"A Drop of Life"
Water Governance and Community Managed Water Systems in El Salvador

A Research Paper presented by:

Maria Melany Valdez Payes
El Salvador

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

Major:

Governance, Public Policy and Political Economy
GPPE

Members of the Examining Committee:
Dr. Rachel Kurian
Dr. Sylvia Bergh

The Hague, The Netherlands
November, 2016

Disclaimer:

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

Inquiries:

Postal address:

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

Location:

Kortenaerkade 12
2518 AX The Hague
The Netherlands

Telephone: +31 70 426 0460
Fax: +31 70 426 0799

Contents

List of Tables

List of Figures

List of Appendices

List of Acronyms

ANDA	Administración Nacional de Acueductos y Alcantarillados (National Administration of Aqueducts and Drainage Systems)
ADESCO's	Asociación de Desarrollo Comunal (Associatin of Community Development)
ACUA	Asociación por el Agua y la Agricultura del El Salvador Asociation for Water and Agriculture of El Salvador
ECLAC	Economic Commission of Latin America and The Caribbean
CMWS	Community Managed Water Systems
IUCN	International Union for the Conservation of Nature
HRBA	Human Rights Based Approach
CN	Constitución de la Republica de El Salvador de 1983 (Constitution of the Republic of El Salvador of 1983)
DYGESTIC	Dirección General de Estadística y Censo de El Salvador (National Directory of Census and Statistics of El Salvador)
EHPM	Encuesta de Hogares de Propositos Multiples (Multi Purpose Household Survey)
FIDSL	Fondo de Inversion Social para el Desarrollo Local (Social Investment Fund for Local Development)
FINET	Fondo de Inversión Nacional en Electrificación y Telefonía (National Fund for Telephone and Electricity)
FUNDE	Fundación Nacional para el Desarrollo National Foundation for Development of El Salvador
GOES	Government of El Salvador
HC	Código de Salud de El Salvador (Health Code of El Salvador)
IADB	Inter-American Development Bank
MARN	Ministerio de Medio Ambiente y Recursos Naturales (Ministry of Environment and Natural Resources)
MC	Código Municipal de El Salvador (Municipal Code)
MINEC	Ministerio de Economía de El Salvador (Economic Ministry of El Salvador)
MINSAL	Ministerio de Salud de El Salvador (Health Ministry of El Salvador)
UNDP	United Nations Development Program
ECOSOC	United Nations Economic Social Council
UNCESCR	United Nations Committee on Economic, Social and Cultural Rights
WGF	United Nations Water Governance Facility
OHCHR	United Nations Office of High Commissioner Human Rights

Abstract

Community Managed Water Systems have emerged as an alternative system to guarantee the provision of water to marginalized, rural communities in El Salvador. This research used a combination of interviews, secondary data analysis as to identify the institutional and governance challenges they face, which includes violations to the human right to water to safe, accessible and affordable sufficient water.

Water governance is a key component of human rights and the development of communities, so this paper offers a broad perspective on El Salvador's rural communities experience in creating effective water systems and offers recommendations to address some of the most urgent challenges.

Relevance to Development Studies

The title of this paper was inspired as one user of community managed water systems, expressed what water meant to them: "life". The importance of water rights recognized in the law, lays in the obligation that this brings to the state to protect and guarantee those rights, effectively. Water Governance is a trending issue as is a vital resource for the development of human beings in all aspects of their lives.

The United Nations has recognized that human right to water essential to the full enjoyment of life and all human rights. As this portrays the importance of water rights to be addressed in terms of securing the realizations of this rights equally for all members in society.

Keywords

Water Governance, Network Governance, Good Governance, Human Rights, Human Right to Water, Human Rights Based Approach.

Chapter 1
Introduction

In 2003, the Committee on Economic, Social and Cultural Rights (UN*CESCR)* of the United Nations adopted its General Comment No. 15 defined the right to water; as the [Art. 11] "possibility of every person to sufficient water, safe, acceptable, accessible and affordable water for personal and domestic use"(UN*CESCR* 2003). Subsequently, from July 2010, the United Nations General Assembly recognized the right to water as a (Art.11) "human right essential to the full enjoyment of life and all human rights"(UN*CESCR* 2003), promoting states actions to intensify efforts to provide the population affordable access to safe drinking water (UNWGF 2012).

Despite an improvement in general water access and the existence of several human rights instruments that uphold the right to water, accessibility to adequate potable water is neither sufficient nor affordable for several groups in societies, particularly amongst the poor. A combination of factors including problems of access, finance, government policy as well as water distribution regulations and systems have contributed to deficits in the right to water. In El Salvador, for example, according to the Wash Performance Index (2015) by the Water Institute of the University of North Carolina, there has been improvement of water accessibility and sanitation and a reduction in the gap in access to water between rural and urban area inhabitants since the early 2000s. Yet the Government of El Salvador declared a state of national emergency in April 2016, due to the limited capacity of the natural sources of water in the country to fulfill demand (Calderon 2016).

In the last two decades, community management has become the "prevalent model for distribution of rural water supplies throughout the developing world" (Harvey, P. and R. Reed 2007: 365). These constitute society-based systems of water governance and distribution which cater water specifically to the needs of the poor in areas the state can not reach. But community management of water also faces several challenges. These systems often function within and are affected by the prevailing regulatory frameworks, as well as other systems of water governance and distribution, which limit their performance. The socio-economic background of the community members often implies that they also face a comparative disadvantage in relation to other providers, in terms of financial and human resources. This paper is concerned with community based forms of water governance that have developed in the rural areas of El Salvador and assesses the challenges they experience in guaranteeing the rights of all persons, and particularly the poor and marginalized, to adequate levels of potable water.

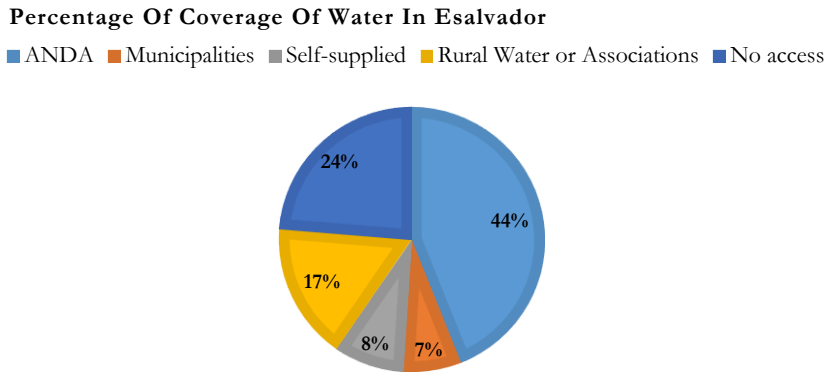
1.1 Background and Research Problem: The Water Sector in El Salvador

The principal sources of water in El Salvador are derived from the ground and surface water in the country (ECLAC 2007). The Lempa River, with an

area of 17.790 km2, covers the capital area of San Salvador and its surroundings, which comprises 49% of the national territory; the rest is covered with approximately 355 other rivers(ANDA 2013). Around 37.7% of the total population of El Salvador inhabit rural areas scattered through the territory, with considerable concentration in small population centers (DIGESTYC 2014:4). Only 72.1 % of the rural population has access to adequate potable water (DIGESTYC 2014: 42). Urban areas, on the other hand, guarantee potable water access to 93.9% of the population living in this area (DIGESTYC 2014: 42).

The institutional framework of water resources in El Salvador allows for various forms of distribution and uses of water. The distribution of the coverage services are as follows: ANDA, covers around 44% of the distribution, specifically on the urban capitals, municipalities 7%, independent self supplied distributors 8.6 %, Community Managed Associations 16.7%; and 23.7% of the population has no access at all (World Bank 2006 :185).

Figure 1.1: Percentage of potable water distribution coverage in El Salvador



*Made by author with data from World Bank (2006) 'Provisión de Servicios de Infraestructura en El Salvador: Combatiendo la Pobreza, Reanudando el Crecimiento (Infrastructure Service Provision in El Salvador:183-186.

1.1.1 Institutions Involved in the Provision of Water in El Salvador

Four institutions, governed by different legal frameworks and modalities, are in charge of potable water distribution in El Salvador:

1. **ANDA, National Administration of Aqueducts and Drainage Systems,** created in 1961, ANDA is an autonomous public entity in charge of the distribution of potable water in the country. The General ANDA Law- states that ANDA:

> "[*Art. 1]* Will aim to provide and help inhabitants of the Republic with Water Supply and Draining Systems, through planning, financing, implementation, operation, maintenance, administration and exploitation of the necessary structures...(1961)."

It is the principal provider of water for human consumption in the country, in charge of the implementation of policies and regulations relevant to its function. The fees for water are set different according to the characteristics of each demand sector. Human consumption or residential fees have the lowest price (See Table 3.4).

Users point out to repeated interruptions in service, unaccounted charges in water bills and poor maintenance of the infrastructure (Flores 2015). Limited financial resources constrain its capacity to reach certain areas. It currently operates with a deficit of 35.6 million USD, equivalent to 27% of its 2013 revenue, of 131.3 million USD (ANDA 2013: 45-48).

2.Decentralized Systems of ANDA

Installed in the 1990s, after an attempt at decentralizing ANDA, transferring the administration and management of the service delivery, to municipalities throughout the country, while the infrastructure and the connection itself remained in control of ANDA. The municipality distributes the service amongst the territorial boundaries, paying ANDA the amount discharged from the connection.

Decentralized operators have the legal obligation to use the same fees as ANDA. In practice, users pay the services of water together with municipal taxes for other public services like public lighting, and garbage collection.

3. Independent Self supplied providers

Independent self-supplied providers of water are private agencies, often firms coming from the construction industry that have entered the water sector. They own the connection, infrastructure and they deliver the service themselves to users in their network; the owner of the main source of water is the owner of the distribution network as well. In times of scarcity, they buy the water to ANDA to maintain the stability in their supply of water.

According to the Executive Decree approved by the National Assembly of El Salvador in October 2009*,* there is a charge from ANDA for the private exploitation of water. The fee is currently $0.10 USD for private exploitation, and $0.03 USD for private exploitation used for human consumption (ANDA 2009: Art.12)[1]. The final fees to users are set by the water distributor, in consideration of their costs. The users are not entitled to any subsidy, so they pay higher prices. These systems tend to be more efficient and guarantee a higher quality compared to other distributors, due mostly to their economic management model, which allows them to have a proper maintenance and administration of the distribution network.

[1] Official Diary No. 199, Book 385, Publication of 26 of October,2009 El Salvador.

4. Community Managed Water Systems (CMWS)

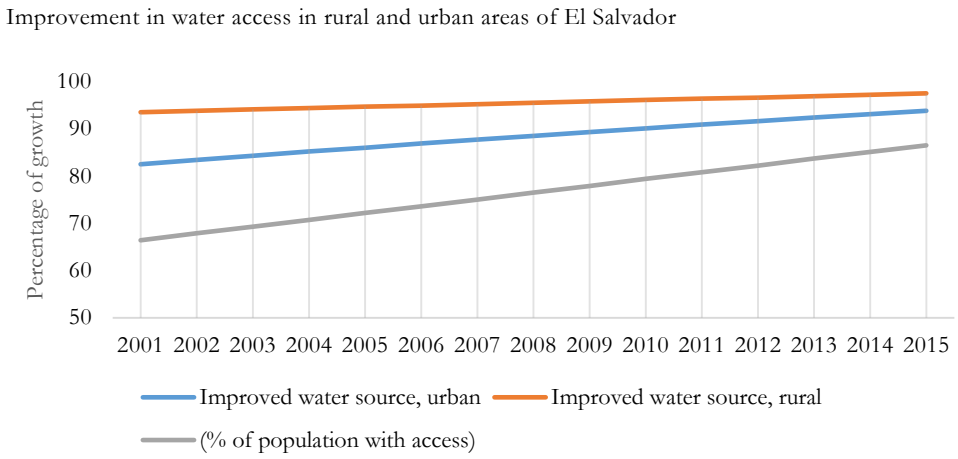
CMWS are community-led associations which have organized to create the physical and institutional infrastructure to develop their own independent systems of water distribution. This governance structures emphasizes in the social interest of the communities: water access for all. They are not subordinated to any other government institution, and operate independently from other water providers.

With the creation of ANDA, the focus of the Government of El Salvador was mainly in the improvement of water access in the urban area. Later on, in an effort to improve access in the rural areas, ANDA signed a treaty with the Health and Social Assistance Ministry to create new mechanisms to bring water to rural communities in the country. Taking experiences from projects in other developing countries, they introduced Community Managed Water Systems.

The strategic plan, called PLANSABAR, was designed with financial support of the Inter American Development Bank (IADB) in 1980, and introduced 400 CMWS schemes across the country, with a goal to cover 4500 families (Cardona ed. *ISF* 2011:11). It started with the construction of dwells in strategic areas, to then install a distribution network. The strategy promoted the creation of communal associations dedicated to learn the process and functioning of the system. The plan assumed that once the system was completed, ANDA and the community would both continue in the management and distribution of each system built. ANDA was supposed to train community members to manage and maintain the infrastructure. In the future the community would efficiently and effectively manage the system, following guidelines defined by ANDA. In 1996, corruption allegations surrounding the Government of El Salvador prompted the cancellation of the plan. This left many of these communities halfway in the process of construction and prompted them to learn how to manage and administrate their own systems (Cardona ed. *ISF* 2011 :11).

Most of the systems constructed with this plan were located in the department of La Libertad, due to its proximity to the capital city. The abrupt end of PLANSABAR meant several communities ended up with an incomplete process of formalization and construction of their water system. In response they took charge of their own systems, to complete the execution of the projects without any previous knowledge or experience. As other communities saw the example of these systems, they decided to copy their strategy, and start their own.

