

Dynamic Effluents

A Political Economy Analysis of the Water Sector in Lebanon

Lucie Pluschke

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Supervisor: Maryam Nastar, LUCSUS, Lund University

Abstract

After years of neglect, Lebanon is facing the consequences of a struggling water sector. Existing water networks are deficient; water supply continuity is low; most wastewater is discharged into rivers or the Mediterranean Sea without adequate treatment; and inter-agency coordination remains weak and fragmented. In 2000, the government together with international donor agencies initiated a reform process to re-structure the water sector, merging local water authorities into four regional Water Establishments and giving more weight to the Ministry of Water and Energy. The water sector reforms pushed for good governance and the marketization of water services. The implementation process of the reforms, however, has been contested, modified and transformed by different political actors.

This thesis takes a closer look at the water sector reforms in Lebanon, mapping key actors, their roles and responsibilities, their interests and interrelationships, and their influence in the sector. It seeks to understand the dynamics that underpin the institutional and policy set-up in the sector. For this purpose, the thesis makes use of an analytical framework for political economy analysis, contextualizing the reforms in the broader political and economic context. What drives and what constrains changes in water governance in Lebanon?

A particular focus is put on the World Bank and other donor agencies, the Council for Development and Reconstruction (CDR) and the municipalities. They are key actors in the water sector and yet they have been largely disregarded by the reforms. The thesis explores how these actors interact and influence decision-making processes in the Lebanese sector. The Foucauldian notion of governmentality thereby serves as a method of inquiry, explaining how forms of political rationality inscribe themselves in practices, and by extension, in the political economy.

Keywords: water governance, political economy, water sector reforms, Lebanon, stakeholder analysis, power relations, wastewater, water resources management

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Abbreviations

CDR = Council for Development and Reconstruction

CoS = Council of the South

DAI = Development Alternatives Inc.

DFID = UK Department for International Development

EIA = Environmental Impact Assessment

GTZ/ GIZ= Gesellschaft für Technische/ Internationale Zusammenarbeit (Germany)

HDI = Human Development Index

IWRM = Integrated Water Resource Management

MoA = Ministry of Agriculture

MoEW = Ministry of Energy and Water

MoE = Ministry of Environment

MoF = Ministry of Finance

MoPH = Ministry of Public Health

NWSS = National Water Sector Strategy

UNDP = United Nations Development Programme

USAID = United States Agency for International Development

WA = Water Authority

WB = World Bank

WE = Water Establishment

WRSS= Water Resource Sector Strategy

WUA = Water User Association

WWTP = Wastewater Treatment Plant

1. Introduction

Strategically positioned between major Middle Eastern powers and the Mediterranean Sea, Lebanon has been at the centre of political and social developments in the region. As a mid-income country with a continuously improving Human Development Index (HDI) in the high human development category, Lebanon has the potential to manage its water resources in a way that ensures human and ecosystem health (UNDP 2009).

Yet, water supply is intermittent. As a result of deficient infrastructure and inefficient resource management, water losses are high (WB 2009). Water quality is adversely affected by saltwater intrusion and bacterial contamination of up to 70 percent of all natural water resources (UNDP 2010:60). Less than 8 percent of all wastewater is collected and treated, resulting in the contamination of fresh water resources and the Mediterranean Sea (GTZ 2009). Wastewater management in particular has played a subordinate role in the water sector in Lebanon. Most of the raw sewage is directly discharged into the rivers or the Mediterranean Sea (Geara et al. 2010). As a result, Lebanon's water sources are heavily polluted, putting public and ecosystem health at risk. There are several wastewater treatment plants (WWTP) in place or under construction, but their operation and maintenance has proven difficult. Meanwhile, wastewater has remained low on the priority list of the responsible government institutions.

In 2000, Lebanon began a reform process to remedy some of the shortcomings in the water sector. A new Water Law – Law 221 – was passed to re-configure existing governance arrangements by merging twenty-one water authorities (WA) into four regional water establishments (WE) under the auspices of the Ministry of Energy and Water (MoEW) (GTZ 2009). The reforms were an attempt to re-scale governance responsibilities and to include private market actors in the sector (Del Moral et al. 2003). As such, they reflected a more global debate on water governance that prioritized market-based management approaches.

The Lebanese water sector is characterized by a history of laissez-faire economics and lack of central planning (Denoeux & Springborg 1998). During the Ottoman rule, a highly centralized system of governance was put in place that tried to accommodate the multi-ethnic and multi-confessional make-up of Lebanon (Giotti 2004). This system remained intact throughout the French mandate, though the management of public utilities was handed over to private, mostly foreign investors. This marked the beginning of a general trend of de-regulation and lack of central planning in Lebanon.

During the Lebanese Civil War from 1975 to 1990, the management of public utilities became even more fragmented as the conflict permeated into decision-making processes (Féré 2007). Control over water resources was thereby seen as strategic vantage point in the struggle over territorial control (ibid.). As a consequence, privately drilled wells and unlicensed water vendors developed as alternative supply systems. Even today, twenty-two years after the war, people rely on these alternative sources for drinking water (WB 2009; USAID 2010).¹ While these informal arrangements might compensate for shortcomings on the supply-side of water management, the challenge of developing and implementing a holistic approach to water resource management remains.

It is within the context of these formal and informal governance arrangements that water sector reforms were to be implemented in 2000. The reform process was influenced by the global water governance debate, aiming to transform certain governance structures and processes (Swyngedouw 2005). Greater emphasis was placed on private economic actors and the market assumed a central role within the broader political-economic system (Harvey 2005). In Lebanon, Law 221 and the subsequent by-laws established the WE as financially and administratively autonomous entities, based on principles of cost recovery and a user-pays tariff system. The introduction of water and wastewater tariffs was to be legitimized by improved services and good customer relations. Rather than a withdrawal of the state, the reforms initiated a process of fundamental transformation of the relations between the state, the market and civil society.

Untouched by the reforms, the Lebanese state continues to depend on foreign funding as 70 percent of all projects in the water sector are externally financed (WB 2010).² These foreign donors mostly work together with the Council of Development and Reconstruction (CDR), a type of super-ministry that is only accountable to the Council of Ministry and that maintains an investment budget outside that of the government (Hariri 2011). Given their influence on the allocation of funds, planning and investment strategies in Lebanon are strongly influenced by the interests of foreign donors – from East and West – as well as by those of a single governmental agency, the CDR. Largely unchallenged by the reforms, the governance structures and processes of Lebanon’s wastewater sector remain intricately linked to economic and political concentrations of power, and to economic and political interests, strategies and decisions, as well as to the means by which subjects are governed (Moncrieffe & Luttrell 2005).

¹ Figures on households purchasing drinking water from alternative sources vary from a national average of 79% according to a USAID/DAI study to 47% according to the World Bank. Both studies show strong regional variations.

² World Bank statistics from 1992 to 2008 as published in the 2010 World Bank Public Expenditure Review.

1.1. Thesis Rationale

This thesis takes a closer look at the water sector reforms in Lebanon, mapping key actors, their roles and responsibilities, their interests and interrelationships, and their influence in the sector. It seeks to understand the dynamics that underpin the institutional and policy set-up. For this purpose, the thesis makes use of an analytical framework for political economy analysis, contextualizing the reforms in the broader political and economic context (Moncrieffe & Luttrell 2005). What drives and what constrains changes in water governance in Lebanon?

Drawing on the notion of governmentality, the thesis first explores how the ideas and principles of global water governance, as advocated by the World Bank and other donors, manifested themselves in the reform process. Although a perceptible shift towards more market-centric approaches and good governance is evident in theory, the reality looks slightly different. The political economy analysis then provides insights into the dynamics that actually make and shape the water sector in Lebanon (O'Meally 2009). It helps to explain a gradual transformation of the sector towards a more decentralized and market-centric “political rationality” (Lemke 2001:203). A particular focus is placed on the wastewater sub-sector during the analysis.

Throughout the thesis, the water sector is considered to be an integral part of a broader, complex and dynamic socio-environmental system characterized by social, political, economic and cultural relations on the one hand, and the hydrological cycle on the other (Swyngedouw 2009). Any changes in the water sector should thus be considered within the broader context of the socio-environmental system in which they exist (Ibid.).

1.2. Research Questions

The thesis explores the following research questions in an attempt to understand the dynamics of change of the water sector in Lebanon.

- *Ideas*: In what ways have the ideas and principles of global water governance influenced the water sector reforms in Lebanon?
- *Actors and agendas*: Who are key actors, their roles and responsibilities, their interests and interrelationships, and their influence in the water sector?
- *Structures and processes*: How have existing governance structures and processes drive, or constrain, changes in the Lebanese water sector?

1.3. Methodological Approach

The thesis has been designed as a qualitative, explanatory study based on academic articles and books, policy documents, reports and expert interviews (Table 1). These were evaluated and analysed during a four-month long field study, using a DFID-commissioned framework for political economy analysis (see Figure 1; Moncrieffe & Luttrell 2005).

1.4. Methods

Literature and Document Review

A review of academic literature and policy documents was conducted as an initial scoping exercise to understand the problems of the wastewater sector in Lebanon (Bryman 2008). A more in-depth review helped to contextualize these problems in a broader historical-institutional context. It also provided some insights into the governance arrangements in Lebanon, and their impact on the wastewater sector.

The documents were selected on the basis of their relevance to the research. Drawing on different disciplines, the literature review included a range of articles from political science to hydrology. While it was easy to get access to the relevant literature, most of the policy papers and reports were not accessible online. The Ministry of Energy and Water (MoEW) provided several of the reports upon request but did not to share specific maps and statistics. The review was useful to gain a broader perspective on wastewater management (Flick 2009).

Interviews

The expert interviews provided unique insights into the dynamics between different actors, as well as their interest, ideas and perceptions of each other (Flick 2009). As such, the interviews served as basis for a more detailed analysis of the key actors. The interviewees also shared some of their practical experience from the field, substantiating my analysis of the political economy of the wastewater sector.

The interviews were subjective in that the experts shared their particular views, which I then interpreted and assigned meaning to. Acknowledging interpretivism as my epistemological standpoint, I tried to “grasp the subjective meaning” of the interviews (Bryman 2008:694). I recognize that I may have influenced the views and behaviour of the interviewees, and they may have influenced mine. At the same time, the interviewing process allowed me to understand the world from the perspective of the interviewee (Flick 2009).

Table 1: Overview of Methods

	Literature and Document Review	Expert Interviews
Purpose	<ul style="list-style-type: none"> To identify key actors, their roles & responsibilities, interests & ideas, interrelationships & influence To understand how power and resources are distributed and contested in different contexts To uncover underlying economic and political interests, strategies and decisions, as well as the means by which subjects are governed 	
Data Sources	Academic Journals and Publications, Books, Policy Documents and Strategies, Reports, Census Data	Semi-structured expert interviews
Data Type	Theoretical foundations; statistics, maps, detailed list of actors/wastewater projects	Narratives, quotes
Data Quantity and Quality	A comprehensive review of relevant documents. Peer-reviewed and authoritative publications only to ensure quality	12 expert interviews
Pertinence	<i>Compilation of accumulated knowledge</i> that pertains to the different components of the research project. Demonstrates what is known and what needs to be explored further (Silverman, 2010: 321); unobtrusive	<i>Collection of expert opinions & practical knowledge</i> for <ul style="list-style-type: none"> Exploratory, thematic study of water sector Data generation Development of a theoretical understanding of governance structures and processes (Flick 2009:166)
Benefits	By acknowledging what is already known, a <i>generic understanding of the system</i> can be ascertained. Also, research focus can be on new or unknown components of the system, reducing repetition and saving time (Silverman, 2010)	<i>Pragmatically oriented, qualitative research.</i> Problem focused, systematized and reflexively accessible
Limitations	Documents and literature review help establish a general understanding, but <i>do little to facilitate creation of new knowledge or innovative ideas.</i> Prescriptive solutions are difficult when dealing with literature review alone.	Interviews are by nature <i>subjective</i> and difficult to measure quantitatively. Difficulty in identifying and contacting interviewees, time pressure during interview, ignorance or lack of expertise, unwillingness to respond to questions, 'lecture' on topic rather than interview ("rhetoric interview"), problem of confidentiality

1.5. Political Economy Analysis Framework by DFID

I used the DFID-commissioned framework to analyse the academic literature, policy documents and interviews from a political economy perspective (Moncrieffe & Luttrell 2005). The framework helped to examine the interrelationships and interests of different actors in the water sector in a structured manner. The political economy analysis shed light on some of the structures and processes influencing policy outcomes and sector development. There are three parts to this analysis (Figure 1).

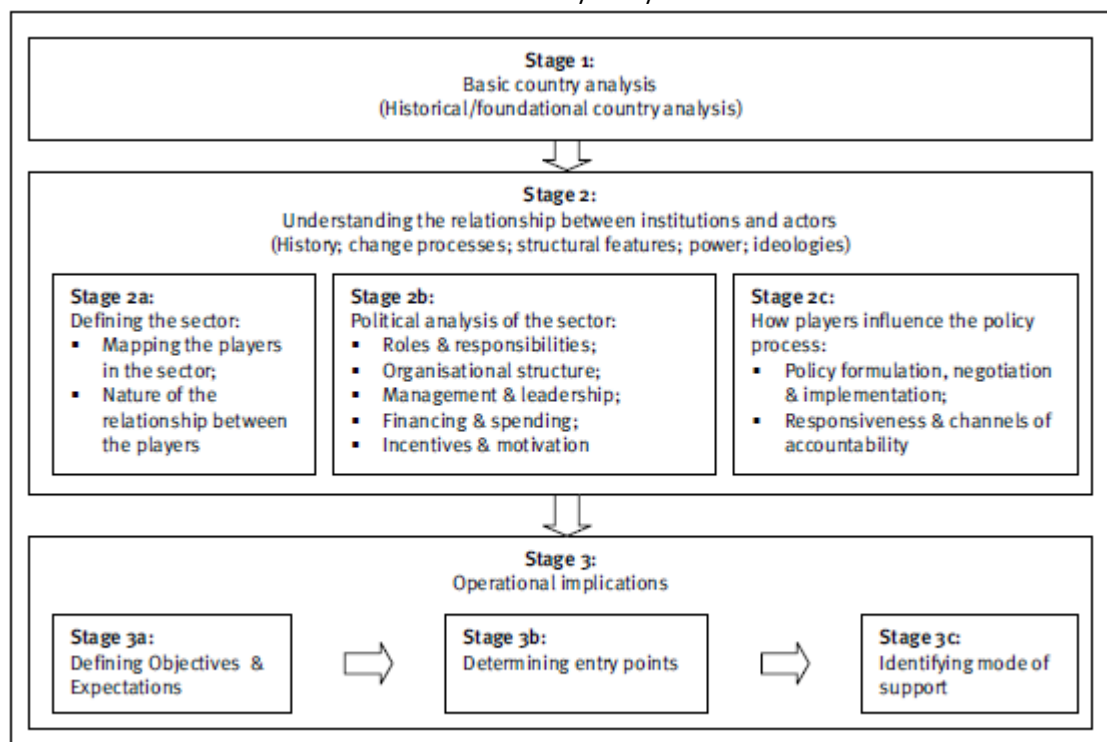
First, a *basic country analysis* helped to establish the broader historical-institutional context in which the water sector is situated. This was done through an initial review of academic literature, but has not been included in the thesis. This is described in Chapter 2.

