

# Climate Change and Environment in the Arab World

April 2015

## The Way Forward to Safeguard Water in Lebanon

National Water Integrity  
Risk Assessment

Nadim Farajalla, Silva Kerkezian, Zeinab Farhat,  
Rana El Hajj and Michelle Matta

Research Report

# Climate Change and Environment in the Arab World

Research Report | April 2015

## The Way Forward to Safeguard Water in Lebanon

### National Water Integrity Risk Assessment

The Climate Change and Environment in the Arab World Program aims to understand the climate change and environment policy process in the region and define the most appropriate policy recommendations by linking development in applied sciences on issues related to climate change and environment to social sciences.

Nadim Farajalla Faculty Research Director  
Rana El Hajj Program Coordinator  
Silva Kerkezian Project Coordinator  
Zeinab Farhat Research Assistant  
Michelle Matta Field Assistant

**Nadim Farajalla, Silva Kerkezian, Zeinab Farhat,  
Rana El Hajj and Michelle Matta**

Published by the Issam Fares Institute for Public Policy and International Affairs, American University of Beirut.

This report can be obtained from the Issam Fares Institute for Public Policy and International Affairs office at the American University of Beirut or can be downloaded from the following website: [www.aub.edu.lb/ifi](http://www.aub.edu.lb/ifi)

The views expressed in this document are solely those of the author, and do not reflect the views of the Issam Fares Institute for Public Policy and International Affairs or the American University of Beirut.

Cover image ownership rights belongs to Montaser Othman

**Beirut, April 2015**

**© All Rights Reserved**

# Contents

---

<b>Preface .....</b>	<b>4</b>
<b>Acknowledgements .....</b>	<b>5</b>
<b>List of Acronyms and Abbreviations .....</b>	<b>6</b>
<b>List of Tables.....</b>	<b>7</b>
<b>List of Figures.....</b>	<b>7</b>
<b>1. Why a Water Integrity Report .....</b>	<b>8</b>
1.1 Stakeholders and Institutions of the Water Sector .....	8
1.2 National Integrity Processes .....	14
1.3 Water Integrity Processes .....	19
<b>2. Identified Challenges to Water Integrity in Lebanon .....</b>	<b>20</b>
2.1 Fragmented Legislation with Weak Enforcement.....	20
2.2 Overlap in Roles and Responsibilities within and between Institutions .....	21
2.3 Irregular Permitting of Well Permits, Illegal Connections and Over-Abstraction .....	21
2.4 Lack of National Water Information and Data .....	21
2.5 Absence of Budgeting .....	23
2.6 Discrimination and Other Problems in Human Resources .....	23
2.7 Procurement and Public Works .....	24
2.8 Inequitable Distribution and Privatization of the Water Sector.....	24
<b>3. Achieving Water Integrity .....</b>	<b>25</b>
<b>4. Conclusion.....</b>	<b>27</b>
<b>Bibliography .....</b>	<b>28</b>
<b>Appendices .....</b>	<b>30</b>
Appendix 1 - Laws and Regulations of the Lebanese Water Sector.....	30
Appendix 2 - Analytical Framework for Water Integrity Risk Assessment in Lebanon.....	33
Appendix 3 - List of stakeholders interviewed: .....	40

# Preface

---

IFI's Climate Change and Environment in the Arab World Program, launched in 2008, aims to use the technical expertise of academics to answer socially driven questions on climate change and the environment in a multidisciplinary approach in order to fill policy gaps in Lebanon and the Arab world.

The Program has conducted several research studies, including mapping studies, such as the "Country-Specific Studies on Climate Change and the Policy-making Process in the Levant" and national studies such as the "National Economic, Environment and Development Studies (NEEDS) for Climate Change Project" with the Lebanese Ministry of Environment. The latter was selected by the United Nations Framework Convention on Climate Change (UNFCCC) secretariat for presentation at the Conference of the Parties to the convention (COP15) in Copenhagen. More recent studies include the "Impact of Population Growth and Climate Change in Lebanon and Egypt on Water Scarcity, Agricultural Output and Food Security", "Lebanon's Water-Energy-Food Nexus: Policy and Institutional Analysis", "Climate Change in Lebanon: Higher-order Regional Impacts from Agriculture" and "A Window into the Future: The Cost of Doing Nothing – The Drought of 2014 in Lebanon".