Figure 1.2 Improvement in water access in areas of El Salvador

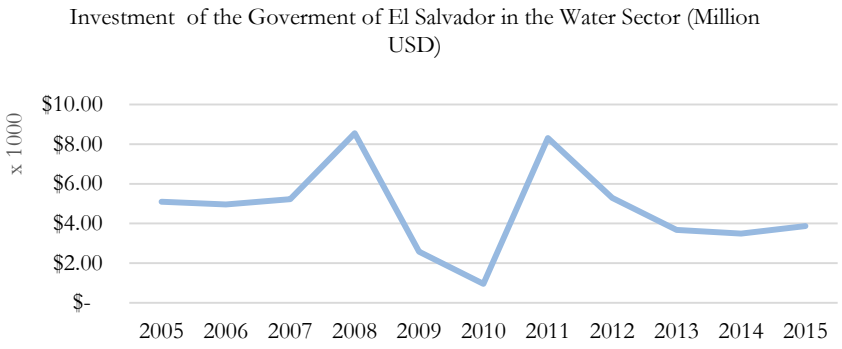


* Made by author with data from World Bank (2015) 'World Development Indicator's. Switzerland: Geneva.

The poor, particularly in rural areas, have tended to their need for access to drinking water by seeking new forms of organization, like the creation of their own water distribution systems (Community Managed Water Systems). These initiatives constitute new forms of community organization, with the objective of guaranteeing the delivery of a public service. While the rate of access in the water for rural populations is increasing (see Figure 1.2), state capacity and investment (see Figure 1.3) is not. This is particularly acute in rural areas, where we see the larger increase water access through time, contrasting with a decrease in water infrastructure investment in the sector, from 2011 to 2015.

As show in this figure the investment has not followed an increasing pattern in the last years.

Figure 1.3 Investment in the Water Sector from 2005 to 2015



*Made by author with data from: ANDA (2015) 'Boletín Estadístico 2015 Dirección General No.1'(Statistical Bulletin, General Direction 2015 No.1).

Both these figures indicate that individual institutions or structures, parallel to government institutions – like community initiatives for public service

delivery–, have increased in the absence of the state fulfilling its role in rural communities.

These associations represent a considerable number of users, and as they differ from the classic public centralized of service delivery in targeting mostly poor segments of the population. With around 38% of the population living in the rural areas of El Salvador is considered to be under the poverty line (World Bank 2015); it is important to study their constitution, organization and development, and their relationship with the other providers, in order to asses the impact they have on water accessibility for the poor.

1.2 Research Objective:

The overall objective is to ensure the right to adequate levels of potable water to all persons. This paper contributes to this objective by analyzing how community based forms of water governance have originated and developed in the rural areas of El Salvador, as well as the challenges they experience in fulfilling the rights of all persons, and particularly the poor and marginalized, to adequate levels of potable water.

1.3 Research Questions

How is water governance of CMWS affected by existing regulatory frameworks in el Salvador? And influenced users right to sufficient access to safe and affordable water?

Sub-Questions

Which are the main regulatory and legal frameworks of water governance and water distribution in El Salvador?

Which are the main challenges faced by the governance of CMWS in dealing with regulatory frameworks and existing providers of water distribution?

How is the governance of CMWS impacted by existing social contexts of these communities?

What is the experience of users of CMWS with regard to sufficient access to safe and affordable water?

How can water governance be improved to ensure the right to adequate access to safe potable water?

1.4 Legal Framework

This section will cover the regulation and legal frameworks around water governance in El Salvador. These laws include the institutional development for the distribution of potable water, the protection of natural resources and policy actions in this area. The legal framework for water governance is embedded in the Salvadorian Constitution, and translates into other 43 different normative bodies. Article 69 of the Constitution of El Salvador mandates the state to ensure the preservation of the environment and promote the rational

use of natural resources. This reflects on the obligation to regulate on matters attending the regulation of natural resources in El Salvador, including water.

1.4.1 Human Right to Water in El Salvador

1.4.1.1 International Level

El Salvador ratified the Universal Declaration of Human Rights of 1948 and its two consecutive covenants: the International Covenant on Economic, Social, and Cultural Rights (ICESCR), and the International Covenant on Civil and Political Rights (ICCPR).

The country also adopted the Additional Protocol to the American Convention on Human Rights regarding Economic, Social and Cultural Rights, dubbed the Protocol of San Salvador, in 1988. In Article 11 , it points out to the Right to the environment, arguing:

> "Everyone has the right to live in a healthy environment and to have access to basic public services. Member States will promote the protection, preservation and improvement of the environment (UN 1988)."

In Article 12, on the right to adequate food, it says:

> "Everyone has the right to adequate nutrition which guarantees the possibility of enjoying the highest level of physical, emotional and intellectual development (UN 1988)."

These protocols recognize the obligation for the state to guarantee Human Rights in the country and establishes that secondary legislation should be in accordance to human rights parameters.

Within the right to safe environment and food, we find the right to water, considered as a fundamental human right, as first acknowledged explicitly in 2002 by the United Nations Committee on Economic Social and Cultural Rights (UNCESCR). Following El Salvador's ratification of this framework in 2010, the country acknowledges the human right to water and sanitation.

1.4.1.2 Constitutional Recognition of Human Right to Water

Although the right to access of water is not explicitly recognized in the Constitution, jurisprudence has acknowledged it for several years. In the Constitutional Motion with reference 37-2004, emitted by the Constitutional Chamber of the Supreme Court of El Salvador in January 26, 2014, judges interpreted extensively Article 117 of the National Constitution About the Protection of Natural Resources and the Diversity and Integrity of the Environment, which states that:

> "It is the State's duty to protect natural resources, as well as the diversity and integrity of the environment, and to guarantee sustainable development. The protection, conservation, rational enjoyment, and the restoration or replacement of natural resources is hereby declared to be of social interest in accordance with the terms established by law [Art. 117]."

This is in accordance with the rights to life and health [Art. 69 CN], results in every person in entitlement to all the basic needs for subsistence, amongst which it includes water. Concluding that the article implies the entitlement of every human to water, in the parameters established to comply with fundamental human rights.

The Constitutional Chamber in Appeal ref. 513-2012 of December 15, 2014, recognized the existence of the right to access to water, through a systematic interpretation of the regulation of the Article 117, and art. 69 of the Constitution, stating:

> "The health of the inhabitants of the Republic constitutes a public good. The State and the persons are obligated to see to its conservation and restoration. The State shall determine the national health policy and shall control and supervise its application" (ADESCO Cristo Rey vs. Concejo Municipal de Huizúcar 2014).

Following this, Article 65 of the CN was amended [2] to include this right to water explicitly in the text, up to this date the amendment hasn't been ratified in the following assembly. The amendment text's states that:

> *"[Art.2]* Water is an essential resource for life, therefore it requires the State to take action and preserve water resources and ensure their access to in habitants. The State should create public policies and the laws will regulate this matter (2015)."

These two cases recognized that the right to the environment confers three faculties: the use, preservation and protection against any threat. It was concluded that in relation to water rights, it translates into the use and exploitation of the environment and its resources that guarantees water access as a precondition for human development. Water was stated as indispensable element for human life and dignity.

1.4.1.3 Secondary regulation on water in El Salvador

Table 1.1 below presents a summary of the principal legal entities that regulate water resources in El Salvador and their obligations, with focus on those that have a relationship with the distribution of potable water, for the use for human consumption. The table shows that multiple legislations regulate the different forms of water uses: exploitation, administration, regulation and policy, and health and sanitation.

Table 1. 1 Internal and Secondary Legislation Regulation water resources in El Salvador

Policy, Regulation of Administration and Management		
	Legal Body	Obligation
	Law of the Administration of Aqueducts and Draining Systems/General ANDA Law (1961)	• Regulates the creation of ANDA, and assigns it duties related to planning, financing, implementation, operation, maintenance, management of the exploitation and distribution of water. • ANDA has the power to regulate all water extraction in the country.

[2] Agreement No. 3, O.D No.75, Vol. No. 395, of the 25 of April of 2015

	Municipal Code (MC) (1986) Municipal Ordinances	• Establishes the competence of municipalities to regulate internal affairs for the use and protection of renewable resources. Gives them jurisdiction within their territory, through ordinances, including those dealing with the management of natural resources. • There are approximately 70 municipal ordinances regulating different issues related to water protection, water resources, watersheds, rivers, streams, waste water discharges, good practices.
	Environmental Law (1998)	• The law gives the Ministry of Environment and Natural Resources the power to ensure the protection, conservation and improvement of natural resources in compliance with the Constitution, special laws and international regulations. • Orders the protection of water resources and how it should be handling, as well as the management and use of water and ecosystems of water. • The Ministry must elaborate and propose to the President of the Republic the necessary legislation for the use, protection and management of the natural resources in the country.

	Exploitation	
	Act of Integrated Management of Hydric Resources of 1981 and Secondary Regulation (1981)	• *Legislates different water uses:* human consumption, irrigation, industrial, commercial. • This law attributes to the Ministry of Economic and Social Planning and Development Coordination the responsibility for making any decision on integrated planning and multiple use of the water source.
	The Law on Irrigation and Drainage (1970)	• It establishes that surface and ground water is property of the state. • Regulates standard extraction of water for irrigation. Does not clarify how to plan , regulate and award privates the right to use water for irrigation and drainage, without considering competing demands between drinking water and water for irrigation, both public and private use.
	Legislative Decree No. 194, of the Nationalization of mantles of groundwater (1949)	• Declares the mantles of potable water located in the basement of the country as *public utility and national property*.

	Executive Decree of the Creation of the Executive Commission of Hydroelectric Energy of the Lempa River (CEL)	• Establishes CEL, an autonomous public entity that has the rights to exploit and use the Lempa River, the principal source of water in the country. It does not address the rights of other parties established in other legal documents.
	Executive Decree, Nº 980, July 8th, 2006, National Assembly of El Salvador	• Approves fees for the services of water supply, sewerage and others supplied by ANDA. Establishes basic minimum rates for residential and, fees for the exploitation of water.

Sanitation and Health		
	Legal Body	Obligation
	Health Code (1988)	• The Ministry of Health has the duty to intervene, control and develop environmental sanitation programs and sanitary engineering towards the benefit of the health of the population. • They must determine through secondary legislation the standard of water quality, discharge control and protection zones. • The Ministry of Health has the attribution to develop programs of environmental sanitation, provision of potable water to communities, sewage and wastewater, as well as the elimination and control of water pollution.
	Regulation on the Water Quality Control For Protected and Waste Zones (1987)	• Develops the principles of the Law on Integrated Resource Management Water and Regulations, as well as certain provisions of the Irrigation and Drainage Law concerning *water quality*.
	Wastewater Special Regulations (2000) Special Regulation for Environmental Quality Technical Norms (2000)	• Its purpose is to ensure that the wastewater does not alter the quality of the receiving means to contribute to the recovery, protection and utilization sustainable water resources on the effects of contamination.

		• It establishes the guidelines *in relation to the protection of the atmosphere, water*. • The Ministry of Health and the Environmental Ministry are in charge of monitoring the compliance of these laws.

From the regulations stated above we identify that no one single entity in charge of the enforcement on water management in the country. Multiple entities are involved in the management of water resources, overlapping obligations. Many of the institutions have disappeared and their tasks have been adopted by others, without any reforms. For example, the Law of Integrated Management of Hydric Resources, which was the first and only attempt of the government to introduce an integrated vision for the management of natural resources, stated in 1981 the Ministry of Economic and Social Planning and Development Coordination, would be in charge of ensuring compliance of the obligations stated in this Law. Among them, it established the mandate to design a participatory approach that takes into account the different demands of the use of potable water. The law remains valid, but its secondary legislation repealed aspects of this, and to date there has not been any reform to solve the inconsistencies. Thus the Ministry of Economic Social Planning and Development Coordination, which does not exist anymore, continues to appear as the responsible entity for many obligations regarding water in the country, while ANDA has unofficially appropriated these attributions.

There are other regulations that also interact with CMWS in El Salvador, like environmental regulations and guidelines, by the Ministry of Natural Resources (MARN), creation of the Social Investment Fund for Local Development (FISLD), and National Fund for Telephone and Electricity (FINET); which are institutions designed to create programs for rural development.An integral management of the resources is necessary for effective governance. This contemplates various phases which go from policy and regulation to implementation of health and sanitation practices. The fragmentation of legislations and obligations described above, may create complications in the processes of design and implementation of policies, and have a negative impact in the accountability of the state in the realization of human right to water.

Legislation that assigns property over the resources to several actors, with no clear indication on the responsibilities and rights of each party involved can translate into harmful conditions for the respect and protection of certain human rights like food and water. Any limitation in the access to potable water in the parameters established in human rights articles, will ultimately translate into a violation of the human right to water. The situation becomes more important when it threats groups in society that are in disadvantageous positions with respect of other actors involved.

1.5 Justification

The State is the guarantor agent to work for the full realization and vigilance of the right to water. This should reflect into actions and programs that guarantee universal access to sufficient drinking water for personal and domes-

tic use, including consumption, sanitation, washing of clothes, food preparation, and personal and domestic hygiene. The following paper will help identify and analyze the key areas in which there may be a problem in the governance, and how it affects different groups in El Salvador.

As different groups in society advocate for the approval of a General Water Law, complying to international treaties and conventions about the human right to water, the study of the governance systems of community associations will shed light on the challenges faced in the path to ensuring equal rights of all persons to potable water.

1.6 Methodology

The theoretical framework focuses on the conceptualization of access to water as a human right and the institutional approach to water governance issues. A comparative technique of different values of the human right to water with specific relevance in aspects of unequal situations between actors at the macro, meso and micro levels of the sector, and poor people's access will help present concrete conclusions on how they develop.

The analysis will start with a situational analysis of CMWS in El Salvador, using the framework of water governance in the country, including a legal review. In addition, secondary sources of published and unpublished material from government institutions and organizations that are closely working in the water sector will provide a general overview of the conditions CMWS have developed over time and are working now.

The general argument will be elaborated to guide the analysis of the the group of CMWS, set in the department of La Libertad, of El Salvador, targeting CMWS around the Cordillera del Balsamo (in the rural areas of the municipality La Libertad). A qualitative approach in fieldwork involved the Date Collection over a period of 5 weeks, between July 1st, 2016 to August 9th, 2016. (See Appendix No.1). This part focuses on understating the economic and geographical context of the communities and then the organizational aspects of the CMWS, looking at internal and external aspects, like the access to water, quality, administration, and management. The first analysis includes as main focus is on the structures of governance surrounding these communities, and following by the implications they have on accessible sufficient and affordable potable water for rural communities which manage their own system of distribution.