The second part of the analysis looked at how institutions and actors *interact* and how their interactions influence policy formulation and implementation. I identified the key actors and the nature of their relationships (see Chapters 5.1.). Then, I mapped their interrelationships and influence on each other (see Chapter 5.2). Finally, I used the analytical matrix for a political economy analysis as

proposed by DFID (see Table 4; Moncrieffe & Luttrell 2005). The matrix offered a way to examine the sector in terms of historical and structural legacies, power relations and distribution, ideas, values and perceptions, interests and incentives, as well as leadership and management (Edelmann 2009).

The third part seeks to define the operational implications of the analysis for future policies by identifying entry points and modes of support (Edelmann 2009). I did not make any recommendations about how development *should* be done, but I mentioned several points for further consideration.

Figure 1: Framework for a Sector-Based Political Economy Analysis



Source: Moncrieffe & Luttrell (2005)

1.3. Limitations

There are several limitations in the research design, as well as the analytical framework.

- The expert interviews were sometimes difficult to arrange, and required that the interview partner had a good grasp of the wastewater sector (Kvale 1996). The range of interviewees was limited to a few government institutions and donor agencies that were willing to participate. In light of this, the interviews have been used as a supplementary source of information.
- By focusing on three actors in particular, I only provided a partial analysis of the political economy. This is not to say that other aspects are not important, but the scope of this paper does not suffice for a truly comprehensive analysis.

- Moreover, the analytical framework does not provide any theoretical explanations for the relevance of the different aspects of the matrix. Although it is useful to map out the actors and their interrelationships, it does not explain how and why they are interrelated. It also does not give any suggestions on how to define the operational implications and determine entry points. I have therefore used the concept of neo-liberal governmentality to make sense of the outcomes of the political economy analysis.
- Finally, the analysis reflects the current state of the water sector in Lebanon. As the situation might be completely change in the next few years (especially after the implementation of the NWSS), the study has limited temporal relevance.

2. Water in Lebanon

2.1. Key development challenges in the water sector

Compared to its neighbours, Lebanon is relatively water-rich. Generally, the country can be divided into two hydrological zones: the Mediterranean coastline and the mountainous inland (Gears *et al.* 2010). Most of the Lebanon's water resources come from precipitation and snowmelt. Water availability is highly seasonal as about 90% of all precipitation occurs in the winter months, while the summers are usually very hot and dry (Gears *et al.* 2010). This results in yearly water shortages as water demand is the highest during the summer months when supply is at its lowest. There are also regional differences in precipitation patterns. The Bekaa Valley, a region known for its agriculture, is the warmest and driest area in Lebanon with an annual rainfall of 250 to 750mm (ACS 2007).

Lebanon has thirteen perennial rivers, the biggest of which is the Litani River (MOE-UNDP 2011). Groundwater has historically played the role of buffer to cope with the aforementioned seasonal water shortages. Reports of overexploitation and dropping water tables have become more and more frequent. Nevertheless, there have not been any systematic studies on groundwater availability since the 1970s, but it seems very likely that the natural recharge rate has been surpassed due to an excessive over-extraction of groundwater in the coastal areas (El Fadel & Sadek 2000).³

Despite their relative abundance, water resources in Lebanon are under increasing pressure from rapid population growth, urbanization, economic development and climate change. Current water demand is variably estimated in the range of 1,472 to 1,539 million m³ per year, whereby the

³ There are officially 22 500 unlicensed wells (compared to 20 324 licensed wells) that are largely responsible for the over-extraction.

agricultural sector uses about 60% of total water available (UNDP 2010; FAO 2008). As climate change exacerbates inter- and intra-annual variation, and as a growing urban population demands more household water, pressure on Lebanon's resources will increase in the future. Nevertheless, there is a chronic lack of data in Lebanon, so that even basic statistics on population size or irrigation consumption are mere estimates. While there are only estimates about the size of Lebanon's population, ranging from 3.8 million to 6 million people, it is clear that it is growing with half of the population being under the age of 29 (UNDP 2010).⁴ This means that there will not only be an increase in demand for fresh water, but also for new housing units that all require access to water and wastewater infrastructure (Ibid.).

Growing urbanization is expected to increase pollution through untreated wastewater and solid waste (Geara *et al.* 2010). This is particularly true for the highly urbanized coastal area where 59% of the population lives (Ibid.). In this area, seawater intrusion and pollution of aquifers has become a real problem, too (Saadeh 2008). The situation is further exacerbated by economic growth that drives the demand for water, and consequently, for wastewater management. Finally, climate change is expected to affect precipitation patterns, resulting in changes in water availability and quality, groundwater recharge and surface run-off (MOE-UNDP 2011).

The largest share of freshwater (two-thirds) is withdrawn for agricultural purposes. Agriculture is a small and declining share of the economy but it is crucial for rural livelihoods, providing employment to more than 25 percent of the population (FAO Aquastat 2014). It therefore is of strategic importance to balance agricultural water demands with those of other sectors, and to ensure the sustainable and efficient use of water resources.

Currently, priority is given to access to drinking water. Supply networks still only cover between 62% and 87% depending on the region (CDR 2005; ACS 2007). Around 50% of these networks require maintenance, resulting in intermittent water supply and additional expenses, especially for lower socio-economic groups (MOEW 2010). As highlighted by the National Poverty Targeting Program (2013), low-income households spend eight percent of total household expenditures on ensuring access to water supply at home.

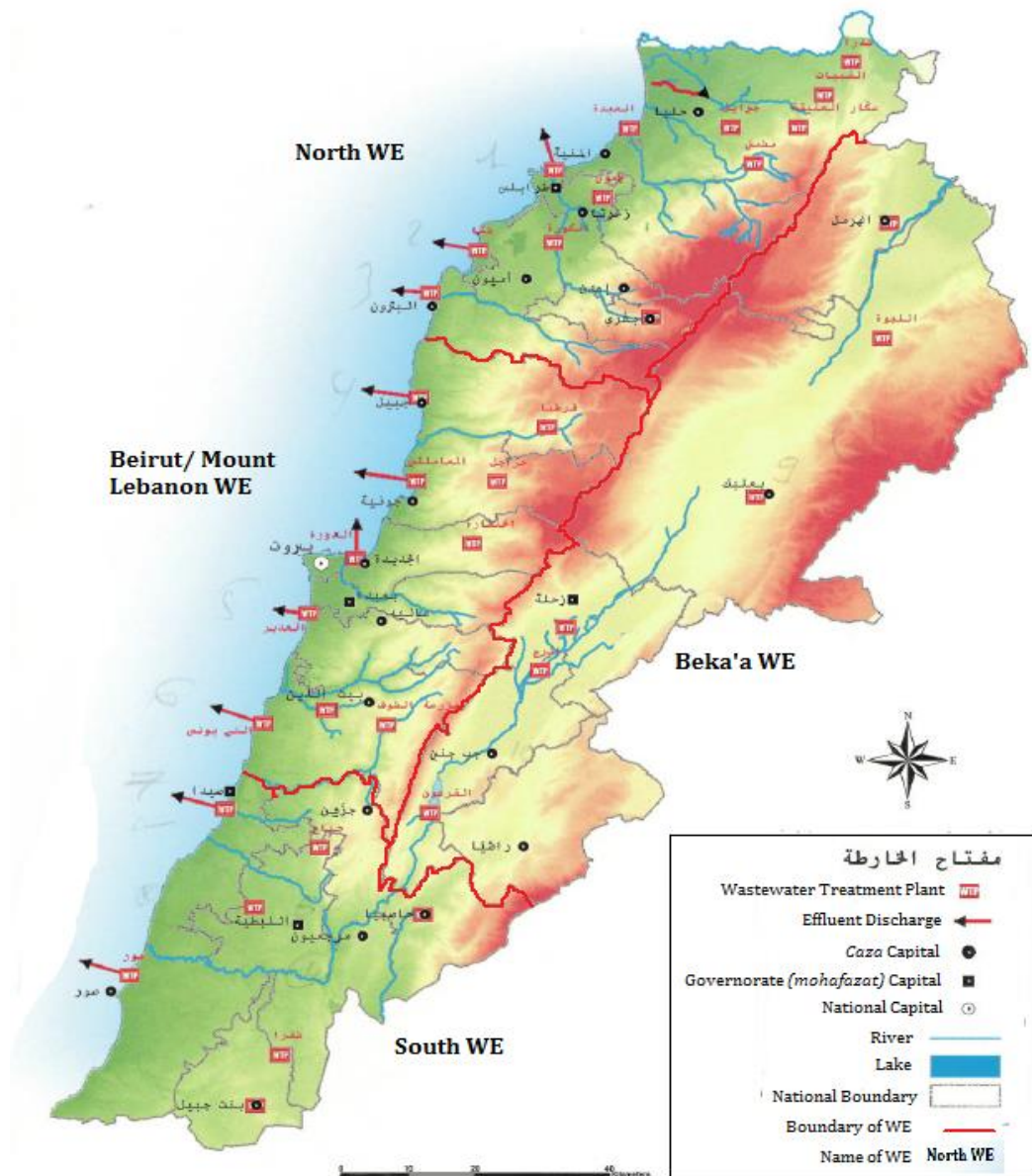
Wastewater network connection rates are even lower at an average of 52% in 2004, ranging from 89.3% in Greater Beirut and 33.9% in Mount Lebanon (WB 2009). An expansion and improvement of

⁴ Population growth in Lebanon is estimated between 1% to 2.5% depending on the source (UNDP 2010).

current wastewater networks carries high investment and operating costs. Currently, there are two pre-treatment plants for wastewater and thirty-one WWTP for wastewater; another thirty are planned or under construction (Geara *et al.* 2010).

Because of the civil war, wastewater management has been sporadic with little coordination at national level (El Fadel & Massoud 2001). Traditionally, Lebanese municipalities have been responsible for urban drainage of both storm water and wastewater. Many urban drainage systems are designed to discharge into the closest natural channel or watercourse with little attempt to identify the most appropriate location in terms of costs and environmental impact.

Map 1: Wastewater infrastructure in Lebanon (Source: MoEW and author)



2.2. The wastewater sub-sector

Because there is no functional wastewater management system in Lebanon, most of the raw sewage is directly discharged into the Mediterranean Sea, rivers, bottomless septic tanks, or used for irrigation purposes. As a result, Lebanon's coastal, surface and underground water sources are heavily polluted, endangering public and ecosystem health (Gears *et al.* 2010).⁵ All water resources are affected by bacteriological contamination, yet the situation is particularly dramatic in agricultural areas where run-off from fertilizers and pesticides has infiltrated ground water resources (UNDP 2010). As a main source, the quality of groundwater pollution is directly linked to drinking water quality (Saad *et al.* 2003). Similarly, industrial pollution from untreated wastewater has also contributed to a deterioration of water quality (UNDP 2010).

Wastewater management is needed to protect public health, as well as water resources and ecosystems. The challenge for Lebanon is to develop and implement low-cost, but effective and sustainable measures to manage wastewater (Moe & Rheingans 2006). Together with donor agencies, the Lebanese government has now started to, take steps to rehabilitate wastewater infrastructure, construct wastewater treatment plants and set-up decentralized cluster systems in rural areas (GTZ 2009).

In light of increasing water demands, there has been a shift from a "linear" approach to wastewater management systems towards integrated, closed-loop systems (Daigger 2008). Ultimately, the objective is to reuse treated wastewater, and thereby reduce the net removal of water from the hydrological cycle (Moe & Rheingans 2006; MEDAWARE *et al.*, 2004).). There is much potential for innovative and proactive approaches to wastewater management, helping to reduce pressure on freshwater resources by maximizing reuse opportunities (Massoud *et al.* 2009; Bogner *et al.* 2007; Daigger 2008). Nevertheless, it is difficult to implement these in a country where Plan B - of discharging wastewater into rivers and the sea - is still the preferred option.

2.3. Current wastewater management system

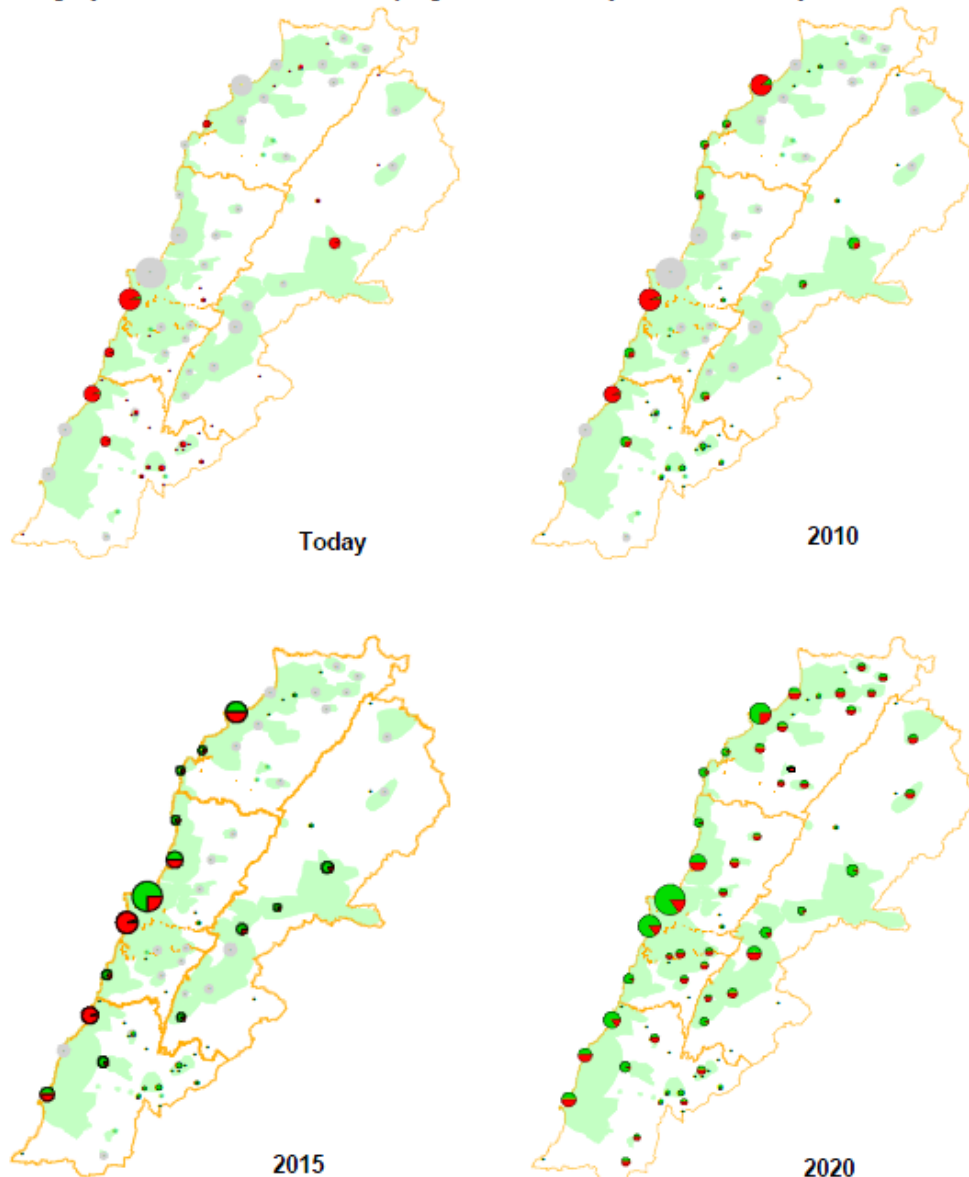
The management of these water resources has been largely decentralised, owing to the laissez-faire politics of the central government and later, the Lebanese Civil War. Wastewater collection, treatment and disposal has traditionally been the responsibility of local authorities. Existing sewer networks in Lebanon are operated and maintained by the municipalities.

