of participants in an action situation, and the number and type of participants who hold each position.
Boundary	They specify which participants enter or leave positions and how they do so.
Authority	They specify the actions participants in given positions may take.
Aggregation	They determine how decisions are actually made in an action situation.
Scope	They specify the jurisdiction of outcomes that can be affected and whether these outcomes are or are not final.
Information	They affect the amount and type of information available to participants in an action arena.
Payoff	They determine how costs and benefits are meted-out in the action arena.

Source: Garcia (2018) based on Polski and Ostrom (1999).

Appendix 4: Number of interviews by entity

**Table 3: Number of interviews by entity**

Entity	Government level	Interviews number
Ministry of Housing, Construction and Sanitation (MVCS)	National	1
Urban Sanitation National Program (PNSU)	National	2
National Superintendence of Sanitation Services (SUNASS)	National	3
Technical Agency of the Sanitation Services Administration (OTASS)	National	5
Provincial Municipality of Oyon	Local	5
Chincha Service Provider Company – SEMAPACH	Local	4
Cusco Service Provider Company – SEDACUSCO	Local	1
Pan American Health Organization (PAHO)	National	1
<b>Total</b>		<b>22</b>

Source: authors elaboration.

Appendix 5: General conditions of the action arena

**Table 4: General conditions of the action arena, per case**

Group	Variable	Oyon	Cusco	Chincha
Attributes of the community	<i>Population size and age</i>	12,764 total population 84.4% urban and 15.6% rural  10,775 urban population 41.4% between 18 and 44 years old 51% men and 49% women	480,652 total population (4,329 from Paucartambo) 96.3% urban and 3.7% rural  462,683 urban population 46.5% between 18 and 44 years old 49% men and 51% women	223,310 total population 96.1% urban and 3.9% rural  214,527 urban population 40.9% between 18 and 44 years old 49% men and 51% women
	<i>Poverty (provincial level)</i>	Poverty rate: 17.1%-25.3% (2013) Extreme poverty rate: 8.8% (2009)	Poverty rate: 4%-5.8% (2013) Extreme poverty rate: 4.1% (2009)	Poverty rate: 6.7%-9.9% (2013) Extreme poverty rate: 0.1% (2009)
	<i>Main livelihood (percentage of workers)</i>	34.5% mining, 13.1% commerce, 11.4% construction and 11.3% agriculture	22.6% commerce, 9.9% tourism, 8.8% transport, 7.7% education and 7.5% manufacture	19.5% commerce, 15.9% manufacture, 14.2% agriculture, 11% transport and 8% construction
	<i>Ethnicity and language</i>	Mother tongue: 83.6% Spanish and 8.9% Quechua Identity: 46.2% mestizo, 34.6% quechua and 7.2% white	Mother tongue: 68.8% Spanish and 29.6% Quechua (Paucartambo 28% Spanish and 70.5% Quechua) Identity: 62.4% quechua and 31.6% mestizo (Paucartambo 89.5% quechua and 6.5% mestizo)	Mother tongue: 96.8% Spanish and 2.8% Quechua Identity: 77% mestizo, 8.4% quechua, 5.3% Afro-Peruvian and 5.3% white
	<i>Education</i>	42% secondary education and 28.4% primary education	32.5% secondary education, 16.9% primary education and 16.6% tertiary education (for Paucartambo only 4.2%)	38.8% secondary education and 23.4% primary education

Group	Variable	Oyon	Cusco	Chincha
Physical conditions	<i>Human resources</i>	14 workers (head, sewers technicians, administrative staff), mostly technical, not highly trained	230 workers (between the managers, engineers, administrative and technicians, that are the bigger group among them), regular training	167 workers, irregular training Five units: Administration and Finance (24%), Planning and Budget (4%), Commercial (26%), Infrastructure (2%), and Operations and Maintenance (42%), and General Management (2%).
	<i>Financial resources</i>	370 thousand “soles”, approx. 100 thousand euros for 2019 (only maintenance activities), 3% of the annual municipal budget 9.3 euros per person (urban population)	150 thousand “soles, approx. 40 million euros for 2018 88 euros per person (urban population)	approx. 4 million euros for 2019 20 euros per person
	<i>Infrastructure</i>	4 reservoirs, not micro measurement Big improvement: from spouts every four blocks to spouts per household (done in 2008)	4 supply systems for Cusco and 2 for Paucartambo (16 main storage reservoirs, and laboratories and quality control facilities) Micro measurement for 93.7% of Cusco and 21.4% of Paucartambo	2 supply systems Micro measurement for 7% of the population
	<i>Natural resources</i>	Close water sources, not hydric stress	Cusco city: 4 sources of surface water (Piuray, Vilcanota -the two largest-, Korkor and Salkantay. Vilcanota also provides underground water sources. Paucartambo: 3 water sources (Huancarpampa -main source, a stream-, Ullpfuyoc -permanent	General and seasonal hydric stress. The surface source is located on the Chico River, a derivation of the San Juan River. The flow is variable depending on the rainy season. Water is also collected from two filtering galleries: i) Minaqueros filtering gallery and ii) El Naranjal filtering gallery, whose flows also vary by