1.6.1 Secondary Data Gathering

As part of the study the researcher conducted 12 interviews, 2 focal groups with in CMWS (4-6 users), 1 focal group with private providers, and 2 surveys to other provider's users. The technique used during the field was semi-structured interview as a tool to collect quantitative data and qualitative information. The informants were found by using snowball sampling by contacting leaders of the communities in the area and organizations. During the interviews, most of the informants agreed to voice recording of the conversations, but many of the interviews with community users also have information regarding parallel problems to water access.

The interviews where done in the municipality of La Libertad[3], which located in the central zone of El Salvador. Urbanization and deforestation are making the situation of water access and supply in the area complicated, as the population has been growing impacting the amount of water available in the area. Officials from the Ministry of Health have acknowledge the tension in the natural resources of the area:

> "From 2000, the urban population is growing towards the south (towards La Libertad and the west- with an accelerated growth that causes concern for natural resources in terms of water depletion, forest and green area associated with groundwater recharge and the air (Rivas 2013)."

These communities where chosen based on their location, and its proximity to the capital city of San Salvador. In this area due to the geographical and natural conditions, you can find all the different providers of water, present in a small extension of territory. Other factors include the long period of times these systems have been in place, since they were the original locations where CMWS were first implemented. Considerations also included their their accessibility in working with researchers and NGOs.

The analysis uses interviews collected to the users of the CMWS as main source, to know and understand about the challenges they face in the process of constitution their systems, and the ones they face daily in the tasks of administration and management of their systems. The interviews and focal group with the community members offer a participatory view on the experiences of these communities, ranging from their notion of the right to water to how they evaluate the quality of the services. The interviews with Non-Governmental Organizations (NGO) officials offer technical arguments and considerations of the problems faced by these communities.

According to the focus of this research, we will start address the problems CMWS face in the governance area and how the are affected by the existing legal bodies concerning the management of water. Following with an analysis of the internal governance of the CMWS as an organization, and how social structures affect the inner practices

To analyze if there is any legislation relevant to water governance in CMWS and the impact on over these final users, the document offers an inventory of legal bodies related to CMWS; subsequently and empirical analysis of the problems CMWS face in terms of the realization of human right to water. Concluding with the application of the Human Rights Based Approach (HRBA), that will serve as a base guideline to analyze the fulfilment of the standards of human right to water: safe, accessible, sufficient and affordable and the accountability of the state and other actors in the governance processes. Framing water governance into the Human Right to water.

---

[3] There were 15 systems subject to interviews, (See Appendix No.2) that cover 1,956 households. The focal groups to CMWS where on y on two communities, Desvio de Amayo and Agua Escondida 1, which cover 247 and 123 households respectfully.

1.7 Study of water governance in El Salvador

Water governance is an area that has received considerable attention in El Salvador in recent years. Possible reforms in the water public sector have resulted in several studies regarding the privatization of water and its implications for users. The Internal Union for Conservation of Nature (IUCN) in 2009 made a report that covers the basic principles of water governance in Latin America, including El Salvador, presenting what the economic aspects of governance and legal references, but fails to develop a link between both of then in an analytic way. It also lacks any social contexts, in terms of what we understand water access as a human right Other papers include the importance of water governance for sustainable en environmental policy. Due to the particular situation of water distribution in the country, the relevance a public sector reform goes beyond the advantages and disadvantages of privatization for water users.

There has been a debate on the importance of the water distribution in the country, looking at the problem from two separate starting points of analysis, an economic analysis and others cover the legal analysis, of the management of natural resources in general. National Foundation for Development of El Salvador (FUNDE) presented in 2009 their "Book of Water", which covers the current policy action on water that the government of El Salvador has been implementing, and even proposes a reform for an integrated water system distribution for El Salvador in the area of transparency.

Other range of authors have covered in relation to the different provides of water specially NGOS, like FUSADES the importance of integrated water governance. However, all the paper seems to stay in analysis at institutional and regulatory level without considering the social implications for water users. The particular division of the distribution of water in the country, creates the necessity to take a closer look at the social impact in the human right to water. The area this paper intends to fill is to the address is the link between the water governance in relationship of the different providers of water and the right to water of CMWS. The relationship between water and development has been a long lasting debate among scholars, which creates the necessity to study accurate mechanisms that guarantee the proper forms of governance, from the state and other actors.

1.8 Limitations

The limitations encountered doing the research where the restricted access from private providers, and municipalities. Coordination of interviews initially was a complex process, as solution I was accompanied by Association for Water and Agriculture of El Salvador (ACUA) representatives during all the interviews. Government officials, where also very hermetic about their relationship with the private sector, and their involvement in political processes and legislation. The information available from the different sources was abundant but not consistent with each other, and within ANDA itself information on the actions o the different providers is scattered in different offices, which could also indicate the segregated approach to water management in the country.

1.9 Chapter Structure

This research paper is structured into five chapters. Chapter 1 narrates the background, the research objectives and questions, the methodology used to obtain and analyze the data, as well as limitations and ethical concerns during the research. Chapter 2 outlines the relationship between community participation and water governance with human rights approach to development as a conceptual framework. Chapter 3 sets the context of CMWS in El Salvador and their continuous struggles for the realization of their right to water in the areas of water governance. Chapter 4 covers the implications the governance of CMWS has in the realization of the human right to water parameters and Chapter 5 covers t the conclusion of this research and the hypothesis.

Chapter 2 Water Governance and Human Rights: A conceptual discussion to analyse Community Managed Water Systems

This chapter discusses the concepts of water governance, network governance, and Community Managed Water Systems (CMWS). It also includes the discussion of rights-based approaches for problem analysis, based on the notion of access to water as a human right. It will then turn to place the study of CMWS in a broader framework of interactions and processes, for development and the advancement of water rights.

2.1 Water Governance and Civil Society:

There is a general understanding among scholars that in governance today the separation between and within public and private sectors have become blurred; "new process of governing, or a changed condition of ordered rule; or the new method by which society is governed" (Stoker 1998:17). As Kooiman has asserted (1997: 64) governance now can be viewed as the:

> "Creation of a structure or an order which cannot be externally imposed but is the result of the interaction of a multiplicity of governing and influencing actors involved in governance processes."

Additionally, the concept of good governance takes into account important processes that should shape public administration, most notably those of reciprocity, accountability and participation (Hyden 1992). The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) has established eight normative parameters concerning the developing of good governance: participation, Rule of Law, transparency, responsiveness, consensus oriented, equity and inclusiveness and accountability (2010). Governments must consider these parameters, which incorporate most stages and dimensions of government –from regulation and institutional aspects to society-state relationships– in the processes of governance in order to have positive impact over their citizens (UNESCAP 2010).[4]

---

[4] The theory of good governance developed by the UNESCAP recognizes the following values as mechanisms that guarantee the protection of human rights in governance processes (2010):

> "Participation: Implies the inclusion of both men and women, into legitimate institutions or representation. Participation should ensure the mechanisms in which citizens are accountable in decision making.
>
> The Rule of Law: Legal frameworks should be fair and partial, in order to protect human rights, considering the situation of minorities in defined policies. It requires independent judicial system.
>
> Transparency: The process of making decisions and implementation should be in accordance to regulations. Information on decisions should be accessible and available to those affected, and sufficient for citizens to understand their impact.

The necessity to adapt traditional processes and definitions to the new levels of state and society interactions has resulted in the new conceptualization of governance, including the notion of 'network governance' and 'water governance'. Network Governance is defined by Borgatti et. Al (1997:911) as "organic or informal social system, in contrast to bureaucratic structures within firms and formal contractual relationships between them."

In correspondence to this, Water governance is defined as:

> "The range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services at different levels of society (Rogers and Hall 2003: 7)."

This means it goes beyond the process of distinctive actors making decisions to advance a specific objective, and the decision itself. (Louka 2008:16). As the same author points out it includes also:

> "Societal formal and informal organizations and groupings that address or are concerned with water management, encompassing the networks of interaction among them and their linkages with formal government structures (2008: 17)."

These organizations and groupings include informal water systems and rights that play a part in the distribution of water, non-government organizations and citizens, reaching places and people that state is incapable of.

Community Managed Water Systems are informal institutions, parallel to government, created to deliver water into rural communities. The organizations as identified in other studies establish a community water committee or board, responsible for operating a system or network of water distribution, setting and collecting water tariffs, and managing maintenance and repair activities. Community members contribute to the first system installation costs, and

---

Responsiveness: Institutions and processes should answer to the needs of all stakeholders. Decisions should be oriented into generating consensus among different interests in society.

Using a broad and long-term perspective based on future sustainable human development, understanding of the historical, cultural and social contexts of a given society or community.

Equity and inclusiveness, over all well being ensures all members in a society area taken into account to have opportunities to improve their well being.

Effectiveness and efficiency: Processes and institutions should be in place to make the best and accurate use of resources. The concept of efficiency in terms of natural resources like water involves the sustainable use of natural resources and the protection of the environment.

Accountability: An organization or an institution is accountable to those who will be affected by its decisions or institutional stakeholders. Accountability cannot be enforced without transparency and the rule of law. It is maybe one of the key values in good governance, considering not only government institutions, but also the private sector and civil society. To whom and why they are accountable to is dependent on the nature of the decisions."

the continuous maintenance and repair costs through monthly payment of water fees. (Harvey and Reed 2007: 364).

CMWS have gained popularity in governments from–the developing community due to the poor performance of public institutions in providing adequate water supply, the suitability of CMWS schemes for NGO and donor agencies' projects, and the "cultural idealization" of community participation in low-income countries (Harvey and Reed 2007:365).While such interventions are also viewed as compatible with neo-liberal reforms that have focused on government subsidies and privatization, this study does not go into these debates but rather looks on them as people's organizations emphasizing their potential for people's empowerment and ensuring the human right to water to all.

As stated before, water governance comprehends all structures, informal and formal in society, in this approach all these values of good governance should define the relationship of the state to its citizens and be represented in the internal organization of CMWS structure (Gramberger and OECD 2001). In a way they help identify deficiencies and guarantee the development of these structures.

2.2 Human Rights and Water

The Universal Declaration of Human Rights (UDHR 1948) affirms that human rights are inherent to human beings just by the mere fact of being human beings (Sepulveda 2004: 6). As such, these rights are universal and inalienable. And any interference with these rights implies a deprivation of individuals of a basic fundamental need to live. Article 3 of the UDHR recognizes the human right to life of each individual, including basic needs of individuals to sustain life, like water. Access to water is considered a human right, based on its importance for life. An individual without water access, constitutes a violation of his right to life. The importance of water for producing food and hygiene practices, links this right to other human rights. A threat to the right to water would also imply a threat to other human rights like the right to food, health and sanitation and to the means of subsistence (UNCESCR 2003: 6).

The United Nations Committee on Economic, Social and Cultural Rights in General Comment 15: The Human Right to Water (2003) has established:

> "The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights."

The normative content for the realization of the right to water, emphasizes that water should be considered as a social and cultural good, not solely an economic good. It confers all living beings the right to water to equal conditions, sufficiency of supply, quality and accessibility.

Based on the particular necessities of individual the document established the parameters of the human right to water, as minim basics for the realization of this human right. Articles 11 and 12 of the General Comment of the UNCESCR (2003) also establish that water supply should be:

> "Sufficient: water supply for each person must be enough and continuous for personal and domestic uses including for drinking, personal sanitation, washing of clothes, food preparation, personal and household hygiene (UNCESCR 2003)

> … The World Health Organization (WHO) establishes a person needs between 50-100 liters of water per day are to ensure that basic needs are met and few health concerns arise (2010).
>
> Safe: Water is required to be free from micro-organisms, chemical substances and radiological hazards that might constitute a threat to a person's health, as well as free from external threats, that might compromise the conditions on which people access water.
>
> Acceptable: Water should be of acceptable color, odor and taste for each personal or domestic use. All water facilities and services must be culturally appropriate and sensitive to gender, lifecycle and privacy requirements.
>
> Physically accessible: Everyone has the right to a water and sanitation service that is physically accessible within, or in the immediate vicinity of the household, educational institution, workplace or health institutions.
>
> Affordable: Water, and water facilities and services, must be affordable for all."

A human rights approach would therefore imply that empowerment includes right-holders being aware of their rights and their translation into valid claims, "basic needs into rightful demands" (Filmer-Wilson 2005:217). As Filmer and Wilson have also identified (2005:217): "these values shift development discourse from the notion of the poor and marginalized unable to meet their fundamental rights, to the idea of mobilizing communities to organize themselves and claim their human rights." Participation presupposes the involvement of communities in the development process, which promotes ownership and capacity development. Claiming of rights also implies higher accountability, from the right holders to the duty bearers in this case the state to its citizens.

In terms of water governance, the fulfilment of these values are important, going beyond legislation, institutions, and regulations, to improve institutional capacity at all levels. Empowering stakeholders with the ability to take part in decision making that can also reflect in their actions to hold decision takers accountable (UNWGF 2012:15). This approach provides a logical framework for the analysis of problems in relation to human rights, from the point of view on who is the duty-bearer and right holder in the parameters agreed by the standards of human rights principles.

2.4 Promoting Right to Water through Good Governance

Taking the concept of good governance as normative ideal presents areas of state and society friction and state and society synergy (Sano and Clapp 2002:10). If the concept is used as an analytical tool, Human Rights and Good Governance have a similar approach, albeit with different strategies. Good Governance aims to achieve development by focusing in the relationship between state, citizens and other stake holders, while human rights focuses on the relation ship between the state and its citizens as duty-bearers and right holders (UNWGF 2012: 12).

For the purpose of this study, the focus will be on the areas where they overlap:

> "Human rights principles inform the content of good governance efforts: they may inform the development of legislative frameworks, policies, programs, budgetary allocations and other measures. Without good governance,

> human rights cannot be respected and protected in a sustainable manner. The implementation of human rights relies on a conducive and enabling environment. This includes appropriate legal frameworks and institutions as well as political, managerial and administrative processes responsible for responding to the rights and needs of the population (OHCHR 2007: 1)."