In 2014, the Program was selected to be the national partner in the "Capacity Building Programme on Water Integrity for the Middle East and North Africa region", implemented by the Stockholm International Water Institute and partners, including UNDP Water Governance Facility, Global Water Partnership - Mediterranean, Integrity Action, International Union for Conservation of Nature – Regional Office of Western Asia, and the Arab Integrated Water Resources Management Network, with the financial support of the Swedish Government. The objective of the program is to develop capacities of various water sector stakeholder groups at different governance levels to improve transparency, accountability and participatory practices in water management in the MENA region. The program is simultaneously implemented in Jordan, Palestine, Morocco, Tunisia and Lebanon.

This unique assessment report was conceived within this capacity-building program, and it aims to provide a general overview of the integrity and corruption risks surrounding the various management and governance aspects of the Lebanese water resources and sector. It is a national study that identifies and analyzes the main water integrity and corruption risks in Lebanon with a mapping of stakeholders and institutions of the water sector, as well as the existing integrity processes in the country. The study then delves into identifying risks of water integrity in the country from information collected from more than 60 semi-structured interviews with the majority of the main stakeholders. The assessment concludes by proposing some policy needs and recommendations.

This publication is the compilation of work conducted over the last two years. This work provided a better understanding of the water integrity risks in Lebanon, and identified the urgent need for a national anti-corruption strategy together with a legislative reform of the water sector to tackle these integrity risks.

We hope that this report will be seen as a useful tool in identifying and confronting corruption risks in the water sector and in securing water integrity.

## **Nadim Farajalla**

Faculty Research Director of the Climate Change and Environment in the Arab World Program  
Issam Fares Institute for Public Policy and International Affairs  
American University of Beirut

# Acknowledgements

---

This report is based upon work undertaken at the Issam Fares Institute for Public Policy and International Affairs at the American University of Beirut within the “Capacity Building Programme on Water Integrity in the Middle East and North Africa” implemented by the Stockholm International Water Institute and partners, with the financial support of the Swedish Government.

We would like to express our gratitude to H.E. Mr. Arthur Nazarian, Lebanese Minister of Energy and Water for supporting the project and this report. Further, we would like to thank Ms. Randa Nemer and Ms. Suzy Hoayek for reviewing and vetting various aspects of the report.

We would also like to thank the following colleagues from IFI for contributing to the completion of this report: Ms. Patricia Haydamous, Mr. Alex Aghajanian, Mr. Michael Huijjer, and Ms. Nermin El-Horr. Design was executed by Ms. Donna Rajeh.

## List of Acronyms and Abbreviations

---

AFDC:	Association for Forests, Development and Conservation
ANND:	Arab NGO Network for Development
CDR:	Council for Development and Reconstruction
CNRS:	National Council for Scientific Research
CSB:	Civil Service Board
EU:	European Union
FEF:	Friedrich Ebert Foundation
GEF:	Global Environment Facility
HBF:	Heinrich Böll Foundation
ICARDA:	International Center for Agricultural Research in the Dry Areas
IGO:	International Governmental Organization
LARI:	Lebanese Agriculture Research Institute
LCWMC:	Lebanese Center for Water Management and Conservation
LDN:	Lebanese Development Network (corruption monitor)
Leb-PAC:	Lebanese Parliamentarians against Corruption
LRA:	Litani River Authority
LTA:	Lebanese Transparency Association
MoA:	Ministry of Agriculture
MoE:	Ministry of Environment
MoET:	Ministry of Economy and Trade
MoEW:	Ministry of Energy and Water
MoF:	Ministry of Finance
Mol:	Ministry of Industry
MoIM:	Ministry of Interior and Municipalities
MoPH:	Ministry of Public Health
MoPWT:	Ministry of Public Works and Transport
MoT:	Ministry of Tourism
MP:	Member of Parliament
NIS:	National Integrity System
NWSS:	National Water Sector Strategy
OMSAR:	Office of the Minister of State for Administrative Reform
PC for PWTEW:	Parliamentary Committee for Public Works, Transportation, Energy and Water
SELDAS:	Strengthening the Environmental Legislation Development and Application System in Lebanon
UNCAC:	United Nations Convention against Corruption
UNDP:	United Nations Development Programme
UN-ESCWA:	United Nations-Economic and Social Commission for Western Asia
USAID:	United States Agency for International Development
WEs:	Water Establishments (Beirut and Mount Lebanon, North, Bekaa and South)
WB:	World Bank
WUA:	Water User Association
YEF:	Youth Economic Forum

