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**Participation and Gender Equity in Payment for Ecosystem Services:**

An analysis of the water MERESE's Good Governance Platform implemented by Drinking  
Water Companies in Peru.

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# Abstract

Peru grapples with severe water insecurity due to climate change and ecosystem degradation. In response, the government implemented the Ecosystem Services Compensation Mechanism for Water Security (MERESE), employing Payment for Ecosystem Services to incentivize nature-based solutions. Central to MERESE are Good Governance Platforms, multi-stakeholder bodies overseeing implementation and ensuring transparency. While policy mandates gender equality and women's participation in these spaces, their effectiveness in achieving these goals remains limited. This research investigates the challenges faced by Drinking Water Companies in establishing and operating GGPs, and the extent to which gender equality is integrated within these platforms. Employing Ostrom's Institutional Analysis and Development framework and Ratner's adapted model to analyze the data collected from semi-structured interviews carried out to seven key actors for the implementation of these spaces, allowed us to identify power relations and structural factors that significantly influence interactions within these platforms. Findings reveal significant institutional, regulatory, social, and administrative challenges to GGP implementation and limited progress in incorporating a gender equality perspective within these platforms.

**Key words:** Payment for Ecosystem Services, Multi-stakeholder Platforms, Gender Equity, Institutional Analysis and Development

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# Table of abbreviations

<b>ANA</b>	: National Water Authority
<b>DWC</b>	: Drinking Water Companies
<b>GGP</b>	: Good Governance Platform
<b>IAD</b>	: Institutional Analysis and Development
<b>Invierte.pe</b>	: National Multi-year Programming and Investment Management System
<b>MBI</b>	: Market-based Instruments
<b>MERESE</b>	: Ecosystem Services Compensation Mechanism
<b>MINAM</b>	: Ministry of Environment
<b>MSP</b>	: Multi-Stakeholder Platform
<b>NbS</b>	: Nature-based Solutions
<b>OMP</b>	: Optimized Master Plans
<b>PES</b>	: Payment for Ecosystem Services
<b>RHD</b>	: Rapid Hydric Diagnosis
<b>SEDA AYACUCHO</b>	: Ayacucho Drinking Water and Sewer Service
<b>SEDACAJ</b>	: Cajamarca Drinking Water and Sewer Service
<b>SEDAPAL</b>	: Lima Drinking Water and Sewer Service
<b>SUNASS</b>	: National Superintendence of Sanitation Services
<b>WRC</b>	: Water Resources Council

# Table of contents

1	Introduction.....	7
1.1	Thesis Overview.....	7
1.2	Specific Aim and Research Questions .....	8
1.3	Thesis Outline .....	9
2	Background.....	10
2.1	Water Security in Peru .....	10
2.2	Natural Infrastructure projects for water security in Peru.....	10
2.3	Peruvian PES Legal Framework .....	11
2.4	Stakeholder participation and gender in water MERESE regulation.....	12
2.5	Current situation of the implementation of water MERESE and GGP by DWC in Peru....	13
3	Literature Review.....	15
3.1	PES to promote Natural Infrastructure.....	15
3.2	PES social dimension.....	16
3.3	Multi-stakeholder Platforms in PES.....	17
3.4	Gender equity in PES.....	18
4	Analytical Framework .....	21
5	Methodology.....	27
6	Findings .....	33
7	Discussion.....	52
8	Conclusions.....	57
9	References.....	58
10	Appendix.....	66

# 1 Introduction

## 1.1 Thesis Overview

The concept of sustainable development, as outlined in the Brundtland Report (Brundtland, 1987), emphasizes achieving progress that meets the needs of the present without compromising the ability of future generations to meet their own. This inherently necessitates a balanced approach across economic, environmental, and social spheres for development to be equitable and long-lasting, so that it can promote well-being and an enduring and optimal quality of life (De Poza-Vilches et al, 2019). Central to achieving this balance is public participation, a principle recognized in the UN Millennium Development Goals and later solidified within Sustainable Development Goal (SDG) 17. Effective participation supports decision-making by incorporating a wider range of perspectives and expertise, leading to more informed and robust solutions (Collste et al., 2023).

A promising tool for fostering such participation are Multi-Stakeholder Platforms (MSP) (Sartas et al., 2019). MSPs brings together various actors to collaborate on shared goals (Hovardas, 2021), with notable examples in water resource management policies like the Dublin Statement and the European Water Framework Directive, which advocate for stakeholders' involvement in decision-making (Faysse, 2006). However, the effectiveness of MSPs is under debate. While recognized for promoting collective action for water security, concerns exist regarding their success in alleviating water issues (Hailu and Tolossa, 2020), particularly in developing countries where they have been introduced as models of good governance (Faysse, 2006). Critics highlight that marginalized groups, including women, often have limited representation in MSPs, affecting their access to resources and participation in decision-making (Larson et al, 2022; Bayala et al, 2023).

One conservation scheme used for water security, which has been increasingly criticized for its lack of stakeholder involvement in decision-making, are PES (Urcuqui-Bustamante et al., 2021). PES involves creating economic incentives through retribution mechanisms to protect forests and their hydrologic services, offering payments that are equal to or greater than the opportunity costs of restricting land use options (ibid.). PES schemes appear to be a classic

‘top-down’ instrument of governance and social control regulated by market forces, however, there are some schemes that have been strategically incorporating public participation through the use of MSPs (Córdoba et al., 2021).

Peru, a country that is affected by water insecurity across both rural and urban populations due to climate change and ecosystem degradation (USAID, 2018), has implemented a PES scheme that aims to maintain or enhance the ability of natural infrastructure, such as landscape, vegetation and soils, to provide beneficial hydrological services (Coxon et al, 2021). This scheme was given the name of Ecosystem Services Compensation Mechanism for water security (water MERESE), and it incorporates as one key element of its design, the implementation of a Good Governance Platform (GGPs), a type of MSP conformed by different public and private actors linked to the mechanism, to monitor the implementation of the scheme, among other functions. Also, specific water MERESE regulations expressly acknowledge the critical role women play in water management and conservation, mandating their strategic participation within these platforms. However, despite these provisions, there is limited evidence on how effectively these GGPs facilitate genuine stakeholder participation and women's involvement and influence in decision-making.

## 1.2 Specific Aim and Research Questions

The aim of this thesis is to analyze GGPs within water MERESE schemes in Peru by applying Ostrom’s Institutional Analysis and Development (IAD) Framework, along with elements from an adapted IAD model developed by Ratner et al. (2022). The research will focus on two key aspects: First, it will examine the difficulties Drinking Water Companies (DWCs) face in the implementation and operation of GGPs that facilitate stakeholder participation. Second, it will delve into the specific role women play within these governance forums, particularly exploring the extent of their participation and their influence on decision-making processes.

Considering the objectives of this study, the research questions are the following ones:

**RQ1:** Which are the main challenges Drinking Water Companies face for the set-up, implementation and function of the Good Governance Platforms of the Ecosystem Services Compensation Mechanism for water security in Peru?



**RQ2:** To what extent the Good Governance Platforms of the Ecosystem Services Compensation Mechanism implemented by Drinking Water Companies in Peru incorporate a gender equity perspective in the development of their work?

### 1.3 Thesis Outline

The thesis will be organized in sections. Section 2 will develop the background that explains Peru's water security issues, as well as the legal framework and the current situation of Peruvian water MERESE. Section 3 will present a literature review explaining key concepts for the research such as Payment for Ecosystem Services, Multi-Stakeholder Platforms, gender equity and other relevant concepts. Section 4 will describe the theoretical framework used for the analysis. Section 5 will outline the methodological approach of the study. Sections 6 and 7 delve into the research findings and discussion guided by the theoretical framework. Lastly, chapter 8 summarizes the main conclusions of the study.

## 2 Background

This section examines the critical issue of water security in Peru and the government's response through the implementation of water MERESE. A particular focus is placed on the water MERESE regulation managed by DWCs and the current situation of its implementation.

### 2.1 Water Security in Peru

Despite being the eighth water-richest country in the world in terms of freshwater volume and the third in Latin America (World Bank, 2023) and being home of over 70% of the world's tropical glaciers (USAID, 2018), Peru is facing various extreme weather phenomena that highlight the urgency of addressing water and climate risks, such as increasing temperatures and irregular rainfall patterns, which have led to droughts, floods, landslides and the retreat of mountain glaciers in recent years (ibid.). These situations have reduced the availability of freshwater and have accelerated water scarcity, which ends up impacting on access to water for household consumption, sanitation and irrigation, and reduced hydropower potential (ibid.). Additionally, ecosystem degradation due to unsustainable land-use practices such as overgrazing and the conversion of forests to pasture has also reduced water regulation (ibid.). The combined impacts of climate stressors and ecosystem degradation have led to more water insecurity for both rural and urban communities in Peru.

### 2.2 Natural Infrastructure projects for water security in Peru

To address Peru's long-standing water risks, the country's public entities, including DWC, local and regional governments, and national authorities, have invested in increasingly complex and expensive gray water infrastructure, including more recent investments in desalination technology and massive systems to transport water from the headwaters of the Amazon to the thirsty Pacific coast (Coxon et al, 2021). This conventional approach to addressing water risks has historically not considered the role of Nature-based Solutions (NbS) in protecting and sustaining clean, reliable water supplies (ibid.).

Since mid 2010s, the peruvian government started to formally promoting the investment in Natural Infrastructure in ecosystems that provide hydrologic benefits such as forests, wetlands, riparian systems, native grasslands such as punas, jalcas, páramos, wetlands and peatlands looking for its reforestation or afforestation (Coxon et al., 2021; International Finance Corporation, 2023), as well as in applying rustic water and soil conservation practices and constructing infiltration ditches and micro-reservoirs by using traditional practices in order to help to reduce these water risks in the country (Zyla, 2018). This investment mechanism, known as PES, was formalized through the incorporation of a legal framework into the national policy under the name of MERESE, which aims to coordinate and promote locally driven Natural Infrastructure. Under this framework, a specific regulation was issued for promoting that DWCs work on watershed and hydrological investments to contribute to natural infrastructure conservation, turning Peru into the first and only country that incorporates these initiatives into its internal norms, making it one of the leading countries in promoting natural infrastructure for water security in the world (Coxon et al., 2021).

## 2.3 Peruvian PES Legal Framework

The first recognition of PES within the peruvian legislation was introduced in 2013 through the Modernization of Sanitation Services Act (Act N° 30045), that introduced the “Environmental Protection Principle” that states that the DWC and the National Superintendence of Sanitation Services (SUNASS) must establish mechanisms for environmental compensation and watershed management in their Optimized Master Plans (OMP), and it also mandates that SUNASS, in coordination with the DWCs, should include the PES in their tariff in order to promote efficiency in water use and wastewater treatment.

Since 2014, the PES scheme, under the name of MERESE, was developed further in its own specific legal devices: Act N° 30215 and its regulation. According to these norms, MERESE are voluntary schemes, tools and incentives to generate, channel, transfer and invest economic, financial and non-financial resources, where an agreement is put in place with the aim that one or more buyers pay or compensate to one or more sellers for the conservation of natural areas, restoration of deteriorated or degraded areas, and sustainable use of the sources of ecosystem services to permanently secure the benefits they provide.

After that, three important legal documents that recognize the relevance of the MERESE scheme for watershed management were issued. The Framework Act for the Management and Provision of Sanitation Services (Legislative Decree N° 1280) and its regulation, as well as the Regulation for the Modernization of Sanitation Services Act acknowledge the relevance of MERESE for water security and establish the roles of relevant actors for the implementation of this mechanism: (i) the Ministry of Housing, Construction and Sanitation – promoting role; (ii) SUNASS – regulatory and monitoring role; and, (iii) the DWCs - implementator.