Understood this way we can say that the foundation of Human Rights is to create parameters for democratic mechanisms of governance to the state and vice versa. The United Nations Committee on the Rights of the Child (UNICEF) has on several occasions addressed the "good governance is essential to the realization of all human rights, including the elimination of poverty and ensuring a satisfactory livelihood for all" (2006). The principal areas in which they are linked are in the study of democratic institutions, service delivery, rule of law, transparency and corruption.

Human rights imply having access to basic needs, provided by the state in the form of public services. The question is how does good governance relate to state capacity for public service delivery an ultimately human rights? According to Mick Moore (1997) public services, are a retribution form the state to its citizens for the collection of taxes. The state becomes accountable to its citizens, the more likely the relationship of the state and its citizens is shaped by democratic principles the more access to basic services they will have. The state comes closer to its citizens, by providing more services, which means higher likelihood that states are respecting human rights (Sano and Clapp 2002:11). Thus, Good Governance becomes part of the process of constitution individuals as citizens with valid claims and rights, not as subjects. Human Rights become "intrinsically related to public service capacity, as it supposes building a system based on values like accountability and reciprocity between government and citizens, where the government depends more on its citizens" (Sano and Clapp 2002:11). Water Governance structures should be in accordance to the obligations acquired by governments in relation to the human right to water. However, there are certain aspects and conditions of natural resources like water, in developing countries that compromise state accountability in relation to its citizens.

These concepts will be used to analyze the structures of governance surrounding CMWS. It will mean going beyond the study of the legal frameworks of property ownership, studying procedural rights, resource allocation conditions, and the implications for other aspects of human life and internal relationships, corresponding to other human rights. It will also identify the position from which they stand as right-holders and who is the duty-bearers, and the level to which human rights parameters are met, and what further needs to be done to realize the right to water to all

Chapter 3 Community Managed Water Systems in El Salvador

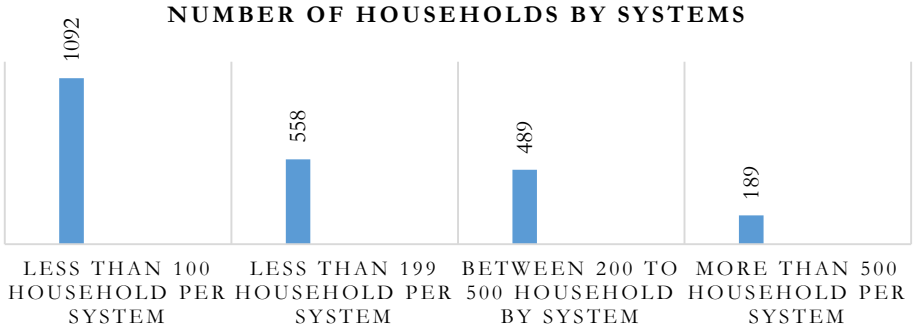
El Salvador had by the 1990s already embarked on a process of decentralization of the water sector[5]. After their introduction by development agencies, CMWS appealed to the government as cost-saving institutions, to bring water access to rural areas. Even though the project of their implementation was cancelled, many CMWS were already functioning, combined with the necessity for people to access potable services and migration from one community to others, resulted in the quick proliferation of these systems throughout the country (Cardona ed. ISF 2008: 22). This chapter will introduce the current situation of CMWS in El Salvador, followed by an analysis of the problems CMWS face, in relation to the governance structures in place for water distribution in El Salvador. Finally, the chapter addresses issues regarding social dynamics in the governance of CMWS.

3.1 Situation of CMWS in El Salvador

By 2016 ANDA reported the existence of a total 2,325 CMWS in the country, covering 1,261,846 habitants; which represent 52.8% of the rural population of the country – a total 2,389, 350- (ANDA 2016:3). As explained in Chapter 1, CMWS are mechanisms to exploit and distribute water, in which the community organizes and develops their own structure and mechanisms to implement a network of distribution of water; it comprehends financing, construction and management of a system of potable water. In the case of El Salvador, each system covers an approximate of 6 homesteads, with at least more than 50 households each.

The following table shows how many households water system covers in the country.

Figure 3.1 Number of households Covered by each Water System in El Salvador



*Made by author with information published in: ANDA (2016) 'Resumen Ejecutivo del Diagnostico al Subsector de Agua Potable en El Salvador (Executive Summary of Diagnostics the Subsector of Potable Water in El Salvador)'.

[5] Decentralization of ANDA systems to municipalities, during the 1990's. Explained in Chapter 1.

3.2 Challenging Governance for Community Management of Water

This chapter will analyze how are the regulatory frameworks for water governance affecting CMWS in the realization human right to water of CMWS. Analyzing the development of governance processes and institutions related to CMWS, in order to further address how they impact the activities and development of the users of these systems.

3.2.1 Informality and Recognition of Rights

Informality and Property Legitimacy

Community Managed Water Systems' operate informally in terms of both administration and management. Essentially, they function as governance structures parallel to any institutional framework, without a particular regulation specified for them. This results in ambiguity in formalizing and legal processes (See appendix C), as well as in the recognition of their rights by government and other institutions.

In El Salvador 13.6%, percentage of CMWS are not formally registered as Associations of Communal for Development (ADESCO's) (ANDA 2016:13), lacking an internal administrative organ –water board or committee-, that acts in representation of the community with a legal personality for administrative proceedings or judicial proceedings. The requirements to become a communal association are established in local municipal ordinances. The municipal autonomy established in Art. 203 of the Constitution of El Salvador to local governments allows them to impose their own requisites to legalize communal associations, and also regimes for the management and exploitation of water resources in their jurisdiction. Many municipalities do not have any of this two legal ordinances which gives local governments the arbitrary decision over the subscription of a community associations[6], especially in the case of water systems. Public utility is also contemplated as a motive for expropriation of lands in the Constitution of El Salvador, which includes the provision of public services like water (Art. 106 CN). This implies that lands can be taken over by the government in cases of special interests, like access to water sources.

The lack of a formal inscription as a community association means CMWS will not have any title to prove property and land rights of their system. Around 43% of CMWS in El Salvador have no legal title for the space where the system is constructed (ANDA 2016:14). Safe access to water combined with accessibility in human rights parameters, implies that the state must guar-

[6] Interview with Julio Reyes from NGO:ACUA, on July 12th 2016 and Phone Interview with Head of Legal Department at the Municipality of La Libertad, on September 19th, 2016

antee that the access to water of the population is not interrupted, or coerced by others (UN CESCR 2002: 1). Yet, the autonomy given by the Constitution and Municipal Code in the regulation regarding management of water resources and communal associations combined, compromises the processes of formalization of CMWS. Consequently, exposing them to external interests from individuals or enterprises trying to claim property of their lands, as it limits the means through which CMWS can protect or claim a protection of their rights. Several municipalities are in conflict with communities due to arbitrary actions from the local officials using public police force to appropriate water systems.

A typical example is the case of the CMWS of Cangrejera in La Libertad. In January 2016 the major of the municipality threated to expropriate the community's water system. With help of the municipal police, he forced the entrance to the dwell and elected a parallel water board, with members of his own municipal council; he also harassed the Community's water board members. Even so, that one female member of the association resigned from her position and move to another community with her family. In an interview given to a local newspaper, the major Miguel Jimenez expressed the following:

> "the property where the main dwell is located is not property of the community, but it was donated to the community by former municipal administration[7], but it is the right of the municipality to exploit the natural resources derived from this property (*Colatino* 2016)."

In May 2016 the community association formally presented charges against the municipality in the community was granted a (*Verdad Digital* 2016). The case is still pending resolution, but the community was granted a preventive measure against the municipality, which was ordered to restraining to perform any act of appropriation of the system until the conflict was resolved. These conflicts between community associations and local governments have repeated in other localities of the country; any strategic reform in the sector should start by improving the relationship between this actors.

Access to formal jurisdiction and informality

For administrative proceedings, informality creates a lack legal and institutionalized mechanisms of resolution of conflicts. An official information from the Center of Defense for Consumer (DPC) Rights in El Salvador reported that from 2013 up to 2016, declared 33 complains against CMWS water boards or committees, inadmissible because there is no legitimate entity to formally address the complaint. Only 1 CMWS has been sanctioned[8]. The lack of legal personality restrains CMWS users' access to legal or administrative instruments for complains regarding the administration of their systems. The

[7] The former local mayor of La Libertad supported CMWS by allowing the use of municipal properties to communities for the exploitation of water. However, in this particular case this community never formally registered the property under the community association. (Information collected by the author during interview with Julio Reyes from NGO: ACUA, July 12th 2016, and Focal Group #2, July 29th, 2016)

[8] Official Information obtained from DPC, after an official information request maybe by author, on July 19th, 2016.

users are forced to resolve their conflicts to informal agreements with the administration, without any guarantee they will comply.

Communities that are not formally subscribed as Communal Associations and do not have any mechanism to legally present claims against violations or recognition of their rights for both the internal administration or external actors. This translates into the possibility for CMWS losing their systems to other actors, and subjects of arbitrary actions from local governments.

Human Rights obligate the State to guarantee the protection of the rights of these individuals. The current Legal regime for water management and communal associations at the local permits creations of regulations and interpretations prejudicial to CMWS, violating their right to safe water.

Access to Water Subsidies

Informality, also affects the way state policies reach these groups. In 1998 the Government of El Salvador created the National Investment Fund for Electricity and Telephone (FINET) to facilitate access of these services in rural areas of low-income population. Article 5 of legal statues (Creation Law of FINET) of this fund established a subsidy on electric costs to water pumping systems with main objective the provision for rural communities, in an amount proportional to the one given to ANDA by the autonomous electric company: CEL. The ultimate goal of this policy, is that the reduction in the costs, reflects on lower residential tariffs for users (Portillo 2016). The amount reduced to ANDA in concept of the electricity used in water production and distribution during 2015 was $7.3 Million USD. While, communal associations who want to be covered by the subsidy must be formally legalized as ADESCOS, today only 20% of CMWS are covered by this subsidy (ANDA 2016:6); consequently, the rest 80% CMWS have higher costs for water.

According to information given by users of CMWS more than 30% of the total payments collected from the users, is destined to pay the electric bill for the system[9].The price varies in accordance to the amount of water the system pumps, depending on the size of the dwell and the number of families each systems supplies. Overall the costs in electricity with subsidy can add up to $2,382.92 USD a month in a system with 500 households,[10]. In the case of the La Libertad, only 2 systems have the subsidy: Desvio de Amayo, and Agua Escondida, 1,340 houses, but the rest 758 do not have subsidy. This indicates inequalities within community associations, and with other providers, caused by the way in which public policies are designed and implemented; if the goal is to reduce the costs of water to the economically disadvantageous, subsidies that do no account the particular conditions in which these systems act, will never have the desired impact.

The tense relationship with the local governments and the apathy of communities to any form of state intervention also contributes to the impact extent of this subsidy. Interviews with community Water Board Members shows they claimed that not having electric subsidy, increased the costs of the

[9] Interview with Community Water Board Directors, on July, 29th, 2016 (IF, CMWS).
[10] Interview with Community Water Board Directors, on July, 29th, 2016 (IF, CMWS).

systems, with no funds left for reparations, and chlorine[11]. In addition, once registered as community association, they have to pay municipal taxes which also adds up to the costs and presents as an issue because CMWS users refuse to contribute in any way with the municipality[12].In consequence, higher costs of production, translates into higher fees, posing a threat to the equality principle of the human right to water in community organizations. Subsidies are mechanisms that governments use to reduce inequalities, however in cases like this, they do not achieve the desired results, in turn accentuating it more. CMWS requires maintenance, in both quality of water, service and infrastructure; between the costs of production and low prices, there is no much left for investment in reparations and sanitation mechanisms. This reflects in their questionable performance, explained further; due to the current physical conditions of these systems.

In October 2009, the National Assembly ratified the Executive Agreement 867, exempting CMWS from paying fees on the private exploitation of water, only to communities formally registered as Communal Associations. CMWS not registered, are in current debt with ANDA over fees for the extraction of water. ANDA introduced a program to include all CMWS, requiring them to submit information on prices and capacity of the system. Many communities felt distrustful on the intentions of ANDA and didn't disclose the information, so they never got their exemption[13]. These communities filed an appeal, against the Supreme Court of Justices of El Salvador. The final decision of the court declared the legal protection of the water rights for Community Associations and order municipalities or ANDA to stop charging them in the exploitation for the resource (*ADESCO Cristo Rey vs. Concejo Municipal de Huizúcar 2014*). Just as the case of the subsidies, ANDA accounts only for systems contemplated during PLANSABAR and formally legalized as Community Associations, without any actions to extend the exemption the all of the systems. Equal and affordable access to water in terms of Human Rights implies every sector of the population should have water access under the same conditions, if the state is attempting to creates policies to reduce the gap between rural and urban access; especially reduce the impact of high costs to the poor, policies should be design to address the particular conditions, like informality, on which CMWS act.

3.2.2 Water Grabbing

Following Human Rights parameters, legislation should guarantee that the primary destination of water is human consumption. In the case of El Salvador, it is the total opposite. The Constitution establishes that water resources in the country are considered public goods. The legal regime of public goods in El Salvador is regulated by the Civil Code, considers them as a property of all [Art. 567 C.C.]. However, the Irrigation and Drainage Act of 1970, states that "water resources are national assets ..." [Art.3]. In this order, the regulation for hydroelectric energy: Statues of the Creation Act of CEL of 1948 gives CEL

[11] Interview with Community Water Board Directors, on July, 29th, 2016 (IF, CMWS).
[12] Focal Group CMWS #2 Desvio de Amayo, July 29th, 2016.
[13] nformation obtained during interview with ANDA's Director of Systems and Rural Communities, Nicolas Coto, July 22nd, 2016.

the property rights over the use of water of the Lempa River, being the principal source of water in the country [Art. 2]. Not concerning the rights of others. This and many other uses of water translates into competing demands for the use of water. The different uses for water resources in El Salvador are as follows:

Table 3.2 Demand for Water in El Salvador for 2015

	2015
Human Consumption	66.66%
Commercial	8.39%
Industrial	0.58%
Central Government	3.81%
Municipalities	1.35%
Marginal	2.87%
Private Exploitation	15.72%

* Made by author with information presented in Statistical Bulletin (ANDA 2015: 81)

Human consumption is the principal demand for water (66.6%), while commercial and private exploitation take a considerable share of the supply of water (combined 24.11%). The nature of the subjects included in commercial and private exploitation demand differ from human consumption individuals. Considering their position in the market they have more economic capacity and political influence to shift the allocation of the resources to their advantage. The costs for commercial users amongst which we find private sector institutions, that use water in productive processes or activities, are of $3.68 USD/m3 catered by ANDA; (ANDA 2016) compared to CMWS with fixed monthly fees ranging from $2 USD to $6 USD. In the past this difference has prioritized government policies into getting access in areas where the capacity of the user represents more economic gain to the institution. This situation is evident in the existing gap between access in the rural and urban areas of the country. From 2011 to 2015, ANDA has improved water access in the urban areas by 3%, in contrast in the rural areas it has only increased by 1% (ANDA 2015:8).