## List of Tables

---

Table 1: Primary Stakeholders.....	11
Table 2: Secondary Governmental Stakeholders.....	11
Table 3: Roles and Responsibilities of the Different Governmental Stakeholders in the Water Sector.....	13
Table 4: Laws, Regulations and Measures Founded to Enhance Integrity in the Lebanese Governmental and Non-governmental Sectors.....	18

## List of Figures

---

Figure 1: Stakeholders' Setting of the Water Sector in Lebanon .....	9
Figure 2: Water Integrity Stakeholders.....	10
Figure 3: Significance of Governmental Stakeholders by Decreasing Responsibilities .....	14
Figure 4: Percentage of interviewees and Ease of Accessibility to Data .....	22

# 1. Why a Water Integrity Report

Lebanon's water resources are under stress from a growing population, rapid urbanization, economic growth, mismanagement of water, pollution, climate change, and ineffective water governance (MoE; UNDP; ECODIT, 2011). All of these stressors pose serious short and long-term challenges, and necessitate proper management including good governance practices and characterized by integrity in managing water resources.

An average year in Lebanon yields about 2,700 million m<sup>3</sup> of water while annual demand ranges between 1,473 and 1,530 million m<sup>3</sup> per year (Ministry of Energy and Water, 2010a). Thus, theoretically the available water should exceed the needs of Lebanon until the year 2035.

In 2010, the Ministry of Energy and Water (MoEW) estimated Lebanon's annual available water per capita from renewable sources at 926 m<sup>3</sup>, which is lower than the widely used international benchmark of 1,000 m<sup>3</sup>. The ministry also projected that by 2015, the individual share will drop to 839 m<sup>3</sup> when accounting for population growth but not the influx of refugees (Ministry of Energy and Water, 2010a).

Thus, the water problem in Lebanon is not that of availability of water, as much as it is related to the mismanagement and lack of integrity in the sector's practices. From here arises the need for and the importance of this pioneering and extensive assessment that investigates the state of integrity in the water sector in Lebanon. Water integrity as defined by the Stockholm International Water Institute<sup>1</sup>, is the adherence of stakeholders and institutions to governance principles of transparency, accountability and participation in water resources management, based on core values of honesty, equity and professionalism.

The work presented in the subsequent sections is a unique assessment of the level of integrity within the water sector and its management apparatuses in Lebanon. The report starts by identifying the stakeholders and institutions of the water sector in Lebanon, as well as the existing integrity processes in the country, before examining the state of good governance practices and the associated values. The assessment then delves into identifying risks of water integrity in the country from information collected from more than 60 semi-structured interviews with the majority of stakeholders. The assessment concludes by proposing some policy recommendations.