While MERESE schemes are usually voluntary, a mandatory complementary regulation specifically for DWC was later issued by SUNASS through a 2017 Directive, approved by a Board Resolution, that was later updated in 2019 (SUNASS Directive). The purpose of this Directive is to promote the application of water MERESE in these Peruvian public companies, which would be financed through water tariffs aiming for managing water resources and promoting water availability by incorporating natural infrastructure in the sanitation service processes. This tax-like PES is the fastest developing in the country as DWC are mandated to implement them. Thus, water users must pay a MERESE fee in their water bills as a fund to protect the upstream ecosystem (Dextre et al., 2024).

## 2.4 Stakeholder participation and gender in water MERESE regulation

In the specific case of the water MERESE implemented by the DWC, the conformation and implementation of the Good Governance Platforms is considered a key component of it. The legal framework states that water MERESE have three stages for its implementation: (i) the design; (ii) the incorporation of the water MERESE in their OMP and its recognition in the tariff of sanitation services; and, (iii) the execution of the water MERESE. It is for the design stage that the DWC should work on the creation of the GGP, at least by inviting the potential participants of the platform, so that SUNASS approves that the MERESE fee is incorporated within the water tariff.

According to SUNASS Directive, GGPs, also referred to as "Driving Groups" or "Management Committees," are collaborative spaces implemented by DWCs with technical support from the Ministry of Environment (MINAM). GGPs comprise a diverse group of stakeholders, including government entities (regional and local), sellers, buyers, and other relevant actors. These platforms serve multiple functions: providing technical assistance during MERESE implementation, facilitating negotiations between DWCs and water sellers, overseeing MERESE execution, and supporting financial resource mobilization for intervention plans.

Additionally, the Directive for water MERESE to be implemented by the DWC, states that the DWC need to promote the strategic participation of women in water management and conservation, with the aim to elaborate the design of the water MERESE by following the guidelines of the Good Governance Platforms and the Rapid Hydric Diagnosis (RHD). This disposition is in line with Peru's National Gender Equality Policy and the gender mainstreaming strategy, which is implemented in public and private institutions under the leadership of the Ministry of Women and Vulnerable Populations, as well as in general policies, plans, programs and projects (Forest Trends et al., 2019).

The aforementioned provision was later complemented by the Guide for the incorporation of a gender approach in the implementation of the water MERESE, a non-mandatory document issued by SUNASS that provide recommendations on the incorporation of gender-balanced actions within the design and implementation of the mechanism.

## 2.5 Current situation of the implementation of water MERESE and GGP by DWC in Peru

According to SUNASS, there are 50 DWC in Peru, which are categorized according to the number of connections covered. The four categories are the following: (i) SEDAPAL: This DWC has its own category as it supplies drinking water to more than 1,1 million of connections; (ii) Big DWCs: Supply cities with between 40,000 to 200,000 drinking water connections, (iii) Medium DWCs: Supply areas with between 10,000 and 40,000 drinking water connections; and, (iv) Small DWCs: Supply populations of less than 10,000 drinking water connections (SUNASS, n.d.).

**Figure 01.** Categorization of DWCs in Peru (Ministry of Housing, Construction and Sanitation, n.d.)



By February 2024, there were 46 DWC with a MERESE tariff approved issued by a SUNASS Resolution. From those, 23 were already collecting the MERESE funds and executing their projects, 13 were close to execute the projects with their collected funds, and 10 had a recent tariff approved and were starting to collect the MERESE funds (Contreras Tapia, 2024).

Even though almost all the DWC have the authorizations to implement their water MERESE, a report produced by MINAM (Tristán et al., 2021) shows that the level of implementation of the GGP is relatively low, showing that only 43% of the water MERESE have conformed and implemented their Good Governance Platforms.

## 3 Literature Review

This section outlines key concepts that are relevant for responding to the two research questions. By exploring the links between PES and natural infrastructure, PES multi-dimension, the strategy of applying MSPs for stakeholder engagement, and gender equity matters that need to be considered in the scheme, we aim to facilitate the understanding of the following sections.

### 3.1 PES to promote Natural Infrastructure

Ecosystem services, which encompass the diverse benefits humans derive from nature, including provisioning, regulating, supporting, and cultural services (Fripp, 2014; Global Water Partnership, 2016), are often undervalued despite their significant contribution to human well-being and economic prosperity. The public good nature of many ecosystem services has led to underinvestment in their protection, necessitating Market-based Instruments (MBI) like PES to incentivize their conservation (Salzman et al., 2018). Nature-based Solutions (NbS), such as reforestation and wetland restoration, can enhance these services, benefiting both rural and urban areas (Global Water Partnership, 2016).

MBIs are financial incentives that aim to compensate the owner or steward of the ecosystem services for the benefits it generates (Baumber and Metternicht, 2021). It is a broad term that can be applied to diverse measures (grants, subsidies, taxes, penalties, among others) for a wide range of purposes, including biodiversity conservation or watershed protection (ibid.).

PES is one of the most widely applied MBI approaches (Metzger et al., 2020). The main idea of this mechanism is that land users can be encouraged to protect nature on their land, through direct economic incentives from ecosystem service beneficiaries in return for adopting environmentally-sound land use practices that secure ecosystem conservation and/or restoration (Van Hecken et al., 2015). As it can be seen, PES is a means of creating markets and adding value to ecosystem services, by linking those who value a given service with those who can provide it (Global Water Partnership, 2016).

One subcategory of PES is Payments for Watershed Services (PWS) (Bösch et al., 2019) which is the most mature and the easiest to apply because of the direct connection between land management in an upper watershed with the benefits to downstream users, and because it implies less transaction costs as institutions are already in place to collect funds from beneficiaries, whether through DWC or budgets of water agencies (Salzman et al., 2018). This kind of incentive instruments have emerged as a potential tool to guarantee the protection of water resources and control of the hydrological systems by reversing the degradation of ecosystem services related to inadequate land-use planning, financially compensating the providers of these ecosystem services by applying sustainable practices, including conservation of existing native vegetation, forest restoration, implementation of agroforestry systems, or other good management practices (Beraldi Rigonato et al., 2023). The hydrological benefits that PWS schemes possess include a wide variety of ecosystem services related to water quantity and quality (Bösch et al., 2019). For the purpose of this research, the term PES generally include all references to PWS.

## 3.2 PES social dimension

PES is a conservation approach that not only promotes sustainable natural resource management, it also enhances locals' livelihood by providing incentives for local communities to conserve natural capital through the distribution and transfer of resources and financial support (Poudyal et al., 2021). Therefore, it is clear that PES are employed to fulfill environmental and social goals, however, while environmental targets such as forest cover, water supply and biodiversity are often clearly stated, social targets are commonly implicitly assumed to be a co-benefit. Despite its many potential advantages, one of the critiques that PES faces includes that it could generate potential efficiency/equity trade-offs that could reinforce existing socio-economic inequities (Benra et al., 2021).

In developing countries, PES have been viewed as a potential solution to reconcile environmental protection with poverty alleviation. Many of the people who provide these vital ecosystem services are poor landowners themselves, making PES a particularly attractive approach in these contexts. (Ren et al., 2020). In fact, in these countries, PES are often also seen as a promising tool to support rural development and to address questions of equity, even



though there is limited evidence that this mechanism contributes noticeably to household incomes (Bösch et al., 2019).

To effectively achieve equitable outcomes through PES schemes, three key dimensions must be considered: (i) the distribution of benefits, (ii) stakeholder participation in decision-making, and (iii) the existing social and ecological context. By incorporating these elements, PES programs can address potential inequities in the distribution of conservation costs and benefits (Chu et al., 2019). Meaningful involvement of local communities and relevant institutions is essential in designing and implementing PES schemes to ensure their social sustainability (Poudyal et al., 2021 and Kosoy et al., 2008).

Effective stakeholder engagement is crucial for the successful design and implementation of PES schemes. While involving diverse perspectives can be challenging due to competing interests, transparent and structured participation processes are essential for building consensus and shared ownership. By fostering open dialogue and collaboration, stakeholders can develop and implement solutions that contribute to desired environmental and social outcomes (Grima et al., 2018).

Multiple authors recognize the need of MSPs for the effective coordination and implementation of such PES schemes (Chinangwa et al. 2017, Kosoy et al., 2008, Dutt Bhatta et al., 2018). In the specific case of PWS schemes, Beraldi Rigonato et al. (2023) indicated that in complex watershed management process that are usual in this mechanism, the involvement of a wide range of stakeholders is required, and therefore there is a need for a decision-making body that could focus on the economic, social and environmental factors.

### 3.3 Multi-stakeholder Platforms in PES

Stakeholders in water resources management are individuals, groups, or organizations that are influenced by or can influence water-related decisions. This includes direct water users, such as farmers and households, as well as indirect stakeholders, including government agencies, businesses, and NGOs involved in water resource development, management, and planning (Warner, 2005).

Stakeholder engagement is important for successful PES implementation. While managing diverse perspectives and conflicting interests can be challenging, inclusive participation is essential for achieving positive outcomes (Grima et al., 2018). In the specific case of PWS, local stakeholders as well as communities in upstream and buyers should be engaged in the decision-making processes in order to make an effective and efficient implementation (WWF, 2018). Excluding key stakeholders, such as indigenous peoples and forest-dependent communities, can undermine the equity and effectiveness of PES programs by restricting access to vital resources (Pascual et al., 2014).

Therefore, PES initiatives require a multifaceted approach that incorporates local and indigenous knowledge, aligns with broader policies, effectively communicates the value of ecosystem services to the public and incentivizes local actions that contribute to livelihood improvement. To achieve this, strong collaboration with stakeholders is essential for addressing societal challenges and creating opportunities to enhance ecosystem functions through mutually beneficial agreements (Reed et al., 2017).

MSPs have emerged as a valuable tool for effectively implementing PES schemes. MSPs are collaborative platforms that bring together diverse stakeholders who share a common interest in managing a resource. These platforms facilitate dialogue, negotiation, and decision-making to address shared challenges and develop cooperative solutions for common pool resources (Faysse, 2006).

While initially developed in developed countries, MSPs have been promoted as a model for good governance in developing nations. However, significant challenges hinder MSP implementation in these contexts. These include pronounced social inequities, weak or overbearing government structures, fragmented stakeholder groups, and limited financial and technical resources. Key design and implementation challenges encompass power dynamics within the MSP, stakeholder selection and participation, decision-making processes, and the financial costs associated with establishing and operating the platform (ibid.).

### 3.4 Gender equity in PES

Gender is a social construct that defines the roles, behaviors, and expectations assigned to individuals based on their perceived sex. These constructs are learned and vary across cultures and over time (UN Women, 2022). Importantly, gender is linked to power imbalances between men and women, often rooted in perceived biological differences (Hanson, 2010). Gender equity is related to fairness of treatment for women and men in accordance with their respective needs. In the case of PES schemes, as men and women share the same ecosystems to be maintained or restored, recognizing and accommodating for gender equity, are considered necessary towards achieving positive social outcomes from these initiatives (Kariuki and Birner, 2021).

While safeguarding ecosystem services is paramount in PES implementation, it is also extremely relevant to acknowledge that the equal involvement of women and men is key for the use, conservation and management of ecosystem services (Ethan Yang et al., 2018). PES schemes that prioritize gender balance and equitable distribution of benefits are more likely to foster sustained participation. Conversely, programs that fail to address gender disparities often produce unsustainable outcomes (Benjamin et al., 2018).

Gender equity in PES schemes can be assessed across three key dimensions: distributive, procedural, and contextual. The distributive dimension focuses on the fair allocation of benefits and costs. The procedural dimension emphasizes women's participation in decision-making processes. Lastly, the contextual dimension acknowledges historical and structural barriers that have limited women's access to and control over resources (McDermott et al., 2013; Benjamin et al., 2018).