⁵ Multiple studies have shown high levels of bacteria (esp. coliform and E.Coli) and toxins in rivers and along to coastline. The Ministry of Health estimates about 260 children (10% of all child deaths) die every year from diarrheal diseases linked to inadequate drinking water and sanitation (Gears *et al.* 2010).

Under the Lebanese legal framework, however, the Ministry of Energy and Water (MoEW) is responsible for preparing and updating a national wastewater master plan. The first one was prepared in 1982 by Camp Dresser Mc-Kee and Khatib & Alami Consulting Engineers, and updated in 1994-5 as “Lebanon’s staged WW program” (GTZ 2010). Nevertheless, these plans have two main deficiencies: a) population estimates are uncertain as only official, very low figures were used for reference due to political reasons, and b) the plans were devised when South Lebanon was still under occupation by Israel (Ibid.). The plans were never fully adopted.

Map 2: Effective Treatment Capacity for Wastewater in Lebanon until 2020 (Source: GTZ 2009)

Today the networks release large volumes of raw wastewater in the environment. Over the next decade the effective treatment capacity should develop as shown below. Shaded areas represent areas with existing or planned wastewater drainage networks. The size of the circle represents the treatment capacity. The green colouring represents the treatment efficiency, e.g. the reduction of pollution final to disposal.



A new wastewater master plan is now being developed as part of the reform process of the water sector, which also been identified as a key strategic objective in the NWSS (MoEW 2012). The NWSS has set a very ambitious target of increasing the rate of wastewater collection and treatment to 95% by 2020, although it is unclear how this will be achieved (see Map 2; GTZ 2009).

So far, four financially and administratively regional public utilities, or Water Establishments (WE), have been created to manage water supply and wastewater (GTZ 2009). These are South Lebanon WE, North Lebanon WE, Beirut and Mount Lebanon WE, and Beka'a WE (see Map 1). The Southern WE is the only WE that has prepared a regional wastewater master plan (USAID).

Some municipalities have their own small treatment facilities but most of these are out of order. Two large pre-treatment plants for WW exist (Al Ghadir and Saida) and over thirty additional Wastewater Treatment Plants (WWTPs) either exist or are under construction (see projects list in Annex 5).

Wastewater projects in Lebanon are usually funded by external development agencies and implemented through the Council for Reconstruction and Development (CDR). The WEs are not involved during the planning and construction period. No wastewater tariffs are in place and it is unclear how wastewater operating costs will be financed after the systems are handed over to the WEs.

3. Theoretical Framework

Governance describes the structures and processes by which policies are formulated and implemented; by which management strategies and practices are determined; and by which sustainability objectives are defined. In the context of this thesis, understanding governance is an analytical exercise of outlining approaches to resource management and of identifying key actors and interrelationships (Scoones *et al.* 2007).

Governance systems are complex and constantly changing (Leach *et al.* 2007). While this thesis tries to capture some this complexity and change, it remains a snapshot in time. Focusing on the Lebanese water sector, it covers historical developments and future plans as reported by April 2012. Nonetheless, these space and time specific findings hold great relevance to a broader context when linked and analysed in a theoretical framework.

This section will therefore theorize about governance and sustainability, highlighting some of the current trends of global water governance from a political economy perspective. Referring to the Dublin Principles, it will explain the link between these trends and the neo-liberal water governance regime. By noticing a transformation of the role of the state, the market and civil society, it will explore how these emerging forms of governance impact wastewater management strategies and practices.

3.1. Governance and Sustainability

In its broadest sense, *governance* can be defined as the structures, processes and actors that shape and are shaped by the interactions of people, technology and environment (Leach *et al.* 2007). Governance influences how scientific knowledge and technology is used and produced; how social and environmental problems are defined and addressed; and how the impacts of socio-environmental changes affect the world we live in (Elzen *et al.* 2005). At the same time, governance processes are highly contested as different people and groups value and frame what is to be sustained, for whom and how, over what time and spatial scale in different, and often contradictory, ways. As Jerneck *et al.* (2011) argue, understanding these processes helps to understand socio-environmental systems of governance, and their implications for sustainability.

Sustainability science can help explain the dynamic and complex interlinkages between humans and nature (Clark & Dickson 2003). It can provide insights into the impact of governance structures and processes on these interlinkages, and it can offer guidance on how to address complex sustainability challenges (Lucht 2002). In light of increasing populations and development pressures, an analysis of governance can shed light on what kind of institutions we need to govern our resources more sustainably (Dietz *et al.* 2003).

Thus, governance opens up a broader analytical agenda that looks at the role of state, market and civil society actors and their interrelationships. In water governance, there has been a general shift away from public service delivery (which emphasizes the role of the state) to market-centric models and recently, multi-stakeholder models, which directly involve civil society actors (Miranda 2011). Swyngedouw (2005) points out that these different models present ideal versions of interactions of state, market and civil society actors, obscuring the inherently political nature of water governance. Thus, one of the challenges within sustainability science is to develop an analytical framework that links the political dimension of water governance to broader developments in the socio-environmental system.

There are a number of frameworks put forth to analyze the sustainability of governance systems, such as Elinor Ostrom's Institutional Analysis and Development Framework or transition theory (Ostrom 2009; Rotmans *et al.* 2001; Loorbach 2010). In general, these frameworks do not adequately address the political dimension of governance that is characterized by the interactions of different actors within a specific political-economic context (Meadowcroft 2009). This dimension, however, is captured by an analysis of the political economy.

3.2. Political Economy and Governmentality

An analysis of the political economy of water governance can provide useful insights into the interactions between political and economic processes (Edelmann 2009). Examining how power and resources are distributed and contested in different contexts, it can uncover underlying economic and political interests, strategies and decisions, as well as the means by which subjects are governed (O'Meally 2009).

While there are numerous interpretations of what constitutes a political economy, this thesis draws on Foucault (1991) to explain the political and economic processes of governance. Unlike materialist perspectives that centre their argument on the relations of the economy and the state, Foucault does not separate between the two spheres (Lemke 2002). He does not differentiate between the economy and politics, between the state and society, because fundamentally they are all shaped by power relations (Foucault 1991). For Foucault, power is omnipresent (Foucault 1984). As such, the political economy is merely an expression of the power relations that constitute it (Barnett 2010; Callinicos 2007).⁶

In this thesis, the Foucauldian notion of neo-liberal governmentality will serve as a method of inquiry into the political economy of water governance. Foucault has used the term *governmentality* to describe, "How forms of rationality inscribe themselves in practices or systems of practices, and what role they play within them" (Foucault 1991: 79). As such, it can explain the transformation of governance arrangements under neo-liberal rule. Neo-liberalism is thereby understood as a market-centric form of political-economic governance (Larner 2000).

Specifically, neo-liberal governmentality refers to the "techniques of governing", that underpin governance structures and processes (Swyngedouw 2005:1997). It explains the transformation of governance arrangements "excavating a changing role of the state in, and the reshaping of governing

⁶ Foucault used the term *dispositif* of power-knowledge to describe the underlying conceptual structure of power relations (Callinicos 2007).

under, neo-liberalism” (Ibid.: 1997). Neo-liberal governmentality problematizes the state by re-defining the competences of the state in view of the market and civil society actors (Lemke 2002). This does not indicate a retreat of the state, but a fundamental transformation of power relations that is predicated on the expansion of the economic sphere (Ibid.). Instilling a view of the world that values the economic over the social, neo-liberalism is perhaps best described as a political project that that diffuses and consolidates a market-centric model of governance (Lemke 2002; Swyngedouw 2005; Rose & Miller 2010).

3.3. Global Water Governance

What is Global Water Governance?

Global water governance refers to the governance system that emerged during the 1992 International Conference on Water and the Environment in Dublin, and was re-affirmed at the Earth Summit in Rio de Janeiro (Dobner 2010). At the conference in Dublin, a set of guiding principles was prepared to address issues of water scarcity (WB WRSS 2004). These principles- the Dublin Principles – have come to represent the neo-liberal water governance regime.

So what are these principles? First is the ecological principle that declares water as a finite resource that needs to be managed holistically and sustainably. The second principle focuses on the importance of participatory approaches, while the third principle highlights the central role of women in water development and management. Finally, the fourth principle establishes water as an economic good (WMO 1992).

Petra Dobner (2010) argues that the Dublin Principles marked the beginning of a paradigm shift in global water governance, after which an economic valuation of water gradually became the norm. This is not to say that the Dublin Principles were undisputed. In fact, the 1992 Rio Conference explicitly discussed the social implications of water management. However, rather than contributing to a more balanced interpretation of the Dublin Principles, the ensuing debate has been ideologically charged, according to Dobner. Two main camps emerged; one speaking out in favour of the marketization of water resources and services and the other one opposing this. Politically, the latter has manifested itself in human-rights approaches to water, and in social movements and local struggles against privatization (Bakker 2003; Dobner 2010).

Meanwhile, the fourth principle of the Dublin Statement has come to dominate much of the water discourse and policy, often described as the global “consensus” on water governance. As the Food and Agriculture Organisation (FAO) reflects,

An international consensus in policy regarding water management has emerged, based on growing concerns about efficiency in the use of government and donor resources, disappointing outcomes from past efforts, and greater awareness of environmental issues... The policy consensus has also been shaped by a reorientation of the development cooperation agenda that has resulted, among other issues, in greater focus on institutional reform, participation, and involvement of civil society and the private sector (Turner *et al.* 2004).

This global “consensus” is represented by a strategic policy network of different international organizations like the World Bank, NGOs, transnational corporations, water experts and analysts, who have set the agenda for global water governance (Dobner 2010).^{7,8} Its agenda is consistent with neo-liberal ideas of water governance as it advocates a restructuring of the water sector in favour of private economic and civil society actors (Mollinga 2008a).

Crucially, the Dublin Principles recognize the economic value of water both as a resource and as a service (WMO 1992). The market is seen as the most efficient means for valuing water (Tyler 2007). Accordingly, the market price of water should reflect the full financial and resource costs, and should be paid by the users of water resources and services (WB 2010). The emphasis of market mechanisms in water management corresponds to a general trend of liberalization and marketization (Dobner 2010; Jerneck *et al.* 2011). It encourages a restructuring of the water sector in line with “an idealized image of private sector”, argues Bakker (2003: 361). It implies an involvement of private economic actors and in the water sector; a commercialization of public utilities and an externalisation of state functions through deregulation and decentralization (Bakker 2003; Swyngedouw 2005).

At the same time, the Dublin Principles emphasize stakeholder participation as a means to legitimize and democratize governance processes. Potentially, participatory approaches to governance can provide fresh impetus for innovation and change (Saravanan *et al.* 2009). However, this potential is undermined by what Erik Swyngedouw (2005: 1999) calls “the democratic deficit of governance-beyond-the state”. He points out the contradictory nature of such governance arrangements that can make it more difficult for civil society actors to engage in governing processes. The influence of so-called stakeholders depends on the extent to which they are involved in decision-making processes (Swyngedouw 2006). The structure of representation is also important as it relates to the form of representation (e.g. from consultation to direct voting rights) and the way in which stakeholders can engage (e.g. as individuals or groups, ad hoc or through regularized processes) (Swyngedouw 2005).

⁷ Petra Dobner provides an in-depth analysis of these global policy networks in her book *Wasserpolitik*.

⁸ The 2004 World Bank Water Resources Sector Strategy explicitly refers to the Dublin Principles.

These are often non-transparent and unaccountable because of a lack of clear decision-making mechanisms. Moreover, participation is invariably mediated by power with some stakeholders being more influential than others (Swyngedouw 2006). He concludes that governance-beyond-the state is “decidedly Janus-faced” in that it continues to exclude actors of a particular kind from participating (2005: 2002). This resonates with Saravanan, who claims that the innovative potential of participatory approaches to water management is obscured by standardized, linear principles and policy reform (Saravanan et al. 2009: 83).

Notably, there has been a transformation of governance arrangements in recent history, assigning a greater role to private economic actors on one hand, and civil society on the other (Jessop 1998; Hajer 2003; Swyngedouw 2005). These different actors, engaging at different levels and across multiples scales, form horizontal networks of governance that mark a break from traditional, hierarchical and bureaucratic state forms (Leach 2007). Seemingly, these networked forms of governance allow for more inclusive and participatory approaches to governance. Nevertheless, the transformation of governance has not necessarily empowered civil society. Rather it has subjected it to neo-liberal market rule, reducing the role of civil society to that of commodity consumption and replacing citizens’ rights to water with consumer rights (Castro 2008).

Implementing the Dublin Principles

The Dublin Principles have been interpreted in a way that reflects neo-liberal ideas of institutional reform of the water sector. Explicitly advocating market-based approaches to water management, neo-liberalism seems to encroach and set the rules of the game (Clarke 2008). The Principles have been operationalized through Integrated Water Resources Management (IWRM).