The competitiveness of the sector pressures the available water resources, particularly in the rural areas; were ANDA only covers 66% of the population and the rest looks to different mechanisms to access water, including CMWS. These latter have to finance their own construction and maintenance for their systems, including a viable source of water. Their economic capacity compromises their possibilities to access the resources, as it will be evident that other distributers have more possibilities to secure this resources.

Private or independent suppliers of water are individuals or companies participating into activities that commercialize water. As explained before, they mostly are construction firms, with urbanization projects that need water access, with the economic capacity to invest in their own water systems, using cost-recovery economic model, with fees ranging from $4 USD to $5 USD

per cubic meters (m^3)[14] and they cover a total of 8% country's water supply (See Figure 1.1).

Besides them, we find independent providers, which are entrepreneurs, or private individuals who come to areas with no water supply to sell water. These agents collect the water from their own residential connections, or private dwells, with costs lower than the expected revenue. Usually located in the rural areas, the prices range from $ 0.75 USD to $1.50 USD per barrel.[15]. According to Human Rights parameter a person needs 50 to 100 liters of water a day. The necessary amount a person needs- 1 barrel- adds up to more tan $45 USD a month in water just for one person, to communities with no water access.

Due to the high lucrative opportunities, and lack of legal constrains, private commercialization of water is a growing in the water industry of El Salvador. The government seems to be directing their approach towards private sector investment in water distribution. In the 1990's they introduced a reform to the water sector, alongside with the Inter American Development Bank, in close resemblance to the characteristics of privatization practices:

Project of Reform of the Water Sector in El Salvador, 2009 "Plan Hidro":

> " At the end of the fourth year of implementation, it is expected to have major water systems operated by independent companies "
>
> "At the end of the program is expected to have transformed ANDA: into a specialized operator of some systems that where not concessioner or transferred to other entities, and administration in name of the government of concessions to private operators" (Artiga R. and H. Rosa 1999:4)

This program included private sector investment of $39.1 million USD in the water sector of the country, however it was never executed due to lack of further consensus in between the two agencies but the agreement is still valid. In 2009, the Government approved the FIHIDRO Plan, a public-private partnership intended to install new water connections for the rural communities in La Libertad. The majority of the new connections, were coincidentally built inside urbanization projects for houses and malls (*La Pagina* 2013).

With limited resources of water in the country, there is a tendency for water flowing in the direction of power (Boelens and Dávila 1998 :447), money and political influence tend to make public services like water available for only certain groups. If 48 % of CMWS depend on natural springs, and 9% on superficial waters (like rivers), the capacity of the natural resources of the area in the production of water. Having access to sources of water is a key aspect in the viability of these initiatives. Considering the characteristics of other actors involved in the sector, CMWS have the lowest economic capacity and lowest ability to influence political decisions. The data presented shows the profits from rural users consumption is lower than that of other systems. The policies of the Government in the water sector and the regulation regarding the water uses poses a threat to CMWS' right to water which causes limits on the capaci-

---

[14] Information gathered from interview with 2 private users, on July 21st, 2016; together with an interview to sales agent form a construction firm, "Metropoli San Gabriel", San Salvador on July 26th, 2016 (MS-ER).

[15]. Each barrel is estimated to have 0.158 m3 of water: 6 barrels of water make 1 cubic meter (m3), or 1000 liters of water volume.

ty of CMWS to access the sources of water, compromised by their limited economic resources and political influence. In turn, this threats other aspects of water consumption. The legal issues over the property rights of the areas where the tank, dwells and springs are located is one cause of external threats. This is also a consequence of the informality of some of the administrative entities of their systems, as explained in the paragraphs above, situation that aggravates due to the ambiguity of the practices of this systems and the institutional framework in which they act. The State should guarantee safe access to water, meaning without any external coercion or intervention, creating and reinforcing mechanisms to protect the right to water of CMWS. It is the case that the Government it self has jeopardized their right to water for CMWS, by allowing local government to threat CMWS and users, not securing priority to human consumption and allowing arbitrary expropriation of their lands.

3.3 Social Perspectives in Administration and Management of CMWS

The management and administration of water systems involves technical and social processes. This section addresses the challenges faced by CMWS in their administration and management, influenced by social relations and participation within the user community. Covering issues like gender equality and transparency of management institutions.

3.3.1 Ownership and Participation

As PLANSABAR failed to conclude the last stages of the project which involved the training and teaching to the community the adequate management skills for the performance and administration of water systems. It is estimated that 25% of the total of CMWS in the country do not perform any activities related to the physical maintenance of their systems, and 27% do not have any formal guidelines (ANDA 2016:11). Some of the CMWS in the country are over 20 years old, with a estimated life expectancy of 8. Together with the limited economic capacity, poor maintenance and administration has resulted in the poor quality of the service, like the non-continuity and bad quality of water. According to ANDA officials only 50% of CMWS users said that the service they have was considered acceptable (ANDA 2016:9). However, details on the quality of the service let us infer that the acceptance comes from conformity with the only alternative they seem to have.

Limited time and personal available for the administrations and maintenance activities of the systems are other crucial issues in the management of CMWS. Members of the Rural Water Boards or Committees, expressed they sometimes dedicate 2 or 3 days a week in issues related to the administrative aspect of the systems[16]. Community administration officials are elected for a period of 2 years. Constantly renovating the leadership makes it difficult to maintain stable and continuous practices of administration and management.

[16] Interview with Water Board Members on July 29th, 2016 (IF, CMWS).

In the interviews conducted to users of 15 systems of CMWS in La Libertad, all of them reported that the capacitation of personal for the administration and management of the system is a critical factor in their system (ACUA 2016:12) as the correct functioning depend on the quality of the administration. Considering the life expectancy, 9 of the 15 systems present leakages, none of them have personal responsible for the tank 24 hours, and none have professional personnel dedicated to the technical and physical maintenance of the tank or professionally accredited for quality control of the water (ACUA 2016:12).

3.3.2 Social Dynamics and Gender Perspective

According to Granoveter, "social and historical embededness of institutions manifest through networks of personal relations" (Granoveter 1992:62). This works in informal institutions too, including CMWS. Social relations also shape the way in which these communities are managed. Women are generally in charge of the administration in management, however they are not on Water Rural Boards or Water Committees; attending in representation of others. This pattern is a heritage from the social dynamics of a much bigger gender inequality in the Salvadorian society[17].

In households where water is not accessible, a woman in the rural areas spends up to 6 hours a day collecting water (UNPD 2015). This translates in to the same hours' women dedicate to activities regarding the communal association and the water system administration and management. Even though collecting water is considered a household chore and is the duty of the women in the house, as mentioned before, participation is entitled to the men. Of the 15 systems in the interviews, only 6 have women formally inscribed in their administration entities (ACUA 2016). During the research the majority of the interviews where conducted to women. When asked why they are not part of the board but come to the administration and management meetings and they expressed:

> "We come in representation of our husbands who are working. This meeting is only to discuss tasks. When something has to be formally done or signed they come, but if we do not come, no one will come.[18]"

A tendency in the administration of this systems seems to be that the women in the communities are in charge of doing the collection of monthly payments as they are perceived as less corrupt than men. During a interview with community users, they expressed that :" in some time they were some accusations to a men who was in charge of collecting the payments, that he was not

[17] In El Salvador the total of occupied population in rural areas is 33.5%; of this 68% are men and 31% are women (DIGESTYC 2014:290). The labor force participation rate of men in the rural areas is 68% compared to women's which is only 32% (DIGESTYC 2014: 291). Occupied Population: is defined "as the part of the population that has a job subject to remunerations, which is no considered as house-hold of family duties" (DIGESTYC, 2014: 26)

[18] Focal Group #3 CMWS of Cangrejera, July 29th, 2016.

collecting his owns wives' payment, so we decided that the women should take of that"[19] .

This seems to be a tendency not only in civil society organizations but in the public and private sector as well, according to Transparency International. "Higher levels of women`s participation in public life are associated with lower levels of corruption" (Transparency International 2000). The low participation of women in these systems indicates a clear violation of human rights values of equality and good governance principle of participation, parameters which should shape the practices of this communities. In this the direct obligation is not born from the state, but the state is obligated to promote and protect the empowerment of women in general, which should translate into all forms of society interactions, like this CMWS.

3.3.3 Trust and Power Relations

Insignificant incidents have a greater impact amongst the foundation of this associations which rests on the trust the community has on their leaders; traditional values as trust and communication shape the relationship between the users and leaders. An interview conducted to the owner of a rural urbanization who is in the process of organizing a Rural Water Board said:

> "I gave $200 USD to the community to organize events to collect money for the water system, the men in charge took a part of the money without permission, when election time came they where the only ones running, and the community did not want them to be, no one voted and the election was interrupted[20]."

Values like accountability, transparency; empowerment and participation are commonly expressed and practiced community activities, like general assemblies, majority rule for decision making, and democratic elections. When present, there is a clear indication of the goals and objectives these communities follow. However, internal power struggles are always an issue within communities, like the gender gap in the representation organism, and information asymmetry. The informality of these associations tends to allow practices inside an organization that do not reflect values of gender equality and transparency. Even though there are no allegations of corruptions inside associations, without proper mechanisms to guarantee transparency and accountability, these systems remain prone to corruption. Until today, there is no legislation that obligates these organizations to have any mechanism of formal accountancy.

[19] Focal Group #3 CMWS of Cangrejera, July 29th, 2016.

[20] Interview with Socorro de Owen, Administrator of rural urbanization project, August 8th, 2016 (S0).

Chapter 4 The realization of the human right to water for CMWS

The previous chapter addressed the issues surrounding governance processes and institutions of CMWS and how they impact formal aspects of community dynamics. However, it is important to addressed the practical impact in to the lives of the users. This section will cover the experiences and challenges faced by users of CMWS with regard to sufficient access to safe water. It will investigate the differences of CMWS users and other providers.

4.1 Affordability and Efficiency of CMWS

4.1.1 The price of inadequate governance:

Fees and Service Quality

Besides the issue of acquisitive power CMWS have in relation to other demands for water in the market, it is particularly important to analyze the price in terms of the capacity of households in these communities in respect of the rest of providers in the country for 2016:

Table 4.1 Fees of water in USD (0 to 10 $m^{3\ of\ water}$**)**

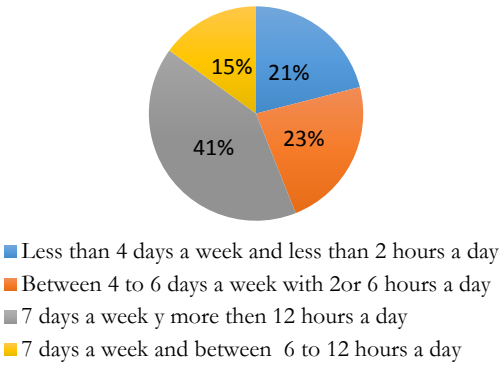
ANDA Residential fees	(minimum)$2.49 all in USD
Independent Providers fee	$4.50
CMWS Fixed fee	(estimation) $5.12
Independent merchants fee	Between $4.5 to $9

*Made by author with information from (ANDA 2016) and author's field work interviews and documents.

ANDA statistics show that 85% of all CMWS operate by having fixed minimum fees for water (ANDA 2016:8). The fee is set in accordance to previous studies done by experts hired by the community, in which they determine the exact costs of production and distribution for the water, as well as the gains percentage for administration and maintenance, and the economic capacity of the users. The limited capacity of the natural resources, the high demand, and the high costs of maintenance have pressured systems into this modality in order to supply water to all their users. Many of the systems have reached and exceeded their life expectancy, and are now working functioning in obsolete conditions. This leads to non-continuous service of water, using rationalization as technique for the distribution. Users of slightly less than 50% of CMWS -1112- in the country argue that they do not receive a service they consider acceptable (ANDA 2016:8).

According to ANDA, 44% of the users in CMWS are receiving more then 100 liters at day of water (2016:8), which is an acceptable parameter for human rights standards, indicating the issue is not maybe of quantity but the quality of the service and administration. The following charts indicates the continuity of CMWS in the country:

Figure 4.1 Continuity of Water Service in CMWS



* Made by author with information from: ANDA (2016) 'Resumen Ejecutivo del Diagnostico al Subsector de Agua Potable en El Salvador (Executive Summary of Diagnostics the Subsector of Potable Water in El Salvador)'. El Salvador, Direction of Attention of Rural Systems of the National Administration of Aqueducts and Sewers.:9

Interviews with community users subject of the research point that, from the beginning, the service was not continuous.[21] Yet as the number families in the system have increased, the hours they have water have reduced, and they do not consider to have enough water for their daily activities[22].

It is the case that the rural water board and water communities often sell connections without considering the capacity of the system. An issue users and the administration are in disagreement, as community users expressed during an interview:

> "We do not have water all day, only from 7am until 3pm, some days for less the one hour… we understand this is to have water for all the houses part of the system, there is more shortage now than before because the water committee is selling new connections and they do not consider the capacity of the system…. In the high lands of the community, water is more scarce.[23]"

Members of the Committee disregard these statements arguing the rationalization is a necessary technique to cater water to all the households, but they do acknowledge this method increases the cost of management in both trans-

[21] Focal Group with CMWS #2 and CMWS #3 and Interview with Water Board Members (IF, CMWS), in La Libertad July 29th, 2016.
[22] Focal Group with CMWS #2 and CMWS #3, in La Libertad July 29th, 2016.
[23] Focal Group with CMWS #2 and CMWS #3, in La Libertad July 29th, 2016.

action costs and maintenance[24]. They have to either hire someone externally or someone from the community has to be managing the shutoffs for each community, every day. The following table shows a comparison between the different costs for water users according to the different distributers in the country:

Table 4.2 Comparison of Prices/Subsidy/Uses per distributer in 2016 (All Values are in USD.)