Women play a critical role in habitat conservation and biodiversity preservation, including water ecosystems. Their heightened awareness of environmental issues and greater willingness to engage in conservation activities compared to men are well-documented. In particular, women's dependence on water for domestic use in rural areas has fostered a deep understanding of water quality and management (ibid.). Despite their significant contributions, women's roles in these areas are often undervalued, highlighting the need for greater recognition of their agency and expertise in shaping environmental outcomes (Schwartz, 2017).

To effectively integrate gender into PES schemes, it is crucial to acknowledge and address pre-existing gender roles and power dynamics at household, community, and national levels (Benjamin et al., 2018). Deep-rooted patriarchal structures often limit women's economic opportunities and decision-making power. Consequently, PES payments may inadvertently reinforce existing gender inequalities by increasing the financial control of male household members (Schwartz, 2017).

# 4 Analytical Framework

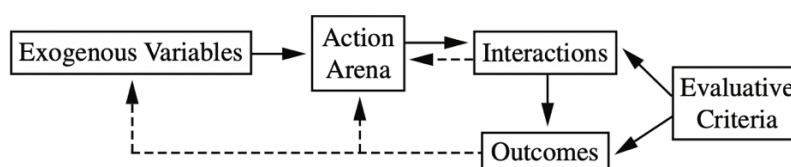
In this section, I lay out a conceptual understanding of Ostrom’s Institutional Analysis and Development Framework, and then a detailed description of an adapted version of such framework specifically designed for the analysis of MSPs for natural resource governance, as these will be applied to respond to the research questions.

## 4.1. IAD Framework

The term "institution" is often used interchangeably to refer to physical structures, organizations, and formal rules (Barton et al., 2017). However, Ostrom (1990) defines institutions as "rules-in-use," or the practical guidelines governing human interactions within a specific context. These rules determine who makes decisions, what actions are permissible, and the consequences of different behaviors. Institutions encompass a wide range of social structures, from families and businesses to governments (Ostrom, 2005). By focusing on "rules-in-use," we can analyze institutions at multiple levels and understand how they shape interactions within and between organizations (ibid.). Therefore, the IAD framework is a multi-tier conceptual map (Ostrom, 2011) that proposes that the functional role of “rules-in-use” in cooperative institutions is understood in relation to situations involving particular actors and actions.

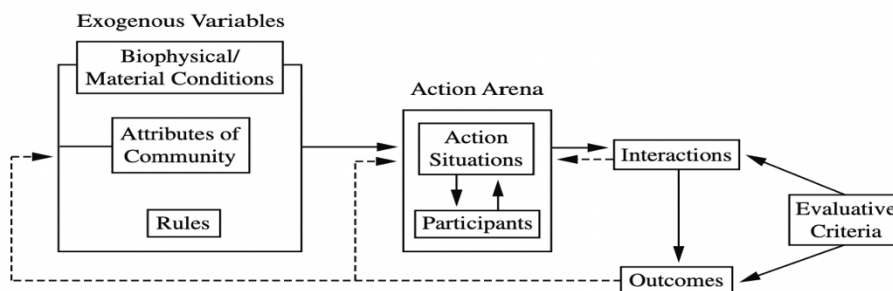
As illustrated in Figure 02, in general terms, within the IAD framework the focal point of analysis is the action arena that is composed of actors located within action situations and affected by a set of exogenous variables. Actors’ interaction within action situations leads to outcomes, which feedback into the exogenous variables and the action arena. The performance of both interactions and outcomes are examined by evaluative criteria (Ostrom, 2005).

**Figure 02.** IAD framework focal point.



Based on Figure 03, I will proceed now to analyze each of the components of the framework that will be applied for responding both of the research questions. The analysis will start with the three exogenous variables to understand the context, then the action arena where its two components will be explained, to finally describe the interactions and outcomes.

**Figure 03.** Detailed IAD framework



#### 4.1.1. Exogenous variables

The exogenous variables may affect the structure of an action arena, generating interactions that produce outcomes. These variables that impact on the structure of an action arena include three clusters of factors that are described below:

- Biophysical conditions: This variable refers to the physical interdependencies among actors, mediated by nature, reflecting the environmental conditions in which actors operate (Roggero et al., 2018; Clement, 2010). The nature of the resources is crucial for designing appropriate institutional arrangements for resource access and use. Biophysical conditions impact the action arena through aspects like subtractability, where one person's use of a resource reduces its availability to others, and exclusion, the ease of preventing people from accessing a resource. Additionally, attributes such as resource size, abundance, uncertainty, resilience, and vulnerability play a role. The structure of action situations is influenced by how these attributes interact with rules and physical conditions to create incentives (Ostrom, 2005).
- Attributes of community: It describes the socio-economic characteristics of the community that forms the social environment of the action situation (Milchram et al., 2019). The

attributes that are important in affecting action arenas include the norms of behavior generally accepted in the community; the level of common understanding that potential participants share about the structure of particular types of action arenas; the extent of homogeneity in the preferences of the ones living in a community; its size and composition; and the extent of inequality of basic assets among those affected (Ostrom, 2010).

- **Rules:** According to Ostrom (2005), "rules" can be defined as strategies adopted by participants in ongoing situations, encompassing both formal and informal guidelines that shape decision-making. Within the IAD framework, the focus is on understanding these working rules, which guide actors' behavior and bring order and predictability to their interactions. Identifying these rules is crucial for explaining actions and outcomes in an action situation. However, rules alone are insufficient; physical factors and the broader community structure also significantly influence the dynamics of the situation (Ostrom, 2011).

#### **4.1.2. Action arena**

The action arena is the focal unit of analysis in the framework and is composed of two variables: an action situation and the participants or actors in that situation (Ostrom, 2005).

The term "action situation" is applied when we refer to an analytic concept that allows to isolate the immediate structure affecting a process of interest to the analyst for the purpose of explaining regularities in human actions and results, and potentially to reform them (Ostrom, 2011). Then, action situations can be social spaces where participants with diverse preferences interact, exchange goods and services, solve problems, dominate one another, or fight (Ostrom, 2005).

Participants or actors within the scope of an action arena are understood as single individuals or as a group functioning as a corporate actor that are considered to be decision-making entities assigned to a position and capable of selecting actions from a set of alternatives made available at nodes in a decision process (Ostrom, 2005). Within the analysis according to the IAD framework, assumptions need to be made about how and what participants value; what

resources, information, and beliefs they have; and what their information-processing capabilities are (ibid).

### **4.1.3. Interactions and outcomes**

The IAD framework focuses on identifying an action situation and analyzing the resulting patterns of interactions and outcomes (Ostrom, 2011). These interactions, which involve the collective or interpersonal dimensions of the action situation (Roggero et al., 2018), follow a set of rules, norms, and shared strategies that influence actors' decisions at a given time (Ostrom, 2005). Interactions are categorized into physical and social types; while physical interactions describe the physical interdependencies among actors, social interactions pertain to the processes and forums where actors exchange information and make individual decisions (Roggero et al., 2018).

Under the IAD framework, outcomes can be predicted based on the analytical structure of the action situation and assumptions about the actors, with stronger inferences possible when there is complete information and actors are motivated to choose strategies leading to equilibria (Ostrom, 2005). If interactions yield positive results for all involved, actors are likely to maintain the current structure to continue benefiting. However, even with positive outcomes, actors might alter their behavior or the action situation's structure if they perceive interactions as unfair. Additionally, if actors or observers believe better outcomes are possible, they may push to change the structure or the exogenous variables governing the action situation (ibid.).

## **4.2. Adapted IAD Framework for MSP**

MSP is a valuable tool for fostering collaboration, co-creating solutions, and promoting equitable and sustainable resource management. By incorporating diverse perspectives, MSPs can uncover power imbalances and vulnerabilities within the institutions, leading to more inclusive and accountable governance. Ultimately, MSPs have the potential to enhance both equity and sustainability (Ratner et al., 2022).

To examine these aspects, Ratner et al. (2022) adapted Ostrom's IAD framework. This framework assesses the appropriateness and effectiveness of various MSPs, identifying

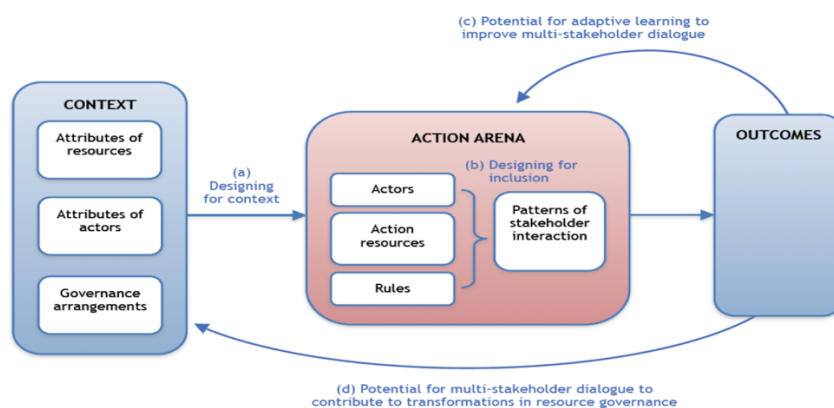


challenges and best practices for inclusive natural resource governance. A central focus is on understanding and addressing power dynamics to achieve equitable and sustainable outcomes.

MSPs can be conceptualized as dynamic ‘action arenas’ where stakeholders engage in inclusive dialogue to resources governance. Power relations and structural factors significantly influence interactions within these arenas. Exogenous variables shape stakeholder participation and negotiation processes. These elements, combined with the broader context, influence MSP outcomes such as resource conservation, learning, capacity building, and equity (EIDidi et al., 2024).

This adapted framework enables a comparative analysis of MSPs by focusing on key areas (a), (b), (c) and (d):

**Figure 04.** Key areas in Ratner’s adapted IAD framework



For the purpose of this research, we will complement the analysis of Ostrom’s IAD framework elements with the following two components identified by Ratner et al. (2022):

#### 4.2.1. Design for context

Effective MSP requires a deep understanding of the specific social and ecological context in which it operates. This "landscape framing" approach goes beyond the MSP's structure to consider the broader environment, including geographical boundaries, interacting ecosystems, and diverse resource users with potentially conflicting interests. This contextual understanding is crucial for tailoring MSPs to specific challenges and opportunities.

Ostrom's IAD framework provides a valuable lens for examining the contextual factors influencing MSP effectiveness. By analyzing biophysical conditions, community attributes, and existing rules, this framework helps identify the key elements that shape MSP design and implementation. Ultimately, designing for context involves tailoring MSPs to the unique characteristics of each specific landscape and its stakeholders.

#### **4.2.2. Design for inclusion**

Designing for inclusion is crucial for the success of MSP initiatives. By considering stakeholder characteristics, resources, and governing rules, MSPs can create a fair and equitable environment for participation. Ensuring representation and equal influence for all relevant stakeholders is essential for addressing power imbalances and fostering a collaborative atmosphere. When stakeholders feel included and valued, their commitment to the MSP increases, enhancing its long-term effectiveness and sustainability.

# 5 Methodology

This section outlines the research design, including the method applied and the topic selection. Also, it describes the data collection method applied, as well as the formula to select the participants. Lastly, after a reflexivity exercise, I address my positionality within this research, as well as the ethical considerations and study limitations.

## 5.1. Research design

This research employed a case study approach for an in-depth exploration of a specific case, allowing for a comprehensive understanding of its complexities (Silverman, 2017). To be more precise, in this research a single setting case is analyzed, with multiple sub-cases that allow to create a better understanding on the evolution of the research topic in different sub-cases and generate findings from comparing those sub-cases (Sy Diop and Liu, 2020). This method permits the use of various data collection techniques such as questionnaires, surveys, interviews, observations, and document analysis for a thorough investigation (Priya, 2021).

Qualitative methods were exclusively utilized in this research. As outlined by Hammersley (2013), qualitative research is flexible, adapting to emerging data while delving deep into real-world contexts. Combining direct experience with existing knowledge, this approach offers a rich understanding of complex phenomena (Rossman & Rallis, 2016). By examining societal actors, institutions, and policies, qualitative research provides insights into human experiences and behaviors (Barbour, 2019).