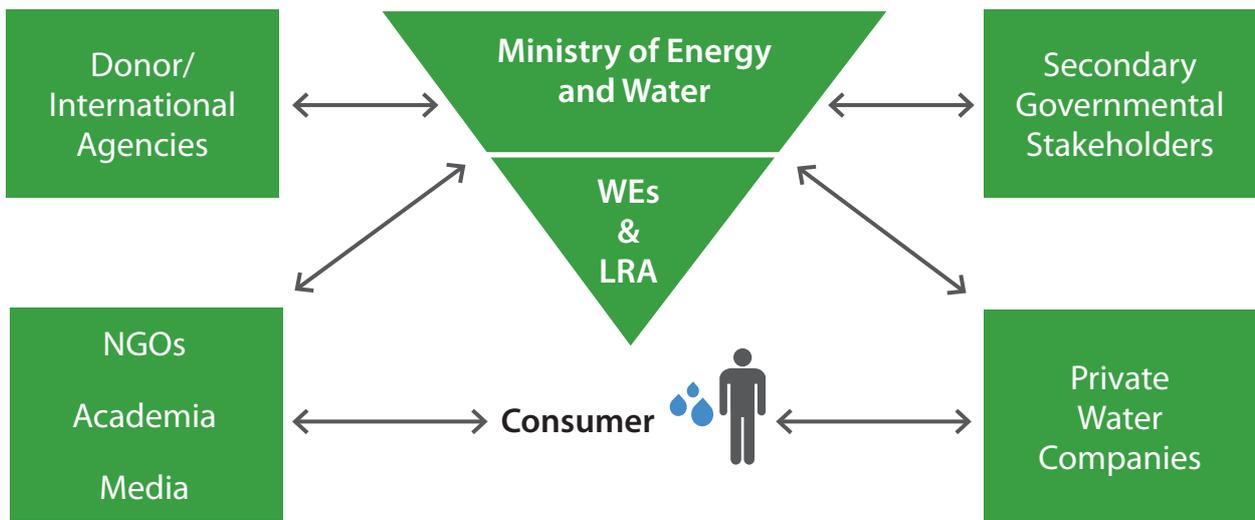
## 1.1 Stakeholders and Institutions of the Water Sector

The evolution of the water sector's regulatory laws in Lebanon dates back to the irrigation laws of the Ottomans, with further modifications and additions during the French mandate and after the independence of the country. In 2000, the Lebanese government passed a new water law – Law 221/2000, which is the main regulating law of the water sector, in addition to laws 241/2000, 228/2000 and 337/2001. A list of laws and regulations of the Lebanese water sector can be found in Appendix 1.

According to Law 221/2000, the water sector in Lebanon is primarily managed by MoEW on a national level, and on a regional level through four autonomous Water Establishments (WEs) – North Lebanon, Bekaa, Beirut and Mount Lebanon and South Lebanon. The Litani River Authority (LRA) is considered similar to the regional WEs and is tasked with managing the major rivers in the country. These institutions were identified as primary stakeholders. Other stakeholders involved in the management of the water sector include several other governmental institutions, in addition to non-governmental organizations, which are considered as secondary stakeholders.

Figure 1 illustrates the interactions between the different tiers of stakeholders, where the MoEW is on top with the bulk of responsibilities, with decreasing roles and responsibilities further down the inverted triangle. The secondary Stakeholders are divided into 1) secondary governmental stakeholders 2) civil society 3) donor agencies 4) private water companies.

1. <http://www.watergovernance.org/integrity>



**Figure 1: Stakeholders’ Setting of the Water Sector in Lebanon**

The stakeholder mapping exercise carried out in this project further identified water integrity stakeholders which are presented in figure 2.

The roles of the primary stakeholders according to the governing legislation are summarized in Table 1, while those of the secondary governmental stakeholders are presented in Table 2.