Group	Variable	Oyon	Cusco	Chincha
			<p>sources, a spring-, Pfuyucalla -a superficial temporary source</p> <p>Water sources accessible, not hydric stress for Cusco city (seasonal for Paucartambo)</p>	<p>seasons. In order to meet the demand, water is collected from three deep tube wells. On the other hand, the districts of Chincha Baja and Tambo de Mora are supplied by underground sources, each with an independent well. In recent years, climate change has altered the rainfall regime by exacerbating extreme events such as droughts and floods. The months of greatest water deficit are September, October and November. This together with the development of agricultural activities in the upper parts of the basin has generated certain impacts on water regulation and water quality.</p>
Rules in use	<i>Position rules</i>	Municipality, GR, citizens, MFE, MVCS, (minimal presence of SUNASS)	EPS, SUNASS, municipalities, GR, ministries	EPS, OTASS, SUNASS, some interaction with municipalities, GR, ministries
	<i>Boundary rules</i>	Roles depend on electoral results, and the changes generated by the major (technical lower roles have more time in positions)	Heads assigned by municipalities; part of the staff have more time in positions	Heads have been assigned by OTASS, which generated some changes, but part of the staff have more time in positions
	<i>Authority rules</i>	Municipality can propose projects to improve coverage, continuity, quality	EPS usually does not propose coverage expansion projects (not consider in SUNASS tariff), municipalities usually propose and look for financing them	EPS usually does not propose coverage expansion projects (not consider in SUNASS tariff), municipalities usually propose and look for financing them

Group	Variable	Oyon	Cusco	Chincha
		<p>Projects initiatives can also come from GR or ministries</p> <p>Municipality decides tariff</p> <p>They can cut down service for lack of payment, but is not usually implemented</p>	<p>Improving continuity and quality is EPS responsibility and is included in their plan</p> <p>EPS proposes tariff but SUNASS approves</p> <p>They can cut down service for lack of payment and do so</p>	<p>Improving continuity and quality is EPS responsibility and is included in their plan, OTASS monitors all of these</p> <p>EPS proposes tariff but SUNASS approves</p> <p>They can cut down service for lack of payment and do so</p>
	<i>Aggregation rules</i>	<p>Projects proposals can come from technical diagnostics or from participatory budgeting, but financial restrictions limit their actions.</p> <p>For the areas of Puente Piedra and Capiapata that are the lower parts of the city and close to the end of the distribution pipes the water flow is 24 hours per day, while for the rest of the areas, Oyon, Quilca, Ocros, and Nuevo Horizonte, that is higher, the water flow is aligned with the opening and closing of the valves.</p>	<p>Continuity and quality projects and interventions are identified through their plan, according to a general diagnostic</p> <p>Projects proposals from municipalities can come from technical diagnostics or from participatory budgeting, but financial restrictions limit their actions</p> <p>Also, projects from other entities</p>	<p>Continuity and quality projects and interventions are identified through their plan, according to a general diagnostic.</p> <p>OTASS pushes the objectives further to improve the services.</p> <p>Projects proposals from municipalities can come from technical diagnostics or from participatory budgeting, but financial restrictions limit their actions.</p> <p>Also, projects from other entities.</p> <p>The continuity in service area goes from 16 hours per day in the district of Chincha Alta, to 2 hours per day in the Grocio Prado district. Again, the higher districts are the hardest to provide continuously and with high pressure.</p>