This research examines the design and implementation of GGPs within Peru's water MERESE framework, with a focus on participation and gender equity. The selection of this case study stemmed from personal interest in NbS and prior professional experience in Peru's natural infrastructure. To refine the research topic, a search for empirical data on natural infrastructure in Peru was conducted, including national and international reports, local news, and academic literature. Following a review of key concepts such as PES and MSP, relevant policies and regulations were analyzed to understand the rules governing MERESE and GGPs. Semi-

structured interviews with key stakeholders involved in designing and implementing the platforms were then conducted.

This research integrates insights from MERESE specialists across various organizations, associations, and public entities, including DWCs, which are responsible for implementing these platforms as mandated by the legal framework. The perspectives of these professionals, particularly DWC representatives, provide valuable knowledge on GGP design and operation. Their ongoing implementation of MERESE and related projects offers relevant data on stakeholder engagement and the incorporation of a gender equity approach in these platforms.

## 5.2. Data Collection Method

### 5.2.1 Semi-Structured Interviews

Semi-structured interviews were chosen as the primary data collection method for this study to facilitate interactive dialogue and flexibility in exploring key areas identified by participants, allowing the interviewer to actively contribute to the knowledge construction (Brinkmann, 2020). This method uses a pre-prepared protocol to ensure coverage of essential topics while also allowing for spontaneous questions and discursive strategies to adapt and refocus the interview as needed (Karatsareas, 2022).

The semi-structured interviews were conducted in Spanish, my native language and the language of the participants. Each interview lasted between one and two hours and was conducted remotely via the Zoom platform. To establish rapport, each interview began with a brief introduction of myself and the research focus, followed by participants introducing themselves, confirming their participation, and granting permission to record the interview. While the interview protocol was standardized, questions were tailored to fit the specific roles of participants in the implementation of MERESE and GGPs. The interview structure was divided into three main sections: (i) theoretical and empirical foundations of MERESE; (ii) stakeholder engagement, and the design and operation of GGPs; and (iii) the gender approach within MERESE and GGPs.

### 5.2.2. Sampling

This research utilized two sampling methods: purposive and snowball sampling. Purposive sampling was employed to strategically select participants with the most relevant knowledge and experience for the study, focusing resources on key informants (Barbour, 2020). Snowball sampling was used to recruit additional participants through referrals from existing subjects when accessing individuals with specific characteristics proved challenging (Naderifar et al., 2020).

The purposive sampling method was employed to identify key organizations involved in implementing Good Governance Platforms (GGPs) within Peru's water MERESE framework. This included national Drinking Water Companies (DWCs), the Ministry of Environment (MINAM), the National Water Authority (SUNASS), and relevant NGOs and associations. Semi-structured interviews were conducted with seven MERESE experts from these organizations to delve deeper into GGP implementation and challenges:

**Table 01.** List of participants in the research.

<b>PARTICIPANT</b>	<b>ORGANIZATION</b>	<b>ROLE</b>	<b>GENDER</b>
<b>E1 – MINAM EXPERT</b>	MINAM	Legal Specialist of the General Directorate of Environmental Economics and Financing	Male
<b>E2 – SUNASS EXPERT</b>	SUNASS	Environmental Analyst of the Directorate of the Scope of Service.	Female
<b>E3 - MERESE EXPERT</b>	-	MERESE Expert	Female
<b>E4 - NGO EXPERT</b>	WWF Peru	Freshwater Associate Officer	Male
<b>E5 – SEDACAJ EXPERT</b>	SEDACAJ	MERESE Specialist in the MERESE and Disaster Risk Management Division	Male
<b>E6 – SEDA AYACUCHO EXPERT</b>	SEDA AYACUCHO	Former Lead of the Department of Environmental Management	Female
<b>E7 – SEDAPAL EXPERT</b>	SEDAPAL	Lead of the Environmental Management and Ecosystem Services Team	Female

Participants in this study included MERESE specialists from all relevant organizations, selected according to their respective internal regulations. An NGO representative with expertise in MERESE implementation, was also included. Additionally, participant E3, a former SUNASS specialist with key contributions to MERESE guidelines, including the

"Guide for the Incorporation of a Gender Approach in the Implementation of Water MERESE," participated in the study.

Lastly, it is important to note that despite sending emails and formal letters to specialists from the DWC, contact could not be established with any of them. Consequently, snowball sampling was employed to address this issue. This method allowed existing participants to assist in recruiting DWC MERESE specialists, leveraging their close coordination with these individuals.

## 5.3. Data Analysis

### 5.2.1. Thematic Analysis

The interviews were recorded with the participants consent, and have been transcribed using the transcription tool provided by the online version of Word. For the purpose of the analysis, these transcriptions were not translated into English, as it is usually appropriate for data to be analyzed in the language in which it is collected, if it is done by someone who is fluent in that language (Taber, 2018). In my case, as a native Spanish-speaker and a local, analysis in the original language of the data collected allowed me to identify the local idioms, local expressions and analogies. Then a thematic analysis was used for analyzing the data by using the framework strategy (Bryman, 2012). Therefore, after a thorough revision of the data, initial codes were identified and data was assigned to each one of them, then the codes were grouped and themes and sub-themes were identified and were represented in a matrix that contained the themes and its relation with each of the interviewees.

### 5.3.2. Reflexivity, Positionality and Ethical Considerations

Qualitative research is inherently subjective and influenced by the researcher's perspective. The cultural, social, and personal backgrounds of the author shape how the world is interpreted and understood, and these biases inevitably influence the research findings (Creswell, 2013). In this scenario, reflexivity is a critical process that allows researchers to identify their influence on

the study. Examining their preconceptions, previous experiences, beliefs and assumptions allows them to shape their positionality in the study (Holmes, 2020).

After doing a self-reflective analysis in order to understand my part and influence in the research, I ended up analyzing my positionality based on the insider-outsider theory (ibid). Despite being a mid-thirties peruvian with higher education that has worked for more than twelve years in the peruvian public sector interviewing other public officials and professionals that have previously worked in the peruvian public sector, I acknowledge myself as an outsider on the topic of research for several reasons.

First, although I was familiar with the public sector's structure and organization, which allowed me to communicate effectively with the participants, I lacked prior knowledge or experience with PES or MERESE mechanisms before this research. Therefore, my interest in this topic did not originate from the mechanisms themselves but from a previous project focused on improving natural infrastructure in Peru.

Second, my limited experience working directly with rural communities and addressing the challenges faced in stakeholder engagement positions me as an outsider. My previous roles were primarily administrative and desk-based, which means I have no direct experience negotiating with these communities and am unfamiliar with the specific issues they encounter.

Another reason is that the data collected reflects socio-cultural norms and beliefs different from my own experiences as a woman from Lima with a privileged background and access to private education. Although I have faced gender imbalances in my personal and professional life, I have not encountered significant barriers to expressing my opinions or achieving my goals due to gender. To effectively engage with MERESE experts, I needed to gain a deeper understanding of the socio-cultural contexts they described. Despite my family's rural roots, my personal experience was limited, requiring additional research into the challenges faced by these communities, using both literature and insights from family and friends.

### 5.3.3. Limitations

This research has some limitations. The primary issue is the small sample size stemming from difficulties in contacting and communicating with public officials responsible for MERESE within DWCs. The only three DWC's participants were from large-scale organizations, as categorized in the Sanitation National Plan 2022-2026, leaving out medium and small DWCs that may face different challenges. Therefore, while insights were gathered from various general stakeholders involved in water MERESE and GGP, the findings cannot be generalized.

Given the technical and legal nature of some interview content, a limitation of this study is the language barrier. While interviews were conducted in Spanish, the native language of the interviewer and the interviewees, and data analysis was based on the original language materials, to facilitate this research, extracts of the data were subsequently translated into English by the researcher in order to consider them into this study. While efforts were made to ensure accurate translation, as noted by O'Reilly and Kiyimba (2023), the reliability of these interpretations cannot be independently verified by the readers.

Finally, another limitation of this research that is worth to mention is the inability to complement or validate the data collected from MERESE specialists with perspectives from other stakeholders participating in GGPs. While initial plans involved coordinating with community representatives in areas where DWCs were implementing projects, logistical challenges, including remote research and limited internet connectivity in these regions, prevented this from happening.



# 6 Findings

This section outlines the findings of this thesis, based on the data gathered on the semi-structured interviews conducted by the researcher with water MERESE specialists that are relevant for MERESE and GGP design and implementation, by analyzing the elements of Ostrom's IAD Framework and highlighting the questions of equity, power and stakeholder dynamics considered in the adapted IAD Framework for MSPs.

## 6.1. Ostrom's IAD framework

### 6.1.1. Exogenous variables

For water regulation services, the DWC acts as the buyer of ecosystem services provided by the watershed in their area of intervention or other benefiting ecosystems enabling the provision of drinking water services, and the sellers are usually populations represented mainly by Andean peasant communities (Tristán et al., 2021).

Even though each of the DWC have their own areas of intervention and are free to define where to implement the water MERESE projects, participant E2 mentioned that these interventions mainly occur in the basin's headwaters, particularly in degraded ecosystems that regulates water services, which are typically located at high altitude points. It is important to note that some participants mentioned that a characteristic of these areas is that they experience drastic water reductions during scarcity which affect local populations, while forage grass increases during rainy seasons.

To define the degraded areas, the DWC elaborates a RHD, as explained by participant E5. He elaborates further and explain that the DHR analyzes "*water coverage, free-living organisms, environmental conditions, vegetation cover that is more worn out, more damaged*". However, as highlighted by participant E4, this analysis and the definition of the areas where water MERESE projects will be implemented can be challenging because:

*"Peru has different types of ecosystems, different types of vegetation coverage, different types of geological soils, etc. This makes access sometimes quite complicated, right?"*

*Some basins can be very extensive, (...), other watersheds are smaller. In fact, some MERESE, their scope of intervention is only linked to a small micro-basin, right? A micro watershed that suddenly supplies a small city. But in other cases it's totally different”*

As explained by Tristán et al. (2021), the size of the watershed involved in water MERESE varies from very small to very large ones across the country. The problem is that initiatives to be developed in large basins represent a challenge for the management, governance and administration of the water MERESE and areas need to be prioritized according to their conservation status, water supply, and other criteria determined by the DWCs.

After analyzing the biophysical context, it is important to explain some socio-cultural norms, beliefs and understandings of the communities living in the areas where the water MERESE interventions will be applied, that are relevant to understand some GPs challenges.

A prevalent socio-cultural norm in Andean peasant communities inhabiting the basin's headwaters is the stark division of gender roles. Participants unanimously described deeply ingrained gender dynamics governing community interactions. As Participant E3 noted, these patterns are longstanding and deeply embedded. Participant E1 confirmed that women primarily assume caregiving responsibilities, including childcare and domestic chores, as Participant E2 succinctly summarized: *"It is a daily role. Therefore, that doesn't require a stop, does it? Because if she doesn't cook then what does her family eat?"*. These observations align with broader research indicating that women in Peruvian rural areas predominantly engage in domestic and care work, while men are typically seen as the primary providers, engaged in agriculture, livestock, and other economic activities (Carrillo, 2019).

Shared beliefs about the sacred nature of water unite members of high Andean communities, regardless of gender. Water is considered a vital life-giving resource, a gift from deities like the 'Wamani' and 'Pachamama' (Najarro Martínez, 2020). This spiritual connection renders water a sensitive topic for these communities, as Participant E2 explained. The mere approach of a DWC is often met with suspicion, as they fear they want to take away their water, which is now scarce due to the less rainy seasons and more frequent droughts caused by climate change.