	ANDA	Private	CMWS
Location	Urban/Rural Area	Urban/Rural area	Rural Area
Estimated No. of persons per household	4	4	4
Uses for water	Basic Human Consumption, gardening, and other leisure activities.	Basic Human Consumption, gardening, leisure	Basic Human Consumption
Continuity of the Service	Mostly 24 hours, 7 days a week	20-24 hours, 7 days a week	
Monthly estimated consumption	26 m^3	32 m^3	9.23 m^3
Monthly estimated costs	$12.56	$36.48	$5.12
Fees p/m^3	$0.37	$0.94	
Maintenance costs and distribution	$1.80	$6.22	$1.23
Cost Without Subsidies			
Real cost of production:	$0.76 per cubic meter (26) = $19.76 + $1.80		
Real cost of consumption	$21.56		
	Subsidy reduces costs by 48% ($14.89)		

* Made by author with information from ANDA, and own research, 2016.

This covers the exact costs of maintenance, distribution and exploitation of water, the total cost of users for ANDA is $21.56 is reduced by $14.89 USD. If the same profile of household of a CMWS would be a user from ANDA, with the same monthly consumption in 2016 they costs should add up as followed:

Table 4.3 Comparison of water costs for CMWS user with other providers for 2016

Minimum Fee (0 to 10 m^3) Values in USD	$2.29
Costs of distribution and maintenance	$0.10
Total	$2.39
With application of subsidy	$1.14
CMWS Now A difference of $4.02 USD	$5.12

* Made by author with information from ANDA, and own research, 2016.

[24] Interview with Water Board Members on July 29th, 2016 (IF, CMWS).

In interviews with CMWS users of La Libertad, they expressed having water only 2 hours every day, collecting water in a tank at their houses that holds up about 15 gallons of water. The following table shows the consumption of CMWS users:

Table 4.4 Consumption of water for CMWS households 2016

15 gallons a day: 56.7 liters.	For 3 persons
Monthly costs $6 dollars	18, 9 per person a day
Consumption:	10.71 m^3 monthly

*Made by author with information from interviews with CMWS of La Libertad, July 29th, 2016.

If CMWS would be part of ANDA, they would be entitled to the minimum consumption fee of $1.14 USD and result in a reduction of $4.86 USD relative to their actual costs. Considerably lower than the price they pay now. The State has two options to guarantee equality in the prices of water, either find mechanisms to reach CMWS and level their prices to the rest of the market, or eliminate the subsidies in place for the rest of the users specially if they do not need it. This could also help the financial crisis of ANDA in general.

According to Human Rights parameters 18,9 liters a for a person day is not an acceptable sufficient quantity for a person, with a shortage of 30 liters a day per person. CMWS users in La Libertad expressed they have to find ways for the water to be enough for all:

> "when we run out of water, it is very difficult to find it elsewhere, if we go the rivers, its all contaminated with wastes from the houses up the hill. Tank trunks of merchants with water do not come here, so we have to go to San Jose Villanueva, that is like 30 minutes by car, and there each barrel is $4 USD[25]."

Users from private providers and ANDA in the same area expressed they do have the same issues regarding the continuity of the service, which is another indication of the over exploitation of the natural resources in the area. Some households have tanks that store water for up to 3 days, however in some cases even this too runs out[26]. Since they are consumers from ANDA, ANDA delivers a tank truck to fill their house tanks in cases of water shortage. Each truck costs about $35 USD and contains 10,000 liters of water, which is equivalent to 10m^3, at a price $3.5 USD per cubic meter still less than CMWS buy to independent sellers of water, and with less transaction costs for getting the water[27]. In conclusion, CMWS users ultimately pay more for less water than any other user in the area, in terms of both money and time.

According to the national census: Multi Purpose Household Survey (2014) the estimated monthly income for a family in the rural area of El Salvador – a group of 4, where 2 are part of the formal labor force and the other 2 are informal employees – is of $356.85 USD, with estimated costs of $264.43 USD of monthly expenses. (DIGESTYC:294) Households with these characteristics in CMWS pay fixed fees of around $5.12 USD. This price includes exactly the minimum costs of production of water, including administration and distribu-

[25] Focal Group #2 to CMWS of Desvio de Amayo on July 29th, 2016.
[26] Interview with users from private providers, July 21st, 2016 (ER, MS, VM).
[27] Interview with users from private providers, July 21st, 2016 (ER, MS, VM).

tion. Adding the minimum fee of today (2016) by CMWS of $5.12 USD, and the costs for extra water, that according to this users can add up to $15 USD[28] extra a month, so CMWS users in the rural area spend almost 9.5% of their income in water. According to the principle of affordability of the Human right to water, users should spend more than 5% of their income in water.

This situation also affects the capacity of CMWS users to pay their monthly water bill. In the interviews conducted with users of the 15 systems in La Libertad, they expressed to all have paid later that the deadline. Another issue of confrontation between the management of the system and the users, is this late-payment. Since they are not "formal" entities, users don't feel obligated to pay on time, and disconnection from the service provokes reactions and criticisms of "unfairness" from the rest of the community[29] .

The informal relation between users and administration limits the enforcements mechanisms for rural water boards or committees to collect the payments, which ultimately impacts the physical performance of the system as a whole; it reduces resources for maintenance and reparations, too. Participatory approaches based on human rights and good governance are beneficial when it comes to price setting, but in terms of management, it can compromise the conditions of the systems, allowing users to pay late or not pay at all.

Under the equality principle of the human right to water, CMWS also faces difficulties in relation to other demands in the market and even for other distributer to households' connections in the country. CMWS set their fees as low as possible and with a general consensus among the community's organization. As much as they desire to make them as fair as possible, external factors influence the final result. Evidently the service they receive is very poor, and they pay higher amounts in comparison to other users from different providers. It is not only an issue of weather the families can afford or not to pay for water, but in relation to other providers they pay more for less. Eliminating discrimination in terms of affordable water access remains a policy challenge for the government. The financial conditions ultimately impact in the quality of the service, and the administration as well.

4.2 Safe Quality Water

Even if community managed water system address the issue of water accessibility, proper sanitation facilities is still a challenge amongst them. The distribution network comprehends water household connections but lack infrastructure for the proper disposal of waste and grey waters.

According to national statistics, 94.64% of households in the rural areas have toilet services (DIGESTYC 2014:45). Most use toilet latrines, which are rustic facilities, consisting of a whole in the ground to pour human waste, which is decomposed and then absorbed by the earth. In terms of grey waters, mechanisms that dispose water in rustic sewages tends to end in empty

[28] Focal Group #2 to CMWS of Desvio de Amayo on July 29th, 2016.
[29] Interview with Water Board Members on July 29th, 2016 (IF, CMWS).

grounds near the area or rivers, contaminating the environment in the surroundings areas where the communities are located. Consequently, this contaminates the natural resources of the area, including ground and superficial waters. The levels of contamination of the water resources in El Salvador is at 90% of the waters (Dimas 2005).

As stated before, the systems obtain water from the sources available in their surroundings , so the contamination levels affects the quality of the water collected. Only 70 (3%) of 2,355 systems in the whole country have proper systems of sewages (ANDA 2016: 11). Having safe water according to Human Rights parameters also includes its being safe for drinking. CMWS families use the water without any boiling or filtering procedure, for cooking, cleaning and washing making the potability of water crucial.

Art.63 Health Code establishes the Ministry of Health of El Salvador as the entity obligated by law to evaluate the standards of drinking water of El Salvador (1988). In order to comply with this, in 1981 ANDA and the Ministry of Health created the Regulation on Water Quality Control of Discharges and Protected Zones, to establish parameters for the control of the quality of drinking water in El Salvador, specifically for providers different from ANDA; through periodically inspections in water systems. The Environmental Law (1998: Art. 3) also gives the Ministry of Environment and Natural Resources the power to ensure the protection, conservation and improvement of natural resources, in compliance with the Constitution, special laws and international regulations. While ANDA has its own institutionalized practices for cleaning and maintaining the levels of potability of the water they deliver, in practice institutions ignore the formal legal obligation for the state to evaluate the quality of the water in CMWS. Users of CMWS expressed they had never received any visits from the Health Ministry or other official entity they said to check the quality of their water[30].

The mechanism used by CMWS to eliminate any bacteria in the water is the addition of chlorine to water. The Water Health Organization (WHO), uses as the measurement of the quantity of chlorine in liter of water to estimate the potability of the water in relation to the presence of microorganisms that might contaminate it (2010). A census done by ANDA in 2015 determined only 1.5% of CMWS in the country comply with this normative (ANDA 2016: 9). Independently, only 64% of CMWS conduct periodically test in a Laboratory on the levels of potability of their water (2016: 10).

ANDA is reported to have conducted 4,010 analysis of potability levels of their sources of water and distribution network for their users in 2015, compared to no analysis that examined the potability of CMWS Systems (ANDA 2015: 50) The World Health organization has stated that "Water and Sanitation is one of the primary drivers of public health…" (2004). Of the 15 systems in La Libertad that participated in the interviews none perform any treatment of cleaning and filtering to water[31]. Half of households use composing latrines and septic tanks, this means all their waste ultimately are absorbed by their surrounding environment contaminating the surface and ground waters of the

[30] Information gathered from Focal Groups CMWS #2 and CMWS #3, on July 29th 2016.
[31] Information gathered from Focal Groups CMWS #2 and CMWS #3, on July 29th 2016.

area. Since they use this as their principal source, the quality of its waters is crucial. Adding to this, their tight budgets limits the purchases of chlorine for the water; only 7 systems perform periodically cleanings on their tanks. After laboratory tests performed by a local NGO, 5 of the systems report to have some indication of human waste in their water, and 10 reported the presence of other wastes (ACUA 2016:13).

In El Salvador the incidence of illness related to the contamination of water, like diarrhea , gastroenteritis, and intestinal parasites where as following in 2015:

Table 4.5 Illness Related to Water Consumption in the Rural Areas of El Salvador reported in 2015

Diarrhea and gastroenteritis	268, 500 cases *78% of them where under 5 years old
Intestinal parasites	635 cases

*Made by author by information of MINSAL (2015) 'Boletín Epidemiológico Ministerio de Salud El Salvador Semana 31' (Ministry of Health Epidemiological Bulletin Week 31 El Salvador). El Salvador: Ministry of Health: Department of Sanitation.

The continuity of the service is another problem that impacts the health of members of CMWS, the storage of water for long periods of time has lead to illness like Dengue, Chikingunya, and the Zika virus. In 2015 the cases of these diseases in the countries registered for 2015, where as following:

Table 4.6 Illness Related to Water Storage in the Rural Areas of El Salvador in 2015

Dengue	**24,447 Cases**
Chikungunya	39,157 cases
Zika Virus	7,262 cases

*Made by author with information from: MINSAL (2015) 'Boletín Epidemiológico Ministerio de Salud El Salvador Semana 31' (Ministry of Health Epidemiological Bulletin Week 31 El Salvador). El Salvador: Ministry of Health: Department of Sanitation

The vigilance of the quality of the water that CMWS are using is one of the most critical issue in this systems. According to Human Rights parameters, only few systems would be in compliance with the international standards for the quality of water. A Human Rights Approach to water distribution, from the central government and legislation could directly impact the attention the government has towards the control of the quality of water in the country. Violations from the Duty Bearers from human rights can also occur due to the active omission to protect right holders.

Chapter 5 Conclusions and Recommendations

5.1 Ambivalence of Success

This research analyzed the broader framework for water governance, as well as the consequences in the lives of community members of rural community managed water systems (CMWS). Using the human right to water as main framework it has identified problems in access to sufficient, safe, and affordable water for them. As this paper highlights, these problems have transcended over to other facts of the lives of these communities, and has important implications for other consecutive human rights like the human right to food, health and development.

It has shown how existing regulatory frameworks for water distribution and management in the country currently affect water governance of Community Managed Water Systems and influence the ways users in this communities' gain access and make use of water. This paper has demonstrated that while initiatives of civil society like Community Managed Water Systems (CMWS) in El Salvador have served as participatory and informal institutions to provide water for the marginalized groups in the rural areas, they face many challenges in realizing the human right of water to their uses

This research identified legal framework around water governance that give rise to several problems that CMWS users and administration currently face. The most relevant is the informality in which they originated, developed and continue to operate. The economic limitations of the communities are also important. Maintaining affordable prices for the users has often resulted in low quality of water, deficient service and problems with the internal administration and management. The situation is exacerbated by the fact that water governance regulation is diverse and fragmented, with no clear entity defined to address the different ways in which water is distributed in the country. These issues are elaborated in the following paragraphs.

Problems of Informality

Difficulties faced by the informality of the governance of the CMWS results in several CMWS in the country without a legitimate title for the property rights of their systems' lands (43%), since they are unable to subscribe as communal associations in local municipalities due to the lack of regulation in the topic. Furthermore, the conflicting regulatory framework for water exploitation in the country allows interpretations that run counter to human consumption demands, specially to groups with less political influence and economic power as are users of Community Managed Water Systems. These two things generate conflicts with other actors, like local governments and private distributers of water. Experiences subject to analysis in this paper can be said to repeat in the whole country.

The inscription of CMWS management as a legal community association also negatively affects support from the government, such as in the case of subsidies for the electricity and exemption for the exploitation of water fee. Ultimately this reflects on higher prices for the users. In the interviews performed to the users of the different water systems, 8 of the 15 systems agreed

the price of electricity is a concerning issue for them, as it continues to increase, and they are unable to maintain low fees, without compromising other things such as: maintenance and sanitation processes.