Widely acclaimed by many international organizations, IWRM has been purposefully designed as a management tool for water resources (Hartje 2008). In line with the first of the Dublin principles, it presents an integrated approach to water management that links social and economic development with environmental protection (GWP 2012). For this reason, three basic pillars for implementing IWRM have been developed. These are:

- **Management instruments**, such as environmental impact assessments, market-based regulatory mechanisms or water-efficient technologies;
- **Enabling environment**, e.g. through good governance, cost recovery policies and polluter-pays principles;
- **Institutional framework**, e.g., of public-private partnerships and river basin management (Hassing & Clausen 2009).

All three of these pillars have a strong focus on market-centric approaches to water management, indicating that the fourth principle on the economic valuation of water has usurped much of the management discourse. As an operational management tool, IWRM shapes water management practices and strategies, and effectively helps to implement a market-centric model of water governance.

So far, this section has been largely abstract and universal in nature. This thesis will now look at how the Dublin Principles have been transposed in the particular context of the water sector in Lebanon. Taking a closer look at the wastewater sub-sector, in what ways have the Dublin Principles shaped wastewater management strategies and practices in Lebanon? How were they adapted and interpreted in the specific historic-institutional context of the country? Is there some validity to the concerns raised about the “Janus-faced” transformation of governance structures and processes?

4. Ideas behind the water sector reforms

This section looks at how the global water governance debate influenced the water sector reforms in Lebanon. To what extent have the ideas of the so-called global consensus on water governance contributed to a configuration of governance structures and processes of “rule-making, rule-setting and rule implementation” (Hajer 2003:175)? What role did the Dublin Principles play?

In Lebanon, the World Bank has positioned itself as key actor in the water sector and as supporter of the ideas and principles of global water governance. Globally, the Bank worked on numerous strategy papers that actively promoted the Dublin Principles. In Lebanon, it played an active role in the water sector reforms not only initiating, but actively shaping the reform process. Together with other donors, it pushed for the adoption of good governance principles as well as for market-based approaches to water management.⁹

In order to establish how the global water governance debate has shaped the water sector reforms in Lebanon, the World Bank *Water Resource Sector Strategy* (WRSS) and two of the main policy documents stemming from the reform process, namely *Law 221* and the *National Water Sector*

⁹ While the World Bank has made large investments in the water sector, there are few, publicly available documents of the Bank’s involvement in the actual reform process. One of the few I have found is a WB Project Information Document of the Beka’a Emergency Water Supply Project (Report No. AB2980) from 2007 in which the Bank states that it has been “actively engaged in Lebanon’s water sector since 1993”. The important role of the Bank has been reiterated in the interview conducted with governmental representatives, other donors as well as World Bank staff.

Strategy (NWSS) will be compared. The main findings are presented in Table 2¹⁰. Through the comparison, it is evident that the Bank's emphasis on market-based approaches was transposed into policy planning and legislation. Both Law 221 and the NWSS have a broader agenda than the WRSS, though, as they cover some social and environmental aspects that are not considered in the WRSS.

This section will explore two key concepts of global water governance – namely good governance and the marketization of, or market-based approaches to, the water sector. While the objectives of both Law 221 and NWSS are in line with neo-liberal governmentality, they remain vague and leave much space for manoeuvre in how they are to be implemented in the specific context of Lebanon. As I shall later argue, the implementation of these ideas is a highly contested process of adjusting, modifying and transforming them (Mollinga 2008b). The case of the Lebanese water sector further illustrates how supposedly universal ideas are modified to reflect the realities of a specific context.

In light of the political and economic realities, it seems as if global water governance is “more an ethos or an ethical ideal, than a set of completed or established institutions” (Dean 1997:213).

¹⁰ The 2003 World Bank Water Resources Sector Strategy serves as example of WB policy. Instead of using the 1993 Water Resources Management Policy Paper, this thesis uses the 2003 Strategy as reference. The process of formulating the 2003 Strategy began in 1999, and thus represents the *zeitgeist* of the time better than the 1993 Strategy. Law 221 and the NWSS are the two main legislative and policy documents, stemming from the reform process.

Table 2: Comparison of the World Bank’s 2004 Water Resources Sector Strategy (WRSS), Law 221 and the 2012 National Water Sector Strategy (NWSS) in Lebanon

<i>Table 2: Comparison of the World Bank’s 2004 Water Resources Sector Strategy (WRSS) , Law 221 and the 2012 National Water Sector Strategy in Lebanon</i>			
	World Bank WRSS	Law 221	NWSS
Objectives	<p><i>Poverty Alleviation</i> through efficient and sustainable resources development and management, as well as service delivery (5)</p> <p>Particular focus on water & economic development</p>	For “the hydraulic natural resources’ protection and development within the environment and ecosystems protection”	<p>“Ensure water supply, irrigation and sanitation services over all of the Lebanese territory on a continuous basis and at optimal service levels, with a commitment to environmental (water quality and pollution), economic and social sustainability”</p> <p>“A right for every citizen, a resource for the whole country”</p>
Mechanism	<p>Approach/ strategy</p> <ul style="list-style-type: none"> “The main management challenge is not a vision of integrated water resources management but a <i>“pragmatic but principled”</i> approach that respects principles of efficiency, equity and sustainability while recognizing that water resources management is intensely political and that reform requires the articulation of prioritized, sequenced, practical and patient interventions” (3). [principled in terms of economic principles of viability; pragmatic as specific to contextual conditions] <i>Infrastructure development and resources management</i> “In most developing countries both management improvements and priority infrastructure have essential and complementary roles in contributing to sustainable growth and poverty reduction” (12) 	Legislation	<p>Policy</p> <ul style="list-style-type: none"> Infrastructure development and resources management (including water supply, irrigation, wastewater) IWRM as guiding principle with own strategic roadmap as outlined in NWSS
Good Governance	Define and establish clear institutional framework through laws, rights, licenses, standards responsibilities with appropriate management instruments, including regulatory arrangements, financial instruments, standards and plans, mechanisms for effective participation of stakeholders, and knowledge and information	<p><i>Predictable, open and enlightened policy making</i> Clearly established roles and responsibilities of the Ministry of Energy and Water, as well as of the Water Establishments</p> <p><i>Professional Ethos</i> The WE have “the status of a moral entity”</p>	<p><i>Predictable, open and enlightened policy making</i></p> <ul style="list-style-type: none"> Objective 3.3.1: Full implementation of water sector reforms and improvement of performance and cooperation of WE and MoEW; inter-agency coordination

	<p>systems that increase transparency; motivate effective water allocation, use and conservation; and secure maintenance and physical sustainability of the water resources systems” (13)</p>	<p><i>Accountability and Transparency</i> The WE “will hire the services of an audit company, which mission consists of the preparation of a report on the financial status and closing accounts as well as on the internal regulatory system” of the respective WE</p> <p>The WE will be subjected to “a posteriori” control of the Court of Audit and the Performance Evaluation Committee of the MoEW and MoF</p> <p><i>Stakeholder Participation</i> Not mentioned</p>	<ul style="list-style-type: none"> • “Develop adequate legal, institutional and regulatory setting to promote private sector participation in a way that serves the interests of Lebanon” <p><i>Accountability and Transparency</i></p> <ul style="list-style-type: none"> • Objective 3.3.3: Enhance and modernize legislation and regulatory regime to support the implementation of NWSS • Objective 3.3.3: Enforce a regulatory regime to oversee the continuous improvement of sector performance (including performance monitoring and evaluation) <p><i>Stakeholder Participation</i></p> <ul style="list-style-type: none"> • Improve management of irrigation sectors, mainly through creation of Water Users Associations to replace different organizations currently in charge of O&M of irrigation systems • Public outreach and awareness programmes to promote gradual implementation of consumer metering and higher efficiency plumbing devices • Provide customer service
<p>Market-Based Approaches to Water Management</p>	<p>“Market-oriented reforms (which are often decried as “anti-poor”), when well-designed, can be the basis for growth and opportunities for the poor” (9)</p> <p><i>Cost Recovery</i> Through “financially sound, operationally efficient, consumer-oriented water and sanitation utilities” (19)</p> <p><i>Water Pricing</i> Determine appropriate price for water according to user-pays-principles, while ensuring accountability & efficiency of water service provider (23)</p> <p><i>Private Sector Participation</i> “The insertion of the private sector ... provides a powerful incentive to change” (45)</p>	<p><i>Cost Recovery</i> The WE will “operate within an administrative and financial autonomy”; budget is based on business plan and generated through tariff collection</p> <p><i>Water Pricing</i> The WE “will propose drinking, irrigation water and WW services tariffs taking into consideration general socio-economic conditions of the country” (Amendment Law 337)</p> <p>Obligation of payment by subscribers in exchange for guaranteed minimum access to good-quality water (By-Laws)</p> <p><i>Private Sector Participation</i> Not mentioned</p>	<p><i>Cost Recovery</i></p> <ul style="list-style-type: none"> • Objective 3.3.1: Improve on the management model between WEs and MEW and improve capital spending efficiency • Objective 3.3.2: Gradually achieve full cost recovery <p><i>Water Pricing</i></p> <ul style="list-style-type: none"> • Objective 3.3.2: Introduce and implement new tariff strategy for water supply (→ fixed charge plus progressive volumetric tariff) and wastewater (→ cost analysis to cover minimum O&M) <p><i>Private Sector Participation</i></p> <ul style="list-style-type: none"> • Objective 3.3.2: Promote private sector participation via Public Private Partnerships in operations and in capital projects

Mentioned twelve times

Stakeholder Participation

- In form of public-private partnerships or water user associations (9)
- Stakeholder participation, co-management and shared ownership to treat water as social and economic good

Wastewater	<p>Wastewater management as part of development, maintenance and operation of infrastructure (1)</p> <p>Natural sequencing of demand: people first want water, then sanitation, then wastewater disposal (19)</p> <p>Increased investments in wastewater sector “Since the setting of wastewater goals and standards is the responsibility of river basin authorities and other public water resources management agencies, close coordination is required between utilities and these bodies” (20)</p> <p>Facilitate better coordination between policy-makers and utilities as part of broader development of institutions, governance arrangements and incentive policies for efficient and equitable water management (20)</p>	<p>Amendment Law 337 introduces wastewater management to general water management plans “to establish the General Planning Project for hydraulic resources allocation, repatriation among drinking and irrigation water usage on the national level as well as to prepare the National Water and Wastewater General Master Plan and update it continuously, and submit it through the Council of Ministers to be approved” to set quality standards and control for wastewater to initiate planning of wastewater treatment plants</p> <p>Depending on WE/ WE North Lebanon states “No subscription applicant or potable water beneficiary could be supplied with water if he does not have an acquittal regarding the payment of connecting his real estate to the wastewater collection network during or after its building”</p>	<p>Increase coverage of wastewater collection networks and treatment capacities</p> <p>Optimize current wastewater treatment processes and sludge disposal, and ensure adequate reuse of treated effluents where applicable</p> <p>Introduce tariff for wastewater services (in proportion with used volumes of water supply)</p> <p>Collection and treatment to at least preliminary level of 80% of wastewater by 2015, and of 95% by 2020</p>
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4.1. Good Governance

One of the goals of the water sector reforms in Lebanon is the implementation of good governance principles. As the name indicates, *good* governance refers to the quality of governance (Doornbos 2010). This raises the question of what makes governance good. For the World Bank, good governance is

Epitomized by predictable, open and enlightened policy-making; a bureaucracy imbued with a professional ethos; an executive arm of government accountable for its actions; and a strong civil society participating in public affairs; and all behaving under the rule of law (World Bank 1994).

The World Bank lays out its vision of how institutions should be structured and operated. It links the Bank's work in the development sector to a set of conditions and prescriptions for political and administrative reform. In this sense, the World Bank recognizes the political dimension of governance, but tries to de-politicize the process of governing by applying formulaic and seemingly apolitical principles of good governance (Mollinga 2008b). Good governance can hereby be understood as a "technology of governance", a means to transforming governance structures and processes to conform to an ideal (Larner 2000:12). Change is reduced to superficial institutional reform without addressing the underlying power relations, interests, values, norms and ideas.

This is the same line of argument as in the National Water Sector Strategy (NWSS), one of the key policy documents of the reforms. The NWSS reflects well the first and second clause of the Dublin Principles that call for effective and participatory management of water resources (WMO 1992). It outlines a number of actions to be taken, striving for a) more accountability and transparency, b) more stakeholder participation, and c) an adequate institutional, financial and legal framework for water management that promotes private sector participation.

More Transparency and Accountability

Good water governance implies that decision-making processes are made transparent and accountable with the goal of being "practical, implementable and therefore sequenced and prioritized actions that can lead to that end" (WB 2003, 37). The end, of course, is the efficient, equitable and financially sustainable management of water resources – as defined in the WRSS (Ibid.). In Lebanon, both Law 221 and the NWSS introduce a number of structural and procedural changes to develop a more transparent and accountable governance system. This includes the hiring of an audit company to review the financial accounts of the WE as well as

“posteriori” control of the Court of Audit and the Performance Evaluation Committee of the MoEW and MoF (Law 221). The NWSS also calls for further steps to enhance, modernize and enforce legislation and a regulatory regime in the water sector (MoEW 2012).

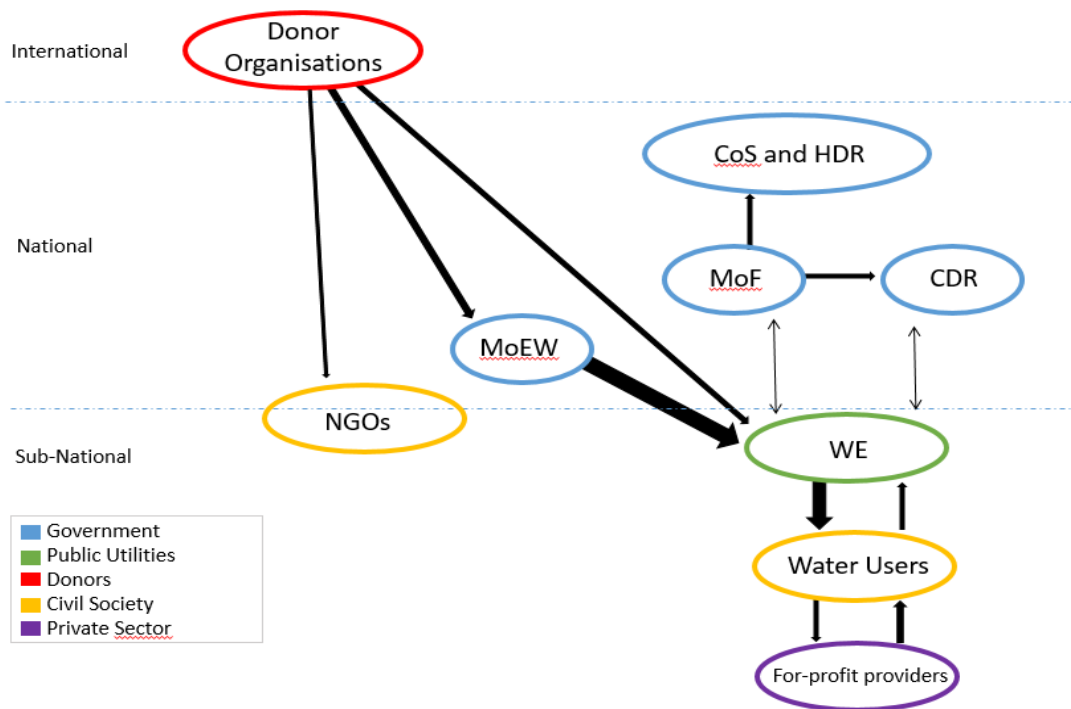
More Stakeholder Participation

Good governance also means that stakeholders, especially consumers, become more involved in water resource management. Ideally, this will provide the space for contestation and negotiation, resulting in a nexus for different actors to “consensually and communicatively integrate decisions” into governing structures and processes (Saravanan *et al.* 2009). For the World Bank, however, stakeholder involvement is little more than an “appropriate management instrument” in the form of public-private partnerships or water user associations (WB 2003, 13). Similarly, stakeholder involvement in Lebanon has been very limited. Goal 1.8 of the NWSS mentions cooperating with Water User Associations (WUA) on irrigation schemes, but does not go beyond that (2012). The strategy includes public outreach and awareness programme to gain acceptance and implement consumer metering and a new tariff strategy for water supply and wastewater services. The water user is seen as customer. Law 221 does not even mention stakeholder involvement or participation. In the case of Lebanon, stakeholder participation is reduced to the mere minimum, failing to realise the innovative and transformative potential of civil society.