Despite a deep-rooted connection to water, Participants E5 and E6 highlighted the prevalence of unsustainable livestock farming practices in the intervention areas. As Participant E6 described, these areas often become "animal sheds" during the rainy season due to increased forage availability. Participant E5 emphasized that while cattle-raising is a longstanding tradition, the negative impacts of grazing on riparian and buffer zones are often overlooked. He noted the challenge of changing these practices, stating, *"to change that chip so that they no longer take those cattle there, but take them somewhere else and give those pastures some time to recover, is a very difficult issue"*. Overgrazing, a common issue in the Peruvian highlands, is exacerbated by the region's reliance on cattle and can significantly impact water quality through increased sedimentation (ESPA, 2018).

Understanding the context of Andean communities is crucial for effective GGP design and implementation. As key stakeholders in the water MERESE process, these communities are central to achieving the GGP's ultimate goal: successful MERESE implementation. The SUNASS Directive outlines the composition of GGPs, including participation from regional and local governments, water sellers (often Andean communities), buyers, and other relevant entities. These platforms are responsible for coordinating MERESE implementation, facilitating agreements between sellers and buyers, and overseeing compliance. Given the critical role of Andean communities as water sellers, their representation within GGPs is essential.

All the interviewees accept that the provisions of this Directive are the ones that the DWCs need to follow in order to design and implement the water MERESE GGPs. However, as participant E3 mentions:

*"the issue of the good governance platform in the water MERESE, that is, that of the water utilities, which is the one I know most, is quite complex, because, let's start from the regulatory framework, the directive does not give you much information on the platform, there is not even a format for, I don't know, meeting minutes, a process, there is nothing, right? In other words, what they tell you is very basic"*.

Despite the SUNASS Directive outlining the creation of Good Governance Platforms (GGPs), there is a notable absence of additional regulations or guidelines specifically addressing GGP formation and operation. This lack of regulatory clarity was acknowledged by interviewees.

While SUNASS has provided guidance on other aspects of water MERESE implementation, no equivalent support exists for GGPs. Participant E2 noted that some DWCs have adopted the practice of creating meeting minutes to document GGP membership, a process confirmed by other participants. However, procedures for GGP attendance, decision-making, and voting are currently lacking.

An important provision included in the SUNASS Directive that needs to be considered is the one that recognizes the key role of women in the design and implementation of water MERESE. According to the Statement of Reasons of the Directive (SUNASS, 2019), this provision was included to promote women's participation on spaces for dialogue, training and decision making in water MERESE. However, no other provision that describes this intention was found within the Directive.

In the spirit of developing further this provision, SUNASS released the "Guide for the Incorporation of a Gender Perspective in the Implementation of Water MERESE" in June 2023. This non-binding document provides recommendations for DWCs to promote women's participation in MERESE processes, as explained by Participant E3. Regarding GGPs, the guide specifically recommends including women's organizations or female leaders, sharing information about women's activities, and prioritizing gender-related initiatives on the platform's agenda.

Despite SUNASS' efforts to promote women's participation in water MERESE and its GGPs, entrenched gender-based property rights hinder women's inclusion. Participant E3 highlighted the limited land distribution rights for women, explaining that community norms typically designate male heads of household as "comuneros," or landholders, despite the provisions of the General Law of Peasant Communities. This gendered property ownership also extends to water rights. Despite the regulations have made the effort to incorporate the "comunero's" wives to also have rights to use water, the expert recognizes that it is *"something that is very difficult to change, because in reality we cannot, in other words, we cannot say to the community, well, change, now everyone is a 'comunero' or 'comunera' and share it among all of them"*.

### **6.1.2. Action arena**

Considering the GGPs conformation provision included in the SUNASS Directive, the DWC needs to invite the relevant actors to participate in the platform. On this regard, many of the participants mentioned that in order to identify the actors that are relevant for the implementation of the MERESE, the DWCs need to map out the actors of the basin.

When asked about the relevant actors that should participate in the GGPs, the interviewees indicated the following ones:

**Table 02.** List of participants in the research.

RELEVANT STAKEHOLDERS	E1	E2	E3	E4	E5	E6
Water Utility		X				
SUNASS		X		X	X	
MINAM	X			X		X
Regional government		X			X	X
NGO, civil society or cooperating partners		X		X	X	X
Irrigation boards		X			X	X
Communities	X	X	X		X	X
Academia		X		X	X	
Water Authority		X		X	X	X
Hydropower companies		X			X	
Women organizations			X			
Other public entities		- Ministry of Agriculture - IGP - Agro Rural - SENAMHI			- SERFOR - IGP - Agro Rural - SENAMHI	

While the definition of the platform expressly mentions that buyers and sellers are relevant participants of the platform, not all of the interviewees mentioned them in their responses. While the relevance of the DWCs was recognized by just one interviewee, almost all of them acknowledged the value of including the communities to participate in the GGPs. Their participation is considered relevant as it is key for the success of the mechanism, because, as participant E3 mentioned, their knowledge and needs would be taken into consideration. In this

regard, participant E5 mentioned it was key for the right operation of the GGP to make sure that the community participant was actually representing the interest of his/her community.

Other relevant actors identified by the participants as key for the GGP include: (i) SUNASS and MINAM, due to their technical knowledge about water MERESE; (ii) regional governments, which have expertise in reforestation and afforestation projects and can help avoid redundant work in the same intervention areas, as noted by participant E5; (iii) the Water Authority, for its technical-regulatory expertise in integrated, sustainable, and multisectoral water resource management for the benefit of water users and the population; (iv) irrigation boards, which can offer guidance on water harvesting based on their experience, as mentioned by participant E2; (v) hydropower companies, which can help disseminate information about MERESE interventions to water users; (vi) the National Forestry and Wildlife Service (SERFOR), which supports DWCs with permits for forestation and reforestation and assists villagers with sustainable ecosystem management; (vii) the Rural Agricultural Productive Development Program (Agro Rural), which provides workshops related to rural agricultural development; and (viii) the National Service of Meteorology and Hydrology of Peru (SENAMHI) and the Geophysical Institute of Peru (IGP), both of which can assist with hydrological monitoring in intervention areas.

Additionally, Non-Governmental Organizations (NGOs) and civil society were also considered key by most participants. According to participants E2 and E4, NGOs or associations invited to participate in the platform should be those already working in the region or around the basin. Academia, particularly local or regional universities, was identified by most interviewees as a relevant actor due to its potential to provide technical knowledge to the platform. Regarding the participation of women's associations or women leaders in the GGPs, participant E3 stated:

*“Something that we did include in the MERESE gender focus guide is that in addition to mapping actors related to water and ecosystems, actors related to women's organizations or women leaders should also be mapped. Even though they were not directly related to MERESE, they could help strengthen the platform, generate links with the communities, etc.”*

The water MERESE regulation mandates that GGPs and their participants fulfill four key roles: (i) provide technical assistance during the implementation process of the water MRSE, (ii)

facilitate the coordination and negotiation between the sellers and payers for the execution of the water MERESE Agreement, (iii) carries out the monitoring and social control for the correct implementation of the water MERESE, and (iv) supports the DWCs in the efforts to finance or channel financing for the execution of the Intervention Plan.

Considering their knowledge and experience, the participants were asked about what they considered to be the main purposes of the GGP. Their answers were grouped in four big categories as shown in the following table, which are linked to the 4 aforementioned roles:

**Table 03.** Main roles of the GGP identified by the participants

CATEGORY	Technical assistance	Coordination and negotiation for execution of Agreement	Monitoring and social control	Finance or channel financing
E1	X	X	X	
E2	X	X	X	
E3	X	X		
E4		X		
E5	X	X	X	X
E6	X		X	
E7		X		

As it can be seen, most of the participants recognize almost all the categories as important roles of the GGP, except for the financing role, that was only recognized by one participant.

The technical assistance role of the GGP is crucial, as highlighted by participant E2 who stated, *“once the funds are collected, the platform also supports the DWC in one way or another, precisely in some activities, actions, that they can support the DWC, or also, as I was saying, the MERESE”*. This assistance is vital for the various activities required within the MERESE framework. For example, participant E5 noted that *“the IGP came as a member of the platform and also within the framework of the specific agreement, they gave us technical assistance, the landfills were built, all of that, so, yes, work has been done”*. Similarly, participant E6

mentioned that the GGP “*collaborated and accompanied in the development of the rapid water diagnosis. Part of the driving group has accompanied to see the areas and population to be intervened*”. The GGP provides guidance, assistance, and support based on their knowledge and experience, which is particularly valuable as DWCs, the primary implementers of MERESE, often have limited funds and resources to carry out all activities independently.

Another important function of the GGP, as recognized by the participants, is to carry out monitoring and social control for the proper implementation of MERESE. This platform serves as an excellent setting for informing about the activities, actions, and interventions under MERESE. Participant E1 highlighted that the platform allows verification that the MERESE agreement is being complied with, emphasizing the relevance of this monitoring role to ensure that both the seller and buyer meet their obligations.

Participant E4 emphasized that the GGP ensures the proper implementation of MERESE. Similarly, participant E2 noted that the platform serves to “*show what is being made*” and to “*see if the actions are being executed*”. Participant E5 added that the platform facilitates effective monitoring as it helps verify if the budget is spent exclusively on the mechanism and members are asked to report progress on MERESE-related work, which helps identify any duplication of activities with any of the institutions represented on the GGP.

Participant E1 highlighted the importance of the GGP platform in coordinating and negotiating the execution of the MERESE Agreement, noting that since MERESE is a voluntary mechanism, these activities are crucial for reaching agreements. The expert stated, “*as it is a voluntary mechanism, if they are going to execute it freely, then it will be necessary for them to have spaces, spaces for dialogue, spaces for coordination, articulation, and for the resolution of consultations*”.

Additionally, the SEDACAJ representative was the only one that identified the GGP as useful for securing funds and economic support for MERESE implementation, a role not even mentioned by other DWC participants. This reflects that DWCs with fewer users have limited tariff-generated funds. For instance, SEDAPAL, Peru's largest DWC, has ample funds, as noted by its expert: “*there is plenty of budget*”. This highlights the disparity in funding situations among DWCs and also explains why some DWCs may be more concerned about getting other sources of funding.



### 6.1.3. Interactions

Effective communication and strong leadership are essential for platform success. As highlighted by participant E4, *"if someone does not take the lead or if there is no technical secretariat, the platform will simply die"* as there will not be someone in charge of following-up the completion of the agreements. Open dialogue among members and a clear organizational structure, including a designated leader, are crucial for achieving the platform goals. This leadership can even stimulate increased participation and support, as observed by participant E5.

The platform serves as a critical space for buyers and sellers of ecosystem services to coordinate and negotiate the complexities of MERESE implementation. While it offers potential for resolving conflicts, as highlighted by participant E1, reaching agreements on issues such as intervention modalities and seller participation can be challenging due to divergent interests. This tension is exemplified by participant E7's experience, where community demands exceeded MERESE scope, leading to unenforceable agreements. The platform's inability to mediate these disputes, as evidenced by the community's retention of monitoring equipment, underscores the significant challenges in facilitating cooperation and achieving MERESE objectives.

In this same line, participant E6 explained that their GGP was created on 2013, before the issuance of Act 30215, and it became inactive because the different interests of some participants. As she mentions, the participants of their GGP:

*"So, the intervention modality was going to be that they would be given money and they would execute and render. Something like what an NGO does, right? Then, when the execution modalities came out, SEDA itself could execute it by direct administration, it could make agreements with some, let's say, entities to execute and the other by, like, like, this, by contracting, right? So, these driving groups, well, they have been, let's say, disengaging from the group, right? And up to now, well, it is kind of inactive".*

It is noted from the data that GGPs participant contributions vary in quality and consistency. While some participants, like those with prior experience in conservation matters, can offer

valuable technical assistance, others may be less engaged or even obstructive. Participant E5's experiences highlight these challenges. While they received the support from a participant that has previously implemented plant nurseries around the area, there was other participant that did not want to participate in the platform, share information or sign the meeting's minutes. Similarly, participant E1 also mentioned that sometimes the National Water Authority (ANA) do not give the GGP much relevance, which impacts on their participation and involvement in it, as it can be seen in the following quote: *"They say that it is not my function, it is not part of my main functions, it is part of my secondary functions, isn't it? But that is why sometimes they do not give it much, much relevance"*.