Group	Variable	Oyon	Cusco	Chincha
	<i>Scope rules</i>	Direct responsibility by law (Oyon province urban population, only Oyon district)	Defined in exploitation contract (Cusco, San Jeronimo, San Sebastian, Santiago and Wanchaq districts of Cusco province, and Paucartambo district from Paucartambo province)	Defined in exploitation contract (Pueblo Nuevo, Grocio Prado, Sunampe, Tambo de Mora, Chincha Baja, Chincha Alta, and Alto Larán districts of Chicha province)
	<i>Information rules</i>	Little information collection on water services performance	Collection of main indicators by EPS, monitored by SUNASS (sample checks)	Collection of main indicators by EPS, monitored by SUNASS and OTASS (sample checks)
	<i>Payoff rules</i>	Upward accountability: SUNASS has the function of monitoring the municipalities performance, but is not implemented yet  Downward accountability: open window for specific complains	Upward accountability: SUNASS supervises the implementation of the plan  Downward accountability: open window for specific complains	Upward accountability: OTASS has strict control of their performance SUNASS supervises the implementation of the plan  Downward accountability: open window for specific complains

Appendix 6: Service delivery performance data, per case

**Table 5: Service delivery performance data, per case**

Indicator	Oyon	Cusco	Chincha	National
<i>Coverage</i>	98% (2017)	98.81% (2017)	91.45% (2017)	89.4% (2018) 92.48% (2017 only EPS)
<i>Continuity</i>	Approximately 16 hours (2019)	20.15 hours (2017)	16.96 hours (2017)	18.32 hours (2017 only EPS)

Source: author's elaboration, based on data from INEI (2018; 2017), SUNASS (2017) and interviews.

## Appendix 7: National arena

Considering the information gathered, is considered important to do a brief revision of the national arena and discussion on decentralization among its main actors. A first point to consider is the inclusion of an integration policy into the last legal framework, Legal Decree N° 1280 (MVCS 2016) that steers the sector. This policy proposes the integrations of smaller providers into bigger ones, and usually implies the assimilation of municipal providers into public companies. The policy is aimed to capitalize economies of scale for service efficiency in relation with an efficient scale of provision that is expected to be determined by SUNASS and implemented with the help of the integration unit within OTASS, that provides funding for the required actions to accomplish it. In general terms, considering the analysis of decentralization categories, this policy pushes to organize urban service provision into public companies across the country, looking to disappear municipal provision into which could be seen as a delegation arrangement.

Then, a second factor to consider is the creation of the RAT. As explained, this mechanism shifts decision-making power to OTASS to improve service and sustainability of the services. Considering that nowadays 19 public companies, almost half of them, are under this regime OTASS influence over the sector, which posits a recentralization policy, as recognised by some public officers, “The Peruvian state in general is in a logic of decentralization, in this sector is following the logic to the reverse, which is a policy of centralization.” (interview 5).

This mechanism proposes tools to improve services and financial sustainability of the company and sets certain conditions to give back control to local governments. According to the interviews, to leave the RAT a company required “...that the tariff allows it to cover the costs of an adequate operation and maintenance, that it has institutions such that it allows it to be sufficiently independent for the decision making (...), the issue of corporate governance that is to say to have the sufficient transparency towards the community as well as to the shareholders.” (interview 2).

Despite the existence of these mechanisms, a discourse that emphasises low local capacities shared by some national officers seems to deviate from the decentralization approach. They mentioned, “The EPSs are a little more organized, but have deficiencies at the operational level. The municipality is worse, they don't have much (...) there are no technicians. In the EPS there are engineers, it's different. Both have deficiencies, but in the EPS, you find a little more organized. In the municipality they don't know many things. The municipalities are barely maintained, I haven't found any that are efficient.” (interview 17), “There is no technical capacity in the EPSs or subnational governments, except a few, Arequipa. In most there is a deficiency, and it is a problem. If they had to develop these projects, they would not have the technical capacity.” (interview 19). One officer even state, “Local authorities are demanding that this company be run by them again. But we would have to see what happens when a refloated company is returned to the administration of local governments. (...) it cannot be guaranteed that the technical policies applied by OTASS are the same policies applied by local governments.” (interview 5).

Then, is relevant to notice that the previous discussion on the different decentralization experiences that are part of the national scene could inform this discussion and help to recognize that there is no flawless model. Also, that is important to understand local conditions, and in that sense one-size-fits-all policies can be risky. While is not possible to give one direct answer to this discussion, is considered important to notice that this study points to notice that governance decisions like decentralization or recentralization strategies will influence service provision in very direct ways, and that short, medium- and long-term consequences should be reflected on.