Clear institutional, financial and legal framework: key actors

Good governance requires a clear institutional, financial and legal framework with clearly defined roles and responsibilities of the main actors (OPM & CIPFA 2004). The reforms in the Lebanese water sector aimed to clearly demarcate the formal roles and responsibilities of the MoEW and WE. Furthermore, the NWSS elaborates on the role of foreign and local funding (which involves donor agencies, MoF, CDR, CoS, and HCD), monitoring and evaluation (which involves MoEW and MoF). As indicated in Figure 3, this offers a somewhat simplified view on the water sector as roles and responsibilities are described without accounting for the historically contingent and internally contradictory aspects of governance. As a result, the scope of the water reforms has been limited to a few, obvious actors (Saravanan *et al.* 2009).

Figure 3: Main actors and their interrelationships in the Lebanese water sector as described by Law 221 and the NWSS – Actors and interrelationships; the width of the arrows indicates the degree of influence of these actors



There are, however, a number of other key actors, or groups of actors, involved in water governance as listed in Table 2. Among them are the Council for Development and Reconstruction (CRD), the Ministry of Agriculture (MoA), the Ministry of Public Health (MoPH), the Council of the South (CoS), municipalities, NGOs and media outlets. Notably, there is a significant fragmentation of responsibilities for investment planning and implementation. CRD, MoF, CoS and donor organizations are largely responsible for the allocation of funds. Ideally, policy-making and planning should go hand-in-hand, but coordination between government agencies is poor (WB 2015). Responsibility for the construction, operation and management of infrastructure is split among multiple government entities. Attempts to shift towards a more service-oriented model of water management in the WE have been partial at best. In other words, the reforms have not yet succeeded in establishing a clear institutional, legal and regulatory framework for the sector. Instead they have prescribed to a model of governance that promises efficiency, transparency and financial sustainability, but disregards some of the inherent complexity, ambiguity and contingency of the system that ultimately determines its outcomes (Dean 2007).

Table 2: Roles and responsibilities of key actors in the Lebanese water sector (extended list; beyond the scope of Law 221 and NWSS)

Role	CDR	MoEW	MoF	MoE	MoA (irrigation)	MoPH (drinking water)	Municipalities	WE	WB	Donors	NGOs	Research	Media	Water Users
Funding	X		X					Cost recovery?	X	X				
Policy & Strategy	X Master Plan	X National		X	X	X		X Regional	X	X		X		
Planning	X	X			X			X	X	X		X		
Contracting/ Constructing	X	X			X		X	X	X	X	X			
Development & Implementation	X	X					X	X		X	X			
Operation & Maintenance	X						X	X		X				
Tariff/ Tax Collection			X				X	X Propose tariffs						X
Legislation, rules and regulation		X		X	X	X					X Lobby	X		
Services & interactions with water users		X		X	X		X			X	X		X	X
Monitoring & Evaluation		X		X	X	X		X		X	X	X		

4.2. Market-Based Approaches to Water Management

The Dublin Conference marked a shift towards market-based approaches to water management. The fourth principle of the Dublin Statement about water as an economic good played a central role in developing policy and management strategies. In the context of Lebanon, the World Bank did not only encourage a political rationality of good governance, but has also pushed hard for *privatization*. It has since revised its position in support of “market-oriented reforms” that include cost recovery, water pricing and *private sector participation* (WB 2003, 9). These ideas have underpinned the water sector reforms, aiming to re-structure the water sector for ‘more market’ (Larner 2000).

There has been much resistance to privatization at the level of government in Lebanon, so it has never been included in Law 221 or the NWSS (Kunigk 1998/9). Any attempts to include it in the law were blocked by the Lebanese parliament (Interview 1, 2, 4, 8)¹¹. Nevertheless, Law 221 (2000) establishes that the WE will operate within administrative and financial autonomy, meaning that the WE will have to recover costs by charging customers for water services in order to be operational. There have not yet been any set tariffs for wastewater services, but the NWSS (MoEW 2012) has made it one of its main goals.¹² The NWSS also outlines a plan to gradually involve the private sector in O&M and capital investment projects. It foresees an expansion of private sector responsibilities from service and management contracts (as they already exist for many networks and WWTP) to Build-Own-Operate Divestiture. A much greater role in policy-making, administration and implementation is thereby assigned to private economic actors (Swyngedouw 2005). Water users (or any other civil society actors) do not play any perceptible role in the governing of water resources¹³. Water users, if anything, are customers.

The market-based approach to water management by the World Bank has led to the commercialisation of water utilities and increased involvement of the private sector. Consolidating neo-liberal ideas of governance, the market is portrayed as the most effective

¹¹ A good analysis of the attitude of the Lebanese government towards the reforms has been carried out by Kunigk, Emmanuelle. (1998/99). “Policy Transformation and Implementation in the Water Sector in Lebanon: The Role of Politics”. *SOAS Occasional Paper No.27*.

¹² First of all, the WE will try to introduce and implement a new tariff strategy for water supply (as fixed charge plus progressive volumetric tariff) and wastewater for which it will first conduct a cost analysis to cover minimum O&M.

¹³ Both, the WRSS and the NWSS, mention the need for stakeholder participation. The WRSS talks about stakeholder participation as management instrument (pg. 13). Goal 1.8 of the NWSS hopes to “involve” stakeholder participation.

means to water resource governance (Dean 1997). Nevertheless, these ideas have proven difficult to implement given the specific historical-institutional context of intricate power relations, interests and ideas.

For instance, a first attempt at a Public-Private Partnership (PPP) in Lebanon was initiated in the City of Tripoli from 2003 and 2007 as part of the ongoing reform process in the water sector. The multinational company Suez-Environnement was contracted as subsidiary to manage the drinking water services in the Tripoli Water Authority area (Allès 2012). The expected added-value of this PPP was that the company would make the much necessary changes and investments to improve domestic water supply services and to modernize public management structures, which seemed inefficient and unable to deliver reliable services (Ibid.) Moreover, introducing a private actor in water management would arguably help to tackle corruption and clientelism (World Bank, 2004; Bakker 2010; Jaglin and Zérah, 2010).

In the case of Tripoli, however, local elites showed a remarkable resilience to changes in the management of the Water Authority. In Lebanon, privatization has often been perceived as serving the commercial and political interests of the ruling elites¹⁴ (Leenders, 2004). As Christèle Allès argues, local elites¹⁵ and clientelist networks also played a role in the PPP in Tripoli, and its eventual termination (2012). She finds that prior to the PPP, local elites often served as intermediaries between water authorities and water users. They also intervened in the allocation of public work contracts and jobs, a powerful lever of patronage among the Tripolitan politicians and businessmen (Ibid.). Following the PPP agreement, local elites continued to interfere in the management of the Water Authority. This eventually led Suez-Environnement to withdraw from the arrangement.

It should be noted, however, that with the merging of the Tripoli Water Authority into the North Lebanon Water Authority, however, there was a change in technical and executive staff (including the Director General) and the involvement of a wider range of Tripolitan leaders (by confession/ family) and an extension of services. This allowed for a transformation of powers within and access to the water administration. The performance and service delivery of the utility itself did not change significantly.

¹⁴ At the time, Tripolitan leaders played an important role in national politics. During the contract period, Omar Karamé and Najib Mikati held the post of prime minister. Another Tripolitan leader, Muhammad Safadi, was Minister of Energy and Water towards the end of the management contract period.

¹⁵ For instance, Tripoli was ruled by Sunni leader Omar Karamé, who also controlled the water administration.

Based on this review of policy documents, it can be concluded that there has been an uptake of certain ideas and principles. However, the implementation of the reforms itself is a political process of contestation and negotiation that is shaped by different, often contradictory power relations, interests, values, norms and ideas (Saravanan *et al.* 2009; Larner 2000). It is therefore crucial to take a closer look at the different interests, ideas and interrelationships in order to understand why the water sector continues to face significant challenges in Lebanon (Swyngedouw 2005; Bakker 2003; Harvey 2003).

An analysis of the political economy will provide additional insights into the underlying economic and political interests and relations, as well as the means by which subjects are governed. What governing rationality underlies the current water sector reforms and how do they affect governance arrangements in regard to wastewater? Who are the key actors in the wastewater sector? What interests, incentives and structures have supported, or hindered, change in the way wastewater is managed?

5. Defining the Lebanese Wastewater Sector

This section aims to define the wastewater sector in Lebanon by mapping out the key actors and their interrelationships. The main actors are identified (Table 2 and 3), and their roles and responsibilities, their interrelationships and influence in shaping water resource management strategies and practices are analysed. The mapping exercise serves to uncover some of the “hidden” actors in the Lebanese water sector and the wastewater sub-sector (Moncrieffe & Luttrell 2005). Noting a discrepancy between supposed and actual roles and responsibilities, who are these “hidden” actors and how influential are they?

Although one of the main objectives of the reforms has been to clearly define the roles and responsibilities of key actors in the sector, there is a considerable difference between what they *should be* doing and what they *are* doing. “Role” hereby refers to the function of an actor in a system. The water sector reforms in Lebanon have been particularly focused on the role of the Ministry of Energy and Water (MoEW) and the Water Establishments (WE), transferring responsibilities from the former Water Authorities (WA) to the four WE and the MoEW. Nevertheless, the actual role and responsibilities of these two actors have deviated quite significantly from what has been prescribed by the reforms (Figure 4).

My critique is not so much about the fact that the governance system does not conform to an ideal type as desired by the reformers, but rather that a system is imposed without taking into account the existing political, economic, and cultural power relations. Focusing on only a few key actors, the reforms disregarded some of the underlying governance structures and processes that have shaped the sector in Lebanon. As a result, there has been little change in actual practices.

Table 3: List of Actors in the Water Sector of Lebanon	
Government	Council for Development and Reconstruction (CDR) Ministry of Energy and Water (MoEW) Ministry of Finance (MoF) Ministry of Environment (MoE) Ministry of Public Health (MoPH) Ministry of Agriculture (MoA) Litani River Authority (LRA) Municipalities
Public Utilities	Water Establishments (WE)
Donors	World Bank Other Development Banks, like EIB, KfW, IDB Western Donor Agencies, like AFD GIZ, USAID, EC, Italian Cooperation, French Government, BMZ, UNFIL, UNDP, UNICEF, UNRWA Arab Donor Agencies, like the Kuwait Fund, ADFD, AFESD, Islamic Relief
Civil Society	Water Users International NGOs like Halius, YMCA, Mercy Corps Lebanese NGOs, including IndyAct, Friends of Ibrahim Abd El Al, Greenline, Mubadarat or T.E.R.R.E. Liban Research Institutes and Universities, including the American University of Beirut (AUB), Lebanese American University (LAU), Université Saint-Joseph, National Council for Scientific Research (NCSR) Media, including L'Orient Le Jour, Al Bia Wal-Tamia, the Daily Star
Private Sector	Contractors Private Banks, such as Société Générale Private Water Companies, such as Nestlé, Coca-Cola, Ondeo-Liban

5.1. Roles and Responsibilities

The Council for Development and Reconstruction

On paper, the *Council for Development and Reconstruction* (CDR) is in charge of delegating funds for infrastructure projects in the water sector as it has done since 1977. The CDR was originally created to co-ordinate post-war reconstruction efforts. In order to do this, it was granted an ad hoc extra-ministerial status that exempted it from formal bureaucratic procedures (Adwan 2004). Essentially, this meant that the CDR could request extra-budgetary loans from the Central Bank without being accountable for them during external audits or checks (Leenders 2004). With a virtual monopoly over publicly financed reconstruction efforts, the CDR set out to become the government's main instrument not only for financing, but also for planning and implementation (Denoeux & Springborg 1998). Under Hariri, the CDR's role in development and reconstruction was even more dubious when it awarded Solidère, a private

stock company partially owned by Hariri himself, with some of the most profitable and prestigious projects (Leenders 2004). Much has been written about this problematic mix of public and private interests (Leenders 2004; Dibeh 2005). Nevertheless, the CDR has remained *the* key actor when it comes to the allocation of funding, and in so doing, setting the agenda for investments in the water sector.

Nominally, the CDR's role is limited to the financial aspects of water management. It has, however, continued to be actively involved in funding, planning, constructing (e.g. contracting) and operating networks and treatment facilities. As most foreign funding is channelled through the CDR, it has acquired a de facto responsibility for planning, formally the responsibility of the MoEW (GTZ 2009). Foreign donors consider the CDR more efficient and experienced than the MoEW and, thus, continue to work through the CDR, further reinforcing its status as key player in the sector and beyond (Interview 7/8). Though the CDR claims to be consulting with other ministries and the WE, decisions are taken unilaterally and reflect the interests and ideas of the CDR. In brief, the role of the CDR remains unchanged as much of its influence derives from structural and procedural arrangements that have not been addressed by the reforms.

The Ministry of Energy and Water

The *Ministry of Energy and Water* has traditionally been in charge of both drinking and wastewater (GTZ 2009). As part of the institutional reforms, the role of the ministry was written into law, clearly outlining its responsibilities. The MoEW is legally obliged to develop and implement a national master plan for the water and wastewater sector. It is also responsible for the construction of large-scale infrastructure projects, the evaluation of water needs and uses, the setting of quality standards, the licensing of water permits, the control and monitoring of the WE, and public relations (Law 221). Although the influence of the CDR is ubiquitous, the MoEW is currently being re-organized to gradually take the lead in overall planning and programming (DG Environment 2006). As part of this re-organization, it has prepared the National Water Sector Strategy (MoEW 2012) and a draft law for the Code de l'Eau (MoEW 2005). However, the Code de l'Eau has not been ratified.