Another interaction complexity that was found within the GGP is the difficulty of convincing communities to allow interventions for conservation purposes on their land, as they often fear potential negative impacts, such as dispossession or any other action to their detriment. As explained by participant E5, this was particularly evident in their water MERESE, when they wanted to instal the hydrological monitoring equipment. In this case, the community thought that the DWC wanted to steal and control their water, which ended up hindering the project implementation as it was difficult to get into an agreement in the platform. This is a reflection of the distrust in public authorities, so building trust with local communities is key.

In regards with women representatives from communities in GGPs, it was noted that none of the water MERESE of the DWCs interviewed had female representation, mainly due to the fact that they are not recognized as 'comuneros'. Participant E3 mentioned that, even though their role is relegated to caring work, there are few cases where women of the communities participate in community meetings, however, they don't have a say nor influence in their husbands or any other male family member. According to participant E1, those women that are not pigeonholed in the role that is attributed to them by expressing themselves, organizing a women's association, imposing their rights, among others, are criticized by other community members, including other women, and can also be frowned upon by their community, isolated, and subject of intra-familial violence. Another way in which these gender norms are manifested, as identified by participant E3, is with the high dependency of women to their husbands, mainly due to their lack of income which make them impossible to financially support themselves.

#### **6.1.4. Outcomes**

The overall expected outcome of all of these interactions within the platform is to implement successfully the MERESE, and therefore to have more hectares recovered or conserved, which improves water quantity and quality, allowing the water utility to maintain the water provision. But also, as many of the interviewees agree, it also benefits the members of the communities. As participant E3 mentions, while other conservation schemes such as Protected National Areas focus mainly on the environmental aspect, with the MERESE “*we make conservation somehow profitable*”, as it is a more comprehensive scheme and tries to benefit not only the ecosystem, but also the vulnerable communities that live in the upper watershed. The way to contribute to this communities is by retributing them for their services on conservation tasks for water regulation. As participant E3 said: “*You conserve and I support you in something that is profitable for you*”, which is a statement that was also mentioned by participants E4 and E6.

One more direct outcome of the platform goes beyond the conservation efforts. According to participant E1 “*there is a social issue, because, the communities feel that there is a direct benefit for them, there is a, there is a feeling of the State, that it is reaching out to them, right?*”. This means that, despite the feeling that the State is not reaching the millions of peruvians living in remote areas, these kind of governance spaces generate a rapprochement between such communities and representatives of public institutions. As a result, if managed correctly, more confidence and trust can be developed in these communities, as well as a greater knowledge of the situation of these communities from the state institutions, which can be considered for the development of other policies.

## **6.2. Ratner’s adapted IAD framework**

After analyzing the institution of the GGP under the elements of Ostrom’s IAD framework, we have a deeper understanding of the context and operation of the platform. With that as a base, we will now get into a further analyze elements of design and inclusion under Ratner’s et al. altered IAD framework. For this analysis we will mainly focus on comparing the sub-cases of the SEDACAJ, SEDA AYACUCHO and SEDAPAL platforms to have a better understanding of their experiences in these areas.

### **6.2.1. Design for context**

This study analyzed in a comprehensive manner all the exogenous variables of the GGPs to determine power relations and dynamics that influence its design and implementation. Four key areas were identified and are developed below:

**(i) Nature of the platform**

The analysis of the three sub-cases in Peruvian water MERESE, shows that one main difference is the way the nature of the platforms created. For instance, in the case of SEDACAJ, the interviewee mentioned that they created and implemented a Platform by the end of 2019, right after the approval of their tariff study by SUNASS, by following SUNASS Directive provisions. After mapping out the degraded areas and the actors related to the MERESE, they proceeded to invite these actors to participate in the platform. After their response, they officially conformed the GGP through SEDACAJ Resolution N° 063-2019. They meet every quarter to report progress and ask for their accompaniment, according to the information provided by the interviewee, that mentioned the following: *“Every quarter we bring together the good governance platform and we tell them, look, we have 10 activities and in those 10 activities we would like you to join us”*.

Similarly, in the case of SEDA AYACUCHO, the interviewee mentioned that in 2013, even before the issuance of the national MERESE regulation, the creation of the platform was promoted by the DWC, Ayacucho’s Regional Government and MINAM under the name of “Driving Group”, and it was finally formalized by a Resolution issued by the Regional Government. This group was mainly dedicated to provide technical assistance in order to support the production of the DHR and to define the areas of influence. However, according to the interviewee, in 2015, after noticing that the recently issued national MERESE regulation allowed for the DWC to make all the actions directly, the actors stopped participating in these meetings and providing their support. While the group still exists formally, as they were not dissolved, the interviewee mentions that nowadays it is not active.

On the other hand, the SEDAPAL expert mentioned that in their case they did not promote the creation of a group or a platform from scratch. They, instead, joined other platform already established with conservation interests in the basins of intervention. According to the interviewee, they incorporated the MERESE topic within the discussions of the already existing

Chillon-Rimac-Lurin Interregional Basin Water Resources Council (WRC), which is a permanent body of ANA, with the purpose of participating in the planning, coordination and agreement on the sustainable use of water resources in its area. This Council was first created in 2016 through Supreme Decree N° 007-2016-MINAGRI, but after the approval of the tariff study in 2021, SEDAPAL was included in the WRC and MERESE was also a part of the discussions. As the WRC is lead and managed by ANA, the SEDAPAL expert was unaware of who the participants were, and if there were any rules for its operation.

The analysis reveals three distinct approaches to platform creation within the MERESE framework. SEDACAJ and SEDA AYACUCHO established dedicated GGPs, while SEDAPAL integrated its platform into an existing WRC. While the MERESE regulation does not explicitly recognize using WRCs for this purpose, their comprehensive watershed perspective offers potential benefits. However, the limited activity of many WRCs nationwide, as reported by SUNASS, and the lack of clear guidance on GGP-WRC integration create challenges for DWCs in determining their role and responsibilities within these governance structures.

## **(ii) Structure and organization of the GGPs**

Despite the lack of general organizational provisions in the Directive or internal GGP rules, in all of the experiences analyzed, it was found that they all had an organizational structure to support their operation. In the case of SEDACAJ, the interviewee mentioned that he, as the representative of the DWC, assumed the role of president of the platform and developed the following roles: (i) invite the participants to the meetings, (ii) define the meeting's agenda, (iii) secure suitable meeting spaces, (iv) coordinate the transport of the communities representatives, and (v) elaborate the meetings minutes. In addition to that, the MERESE specialist assumed the role of participant representing SEDACAJ, and was in charge of reporting the progress in the interventions.

In the case of SEDAPAL, the interviewee mentioned that the WRC has a president, a secretary and each participating institution has one representative, but there are no clear rules on how it operates, and what roles ANA assumes. In the case of SEDA AYACUCHO, the interviewee mentions a similar structure for the Driving Group, with a president, secretary, officer, and a representative of each participating institution. The roles of president and officer were rotative.

For example, Chuschi Municipality and the Bartolomé Aripaylla Association (ABA) assumed the role of president, and the role of officer was also assumed by different actors. Another characteristic that was clear from the interview was that Ayacucho's Regional Government, through the Natural Resources Direction, assumed the role of secretary of the Group, and they were the ones in charge of inviting and managing the Group's meetings.

Regarding the participation of the communities within the GGPs, while in the case of SEDA AYACUCHO, the communities of Changuil, Niñobamba and Cuchuquesera, located within the Quichcahuasi area, were formally included in the platform and even had the possibility to take the lead on the platform; in the case of SEDACAJ, the communities were not formally included in the platform, even though they were participating in all of their meetings. This means that in the minute of the creation of the platform, the communities were not included as participants of that space, but despite that, they were participating in all the meetings of the platform and had the possibility to participate in decision-making. On the other hand, in the case of the SEDAPAL, considering the Supreme Decree that creates the WRC, there is just one representative of the Peasant Communities of the Regional Government of Lima formally included in this governance space. This means that there is formally one representative of the whole region and not specifically from the areas of intervention of the water MERESE, but that was not actively participating.

The role of communities within GGPs varied across the sub-cases. In SEDA AYACUCHO, communities actively participated and assumed leadership roles during the platform's operation. Conversely, while communities were involved in SEDACAJ's GGP, they lacked formal recognition as platform members. In the case of SEDAPAL, community representation was not participating in GGP meetings. These findings highlight the inconsistent level of community engagement and influence within different GGPs.

### **(iii) Technical assistance in the creation of the GGP**

The preceding analysis of GGP nature and structure opens another branch of analysis related to a closer examination of the roles in platform creation and management. As stipulated by the SUNASS Directive, DWCs are responsible for establishing GGPs with MINAM's technical support. The platform's significance is underscored by its status as a mandatory design element for water MERESE tariff approval. However, full platform formation is not strictly required

for tariff acceptance; with demonstrating outreach to relevant stakeholders is enough. But besides MINAM, SUNASS also plays a technical assistance role in the broader MERESE context, as recognized in the Directive.

For the creation of SEDACAJ's GGP, the interviewee confirmed that they did not have any support of MINAM, instead, he recognized that it was the DWC that promoted its creation with the constant support of SUNASS. However, in the case of SEDA AYACUCHO, it was mentioned that the creation of the Driving Group was promoted by the DWC, Ayacucho's Regional Government and MINAM, and that the latter was providing technical assistance for its conformation and operation, but it is now inactive and since then, no more support from MINAM was received. When the interviewee was asked about re-activating the platform, she replied that it should be Ayacucho's Regional Government the one in charge of re-activating the platform.

As it can be seen, inconsistencies in interiorizing DWC, SUNASS and MINAM roles hinder GGP implementation. SEDACAJ's proactive approach to platform creation was likely facilitated by strong SUNASS technical support. SEDA AYACUCHO demonstrated a limited comprehension of DWC responsibilities in platform creation and operation, as well as in SUNASS and MINAM's functions to provide technical assistance. In the case of SEDAPAL, the interplay between DWCs and ANA within existing WRC remains unclear. While regulatory frameworks outline DWC functions, its role, the role of ANA and their interaction in WRCs is not explicitly defined.

#### **(iv) Administrative issues in the management of GGPs**

A common challenge highlighted by interviewees was severe understaffing within their teams. SEDACAJ, for instance, described a situation where a division initially staffed with three individuals now operates with only one environmental engineer. This solitary team member is responsible for the entire MERESE scheme, leading to an unsustainable workload. As the interviewee stated:

*"I am not enough anymore. Not anymore. We stay late, right? We even bring work to the house to... Well, it's because, for example, you ask for a material, do the follow-ups, see*

*the reports, the field work, the field work and then go back to the office again. So, no, no, it is not enough".*

The implementation of MERESE in SEDA AYACUCHO and SEDAPAL has been also hindered by significant staffing challenges. Currently, both institutions face understaffing within their respective environmental management teams, limiting their capacity to effectively manage MERESE and engage with stakeholders. This resource scarcity not only impacts platform creation and operation but also hampers overall MERESE implementation, as teams prioritize project deadlines over platform activities. The absence of dedicated social or stakeholder management specialists further exacerbates these challenges.

### **6.2.2. Design for inclusion**

We have seen that the idea of the platform is to have a space for discussion and deliberation where all relevant actors share their knowledge and ideas openly. However, there have been identified some power dynamics that impact on women's participation in the platform that are detail below:

#### **(i) Participation of female community members within the GGP**

All interviewees confirm that women play a significant role in water management and conservation as users of water resources. They are responsible for water supply for subsistence agriculture, domestic use and care of family members; they are also the main users of water for food preparation, cleaning, hygiene, care of family members who suffer from illness or are temporarily or permanently disabled.