Lastly, there are some general concerns at a sector level. Considering the relevance of housing location for service provision access and quality, urban planning should be more aligned and incorporated into service provision. Also, interinstitutional coordination in the sector seems to be weak and different perspectives suggest the lack of a shared vision. In that sense, the guiding documents like national plans do not seem to be guiding decision-making, where planning appears divorced from reality and implementation strategies. Finally, there is already concern on water scarcity from several actors, but strategies seen come from local actors, where it represents a national challenge.

Appendix 8: Task-function framework application, per case

**Table 6: Task-function framework application, per case**

Task functions	Oyon	Cusco	Chincha
<b><i>Planning</i></b>	Municipality (devolved)	EPS, depends on SUNASS approval (delegated)	SUNASS designed, OTASS supervises, EPS implements (deconcentrated)
<b><i>Fiscal policy and revenue generation</i></b>	Municipality, usually asks for additional funds from ministry and GR (delegated)	EPS, depends on SUNASS approval (delegated)	SUNASS designed, OTASS supervises, EPS implements (deconcentrated)
<b><i>Budgeting and expenditure management</i></b>	Municipality, dependent of MEF approval (delegated)	EPS, depends on SUNASS approval (delegated)	SUNASS designed, OTASS supervises, EPS implements (deconcentrated)
<b><i>Staffing</i></b>	Municipality (devolved)	EPS (through board) (devolved)	OTASS (changed heads) and EPS (other roles) (deconcentrated)
<b><i>Program and project implementation</i></b>	Municipality, limited by funding and depending on it could be monitored by other entities (delegated)	EPS, limited by funding and depending on it could be monitored by other entities (delegated)	EPS, limited by funding and depending on it could be monitored by other entities (delegated)
<b><i>Information management</i></b>	Municipality (devolved)	EPS, monitored by SUNASS (deconcentrated)	EPS, monitored by OTASS and SUNASS (deconcentrated)
<b><i>Operations and maintenance</i></b>	Municipality (devolved)	EPS (devolved)	EPS, supported and supervised by OTASS (delegated)

Appendix 9: Influencing factors, per case

**Table 7: Influencing factors, per case**

Case	Oyon	Cusco	Chincha
Decentralization type	<i>Devolution</i>	<i>Delegation</i>	<i>Deconcentration</i>
<b>Institutional factors</b>	<ul style="list-style-type: none"> <li>• political framework</li> <li>• information and participation system</li> </ul>	<ul style="list-style-type: none"> <li>• organization of service delivery</li> </ul>	<ul style="list-style-type: none"> <li>• fiscal scheme</li> <li>• regulatory framework</li> </ul>
<b>Social factors</b>	<ul style="list-style-type: none"> <li>• political environment</li> </ul>	<ul style="list-style-type: none"> <li>• political environment</li> </ul>	<ul style="list-style-type: none"> <li>• social structure</li> <li>• political environment</li> </ul>
<b>Organizational factors</b>	<ul style="list-style-type: none"> <li>• natural resources</li> <li>• financial resources</li> </ul>	<ul style="list-style-type: none"> <li>• human resources</li> <li>• financial resources</li> </ul>	<ul style="list-style-type: none"> <li>• natural resources</li> </ul>

Source: author's elaboration.

## References

Adams, B. E. (2016) 'Assessing the merits of decentralization: a framework for identifying the causal mechanisms influencing policy outcomes', *Politics & Policy* 44(5), pp. 820-849.

Ahmad, J., Devarajan, S., Khemani, S., & Shah, S. (2005) 'Decentralization and service delivery', World Bank Policy Research Working Paper 3603. The World Bank.

Asthana, A. (2008) 'Decentralisation and corruption: evidence from drinking water sector', *Public Administration and Development* 28(1): 181-189.

Azfar, O., Kahkonen, S., Lanyi, A., Meagher, P., & Rutherford, D. (1999) 'Decentralization, governance and public services: The impact of institutional arrangements'. *Centre for Institutional Reform and the Informal Sector*, 1-37.

Bellaubi, F. (2016) 'Corruption risks, management practices and performance in Water Service Delivery in Kenya and Ghana', PhD thesis. Osnabrück, Germany: Institute of Environmental Systems Research, University of Osnabrück.

Dillinger, W. (1994) *Decentralization and its implications for service delivery*. Washington: The World Bank.

Eng, Netra (2016) 'Decentralization in Cambodia: New wine in old bottles', *Public Administration and Development* 36 (4), pp. 250-262.