**Figure 2: Water Integrity Stakeholders**

Stakeholder	Expected Role by Law
Ministry of Energy and Water	<ul style="list-style-type: none"> <li>• Develop national scale studies (related to large-scale irrigation projects, water resources management, monitoring, and controlling as well as conducting hydro-geological research)</li> <li>• Oversee and monitor the WEs and all other public institutions working in the water sector</li> <li>• License wells and all water extractions</li> <li>• Provide advice in the licensing of mines and quarries when there is a water related issue</li> <li>• Implement artificial recharge of groundwater when required and regulate the volumes of groundwater extracted</li> <li>• Design, build and implement major water facilities i.e.: dams, hill-lakes, water and waste water treatment plants, and water networks among others</li> <li>• Manage drinking and irrigation water as well as waste water</li> <li>• Control, monitor and measure water resources, and determine the needs and use of water resources on a national scale</li> <li>• Monitor the quality of surface and ground water, and setting the relevant quality standards</li> <li>• Protect water resources from pollution</li> </ul>
The Water Establishments: 1) North Lebanon 2) South Lebanon 3) Bekaa Valley 4) Beirut and Mount Lebanon	<ul style="list-style-type: none"> <li>• Plan and distribute water resources within their respective areas</li> <li>• Operate and maintain the system, including cost recovery, and renewal</li> <li>• Implement the national water and wastewater plans</li> <li>• Study, implement and invest in drinking and irrigation water plans and water quality</li> </ul>
The Litani River Authority	<ul style="list-style-type: none"> <li>• Plan and operate the irrigation system of the Litani River Basin and South Lebanon</li> <li>• Measure all surface flows throughout the country</li> <li>• Establish and operate hydroelectric power plants on the Litani River</li> </ul>

**Table 1: Primary Stakeholders**

Stakeholder	Expected Role by Law
Council for Development and Reconstruction	• Mobilize funds and implement support to the MoEW and WEs approved by the Council of Ministers
Ministry of Finance	• Provide budgets for the implementation of projects
Ministry of Environment	<ul style="list-style-type: none"> <li>• Control pollution and regulate all activities that impact the environment</li> <li>• Regulate activities that might have an impact on the environment</li> <li>• Evaluate the Environmental Impact Assessment</li> </ul>
Ministry of Public Health	<ul style="list-style-type: none"> <li>• Monitor and control drinking water quality, and ensure water quality standards are met</li> <li>• Monitor the incidence of waterborne diseases and publish related epidemiological data</li> </ul>
Ministry of Agriculture	<ul style="list-style-type: none"> <li>• Study irrigation projects and provide technical supervision during implementation</li> <li>• Regulate the distribution of public irrigation water and ways to use it and monitor the implementation of these regulations<sup>2</sup></li> </ul>
Council of the South	• Build water supply systems in the south and west Bekaa regions
Central Fund for the Displaced	• Rehabilitate and build water supply systems in the villages of the Chouf, Baabda and Aley

**Table 2: Secondary Governmental Stakeholders**

2. Decree 31 dated 18/01/1955 and its amendments

Based on a review of the NWSS, State and Trends Report, and the governing laws, a comparison between the roles and responsibilities of the different governmental actors (both primary and secondary) in the water sector at various levels was made and is presented in Table 3. It is apparent that the load of responsibilities and implementation is assigned to the MoEW with an overlap between different institutions, especially when it comes to planning of water projects, resource management and conservation efforts.

Overlaps and major ambiguity have become apparent during the application/implementation of Law 221. The ambiguity is that Law 221 does not explicitly grant the MoEW or any other public institution the responsibility to set policies but rather empowers it to formulate policy and provide policy advice to the government of the day (MoE; UNDP; ECODIT, 2011).

The overlap in roles has led some institutions to shift their responsibilities onto others. This situation is further compounded by the lack of operational decrees for the implementation of existing laws (such as Law 221), the implementation of outdated laws that do not assign responsibilities and the lack of coordination between these institutions.