Despite the recognition of the important role of women in SUNASS Directive and in the Gender Approach Guide, the data reflected that not all of the GGPs were considering the recommendations of the Guide. From the three of them, SEDA AYACUCHO and SEDAPAL are not implementing the provisions of the Guide in their platforms. The only one trying to implement the suggestions of the Guide within their MERESE projects is SEDACAJ. Even though there are no women organizations incorporated in their GGP, SEDACAJ is working on incorporating a representative of the "Olla Común" from the community. Even though the community's "Olla Común" is not a formal organization, it is a group of women from the area



that organized together to cook for the people that participates in the MERESE meetings, providing them with meals prepared with the supplies and products provided by the water utility. In the beginning, these women were not even involved in the MERESE. However, after the implementation of the “Olla Común” these women started to show their interest and started participating in the projects.

Women's involvement in SEDACAJ's MERESE demonstrated their capacity for effective task completion. Initially engaged in roles such as bag filling and plant nursery maintenance, they subsequently took on more complex responsibilities like pasture restoration and ditch construction. While many activities involved shared labor, one woman, Rosa, excelled in her performance, prompting SEDACAJ to consider her for a platform representative role. However, her husband's resistance hindered this plan. The following extract highlights the challenges women face in overcoming patriarchal norms in order to be able to actively participate in decision-making:

*"After finishing this activity we already recognize a female representative who will be Mrs. Rosa. We would have done it before (...) We would have recognized Mrs. Rosa with her vest, with her certificate, with all the mothers sign the certificate that she is the right lady, the ideal one to do this work, the representative, but the issue is that her husband is a little problematic".*

The challenge of integrating female representation into GGP's is not unique to SEDACAJ. Despite SEDAPAL or SEDA AYACUCHO lack of active GGP's or are not implementing the Guide in their water MERESE, respectively, interviewees highlighted significant barriers to women's participation. SEDA AYACUCHO's expert emphasized the prevalence of machismo in community interactions, even outside of formal GGP structures. Women were often relegated to domestic roles during community meetings, with their voices marginalized. This expert personally experienced resistance to MERESE implementation due to male participants' closed-mindedness and unwillingness to listen to her. Instances of male leaders being absent from scheduled meetings further compounded the issue. These experiences underscore the deep-rooted gender inequalities that hinder women's involvement in decision-making processes at the community level. Similarly, the SEDAPAL expert observed entrenched gender roles in upper communities, where women are traditionally confined to domestic duties while men dominate decision-making positions, including leadership roles in community boards.

Although some women have emerged as leaders, they often operate in isolation within male-dominated spheres. While the expert noted instances of women participating in meetings and expressing opinions, their limited knowledge of MERESE suggested a lack of empowerment and training on the subject.

**(ii) Participation of other female participants in the GGP**

All of the DWCs interviewed mentioned that there were female representatives from different public entities and organizations in their GGPs. In fact, both of the interviewees from SEDA AYACUCHO and SEDAPAL were also the representatives of their organizations within the platform. And in the case of SEDACAJ, two of their participants were females, one from a university and the other from a non-profit association. As the SEDACAJ participant explained, the few women participating in the SEDACAJ GGP are working on creating links with the women from the communities, and using this approach to teach them about the mechanism and sustainable management of ecosystems. But they are also working on empowering women and making them aware of their strength and capabilities. On this regard, the SEDACAJ interviewee mentioned the following example: *“We did the pull-the-rope contest, right? Men and women. And the, the UPN, CEDEPA representatives, and the engineer Marjorie from UPN said, come on girls, you can do it. And in the end, the women won because they were a little more united and they beat the men, right? So, it was a clear example that women can also have that strength if they unite, right? So, now there are more women participating than there were before”*.

**(iii) Promotion of the gender approach on the MERESE interventions**

While the SEDAPAL and SEDA AYACUCHO expert mentioned that no activities to promote gender approach have been applied in their MERESE, in the case of SEDACAJ, the interviewee indicated that in their intervention plan they incorporated gender inclusion workshops that targeted the twelve mothers participating in the ‘Ollas Comunes’, but also the men of the community. Besides that, he also explained that they are trying to transfer knowledge about MERESE and give them the sense of ownership of the interventions, so they see that *“the project is also theirs, not just of their husbands”*, and assume responsibilities and commitments about it. He finally explained that, despite not being in the intervention plan:

*“I am even going to teach them how to take care of the equipment, to make the hydrological monitoring. Yes, they already have the peasant patrols there too, they are going to participate. So, not only the men can take care of the equipment, we have asked for flashlights so that they can also take care of the equipment”.*

## 7 Discussion

Going back to the first research question: **“Which are the main challenges Drinking Water Companies face for the set-up, implementation and function of the Good Governance Platforms of the Ecosystem Services Compensation Mechanism for water security in Peru?”**, the findings show that there are four types of challenges that the DWCs need to overcome for the implementation of the water MERESE GGPs: (i) institutional; (ii) regulatory; (iii) administrative; and (iv) social.

Regarding the institutional challenges, the first one found was related to the understanding of the roles of the relevant entities for GGP implementation. While the SUNASS Directive outlines the roles of DWCs and MINAM in implementing GGPs, some DWC officials lack a clear understanding of their responsibilities in promoting and establishing these platforms. While they can seek technical assistance from MINAM, the ministry's centralized location in Lima can hinder accessibility. To improve coordination, DWC officials should be provided with comprehensive training on their GGP-related duties and encouraged to actively engage with MINAM. Besides that, it would also be important that MINAM adopts a more proactive approach to GGP creation and oversight. This includes regularly monitoring platform implementation and performance, which would allow to identify any gaps where technical assistance is required, and define any inactive platforms, as the one of SEDA AYACUCHO, to support its reactivation or the creation of a new one. Despite MINAM's reported implementation of 22 platforms by 2020 (Tristán et al., 2021), the absence of a robust monitoring system raises concerns about the actual functionality of these reported platforms.

While MINAM is primarily responsible for promoting and providing technical assistance on GGP creation, SUNASS plays a crucial role in supporting MERESE development and, in practice, also assists with GGP establishment. Given SUNASS's regional presence through its Decentralized Offices, DWCs could benefit from leveraging this accessibility for GGP-related support. To optimize resource utilization and enhance GGP effectiveness, clear delineations of responsibilities between MINAM and SUNASS should be established, and collaborative efforts encouraged.

Another institutional challenge found is related to the coexistence of GGP with other governance structures, such as WRC managed by ANA. The water MERESE regulation lacks clear guidance on integrating GGPs within existing WRC frameworks. While potentially beneficial due to WRCs' comprehensive watershed perspective, as suggested in the MERESE bottlenecks report (Tristán et al., 2021), the practical implementation of this integration is unclear. One case study revealed that despite a GGP being incorporated into a WRC, the DWC failed to assume a leadership role or actively engage in platform activities. This highlights the need for explicit guidelines on the roles and responsibilities of DWCs within such integrated governance structures.

In regards with the regulatory challenge, the SUNASS Directive's provisions GGPs seem insufficient for DWCs to effectively fulfill their roles. A more comprehensive legal framework is necessary, providing detailed guidance on GGP implementation and operation. While the diverse characteristics of watersheds may hinder the development of standardized regulations for internal GGP processes, it is essential that each GGP establishes its own operational guidelines. This approach would ensure that GGPs can adapt to specific watershed conditions while maintaining a consistent framework for accountability and transparency.

A critical administrative challenge hindering the effective implementation and management of GGPs is the limited staff within the DWCs. This limitation directly impacts the overall delivery of the MERESE program. While GGPs can leverage support from other technical stakeholders to partially address this capacity gap, DWCs, often staffed with only one to three specialists, prioritize core MERESE project activities over the broader demands of platform management. This resource constraint significantly hampers the ability of DWCs to effectively lead and sustain GGPs.

Finally, a significant social challenge affecting the establishment and implementation of GGPs is the pervasive mistrust of public institutions, including DWCs, among upper-basin communities. This skepticism, often rooted in concerns over water scarcity and possible increased costs, hinders effective community engagement and participation in the MERESE process, including the GGPs. The difficulty in establishing trust and building productive relationships with these communities poses a substantial obstacle to the creation of the platform, the efficacy of decision-making processes, and the overall success of MERESE. This finding aligns with recent reports from the International Crisis Group (2024) and the BTI

Country Report (2024) highlighting widespread distrust of government institutions across Peru. Furthermore, the OECD has identified similar trust issues among farming and agricultural communities within the broader MERESE context.

Regarding the question **“To what extent the Good Governance Platforms of the Ecosystem Services Compensation Mechanism implemented by Drinking Water Companies in Peru incorporate a gender equity perspective in the development of their work?”**, it is evident that progress is still incipient. Nonetheless, there is substantial potential for these platforms to become catalysts for significant advancements in gender equity, if managed effectively.

While SUNASS has made some efforts to integrate a gender perspective into the water MERESE mechanism, including an express recognition of the importance of women's participation within its Directive, issuing Guidelines for supporting the inclusion of a gender approach in all the stages of the MERESE and providing technical support to the DWCs on this matter, the implementation of actions driven by the GGPs to promote gender equity within MERESE activities remains limited.

However, GGPs possess significant potential to incorporate facilitate the implementation of the gender approach guidelines and enhance women's involvement in the design and implementation of the water MERESE process, by leveraging the expertise of participating actors, such as NGOs and associations. The data revealed that at least two of the platforms under analysis included organizations with experience in empowering rural women within their respective regions.

For example, in the case of SEDACAJ, one of the participants is CEDEPAS Norte, a non-profit civil Association that works for the empowerment of women, seeking to increase their equal participation in public spaces and looking for strengthening the economic and social capacities of rural women and men to effectively exercise their rights, considering a gender perspective (CEDEPAS Norte, n.d.). Based on their objectives and approach, they could provide technical assistance in the implementation of some aspects of the Guideline like the characterization of the sellers, that includes interviews with community leaders and women that would strengthen the process of prioritizing conservation activities or initiatives during the preparation of the Intervention Plan. This support could definitely be relevant for the success of the process,

taking into consideration the limited DWCs resources for MERESE implementation, and that the few staff contracted, have a technical profile. In the same line, the experience in pre-Incan water harvesting techniques of ABA, a participant in the SEDA AYACUCHO GGP, could also be key for transferring knowledge and empowering women on MERESE implementation, as they have already worked on successful projects in the region, where women were taught how to build reservoirs to capture rainwater and increase its infiltration for times of drought (Euroclima, 2020).

A significant challenge identified in this research is the underrepresentation of women in GGPs, consequently limiting their involvement in decision-making processes related to MERESE design and implementation. This issue can be examined from two perspectives: women's representation among participating organizations and the inclusion of female community representatives.

While some organizations within GGPs have appointed female representatives, a persistent gender imbalance exists among participants. This finding aligns with the Report on Gender Gaps in Water and Natural Infrastructure Management (Carrillo Montenegro, 2020), which highlights the overrepresentation of men in water security decision-making roles. The report further underscores the concentration of women in administrative positions compared to their male counterparts in technical roles.

Another persistent challenge is the limited representation of women from communities within GGPs, through female leaders or to the participation of women organizations. As recognized by study participants, deeply ingrained cultural norms continue to hinder their involvement. The data collected shows, the main reason for this situation is the entrenched cultural practices that are transmitted from generation to generation where men have power over women and where women owe them obedience, being their main role to take care of their men, the home and the family (Jara, 2022). The traditional allocation of the 'comunero' status, which grants participation and decision-making rights to male heads of households, exemplifies this patriarchal structure.