The informality also limits users' access to institutional mechanisms for conflict resolution and the legitimization of their rights in formal jurisdiction, which also stems from the ambiguity of the formalization of CMWS. The unclear legal recognition of the management water structures, like water boards or committees, weakens their ability to enforce internal rules, causing a confusing relationship between administration committees and users. Trust becomes highly relevant for the adequate administration of the system, but communities lack formal mechanisms to guarantee it.

Community and Governance

In the administration and management, as well, we find that participation of woman in the leadership seems to be unaccounted for. Women perform many activities regarding the management of the systems, but they are not acknowledged formally as part of the administration. Generally speaking, women are trusted more than the man in the committees or water boards, but they are considered unable to perform many of the tasks. Indeed, the participation of women in the administration comes as an auxiliary mechanism to the issue that the communities have very low administration and management skills to perform the maintenance of the systems, so it is difficult to find users suitable for this tasks. These problems in the administration and management, compromises the physical conditions of the systems and the relationship within the communities.

Prices and Governance

Along these lines, we can conclude there is a clear relationship between the informality and the high prices users on these communities pay. As mentioned before, they are not all entitled to subsidies and exemptions. These users end up paying more for water than in the rest of water provision schemes in the market. They pay an approximate of $4 extra dollars for a service of merely 2 hours everyday, while other providers have a continuous service and pay much more less.

Realization of the Human Right to Water

Considering the parameter given for sufficient water by human rights, we identified that these users have lack an average of 30 liters per person of water per day. The limitations in budgets and increase in prices reflect on the minimum maintenance the system receive and low investment for improvements for the systems or reparations.

Additionally, rationalization is used as a mechanism to provide access to more communities, but it also points to the overexploitation of the resource. This non-continuous service adds more costs to the communities in both time and money, as they rarely have enough water for their daily activities. Private vendors of water take advantage of the situation and sell individual water barrels at much higher prices, and the women in households generally spend more time in collecting water.

The problems in the administration and management compound with the limited budget users have and negatively affect the quality of the water user receive. The research found that the users do not perform any process of purification of the water. And the high levels of illness related to unsafe water in the country, amongst rural areas in particular. Moreover, interviews with CMWS indicated children often are the ones more affected by the contamination in the water. This indicates there is an issue in the levels of potability of the water, which impacts on the full development of the users as well as the environment in general.

In the conduction of this research, CMWS users seemed to be proud of the benefits afforded by these systems, without awareness of the difficulties they face in the long term, despite the fact that many of the systems have exceed their expectation of life. they reported an improvement on their living conditions to when they did not have access to water. This may point to a certain conformity despite the absence of the government in guaranteeing sufficient access to safe and affordable water.

Community Management is a result of the government's failing in sustainable and effective water delivery. They are indeed a solution to deliver resources to communities the state is not able to reach, but they can' t be seen as a universal solution. They remain an imperfect, sub-optimal alternative. These governance structures need the proper institutional and legal framework to function properly, in a way that helps overcome possible disadvantages in the institutional and organizational levels. The inclusion of new actors in governance, proposes the state to act not only as enforcers of rights but as regulators and facilitators of rights. Nevertheless, the monitoring and evaluating of CMWS could implicate the actual intervention of the government, a controversial issue among CMWS whom do not have a positive relation with public institutions.

5.2 Where to Start

Successful implementation of CMWS schemes depends on an enabling environment from legislation, policy design and implementation, and a support system, as noted by Schouten and Moriarty and IRC (2003:143-147) Legislation should include the internal rules and regulations of the public administration agencies involved in the monitoring of community managed systems, as well as general laws and policy guidelines defining who owns and can own water supply systems, protecting external structures of CMWS, and facilitating community dynamics.

Along these lines, El Salvador needs to ratify the amendment of Art.69 of the Constitution recognizing explicitly water as a human right, pressuring the government couple policies and secondary regulation under this parameter. This could help place community water management in the agendas of national and local governments, to address them as priorities sources for investment and evaluation. Second, it is crucial to work to reestablish a good relationship between rural communities, local government and ANDA, without leading to an actual intervention to the systems.

Following that the water governance should build a proper institutional framework for water rights, which includes:

- Developing a proper institutional framework for community associations destined for the provision of public services, including water.

- Promoting close dialog between CMWS and the local governments, to ensure the protection of the rights of the organizations in front of other interests. This will help them ensure subsidies for both water exploitation and electricity, which in turn would reduce prices and improve quality.

- Strengthening of social cohesion in community participation, education in skills and capacities. Like the creation of programs that ensure participatory and transparency practices at the organizational level of the communities, this could include workshops or training in resource management skills for communities, focused on men and women in the rural areas.

- Establish guidelines for Agencies and NGO projects for the investment in CMWS projects in a way they ensure the protection the rights users and guarantee and acceptable level of service.

- Effective evaluation of water potability in rural areas, through the creation of health committees with local governments together with the Ministry of Health to teach and help implement sanitation practices among CMWS users to improve quality control of water.

Regarding water prices, the Salvadorian State has recognized its limited capacity in both physical infrastructure and personnel. A viable solution would thus be to revise the overall prices of waters for users of ANDA. The subsidies in place reduce the costs considerably to some users, but they do not target the populations who need them the most, so a revision of both prices for all kinds of users and available subsidies is in need. This would also help generate conscience on the importance of the adequate management of this vital resource. The goal is to move from *a system* of community management to a proper *model* of community management, with an acceptable level of service, able to maintain and develop through time with adequate support and management capacities.

References

ACUA (2016) *Diagnostico de Sistemas de Agua en La Libertad Situational* (Diagnostic of La Libertad Water Systems). El Salvador: Asociation for Water and Agriculture of El Salvador.

ADESCO Cristo Rey vs. Concejo Municipal de Huizúcar (Municipal Council of Huizúcar) (2014) Appeal ref.503-2012. Available at < http://static.ow.ly/docs/SSC%20Amp.%20513-2012%20(Final)_2OwW.pdf> Accesed October 28 2016.

ANDA (2000) Special Regulation for Environmental Quality Technical Norms (2000) National Administration of Aqueducts and Sewers. Available at http://www.anda.gob.sv/wp-content/uploads/2015/04/aguas-residuales.pdf. Accessed september 12 2016.

ANDA (2009) 'Acuerdo de Pliego Tarifario por los Servicios Prestados por ANDA' (Tariff Schedule Agreement for the Services Provided by ANDA). El Salvador, National Administration of Aqueducts and Sewers. Available at <file:///Users/melanyvaldez/Downloads/Decreto%20de%20Tarifas%20por%20los%20Servicios%20de%20Acueductos%20y%20Alcantarillados%20y%20Otros.%20ANDA.pdf>. Accessed September 12, 2016.

ANDA (2013) 'Memoria de Labores 2013 (Labors Memoire Report 2013)'. El Salvador, ANDA: National Administration of Aqueducts and Sewers El Salvador: (48-50). Available at <http://publica.gobiernoabierto.gob.sv/institutions/administracion-nacional-de-acueductos-y-alcantarillados/information_standards/memorias-de-labores> Accessed September 12, 2016.

ANDA (2014) 'MAPAS:*Monitoreo de los Avances del País en Agua Potable y Saneamiento'* (MAPAS: Monitoring of Advance in Water and Sanitation). El Salvador: National Administration of Aqueducts and Sewers: 40.

ANDA (2015) 'Boletín Estadístico 2015 Dirección General No.1'(Statistical Bulletin, General Direction 2015 No.1). El Salvador, ANDA: National Administration of Aqueducts and Sewers.

ANDA (2016) 'Resumen Ejecutivo del Diagnostico al Subsector de Agua Potable en El Salvador (Executive Summary of Diagnostics the Subsector of Potable Water in El Salvador)'. El Salvador, Direction of Attention of Rural Systems of the National Administration of Aqueducts and Sewers.

Artiga R. and H. Rosa (199) *La reforma del sector hídrico en El Salvador: Oportunidad para avanzar hacia la gestión integrada del agua No. 38* (The reform on the water sector in El Salvador: Opportunities to move to a integrated resource management). El Salvador: Salvadorian Program for Development and Investigation of Environment (PRISMA).:4 Available at <http://www.prisma.org.sv/uploads/media/bol38_la_reforma_del_sector_hidrico_en_ESV.pdf> Accessed november 7, 2016.

Aya-UNDP (2015) *Política de Organización y Fortalecimiento de la Gestión Comunitaria de los Servicios de Agua Potable y Saneamiento.* Costa Rica: Instituto Costarricense De Acueductos Y Alcantarillados. Available at

<https://www.aya.go.cr/ASADAS/documentacionAsadas/Pol%C3%ADtica%20de%20ASADAS.pdf> Accessed november 7, 2016.

Boelens, R. and G. Dávila (1998) *Searching for Equity : Conceptions of Justice and Equity in Peasant Irrigation.* Assen : Van Gorcum,.

Borgatti, S., Hesterly W. and J. Candance (1997) 'A General Theory of Network Governance', *Academy of Management Review* 22(4):911-945

Calderón, B. (2016) 'ANDA declara estado de emergencia por crisis de agua en El Salvador' (ANDA declares state of emergency for water crisis in El Salvador), *La Prensa Grafica* 13 April. Available at <http://www.laprensagrafica.com/2016/04/13/anda-declarara-hoy-estado-de-emergencia-por-crisis-de-agua> Accessed, october 24, 2016.

Cardona ed. ISF (2008) *'Abundancia en la Escases: Construyendo el derecho al agua en EL Salvador No 4. (Scarcity in Abundance: Constructing the right to water in El Salvador No 4).* 'Cataluña Spain: Ingenieros sin Fronteras "(Engineers without Frontiers).:22-28.

Cardona ed. ISF (2011) '*Del Bid a la Realidad: La Descentralización del Agua en El Salvador No* 4' (From BID to reality Water Decentralization in El Salvador). Cataluña Spain: *Engineers without Frontiers.*

Cleaver, F. and A. Toner (2006) 'The Evolution of Community Water Governance in Uchira, Tanzania: The Implications for Equality of Access, Sustainability and Effectiveness', *Natural Resources Forum* 30(3): 207-218.

Codigo Municipal (Municipal Code) 1986 (El Salvador), Available at <http://www.asamblea.gob.sv/eparlamento/indice-legislativo/buscador-de-documentos-legislativos/codigo-municipal> Accessed October 8 2016.

Codigo de Salud (Health Code) 1988 (El Salvador) Available at <http://www.asamblea.gob.sv/eparlamento/indice-legislativo/buscador-de-documentos-legislativos/codigo-de-saulud Health Code> Accessed November 1 2016.

Constitución de la Republica de El Salvador de 1983 (Constitution of the Republic of El Salvador of 1983) (1983) El Salvador.: Available at <http://confinder.richmond.edu/admin/docs/ElSalvador1983English.pdf> Accessed September 12 2016.

Dimas L. (2005) *Contaminación del Agua en El Salvador No. 237* (Contamination of Water in El Salvador No. 237), El Salvador: FUSADES. Available at http://fusades.org/sites/default/files/investigaciones/boletin_economico_y_social_no_237_contaminacion_del_agua_en_el_salvador.pdf> Accessed September 12 2016.

ECLAC (2007) *Istmo Centroamericano: Estadísticas Del Subsector Eléctrico* (Central America: Statistics Electric Subsector). Washington D.C: United Nations Economic Commission of Latin America: 25-36. Available at <http://www.cepal.org/publicaciones/xml/1/30101/L809.pdf> Accessed October 10 2016.

Filmer-Wilson, E. (2005) 'The Human Rights-Based Approach to Development: The Right to Water', *Netherlands Quarterly of Human Rights* 23(2): 213-242.

Flores R. (2015) 'Disconformidad entre la población por errores en facturación de agua potable' (Disconformity amongst population for mistaken rise in water bill), *La Prensa Grafica*, 30 October.
Available at <http://www.laprensagrafica.com/2015/10/30/disgusto-en-poblacion-por-aumento-a-cobro-de-agua> Accessed October 3, 2016.

Gramberger, M.R. and Organization for Economic Co-operation and Development. (2001) *Citizens as Partners: OECD Handbook on Information, Consultation and Public Participation in Policy-Making*. Paris : OECD,.

Granovetter, M.S. and R. Swedberg (1992) *The Sociology of Economic Life*. Boulder : Westview Press,.

Goetz, A.M. and R. Jenkins (2005) *Reinventing Accountability : Making Democracy Work for Human Development*. Houndmills, Basingstoke, Hampshire ;: Palgrave Macmillan,.

Harvey, P.A. and R.A. Reed (2007) 'Community-Managed Water Supplies in Africa: Sustainable Or Dispensable?'*, Community Development Journal* 42(3): 365-378.

Hallo de Wolf, A.G. (2012) *Reconciling Privatization with Human Rights*. Cambridge: Intersentia,.

Hyden, G. and M. Bratton (1992) *Governance and Politics in Africa*. Boulder, Col. [etc.] : Lynne Rienner,.

IRC (2003) '*Community Water Supply Management: History of a Concept'*. The Hague, Netherlands: International Reference Centre for Community Water Supply.

Kooiman, J. (1997) *Social-Political Governance and Management / Vol. II, Elaborations and Applications in Governance and Public Sector Management*. Rotterdam: Erasmus Universiteit Rotterdam, Faculteit Bedrijfskunde/Rotterdam School of Management,.

La Pagina (2013) 'Documentos rebaten postura del presidente de ANDA en caso FIHIDRO' (Documents don't coincide with ANDA President in FIHIDRO case). Available at <http://www.lapagina.com.sv/nacionales/88417/2013/10/18/Documentos-rebaten-postura-de-presidente-de-Anda-en-caso-FIHIDRO> Accessed August 28 2016.

Legislative Decree of the Nationalization of mantles of groundwater No. 194 1949 (El Salvador) Available at http://www.csj.gob.sv/BVirtual.nsf/3db6532d39e032fd06256b3e006d8a73/dc28e1616cecc1ce062571b5007355b2?OpenDocument Accessed November 1 2016

Ley de Medio Ambiente (Environmental Law)1998 (El Salvador) Available at < http://www.asamblea.gob.sv/eparlamento/indice-legislativo/buscador-de-documentos-legislativos/ley-del-medio-ambiente> Accessed October 8 2016.