Faguet, J. P. (2014) 'Decentralization and governance' *World Development*, 53, 2-13.

Falleti, T. G. (2005) 'A sequential theory of decentralization: Latin American Cases in Comparative Perspective', *American Political Science Review* 99 (3): 327-346.

Gerring, J. (2007) *Case study research: principles and practices*. New York: Cambridge University Press.

Laryea-Adjei, G. Q. M. (2006). 'Central-Local Relations in the Provision of Basic Services: Provision of water and sanitation services in Ghana', PhD thesis. Rotterdam, Netherlands: Erasmus University Rotterdam.

Life Water (2015) 'Water, Sanitation and Hygiene: How Small Changes Make a Big Difference'. Accessed 6 November 2019 <<https://lifewater.org/blog/sanitation-hygiene-water/>>.

Litvack, J., Ahmad, J., & Bird, R. (1998) 'Rethinking decentralization in developing countries', The World Bank.

Instituto Nacional de Estadística e Informática (2018) 'Perú: Formas de Acceso al Agua y Saneamiento Básico'. Lima, Perú: Instituto Nacional de Estadística e Informática, Gobierno del Perú.

Instituto Nacional de Estadística e Informática (2017) 'Censos Nacionales de Población y Vivienda 2017'. Lima, Perú: Instituto Nacional de Estadística e Informática, Gobierno del Perú.

Ministry of Housing, Construction and Sanitation (2016) 'Law on the Management and Provision of Sanitation Services of Peru'. Legal Decree N° 1280. Lima, Peru: Ministry of Housing, Construction and Sanitation

Mwihaki, N. J. (2018) 'Decentralisation as a tool in improving water governance in Kenya', *Water Policy* 20(2018):252–265.

Oblitas de Ruiz, L. (2010) 'Servicios de agua potable y saneamiento en el Perú: beneficios potenciales y determinantes del éxito'. Santiago de Chile: CEPAL, Naciones Unidas.

Ostrom, E. (1999) 'Institutional rational choice' in *Theories of the policy process*, 35-72.

Pearce-Oroz, G. (2006) 'The viability of decentralized water and sanitation provision in developing countries: the case of Honduras', *Water Policy* 8(2006):31–50.

Polski, M. M., & Ostrom, E. (1999) 'An institutional framework for policy analysis and design'. In Workshop in political theory and policy analysis working paper W98-27. Indiana University, Bloomington, IN.

Prud'Homme, R. (1995) 'The dangers of decentralization', *The world bank research observer*, 10(2):201-220.

USAID & ProDescentralización (2010) 'ABC de la Descentralización'. Lima, Perú: USAID.

Rondinelli, D. A., Nellis, J. R., & Cheema, G. S. (1983) 'Decentralization in developing countries'. World Bank staff working paper, 581.

Silverman, J. M. (1992). 'Public sector decentralization: Economic policy and sector investment programs'. World Bank Technical Paper N° 188. Washington: World Bank.

SUNASS (2006) 'System of Management Indicators for Sanitation Services Companies'. Executive Board Resolution N° 10-2006-SUNASS-CD. Lima, Perú: SUNASS.

Von Hesse, M. (2017) 'The role of decentralization in the delivery of water and sanitation services in Peru'. Washington: World Bank.

World Bank (2019) 'People using safely managed drinking water services (% of population)'. Accessed 10 July 2019 <<https://data.worldbank.org/indicator/SH.H2O.SMDW.ZS>>

Yin, R.K. (2014) *Case study research: Design and methods*, 5th ed., Thousand Oaks: Sage.

## Notes

<sup>1</sup> The Peruvian territory is composed of regions, departments, provinces and districts, in which the government is organized at the national, regional and local levels. There are 25 regions, the bigger political division of the country, that correspond with the 24 departments and one constitutional province. The 24 departments are divided into 194 provinces, and these into 1,828 districts. The national level includes the central government organizations, the regional level includes the 25 regions, and the local level comprehends the provinces and districts. In each province and district there is an elected mayor.

<sup>2</sup> In terms of residual chlorine levels.

<sup>3</sup> Is relevance to notice that this study is based on the literature on fiscal federalism, therefore the analysis has a general bias towards fiscal decentralization policies.

<sup>4</sup> This is approximately 34.3 “soles”, the Peruvian coin, that has an approximate exchange rate of 3.71 per euro.