The aforementioned findings are consistent with reports by international cooperation agencies (Carrillo Montenegro, 2020) and NGOs (Benites Elorreaga and Gammie, 2022), which

highlight these challenging scenarios for women in decision-making platforms. However, in one of the cases, it was noticed that efforts were made by the DWC and the GGP to raise awareness about gender equity within the community, in order to incorporate a women's representative within the GGP, despite these patriarchal social norms that limit women from achieving their full potential in conservation initiatives, in order to take advantage of their knowledge and empower them to fully develop their skills and abilities in conservation.



## 8 Conclusions

Findings reveal some institutional, regulatory, social, and administrative barriers hindering GGP establishment and operation. The complex interplay between DWCs, MINAM, and SUNASS, coupled with the coexistence of other governance structures, creates challenges in defining roles and responsibilities. Moreover, the absence of a comprehensive regulatory framework for GGPs exacerbates implementation difficulties. Limited human resources within DWCs further constrain GGP effectiveness. Socially, deep-rooted patriarchal norms and mistrust of public institutions pose additional obstacles. While SUNASS has made efforts to integrate gender perspectives into MERESE, progress in achieving gender equality within GGPs remains limited. Despite these challenges, some GGPs are making the effort to incorporate female community leaders within the platform and implementing gender-inclusive activities which would allow women to have a voice in water resource management and participate in decision-making.

This research underscores the need for concerted efforts to address institutional, regulatory, and social barriers to GGP implementation. Strengthening inter-institutional collaboration, developing comprehensive guidelines, and investing in human resources are crucial steps. Moreover, fostering trust between communities and government agencies is essential for successful GGPs. Finally, achieving gender equality within these platforms requires targeted interventions and sustained commitment. By addressing these challenges, Peru can enhance the effectiveness of GGPs and improve water resource management outcomes.

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# 10 Appendix

## Interview protocol - Spanish

**Nombre del entrevistado:**

**Profesión:**

**Cargo actual:**

**Institución que representa:**

**Fecha:**

Buenos días! Es un gusto finalmente conocerla aunque sea de forma virtual. Primero me gustaria presentarme. Mi nombre es Pamela Salas Alfaro, soy abogada por la UPC y actualmente me encuentro estudiando el Máster en Desarrollo Internacional y Gestión de la Universidad de Lund.

Le agradezco mucho por regalarme unos minutos de su día y por su predisposicion de participar en esta entrevista y apoyar en mi investigacion de tesis sobre el Mecanismo de Retribución por Servicios Ecosistémicos (MERESE) para la seguridad hídrica en el Perú, en la que trato de analizar la importancia de la participación de stakeholders en el proceso de diseño e implementación, así como el enfoque de genero considerado en estos mecanismos.

Esta entrevista se encuentra estructurada en 3 partes: (i) Preguntas generales sobre las iniciativas MERESE hidrológicas, (ii) Preguntas sobre participacion de los stakeholders relevantes y (iii) Preguntas sobre el enfoque de genero aplicado en el mecanismo y en la plataforma.

Antes de iniciar me gustaria saber si autoriza que grabemos esta entrevista. Una vez que active la cámara le pedire que se presente indicando tu nombre completo, profesion y cargo y que me confirme su consentimiento para participar en calidad de entrevistado en la investigacion y que brinde nuevamente su confirmacion para grabar esta llamada.

**Autorizacion:**

Vamos a iniciar con la entrevista, pero antes de empezar, tengo tres preguntas que hacerle:

- 1) Primero, seria posible que se presente indicando su nombre completo, profesion y cargo.
- 2) Ahora, le queria preguntar si me brinda su consentimiento para participar en calidad de entrevistada en mi investigacion de tesis sobre los MERESE hidrológicos?
- 3) Por ultimo, queria pedirle nuevamente su autorizacion para grabar la entrevista.

<b>I. Preguntas sobre las iniciativas MERESE hidrológicas</b>	
1.1.	Se cuenta actualmente con un estudio tarifario aprobado por SUNASS en el que se incorpore una tarifa para la financiación de proyectos MERESE hidrológicos? Cuándo fue aprobado y qué porcentaje se incorporó en la tarifa?
1.2.	Qué proyectos se vienen implementando a la fecha en el marco del MERESE hidrológico? Dónde se ubican? Cómo se identificaron estas ubicaciones?
1.3.	En qué etapa se encuentran dichos proyectos?
1.4.	Cuáles son las acciones que vienen realizando actualmente en el marco del MERESE hidrológico?
1.5.	Cuáles son los principales retos y problemas en el diseño e implementacion de los MERESE hidrológicos?
1.6.	Consideras que los MERESE hidrológicos constituyen una estrategia efectiva para el desarrollo de las comunidades, además de los beneficios ambientales que tiene?
<b>II. Preguntas sobre involucramiento de Stakeholders</b>	
2.1.	Para las acciones relacionadas al diseño e implementación del MERESE hidrológico cuentan con alguna alianza estrategica con otros agentes que apoyen en este trabajo?
2.2.	Cómo involucran a las comunidades en los MERESE hidrológicos? Tienen alguna estrategia implementada? SUNASS o el MINAM les brinda asistencia tecnica en la materia?
2.3.	De acuerdo a la normativa MERESE, las EPS deben promover la implementación de Buena Gobernanza. Se cuenta a la fecha con esta plataforma? Cuándo se creó o formalizó?
2.4.	Cuáles son las principales funciones de la plataforma? Qué temas se tratan o socializan en estos foros?

2.5.	Qué actores participan en la plataforma? Cómo determinaron quiénes son los actores relevantes para la iniciativa MERESE? Qué estrategia aplicaron para incorporar a los actores en la Plataforma?
2.6.	Existe algún lineamiento o pauta emitida por SUNASS o MINAM con respecto a la conformación de las plataformas? Han solicitado asistencia técnica para la conformación e implementación de la plataforma?
2.7.	Existe alguna organización interna dentro de la plataforma? Cual es la periodicidad y de qué forma se realizan las sesiones?
2.8.	Cuáles son los principales retos y problemas en la implementación y funcionamiento de las Plataformas de Buena Gobernanza?
2.9.	Se han identificado problemas en la interacción entre los actores que forman parte de la plataforma? Las comunidades y los pobladores participan activamente en las sesiones de la Plataforma? Existen dificultades en la participación de las comunidades o pobladores?
2.10.	Cuáles han sido los principales resultados obtenidos gracias a la Plataforma?
<b>III. Preguntas sobre enfoque de género</b>	
3.1.	De acuerdo al artículo 7.2 de la Directiva de MERESE hídricos implementados por EPS de Saneamiento, las EPS promueven la participación estratégica de la mujer en la gestión y conservación del agua. Por qué consideras que es tan relevante la participación de la mujer en los MERESE hidrológicos?
3.2.	De qué forma se incorpora el enfoque de género en el diseño e implementación del MERESE hidrológico?
3.3.	En qué etapa y de qué forma intervienen las mujeres y/o las organizaciones femeninas en las iniciativas MERESE hidrológicas?
3.4.	Qué mecanismos y herramientas se vienen aplicando para promover la participación de la mujer y/o las organizaciones femeninas en las iniciativas MERESE hidrológicas?
3.5.	Se cuenta con mujeres y/u organizaciones de mujeres en la Plataforma de Buena Gobernanza implementada? Qué actores cuentan con mujeres como representantes de sus organizaciones?
3.6.	De qué forma promueven la participación de las mujeres y/u organizaciones femeninas en la Plataforma de Buena Gobernanza?
3.7.	Cuáles son los principales limitantes y barreras en la participación de la mujer y/u organizaciones femeninas en la conformación y funcionamiento de las Plataformas de Buena Gobernanza?
3.8.	Cuáles son los principales retos que enfrenta para promover la participación de las mujeres y el enfoque de género en la conformación y funcionamiento (toma de decisiones) de las Plataformas de Buena Gobernanza?

## Interview protocol – English

**Name of interviewee:**

**Profession:**

**Current position:**

**Institution you represent:**

**Date:**

Good morning! It is a pleasure to finally meet you, even if only virtually. First I would like to introduce myself. My name is Pamela Salas Alfaro, I am a lawyer by the UPC and I am currently studying a Master in International Development and Management at the University of Lund.

Thank you very much for giving me a few minutes of your day and for your willingness to participate in this interview and support my thesis research on the Mechanism for the Remuneration for Ecosystem Services (MERESE) for water security in Peru, in which I try to analyze the importance of stakeholder participation in the design and implementation process, as well as the gender approach considered in these mechanisms.

This interview is structured in 3 parts: (i) General questions on the water MERESE initiatives, (ii) Questions on the participation of relevant stakeholders and (iii) Questions on the gender approach applied in the mechanism and in the platform.

Before we start I would like to know if you authorise us to record this interview. Once you activate the camera I will ask you to introduce yourself indicating your full name, profession and position and to confirm your consent to participate as an interviewee in the research and to provide again your confirmation to record this call.

### Authorization:

We are going to start with the interview, but before we begin, I have three questions to ask you:

- 1) First, would it be possible for you to introduce yourself by stating your full name, profession and position.
- 2) Now, I would like to ask you if you consent to participate as an interviewee in my thesis research on water MERESE?
- 3) Finally, I would like to ask you again for your permission to record the interview.

<b>I. General questions on the water MERESE initiatives</b>	
1.1.	Is there currently a tariff study approved by SUNASS that incorporates a tariff for the financing of MERESE hydrological projects? When was it approved and what percentage was incorporated into the tariff?
1.2.	What projects are being implemented to date in the framework of the water MERESE? Where are they located? How were these locations identified?
1.3.	What stage have these projects reached?
1.4.	What actions are you currently undertaking in the framework of the water MERESE?
1.5.	What are the main challenges and problems in the design and implementation of water MERESE?
1.6.	Do you consider the MERESE to be an effective strategy for community development, in addition to its environmental benefits?
<b>II. Questions on the participation of relevant stakeholders</b>	
2.1.	For the actions related to the design and implementation of the water MERESE, do you have any strategic alliance with other agents to support this work?
2.2.	How do you involve communities in hydrological MERESE? Do you have a strategy in place? Does SUNASS or MINAM provide them with technical assistance on the matter?
2.3.	According to MERESE regulations, DWCs must promote the implementation of Good Governance Platforms. Is this platform in place to date? When was it created or formalized?
2.4.	What are the main functions of the platform? What topics are discussed or socialized in these forums?

2.5.	Which actors are involved in the platform? How did you determine who are the relevant stakeholders for the MERESE initiative? What strategy did you apply to incorporate stakeholders into the platform?
2.6.	Are there any guidelines issued by SUNASS or MINAM regarding the formation of the platforms? Have they requested technical assistance for the conformation and implementation of the platform?
2.7.	Is there any internal organization within the platform? How often and in what form are the sessions held?
2.8.	What are the main challenges and problems in the implementation and functioning of Good Governance Platforms?
2.9.	Have any problems been identified in the interaction between the actors that are part of the platform? Do communities and villagers actively participate in the platform's sessions? Are there any difficulties in the participation of communities or villagers?
2.10.	What have been the main results achieved through the Platform?
<b>III. Questions on the gender approach</b>	
3.1.	According to article 7.2 of the Directive on water MERESE implemented by DWC, DWCs promote the strategic participation of women in water management and conservation. Why do you think that women's participation in water MERESE is so relevant?
3.2.	How is gender mainstreamed in the design and implementation of the water MERESE?
3.3.	At what stage and how are women and/or women's organizations involved in MERESE water initiatives?
3.4.	What mechanisms and tools are being used to promote the participation of women and/or women's organizations in MERESE water initiatives?
3.5.	Are women and/or women's organizations included in the implemented Good Governance Platform? Which actors have women as representatives of their organisations?
3.6.	How do you promote the participation of women and/or women's organizations in the Good Governance Platform?
3.7.	What are the main constraints and barriers to the participation of women and/or women's organizations in the formation and functioning of Good Governance Platforms?
3.8.	What are the main challenges you face in promoting women's participation and gender mainstreaming in the formation and functioning (decision-making) of Good Governance Platforms?