Moreover, the MoEW continues to depend on funding from the CDR and international donors, making it difficult to fulfil all its responsibilities as outlined in Law 221. The Ministry remains understaffed. For example, there are currently only five staff working on monitoring and regulating all of the water sector (Interview 10). At the same time, consultation and coordination efforts with other ministries are limited. On the whole, the MoEW is somewhat

overshadowed by the CDR, resulting in a less central role for the ministry than envisioned in the reforms.

The Ministry of Finance

The *Ministry of Finance* plays an important role when it comes to funding. Together with the MoEW, the MoF has financial oversight of the WE. It negotiates with foreign donors, such as the World Bank, the EIB or the IDB, about the volume and conditions of financial assistance (WB 2010). The MoF is also in charge of setting the budget for the different ministries, based on their submissions of draft budgets (Gaspard 2004). The budget is then subject to negotiations before it is approved as budget law by Parliament. This, however, is a highly contested process in Lebanon, so much so that there has not actually been a budget law since 2004 (WB 2010). As it will be discussed later, the government budget is intricately linked to economic and political interests, strategies and decisions that go beyond the influence of the MoF. Nevertheless, the MoF is crucial in allocating the budget to different actors in the water sector, including the CDR, CoS, MoEW and other ministries marginally involved.

The Ministry of Environment

The *Ministry of Environment* is perhaps the most telling example of the discrepancy between supposed and actual roles and responsibilities. The role of the MoE has been specified in an elaborate framework of laws, rules and regulations for the protection of the environment (Law 216)¹⁶. In 2005, the responsibilities of the MoE were expanded to include the preparation of legislation for environmental practices, to develop a set of indicators and standards to monitor private and public sector activities, and to carry out public awareness campaigns, conduct Environmental Impact Assessments (EIA) and work together with NGOs on environmental issues (Law 690; DG Environment 2006). The legislative framework around the responsibilities of the MoE is surprisingly thorough. The actual impact of the MoE, however, is extremely limited as it ranks at the very bottom of the hierarchy of ministries. This hierarchy is by no means a formal arrangement, though the budget dedicated to the MoE is a good indicator of its low status (Gaspard 2004)¹⁷. In the wastewater sector, for example, the MoE has been notably absent from roundtable discussions. It has never approved any of the EIA conducted

¹⁶ Law 216 established the MoE to formulate environmental policy, propose measures for its implementation, and protect the environment in the interest of public health and welfare (DG Environment 2006). In regards to wastewater, the MoE was assigned with the task of creating sewage network standardization guidelines, and designing and implementing wastewater projects. There is, of course, room for improvement e.g. pollution control is currently limited to industrial discharges; there is no system for monitoring groundwater quality.

¹⁷ In 2005, environmental expenditures as a percentage of the total budget amounted to 0.05%. In 2006, it even decreased to 0.04% (Abaza 2008).

to set up WWTP; the majority of which do not comply with the effluent standards set by the MoE anyways. The dismissive attitude towards the MoE has been reiterated by most interviewees that have described it as “powerless joke” (Interviewee 3) and “the who?” (Interviewee 8). Theoretically, the MoE plays an important role in regulating the water sector, but it lacks in status and resources to fulfil this role.

The Ministry of Public Health

Similar to the MoE, the *Ministry of Public Health* (MoPH) has a legal responsibility to monitor water quality and safety of drinking and wastewater, dating back to the 1930s. It also manages programmes related to sanitation and public health.¹⁸ Firmly established, the MoPH seems to fulfil its role and responsibilities as defined by law.

The Ministry of Agriculture

The Ministry of Agriculture is primarily charged with assisting at the farmer and the field level through extension services such as training, education and demonstration. The irrigation with treated wastewater is currently prohibited (Decree 8735 of 1974) and hence no standards for water reuse are established (EMWater, 2004), but as reuse is envisaged for the future, draft wastewater reuse guidelines have already been prepared by FAO (Bdour et al., 2009). As these guidelines have not yet been endorsed, no formal arrangements have been put into place to support and monitor the wastewater reuse in agriculture.

Municipalities

Traditionally, Lebanese *municipalities* have been responsible for the operation and maintenance of water supply networks, as well as drainage systems of both storm and wastewater. By law, they are required to build, maintain and control infrastructure for basic services (GTZ 2009). As a result, many municipalities have invested in, and legally own, sewer networks. The reforms, however, determined that the WE should take over the operation and maintenance of these networks, effectively disowning the municipalities (Interview 1). This decision was met with some resistance from the municipalities, and the Ministry of Justice had to step in and clarify O&M responsibilities.¹⁹ The municipalities were re-affirmed in their position, and continue to operate their own sewer networks and wastewater treatment facilities. They are also responsible for collecting taxes and tariffs, which further strengthens

¹⁸ A department and two divisions for primary health care at the Ministry of Public Health were created in 1996 as stated in Decree 8908, Article 4.

¹⁹ Legal opinion issued by the Ministry of Justice in 2004 (ref.918/C/2003)

their position vis-à-vis the Water Establishments. Finally, the CDR is implementing development projects on behalf of the municipalities funded through the Independent Municipal Fund (Decree 7425 of 1995).

Water Establishments

One of the main objectives of the reforms was the merging of twenty-one Water Authorities (WA) into four Water Establishments (WE), namely Beirut and Mount Lebanon Water Establishment (BMLWE), North Lebanon Water Establishment (NLWE), South Lebanon Water Establishment (SLWE) and Beka'a Water Establishment (BWE).²⁰ The WE were entrusted with the overall management of water resources, the planning, funding and implementing of water resources development projects, the O&M of regional distribution networks, the monitoring of water quality, and the running of the WE according to principles of cost recovery through WE-specific tariff schemes (see By-Laws).

As it stands, none of the WE are capable of fulfilling these responsibilities satisfactorily. Donor agencies, like the GIZ or USAID/ DAI, are assisting the WE in the overall management, but once these projects come to an end, the WE will be on their own. Planning and funding is currently carried out by the CDR and the MoEW, because the WE do not have the capacities or capital for any investments in the sector. The O&M of regional networks, as well as of pumping stations, WWTP and wastewater collection, is contracted out to private operators or done by the municipalities. The WE do monitor the quality of water, but this does not necessarily mean that they comply with standards. Finally, none of the WE – though BMLWE claims that it has – has achieved O&M cost recovery. Except for a few pilot areas, metering and volumetric tariffs have not been introduced yet, however essential they are for cost recovery. Consequently, the MoEW has to support the WE through informal subsidies, for example, by not charging the WE for electricity.²¹

The World Bank

The *World Bank* has been the main initiator and driving force behind the reforms. Formally, it has provided financial and technical assistance in accordance with its Water Resources Sector Strategy. The World Bank has also been engaged in numerous projects and programmes, developing infrastructure, strengthening institutions and improving water resources

²⁰ The WE were established in Law 221, and amended in Law 241. A set of by-laws further specified the organizational structure and responsibilities of the WA.

²¹ Since 2000, the MoEW has spent an average of \$2.5 million per year on O&M of WE (World Bank 2010). The World Bank estimates that the hidden costs in supporting the WE amount to 0.5% of the annual GDP or more.

management (WB 2000). Nevertheless, its influence extends well beyond the bounds of its formal role. Not only does it lend credibility to projects, attract further investments, but the World Bank also gives out huge loans, putting it in a position from where it can dictate the terms and conditions (Kunigk 1998/99). This has been done by freezing loans as a means of pressuring the Lebanese government into complying with the Bank's demands for water sector reforms as in 1992 (Kunigk 1998/99). Similarly, the 2012 National Water Sector Strategy was a precondition for further funds in the water sector, including a loan of US\$ 474mn for a water supply development scheme in Lebanon (WB 2014). Given its economic and political influence, the Bank has played - and continues to play - a significant part in shaping water sector strategies and investments.

Western and Arab Donor Agencies and Development Banks

Because Lebanon is strongly dependent on foreign funding for development projects and programmes, *donor agencies and development banks* play an important part in allocating funds, planning and implementing projects. There are significant differences between donor agencies, however. In an in-depth study about their roles in the re-construction of Lebanon, Hamieh and Mac Ginty (2010) point out how Western actors have differed from Arab and Gulf states. Generally, Western donors have focused on "software" or governance programmes and projects to increase good governance and participation. Arab donors, on the other hand, have invested in "hardware" or highly visible infrastructure projects like bridges, roads, or dams (2010). Arab states were likely to spend money on favoured constituencies based on sectarian or partisan affiliations. As will be discussed in the next section, foreign funding is a highly political issue through which donors can influence policy and outcomes (Dibeh 2005).

NGOs, research institutes and media

International and National NGOs do not have a legally defined role in the water sector. International NGOs like YMCA or Halieus have cooperated with international donor agencies, like USAID and the EU, to carry out small-scale projects. YMCA, for instance, has set up several small-scale WWTP (USAID 2007). Halieus has worked on wetland restoration as part of a broader programme of decentralized development cooperation (Interviewee 5). As such, NGOs help with the implementation process of water sector strategies. Furthermore, some donors consult with NGOs at stakeholder meetings and roundtables, but with seemingly little impact. There are a few Lebanese NGOs, such as IndyAct or Friends of Ibrahim Abd El Al that lobby for greater environmental and social awareness in policy-making.

Similarly, several joint research and community projects are carried out in collaboration with Lebanese *research institutes and universities*, like the American University of Beirut and the National Council for Scientific Research, as well as governmental research organizations.

The *media* - that is newspapers, journals, bloggers, TV and radio stations - regularly reports on water-related problems. The scope of this thesis does not allow for a more detailed analysis of the media coverage and portrayal of water-related problems.

Private Sector

Even though private sector participation is explicitly mentioned and a desired outcome of the water sector reforms, the *private sector* is largely absent. Private contractors are hired for the construction and O&M of water supply and wastewater systems, and some companies have worked together with municipalities and WE (e.g. knowledge transfer of technologies; trainings). However, large private investors have shied away so far with the exception of Suez-Environment as described in the previous section.

Water users

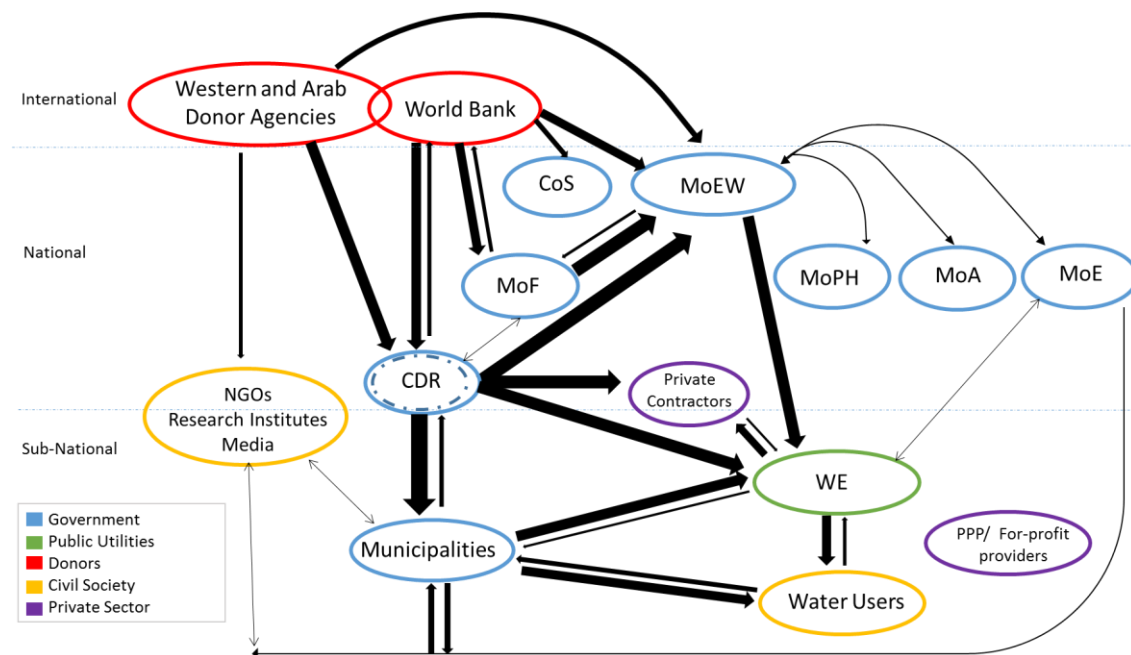
A preliminary result of the interviews was the limited role of civil society actors in the governance of wastewater. *Water users* are not involved in policy formulation or implementation. As a result of the commercialization of the WE, a greater emphasis has been placed on water users as customers whose trust needs to be earned through improved services and customer relations (Interview 8). Nevertheless, access to water services is still low, and low-income households spend more on services, compared to the international average (MoSA 2013).

5.2. Interrelationships

Comparing the supposed and actual roles and responsibilities of different actors, it becomes evident that the governance system of the Lebanese water sector involves many more actors with different roles than what official policy documents suggest (Table 3). Figure 4 summarizes the interrelationships and actual influence of different actors. Noticeably, there are several actors that seem to have strongly influenced governance structures and processes, but that have not often been mentioned in official documents (Hermans 2005). These are the “hidden” actors of the Lebanese wastewater sector.

First of all, the international donor agencies form a group of actors that is extremely involved in the financing, planning, constructing and managing of the wastewater sector. The CDR is another actor that stands out for playing a key role the sector, in channelling funding to projects, thereby setting the agenda for how these funds are spent. Furthermore, the municipalities serve as interface between water users and the WE. Not only do they own and operate municipal sewer networks, they are also expected to support the WE in collecting water and wastewater tariffs as part of a broader management strategy of cost recovery (GTZ 2010). These “hidden” actors are indicative of a political dimension of governance that is characterized by political and economic power relations and interests and should be explicitly taken into account for the reforms to be successful.

Figure 4: Main actors and their interrelationships in the Lebanese water sector in practice; the width of the arrows indicates the degree of influence of these actors



6. Political Economy Analysis of the Water Sector in Lebanon

First, the findings of the intra-sector analysis of the water sector in Lebanon are presented. They are based on an extensive literature review and interviews and analysed, using the DFID framework for political economy. The framework looks at the following: a) current institutional arrangements, b) historical legacies, c) structural factors, d) change processes, e) power relations, and f) ideologies, values and perceptions in order to get a better understanding the developments in the water sector (Moncrieffe & Luttrell 2005). The results of this analysis are summarized in Table 4.