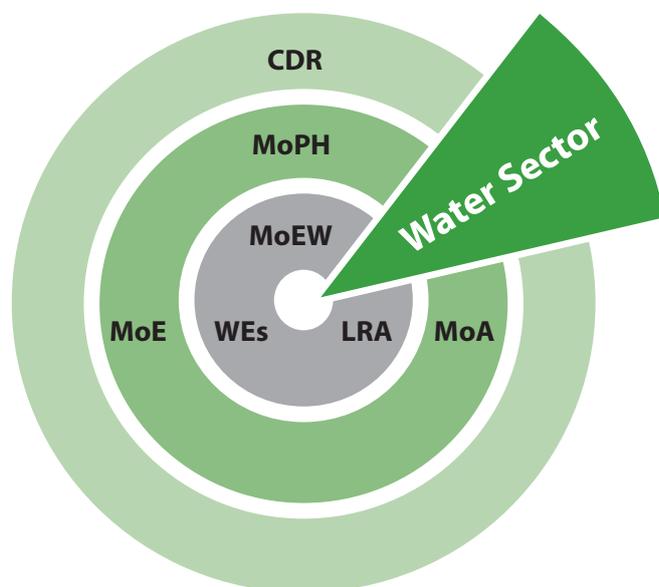
Moreover, according to Law 221/2000, municipalities and local water committees no longer have any role in managing water resources; however they still play a great role in implementing small irrigation schemes, collecting waste water, and operating and maintaining water networks. Even though local committees had to be merged within the WEs, in some areas they still function and this is due to the lack of the WEs' capacities in fulfilling their duties.

Even though secondary non-governmental stakeholders such as the academic sector, civil society, private water bottling companies and donor agencies are not mandated by law with responsibilities, they still play an important role in supporting the water sector. The academic sector in Lebanon is vital for the generation of water-related data that is widely used in the production of national environmental reports and plans. IGOs in their turn play a great role in research and infrastructure projects implemented in the country, through allocated funds. Civil society in Lebanon is a very active agent in the community and leads many advocacy and awareness campaigns related to water conservation and anti-corruption movement and in some instances implements local water-related projects. Private water bottling companies are the leading distributors of drinking water, in addition to tankers distributing bulk water for domestic use, specifically in times of drought (MOE; UNDP; ECODIT, 2011). Companies providing potable water fill a gap as drinking water reaching residents is sometimes polluted or perceived to be polluted leaving citizens seeking alternative sources of water. On the other hand, water for domestic use is distributed through tankers which do not function in a legal framework and are not regulated.

	Description of responsibilities	MoEW	WEs	MoA	MoE	MoPH	MoIM	LRA	CDR	Mol
Policy-making	<ul style="list-style-type: none"> <li>• Definition of sector policy, institutional roles and structures</li> <li>• Enactment of legislation and regulation</li> <li>• Development of investment and subsidy policy</li> </ul>									
Planning and Implementation	<ul style="list-style-type: none"> <li>• Establishment of long-term consolidated planning for water, irrigation and waste water</li> <li>• Evaluation of infrastructure and investment requirement</li> <li>• Water rationalization</li> <li>• Design, construction and operation of major water infrastructures</li> <li>• Funding and execution of investment programs</li> </ul>									
Conservation and Resource Management	<ul style="list-style-type: none"> <li>• Allocation of resources across regions, e.g., water reuse</li> <li>• Identification and promotion of water conservation campaigns</li> </ul>									
Regulation and Enforcement	<ul style="list-style-type: none"> <li>• Issuance of regulations</li> <li>• Enforcement of regulations and standards for cost recovery, service quality, water quality, and consumer relation</li> </ul>									
Operation and Distribution	<ul style="list-style-type: none"> <li>• Billing and collection of tariffs</li> <li>• Maintenance and renewal of infrastructure</li> </ul>									
Waste Water Treatment	<ul style="list-style-type: none"> <li>• Operate, maintain and renew sanitation infrastructure</li> </ul>									
Control and Monitoring	<ul style="list-style-type: none"> <li>• Management of all information including data collection, analysis and reporting</li> <li>• Implementation of service quality and contingency planning</li> </ul>									

**Table 3: Roles and Responsibilities of the Different Governmental Stakeholders in the Water Sector**

Based on details summarized in Table 3, Figure 3 further depicts how roles and responsibilities of the governmental stakeholders are spread where the center of the figure represents the stakeholders which have more responsibilities with decreasing roles as this expands outwards.