Ley sobre Gestión Integrada de los Recursos Hídricos El Salvador (Act of Integrated Resource Management) *1981* (El Salvador) Available at<http://www.asamblea.gob.sv/eparlamento/indice-legislativo/buscador-de-documentos-legislativos/ley-sobre-gestion-integrada-de-los-recursos-hidricos> Accessed October 8 2016.

Ley de Creacion del Fondo Social para el Desarollo (FISDL) (Act of Creation of Social Development Investment Fund) (1990) El Salvador.: Available at

http://www.fisdl.gob.sv/institucion/marco-institucional/informes/normativa/278-ley-de-creacion-del-fondo-de-inversion-social-fis-fisdl Accessed September 12, 2016.

Ley de Medio Ambiente (Environmental Law) (1986) El Salvador.: Available at <http://www.asamblea.gob.sv/eparlamento/indice-legislativo/buscador-de-documentos-legislativos/ley-del-medio-ambiente> Accessed September 20 2016.

*Ley De La Comisión Ejecutiva Hidroeléctrica Del Rio Lempa (*Executive Decree of the Creation of the Executive Commission of Hydroelectric Energy of the Lempa River – CEL-) (1948) El Salvador.: Available at http://www.cel.gob.sv/wp-content/uploads/2015/01/ley-de-Creaci%C3%B3n-de-CEL.pdf Accessed September 20 2016.

Ley de la Administracion Nacional de Acueductos y Alcantarillados (Ley de la Law of the Administration of Aqueducts and Draining Systems)1961 (El Salvador) Available at < http://www.anda.gob.sv/wp-content/uploads/2015/03/ley-de-anda.pdf> Accessed 1 November 2016.

Louka, E. (2008) *Water Law & Policy : Governance without Frontiers*. Oxford ;: Oxford University Press,.

Mata Tobar vs. National Assembly of El Salvador (2014) Constitutional Motion with reference 37-2004. Available at <http://www.csj.gob.sv/ResSalaConst.nsf/3904032ec36cbce60625767f000945eb/a484a0d6e91fe1b806257861006546a4/$FILE/37-2004.pdf> Accessed October 28 2016.

Mehta, L., Z.M. Ntshona and University of Sussex. Sustainable Livelihoods Programme. (2004) *Dancing to Two Tunes? : Rights and Market-Based Approaches in South Africa's Water Domain*. Brighton, Sussex : Institute of Development Studies, University of Sussex,.

MINSAL (2015) 'Boletín Epidemiológico Ministerio de Salud El Salvador Semana 31' (Boletín Epidemiológico Ministerio de Salud El Salvador Semana 31. El Salvador: Ministry of Health: Department of Sanitation. Available at <http://www.paho.org/els/index.php?option=com_content&view=article&id=483:boletin-epidemiologico-ministerio-salud> Accessed November 1 2016

Mick Moore White G. anf Robinson M.(eds) (1997) '*Death without Taxes: Democracy, State Capacity and Aid Dependence in the Fourth World' Towards a Democratic Developmental State*' Oxford, University Press, Oxford.

National Assembly, Government of El Salvador (2009) (Decreto Ejecutivo 689 Vol. 385, No. 199) Executive Decree 689 Vol. 385, No. 199, El Salvador.: Avaible at <http://www.anda.gob.sv/wp-content/uploads/2015/03/Diario-Oficial-26-10-2009.pdf> Accessed September 12 2016.

National Assembly, Government of El Salvador (2009) *Decreto Ejecutivo 867 Art. 9* (Executive Decree 867 Art. 9.) El Salvador. Available at < http://www.diariooficial.gob.sv/diarios/do-2015/09-septiembre/10-09-2015.pdf> Accessed September 12 2016.

National Assembley (2000) '*Reglamento Especial Aguas Residuales'*(Wastewater Special Regulations)Available at <http://www.marn.gob.sv/descargas/reglamento-especial-aguas-residuales/> Accessed September 12 2016.

OHCHR, (2006) *Frequently Asked Questions on a Human Rights-Based Approach to Development and Cooperation*. Geneva: United Nations Office of the High Commissioner for Human Rights.

OHCHR (2007) '*Good Governance Practices for The Protection Of Human Rights'*. Geneva: United Nations Office of the UN High Commissioner for Human Rights. http://www.ohchr.org/Documents/Publications/GoodGovernance.pdf

Presidency of the Republic of El Salvador (1987) 'Reglamento Sobre La Calidad Del Agua, El Control De Vertidos Y Las Zonas De Proteccion' Official Diary No. 50 El Salvador. Accessed October 1 2016 at <http://usam.salud.gob.sv/archivos/pdf/leyes/Decreto%20No.50.pdf>

Presidency of the Republic of El Salvador (2006) Executive Decree, Nº 980, July 8. Accessed November 1 2016 at <https://issuu.com/anda.gob.sv/docs/tarifas08>

Rogers P. and A. Hall (2003) 'Effective Water Governance' Global Water Patrnership Technichal Committee, Novim Sweden: 7-8

Sano, H. and R. Clapp (2002) *Human Rights and Good Governance : Building Bridges*. The Hague [etc.] : Nijhoff,.

Sepúlveda, M.M. (2004) *Human Rights [2], Human Rights Reference Handbook*. (3rd, rev. ed. edn) Ciudad Colon : University for Peace,.

Schouten, T., P.B. Moriarty and IRC International Water and Sanitation Centre. (2003) *Community Water, Community Management : From System to Service in Rural Areas*. London : ITDG,.

Stoker, G. (1998) 'Governance as Theory: Five Propositions'*, International Social Science Journal* 50(155): 17-28.

National Assembly, Government of El Salvador (2015) Acuerdo de Reforma Constitucional Art. 65 No.3 D.O. No. 75, Vol. No. 395 (Constitutional Amendment Agreement No. 3, Official News Paper No.75, Vol. No. 395) El Salvador.: Available at <http://www.asamblea.gob.sv/sesion-plenaria/seguimiento/legislatura-2012-2015/2014/no.-122-del-30-oct-2014/dictamenes/comision-de-legislacion-y-puntos-constitucionales/comision-de-legislacion-y-puntos-constitucionales-dictamen-no.-76-favorable/archivo_pdf_utilsAL> Accessed September 12 2016.

Transparency International TI (2000**)** *Gender and Corruption: are women less corrupt?*. Berlin, Germany.: Transparency International. Available at <http://www.transparency.org/news/pressrelease/gender_and_corruption_are_women_less_corrupt. Accessed August 28 2016.

The Water Institute (2015) *Wash Performance Index 2015*. Chapel Hill, NC: Gillings School of Public Health, The University of North Carolina. Available at <http://waterinstitute.unc.edu/wash-performance-index/> Accessed October 10 2016.

United Nations (1988) '*Protocol of San Salvador: Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights*'.El Salvador: United Nations

United Nations (New York). Department of Public Information. (1952) *Universal Declaration of Human Rights : Final Authorized Text.* [New York] : Department of Public Information, United Nations,.

UN*CESCR* (2003) *General Comment 15: The Human Right to Water.* Geneva, Switzerland: United Nations Committee on Economic Social and Cultural Rights.

UNWGF (2012) *Human Rights-based approaches and managing water resource: Exploring potential for enhancing development outcomes Report No. 1 SIWI.* Stockholm, Sweden: United Nations Water Governance Facility.

UNESCAP (2010) *What is Good Governance?*.Bangkok, Thailand: United Nations Economic and Social Commission for Asia and the Pacific:. Available at <http://www.unescap.org/sites/default/files/good-governance.pdf> Accessed November 6, 2016.

UN (1986) *Declaration of the right to development.* Geneva, Switzerland.: United Nations.

UNPD (2015) *Water and Gender.* United Nations Program for Development. Geneva Switzerland. Available at <http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/water_and_gender.pdf> Accessed November 6, 2016.

UNICEF (2007) "*A Guide to General Comment 7: 'Implementing Child Rights in Early Childhood'* "United Nations Committee on the Rights of the Child United Nations Children's Fund and Bernard van Leer Foundation. Geneva:. Available at <http://www.unicef.org/earlychildhood/files/Guide_to_GC7.pdf> Accessed November 6, 2016.

Verdad Digital (2016) 'Municipalidad amenaza con expropiar Sistema de agua (Municipality threats to exproipate communal water systems)', february 9.
Accessed August 28th 2016
http://verdaddigital.com/index.php/social/7518-alcalde-puerto-la-libertad-amenaza-con-dejar-sin-agua-a-comunidades-en-cordillera-el-balsamo-r

Verdad Digital (2016) 'Piden aprobar Ley General de Agua' (Groups demand the approval of a General Water Law), Available at <http://www.verdaddigital.com/index.php/nacional/8271-8271>

March 16, 2016.

WHO (2004) *Water, Sanitation and Hygiene Links to Health*. Geneva, Switzerland: World Health Organization. Available at http<://www.who.int/water_sanitation_health/en/factsfigures04.pdf32> Accessed October 10 2016.

World Bank (2006) '*Provisión de Servicios de Infraestructura en El Salvador: Combatiendo la Pobreza, Reanudando el Crecimiento* (Infrastructure Service Provision in El Salvador: Fighting Poverty, Resuming Growth: Introduction to Strategic Report REDI-SR). El Salvador:Caribbean and Central American Studies Department:183-186. Available at <http://wwwwds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2007/11/30/000310607_20071130160655/Rendered/PDF/376890SV0SPANISH0Infrastructure.pdf >Accessed October 10 2016.

WHO (2010) *Sanitation Guidelines, 2010*.Geneva, Switzerland: World Health Organization. Available at<http://www.who.int/water_sanitation_health/WHS_WWD2010_guidelines_2010_6_en.pdf?ua=1> Accessed September 12 ,2016.

World Bank (2015) *World Development Indicators 2015*. Washington, D.C. : World Bank.

Appendix

Appendix A. List of Interviews

Sector	Name/Code	Position	Office/Organization	Date	Place
Central Government of El Salvador	Nicolas Coto (NC)	Director Rural Systems and Communities of ANDA	National Administration of Aqueducts and Sewers (ANDA)	July 22, 2016	San Salvador, El Salvador
Local Government	Leonardo Regalado (LR)	Administrator and Manager	Decentralized System of Local Government of San Julian	July 7 2016	San Julian, Sonsonate
Decentralized System of Local Government	Focal Group #1 User # 1 User # 2 User # 3 User # 4 User # 5	Community Residents and users of decentralized system Eugenia, Sara, Maria, Maria del Carmen y Concha. (All women)	Community Use of Decentralized System of San Julian	July, 15 2016	San Julian, Sonsonate
CMWS Desvio de Amayo	Focal Group #2 User # 1 User # 2 User # 3 User # 4	Community users and residents 3 women and 1 male Moises, Rosario, Karla, Edith.	CMWS	July, 29 2016	La Libertad, El Salvador
CMWS Cangrejera	Focal Group #3 User # 1 User # 2 User # 3 User # 4 User # 5 User # 6	Community users and residents All women	CMWS	July 29 2016	La Libertad, El Salvador
CMWS Water Board Desvio de Amayo	(IF, CMWS) Informants from Water Board	Rural Water Board Director Desvio de Amayo Lencho and Margarita	ADESCO and Rural Water Board	July 29, 2016	La Libertad, El Salvador
CMWS Agua Escondida Sonia	(IF 2, CMWS) Infomants from Water Committe	Water Committee Member Representative Agua Escondida Sonia	Water Committee	July 29, 2016	La Libertad, El Salvador
Civil Society	Julio Reyes (JR)	General Manager	ACUA Association for Water and Agriculture of El Salvador	July 12 2016	La Libertad, El Salvador
	Silvia Vides (SV)	Official Coordinator of Program: Strengthening Governance and Sustainability of Water and Sanitation Services in El Salvador, under an Integrated Water Management approach.	UNDP Social Development, El Salvador	July 18, 2016	La Libertad, El Salvador
	Leopoldo Dimas	Independent Academic Researcher		July 18th, 2016	La Libertad, El Salvador
Private Users	Elizabeth Ramirez (ER)	User of Private Provider		21 July, 2016	Tenerife, La Libertad
	Monica Sanchez (MS)	User of Private Provider		21 July, 2016	Antiguo Cuscatlan, La Libertad
ANDA	Adriana Portillo (AR)	User of ANDA in la Libertad		August 7, 2016	La Libertad, El Salvador
ANDA	Valeria Mayorga de Herrera	User of ANDA in la Libertad		August 7, 2016	La Libertad, El Salvador
Private Sector	(JM)	Sales Representative	Metropoli San Gabriel Salazar Romero Urban Developer Company	July 26, 2016	San Salvador, El Salvador
	Socorro Owen (SO)	Administrator of rural urbanization project	Water Tank Owner	August 8, 2016	San Salvador, El Salvador
	Silvia Colorado (SC)	(ILC) La Constancia Indsutries	Social Responsibility Coordinator	July 18, 2016	San Salvador, El Salvador

Appendix B. Community Water Systems of the Municipality of La Libertad subject of interviews

1. Communal Association of Water of Las Lagunetas
2. Potable Water Community System Camino al Mar, Brisas del Mar
3. Potable Water Community System Los Mangos 1
4. Communal Association of the Multiple System Desvio de Amayo (PLANSABAR)
5. Potable Water Community Rural System San Rafael del Cedro
6. Potable Water Community System Dinamarca
7. Potable Water Community System Hacienda San Diego
8. Potable Water Community System Los Angeles
9. Communal Association of Water ASCOBAPCO El Coplanar
10. Potable Water Community System La Nueva Presa 1
11. Communal Association of Water El Carmen, Santa Cruz
12. Potable Water Community System El Majahual
13. Potable Water Community System El Truinfo
14. Potable Water Community System Agua Escondida 1
15. Potable Water Community System La Presa 2

Appendix C. Legalization and authorizations needed for CMWS (Art. 118 Municipal Code)

- Legal Identity of the Community through: ADESCO: Rural Water Board or Water Committee with a president, secretary, treasurer, and 2 vocals.
- Formally register statutes water board or committee in the municipality.
- Bank Account in the name of the association.
- Property rights over the location where the water source, by any legal figure concession,
  usufruct in the of the Community.
- Actability Certificate from topographic study.
- Internal Regulation for the administration and management of the System registered in the municipality.