Table 4: Analysis Matrix of the Political Economy of the Wastewater Sector in Lebanon

	Roles, Mandates, Responsibilities	Organizational structure	Management, Leadership, Composition	Financing and Spending	Incentives and Motivation	Capacity
Institutional Arrangements	See <i>Section 5</i>	See <i>Section 5</i>	WB, CDR and MoF channel funds to projects	Mainly foreign funding	Relatively low collection rates because non-payment, illegal tapping, inefficiency	No specific working groups on wastewater; overlapping responsibilities
	CDR as autonomous actors with access to extra-budgetary loans	Centralized context of policy making at ministerial level	Water governance strategy in place but little high-level political pressure	Capital-intensive investments in infrastructure by govt/ donors	Aim of cost recovery	WE need to build up capacities to contract, monitor, regulate private sector
	Commercial interests to operate pipelines, pumps, WWTP	Some community-based projects, but no up-scaling	No independent monitoring agency	Budget of WE = cost recovery	Reliable 24/7 services as basis for good customer relations; trust and participation	Brain drain
	Informal economy of water supply	“It makes no sense if NGOs do the work of government”	Big gap between legal & regulative structures and implementation	Hidden subsidies as WE does not pay for electricity (officially written down as debt, but no payments are expected; MoEW covers difference)		Lack of basic data on water demand and needs, quality, customer needs
	PPP agreement in Tripoli with Ondéo-Liban failed after 4 years	limited horizontal integration of governmental institutions				
	Fragmentation politique et l’affaiblissement de l’Etat	Coordination between donors				Lack of human resources
Historical Legacy	Colonial legacy of Ottoman (centralization) and French rule (laissez-faire)	Post-Civil War influx of donors; gradually withdrawing	Tai’if agreement (balance of power) needs to be maintained when filling high-up positions	Continued conflict impacts allocation of funds e.g. 2007 Nahr el-Bared conflict caused reorientation of funds from South to North	Question of ownership: municipality or WE	Recruitment stop during Civil War; since 2009 difficult hiring procedure but recruiting again
	WB from technical to managerial assistance; cautious to do assessments and consultations	Projects designed with risk of conflict/ uncertainty in mind	Sewer network has grown sporadically over time; little planning; little documentation			
	Council of South less active over the years	Le règlement politique avait entraîné une compétition pour la redistribution des ressources de l’État à leurs clientèles respectives				
	Civil war reconstruction					
	Sectarianism					

Structural Factors	Continued internal (treason, corruption, clientelism) and external (US, EU, Syria, Iran) conflict	Mediterranean coastal line of interest of Europeans to cooperate on pollution and water quality → WW for coastal line	Corruption Highly indebted = budgetary limitations and dependency on foreign donors = gives donors strategic advantage	In Hezbollah-South, few large investments as high risk and unwilling to support Hezbollah → decentralized solutions	Unreliable electricity supply as incentive to use renewable energies or gravity to pump (waste)water	Clientelism in recruitment process
	Water reforms: transferral of formal responsibilities Arab donors invest in respective confessional groups					
Change Processes	Challenge of implementing NWSS; ambitious goals for metering rates, cost recovery, reduction of leakages	Slow reform process as each ministry is trying to hold on to as much influence as possible, e.g. wastewater management Central organisations like CDR, Conseil du Sud, Fonds Central des d'Éplacés, not formally in charge of water anymore – but money is!	Western and Arab donors take over govt. functions; outsourcing of reconstruction efforts NGO ambitions to work with all does not reflect needs as Shiites need most help Municipalities find their own donors; keep WE out of loop Clientelism in allocation of funds	Marketization of water services; cost recovery through commercialization of WE, participation of private sector Need funding for NWSS First wage increase since 1996 in 2012 by 24% for employees, 32% for contractors → extra costs for WE	Supply and demand-management No incentives to actively and continuously monitor water quality MoEW turns blind eye to unlicensed well drilling but sinking water tables and subsequent saltwater intrusion are becoming a serious problem Tourism is affected by smell and unsightly rivers	Metering introduced in pilot areas e.g. Saida, but tariff still paid as lump sum; problem of up-scaling Emphasis on training and technical/ managerial assistance
	World Bank as initiator of reforms; according to WB: consultations and discussion in "mutual process"	"In this country everyone tries to get as much influence as they can get. Even if they cannot handle it."	Case of farmers in Beka'a; not organized but upset by WWTP Civil society not organized or involved	Donor agencies have strong influence on how money is spend CDR channels most funds, direct partner for many donors CoS (Shiite) demands part of budget	Reforms transferred responsibilities to WE as central actor → loss of influence of local water authorities; municipalities fill gap	Donor influence on policy formulations and implementation of projects Municipalities contest national policy e.g. ownership issue MoEW and MoE have monitoring role but do they the capacities to fulfil it?
Power Relations	Ministerial hierarchies Funding from Arab donors often as grants; reflects political interests	Most powerful WE in Beirut: water flow is money flow; little cooperation with donors; North WE as forward-thinking and responsible				

	MoEW vs. CDR – little collaboration and little vision or long-term strategy	CDR is key actor as it manages relations with donors and money; thereby doing policy even though supposed to be only planning					
As Ideologies, Values, Perceptions	Neo-liberal ideas of global water governance	CDR pragmatism, e.g. EIA by MoE as requirement ignored; work without consent of MoEW; no expert consensus	US interest in Shiite support, anti-drugs so push for WB project in Baalbeck; high risk	From focus on quantity to efficiency, and quality	“Civilized but uncultured people”	Demand management through metering & design of appropriate tariffs	
	Non-interventionist state		<i>Basser</i> : no man-made climate change <i>Comair</i> : dam diva				Complacency
	Economic and human development		Waste water is not highly prioritized as Plan B of pumping into the sea is less costly				“Parasites do not care about politics” → human health
	Attempts of river basin management of Litani – struggle between LRA and MoEW		Profit-making paradigm prevails				
	Attempts to mainstream IWRM (by WB and EU Group)		General distrust of World Bank				
	Financial sustainability as baseline for WE (cost recovery)						
	“Concerns for the environment have not quite trickled through yet”						
						Commercialization of WE Engineer-dominated/technical sector	

In the previous chapter, three key actors and interrelationships have been identified as particularly influential in the water sector (Figure 4). These are the World Bank and donor agencies, the CDR and the municipalities. Focusing on these three actors, this section examines the political and economic interests and relations, as well as the means (or techniques) by which these actors achieve their objectives. The concept of governmentality is useful to explain in what ways these actors influence decision-making (Hajer 2003; Lemke, 2002).

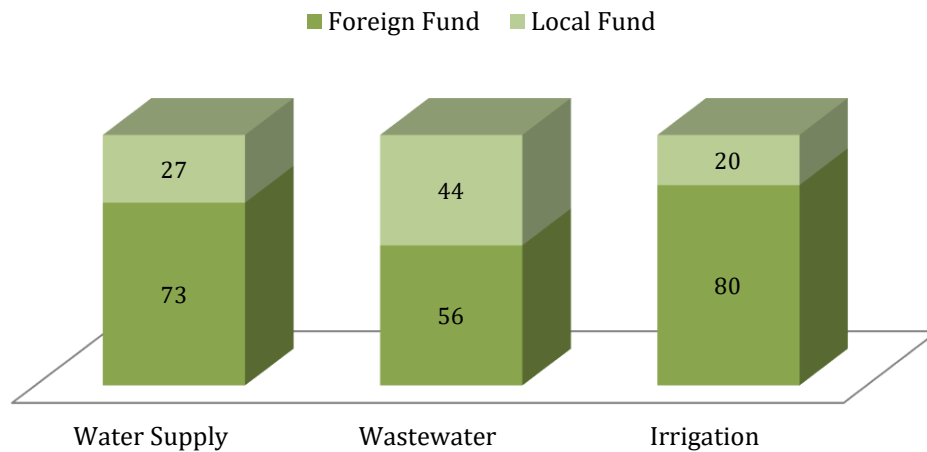
6.1. Donor Dependency

The structural dependency of the Lebanese state on foreign funding puts donors in a strategically advantageous position from where they can set ‘the rules of the game’ (Hajer 2003). In other words, the influence of donor agencies can partly be explained by the economic history of Lebanon, and partly by the active involvement of the donors in policy networks and projects.

Because Lebanon is highly indebted, the budget for public expenditures is constrained, amounting to about 3% of the total GDP (WB 2010, 35). Only 0.5% of this is allocated to the water sector of which 23%, or 32 million USD, go towards the wastewater sector annually (number from 2008/ Ibid., 37). With a total estimated cost of building WWTP and sewer systems at 1 billion USD (GWI 2002) to 3.5 billion USD (MoEW 2012), the amount of public expenditure in the wastewater sector seems insufficient. Much of the funding of the sector, thus, comes from foreign sources as illustrated in Figure 5. This number is even higher when direct investments of donors in wastewater projects are taken into account. Seeing how much funding derives from foreign sources, it is fair to say that the Lebanese government is highly dependent on foreign funding for the wastewater sector.

Figure 5: Source of Funding of CDR-Executed Investments (1992-2008)

Source: World Bank 2010 Public Expenditure Report of Lebanon



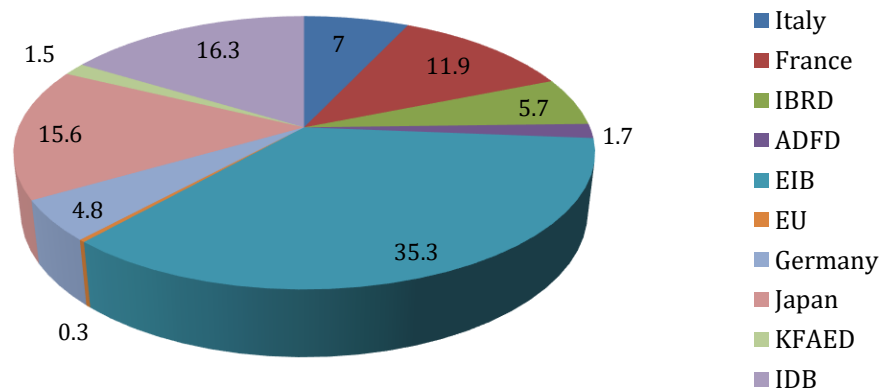
Lebanon's dependency on foreign aid has become a structural necessity not only for the wastewater sector, but for the economy as a whole (Dibeh 2007). Initially, foreign aid was given for development and reconstruction efforts after the civil war. By 1997, however, aid utilization had undergone a qualitative shift as it was now used for stabilization purposes (Ibid.). Foreign aid was used to maintain balance-of-payments surpluses, which was increasingly difficult in light of large public expenditures and low taxes (Gaspard 2004).²² Also, foreign capital flows were diverted to reduce interest rates on growing public debt, while ensuring the necessary liquidity to continue borrowing funds (Dibeh 2007). Hence, foreign aid was used as a macro-economic policy measure and as such acquired a highly strategic role in Lebanon's political economy.

Given the structural significance of foreign aid in Lebanon as source of project funding, as well as stabilizing policy measure in the overall economy, donor agencies have found themselves in an influential position to negotiate and set the terms and conditions for funding. Figure 6 shows the main donors in the wastewater sector.

²² Balance of payments increased from 0.3 billion USD in 1997 to 3.3 billion USD in 2002 (MoF 2003).

Figure 6: Foreign Funding for the Wastewater Sector by Donor (in %, 1992-2008)

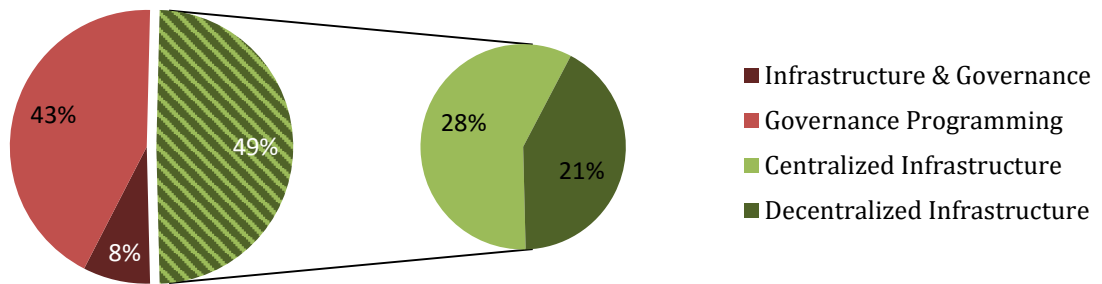
Source: World Bank 2010 Public Expenditure Report for Lebanon



Acronyms: ADFD: Abu Dhabi Fund for Development, IBRD: International Bank for Reconstruction and Development; EIB: European Investment Bank; EU: European Union; KFAED: Kuwait Fund for Arab Economic Development

All donors, except for ADFD, joined a coordination and consultation group together with other international organizations (UNICEF, UNDP, UNFIL, USAID, and the World Bank) and government organizations (MoEW, CDR and the Prime Minister’s Office) (Interview 7). Essentially, this group has formed a policy network that fits Swyngedouw’s description of “apparently horizontally organized and polycentric ensembles in which power is dispersed” (2005). Building upon a liberal norm of consensus and cooperation, this group, or policy network, seeks to create a common strategy for the wastewater sector (Walters 2004). They have, for example, developed the NWSS together (GIZ 2012). The NWSS pertains to the Dublin Principles, which are also reflected in other donor projects. Most of these projects aim at building a functional wastewater infrastructure as illustrated in Figure 7. Once in place, the focus shifts onto governance issues as exemplified by projects on good governance (SWIM), capacity building (GIZ/ USADI), and technical management tools (MED EUWI). Eleven of these projects explicitly mention IWRM as guiding principle. Rather than engaging with contesting viewpoints, the donor agencies seek “partners in a game of collective self-management and modulated social adjustment” (Walters 2004, 35). Of course, donors recognize different interests and views, but they try to “discuss” them in stakeholder meetings (GTZ 2009) and resolve differences in “mutual confrontation” (WB 2009). A potentially contentious process of policy formulation thereby becomes one of assimilation (Donzelot 1991; Williams 2004).

**Figure 7: Types of Wastewater Projects
(in % of total of 61 projects between 1996 and 2012)**



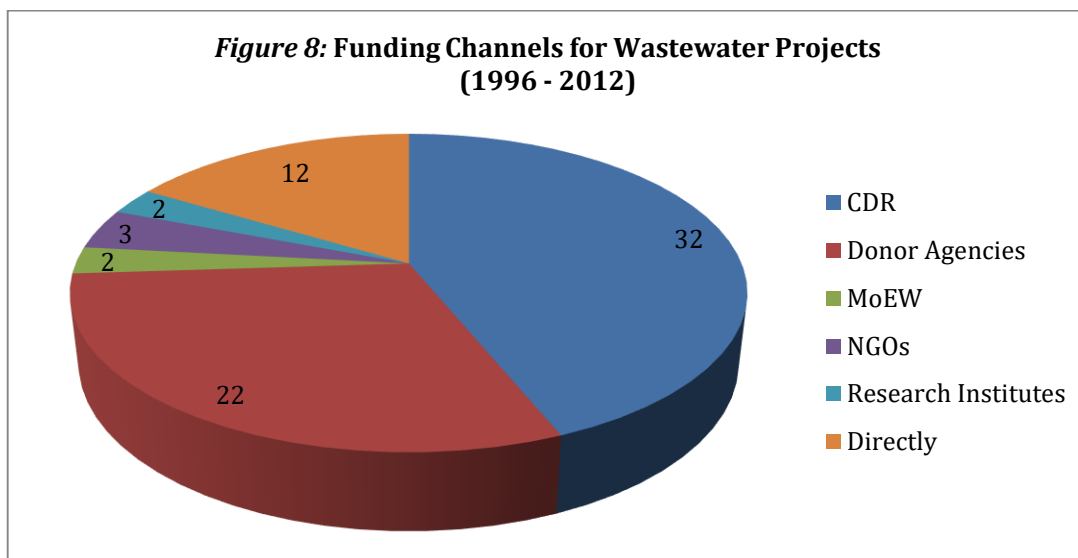
This networked form of governance can be interpreted as a technique of governing through which the donor agencies can promote their particular governmental rationality (Lemke 2002). Donor agencies can promote their interests, ideas and values through the policy network and their own projects. In the case of Lebanon, this has largely been done through the implementation of good governance principles and market-based approaches to wastewater management. This networked form of governance, thus, helps consolidate a market-centric governmental rationality (Swyngedouw 2006).

6.2. Council for Development and Reconstruction

The CDR, too, has been hugely influential in the Lebanese water sector and the wastewater sub-sector. As integral part of Hariri's economic model for reconstruction and development, the CDR handled most of the investments both by the state and foreign donors, and allocated funding to projects it deemed important. The CDR is closely linked to the interests of the Hariri clan and thus, of a particular political-economic elite.

Hariri's economic model had two main objectives: a stable currency through re-evaluation and macro-economic stabilization measures, as well as reconstruction and infrastructure development (Denoueux & Springborg 1998). Specific emphasis was placed on the financial sector and the re-building of the capital Beirut (Ibid.). Physical infrastructure projects were prioritized over human development (e.g. investments in the education and health sector) (Dibeh 2005). In short, Hariri favoured a market-centric development model that provided visible and quick fixes for the economy. Politics were dismissed as "dispenser of patronage to sectoral interests" that could potentially block decision-making processes and effective governance (Denoueux & Springborg 1998, 161).

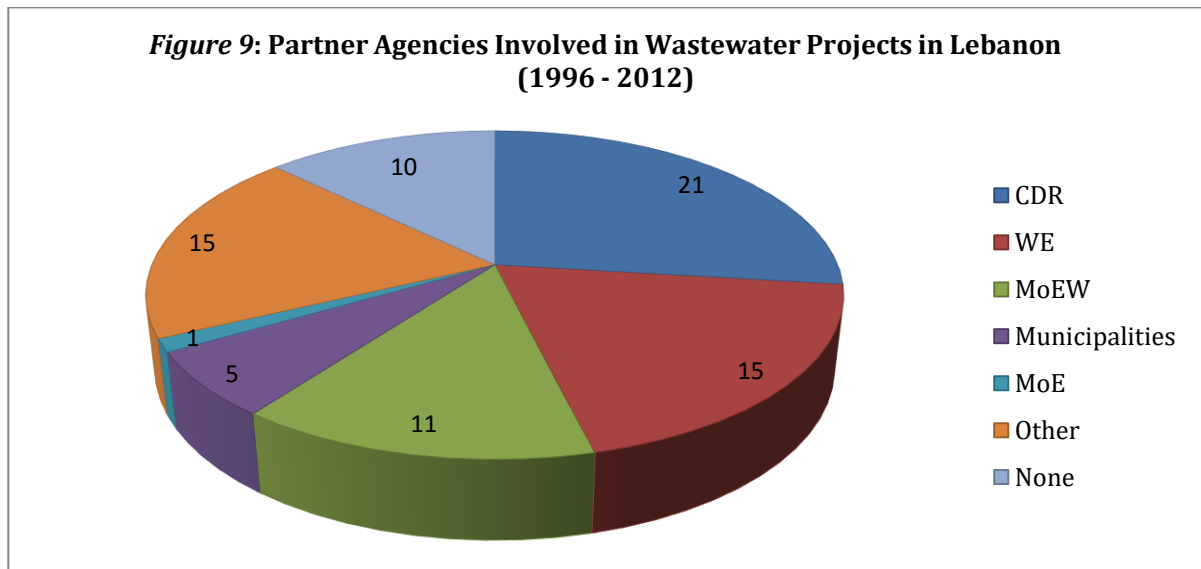
This economic model was supported by a partly private, partly public governmental structure (Iskandar 2006). Hariri strategically put his business associates in charge of the Central Bank, the Ministry of Finance and the Governorship of Mount Lebanon (Denoueux & Springborg 1998).²³ Political and financial control of reconstruction and development plans was transferred to the CDR, which by then had a virtual monopoly over public expenditures (Ibid.). The CDR was closely associated with the private company Solidère, awarding it with some of the most profitable reconstruction projects (Leenders 2004; Young 1998). In order to finance the reconstruction process, the government sold treasury bills (T-bills) to Lebanese banks that made profits of the high interest rates of these T-bills (Kisirwani, n.d.). The single largest owner of stocks of Lebanese banks was Hariri himself, who benefitted from the profits the bank's made of Lebanon's increasing debt. Through the process of reconstruction, Hariri and his associates were able to push through their economic and political interests, and thus, fundamentally shape the development of the country (Denoueux & Springborg 1998).



Without any substantial driver of the economy, this model quickly ran into problems. Public debt was increasing as were the expenses on debt repayments and salaries (Denoueux & Springborg 1998). This left only a small percentage of the public budget for capital investments, further slowing down economic growth (Leenders 2004). Meanwhile, the CDR continued to take out extra-budgetary loans from the Central Bank and thus, maintained a significant influence over project financing and planning. There are no publicly available documents on

²³ Riyadh Salameh had handled Hariri's finances at Merrill Lynch and was now in charge of the Central Bank. Fuad Siniora had been the chief financial officer for Hariri's enterprises and became the Minister of Finance. Suhail Yamut formerly represented Hariri's business interests in Brazil, and was appointed Governor of Mount Lebanon (Denoueux & Springborg 1998).

how much money the CDR has borrowed, but a 2007 report on budget reforms by the Ministry of Finance acknowledged the CDR as “one of the two the largest extra-budgetary entities” (MoF 2007). Moreover, the CDR handles the funds of 32 of 61 foreign-financed projects in the wastewater sector (Figure 8), and acts as main partner agency in 21 of them (Figure 9). The CDR continues to be involved in a significant number of projects, although the reforms had actually foreseen this role for the MoEW and WE.



6.3. Municipalities

As owners and operators of some of the existing water supply and a bulk of the sewer networks, the municipalities have a great stake in the water sector (GTZ 2010). Even though it is formally the responsibility of the WE, they continue to operate and maintain their supply and sewer networks and treatment facilities (Ibid.). The water sector reforms have largely overlooked the role of the municipalities, which are chronically underfunded (GTZ 2009). Some of the municipalities have, thus, tried to find alternative sources of funding to ensure and improve current infrastructure and services. Their efforts, however, have been constrained by a continued dependency on funding from either the national government or international donors.

One example is the *Assi River Project* that aims to build a Phytodepuration pilot plant, an artificial wetland system, to reduce the impact of organic pollution from trout farming and to improve water quality (Trelaghi 2002). It is a joint cooperation project between Lega Pesca, the Italian Association of Italian Fishery Cooperatives, the Federation of Municipalities of Chouf

Souayjani, the Agency of Decentralized Cooperation, the Italian Cooperation, the Union of Municipalities of Hermel, the Cultural Association of Hermel, as well as an Italian university and a private research centre. In short, the project involves a number of stakeholders from different levels of governance (Cancellieri *et al.* 2009). The project is primarily financed through a grant by the Friuli-Venezia-Giulia region in Italy (Ibid.). As a main trading partner, the Friuli-Venezia-Giulia region has a strategic interest in investing in Lebanon (Interview 5). In this case, there have not been any costs for the municipality of Hermel, because the Italian partner provided all of the needed funding in the form of a grant. Despite this being quite an innovative arrangement, the municipalities continue to rely on external funding. The reforms and key policy documents in the water sector do not address how municipal finances could be made sustainable.

Similarly, the *partnership* programme between the Municipality of Bkassine (from the Jezzine caza) and the City of Lille has been established to support decentralized governance structures (MAF 2006). The *WADI Urban Water Management Project*, too, is an example of a cooperation project between municipalities – in this case of the Municipality of Pisa and the Federation of Municipalities of Chouf Souayjani (WADI 2011). These projects exemplify what Swyngedouw (2005) describes as governance-beyond-the-state. It involves the down-scaling of governance to the local level, creating “greater local differentiation combined with a desire to incorporate new social actors in the arena of governing (Swyngedouw 2005:1999).

For instance, municipalities are increasingly confronted with the question of who pays for investments in public infrastructure and services. Both the Lebanese state and municipalities rely on foreign funding and international lending for the water sector and its wastewater sub-sector (Figure 6; WB 2010). So even if the state subsidises public utilities, it would most likely involve external funding. Market-centric approaches to wastewater management suggest tariff collection to achieve cost recovery (WB 2010). This approach has been supported by many Western donors that have funded training for local staff on wastewater tariffs (USAID/DAI 2007), as well as they supported the development of business plans based on a volumetric tariff system (GTZ 2009). Ultimately, these measures signal a shift towards a more market-based approach to wastewater management.

The political economy analysis makes apparent the specific context in which the wastewater sector is embedded. Donor agencies have been influential because of the Lebanese state’s dependency on foreign aid as a macro-economic policy measure to stabilize its own economy.

Continuing a tradition of laissez-faire policy, Hariri's economic model of post-war reconstruction promoted a liberal market economy. Politics were dismissed for being overly political and ineffective, and the CDR was conjured up as institutional fix, granting it a virtual monopoly over publicly financed reconstruction efforts and exempting it from formal bureaucratic procedures. As such, the CDR became a powerful actor in the governing of not just the wastewater sector, but of Lebanon as a whole. Finally, the municipalities have maintained their traditional role of as owners and operators of municipal water supply and wastewater systems. They have, however, been constrained by the power asymmetries between the municipalities, the national government and international donors on which the municipalities depend on for funding.

This has resulted in new forms of governance. Donor agencies and governmental organizations have formed into a policy network, reflecting a trend towards governance arrangements beyond-the-state (Swyngedouw 2005). The political economy analysis also provides insights into the contending interests and interrelations of political actors involved in the governing of the water sector. It shows how governance-beyond-the state has resulted in asymmetric power relations, empowering some actors (like the CDR) over others (like the public institutions that are meant to play the role of the CDR) (Swyngedouw 2006).

7. Conclusion

The thesis explores three central questions to the governance of the Lebanese water sector:

In what ways have the ideas and principles of global water governance influenced the water sector reforms in Lebanon? Based on the review of three key policy documents, it can be concluded that there has been an uptake of good governance principles and market-centric management approaches as promoted by the World Bank. However, the implementation of the reforms itself is a political process of contestation, adjustment and transformation that is shaped by different, often contradictory interests, values and ideas (Mollinga 2008b). It is therefore important to understand who is involved in the implementation, why and how.

Who are key actors, their roles and responsibilities, their interests and interrelationships, and their influence in the water sector? Understanding the political-economic dimensions of water governance helps to explain the power relations, interests, ideas and values that shape the water sector. The sector reforms in Lebanon focused on the role of the Ministry of Energy and Water (MoEW) and the Water Establishments (WE) in particular. There are, however,

numerous other actors involved in the governance of the sector, most notably the Western and Arab donor organizations, the Council for Development and Reconstruction (CDR) and the municipalities. The thesis revealed that the actual role and responsibilities of these actors deviate quite significantly from what was envisioned by the reforms.

How have existing governance structures and processes drive, or constrain, changes in the Lebanese water sector? Focusing on international donor agencies, the CDR and the municipalities, political economy analysis provided insights into the governance structures and processes that drive, and constrain, these actors. It concludes that the donor agencies have been influential because of the Lebanese state's dependency on foreign aid as a macro-economic policy measure to stabilize its own economy. Continuing a tradition of laissez-faire policy, Hariri's economic model of post-war reconstruction promoted a liberal market economy. Politics were dismissed for being overly political and ineffective, and the CDR was conjured up as institutional fix, granting it a virtual monopoly over publicly financed reconstruction efforts and exempting it from formal bureaucratic procedures. As such, the CDR became a powerful actor in the governing of not just the water sector, but of Lebanon as a whole. Finally, the municipalities have maintained their traditional role of as owners and operators of municipal water supply and wastewater systems. They have, however, been constrained by power asymmetries between the municipalities, the national government and international donors on which the municipalities depend on for funding.

The water sector in Lebanon is facing many challenges. Some can be resolved through infrastructure development, others through more efficient and inclusive water resources management. The water sector reforms were an attempt to tackle these challenges through new infrastructure, technical fixes and improvements in management. What the reforms did not address is what Karen Bakker and Michelle Kooy call "governance failure", defined as "the failure to address the needs of poor households... and as undermining their capability to connect to the water system" (2008:1895). This is where more work needs to be done.

How can the different actors in the sector be brought together to work towards a more humane system? Ensuring safe and reliable access to water and sanitation services for all. Ensuring competition and conflicts between water users are adequately addressed and no one is left behind. What kind of governance system is needed to achieve sustainability objectives in the water sector? A nuanced understanding of governance can help bring together a diverse range of actors to develop a more adaptive and sustainable governance system.

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Appendices

Appendix 1: *List of Interviewees*

Interview 1 - Researcher, IFPO Research Institute
Interview 2 - Researcher, SOAS University
Interview 3 - Hydrologist, Consultancy
Interview 4 - World Bank Specialist
Interview 5 - Italian Cooperation for Development
Interview 6 - UNICEF
Interview 7 - GIZ
Interview 8 - USAID/ DAI
Interview 9 - Ministry of Environment
Interview 10 - Ministry of Energy and Water/ DAI
Interview 11 - Ministry of Energy and Water
Interview 12 - IndyAct, NGO

Appendix 2: *List of water projects in Lebanon (13 June 2011)*



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