**Figure 3: Significance of Governmental Stakeholders by Decreasing Responsibilities**

## 1.2 National Integrity Processes

According to Transparency International's Corruption Perceptions Index 2013, Lebanon ranked 127 out of 177. The main causes of corruption are the combination of the lack of awareness of what constitutes corruption in the country and its consequences; the absence of anti-corruption agencies; the weak legal framework and the lack of suitable implementation mechanisms in addition to the post-war structure in Lebanon which has led to competition for state resources (Lebanese Transparency Association, 2009).

Currently there are four major anti-corruption laws and regulations under review by the Lebanese Parliament:

1. Law for the establishment of an independent national anti-corruption committee - this committee would be responsible for receiving complaints by citizens and public officials and sending them to the judiciary system
2. Law for the public right to receive information - this law would force every single institution to publish its budget, especially its expenditures
3. Law for the protection of whistleblowers - this law encourages the whistleblowers to present complaints and evidence

4. Reformulation of the law for illicit and illegal enrichment, which targets Members of Parliament (MPs), ministers, and judges. The law dictates that public officials must declare their own assets and wealth, and the assets and wealth of their dependents within the first month of their mandate, and within three months after their mandate. Articles 351 and 352 of the Lebanese Penal Code Law makes such a declaration binding for MPs, ministers, and judges, and states that sanctions and penalties would be imposed if gifts are accepted with the purpose of betraying the national interest.

On the other hand, corruption in the public sector has led to:

- Low participation of citizens in public services because of known corruption in public institutions
- Low social responsibility
- No accountability and a weak monitoring system because of the corruption of people in authority
- Interventions (political and other) in the judiciary body with aim of swaying verdicts
- The hiring of unqualified civil servants
- Decrease in the quality of public services due to diversion of allocated budgets and grant money for personal interests

Accordingly, the Lebanese Transparency Association<sup>3</sup>, Transparency International's Lebanese Chapter, has sought and completed the establishment of a National Integrity System (NIS) in Lebanon. NIS incorporates the key bodies that contribute to integrity, transparency and accountability in a society. Some of the recommendations of the Lebanese NIS include:

- Development and implementation of a National Anti-Corruption Strategy<sup>4</sup>
- Establishment of an independent National Anti-Corruption Commission<sup>5</sup>
- Implementation of Article 95 of the Lebanese Constitution that abolishes political sectarianism and ensures that recruitment at all levels are based on qualifications and not religious affiliation
- Adoption of a non-confessional electoral law that provides for equal representation of all the population

Table 4 provides an overview of identified laws, regulations and measures relating to combating corruption and enhancing integrity in the Lebanese governmental and non-governmental institutions. A brief analysis of the missing integrity components within these laws and regulations is also included.

---

3. LTA is the Lebanese Chapter of TI and was established in May 1999. It is the first NGO in Lebanon focusing on reducing corruption and promoting good governance principles.

4. As required in Article 5 of the United Nations Convention against Corruption (UNCAC).

5. As required in Article 6 of the United Nations Convention against Corruption (UNCAC).

Governmental Bodies	Governing Laws and Regulations	Missing Integrity Component
Members of Parliament	<ul style="list-style-type: none"> <li>Electoral law: no privilege or commitment shall be granted to an MP</li> <li>MPs are bound by "The Illicit Enrichment Act" which was drafted in 1953 but was not implemented<sup>6</sup></li> <li>Clear Conflict of Interest and Abuse of Power Rules through<sup>7</sup>:               <ol style="list-style-type: none"> <li>The Public Accounting Law <sup>8</sup></li> <li>Criminal Code</li> <li>Code of Public Accountability Act</li> </ol> </li> <li>MPs are bound by Articles 351 and 352 of the Lebanese Penal Code Law<sup>9</sup></li> </ul>	<ul style="list-style-type: none"> <li>No law in Lebanon exists regarding parliamentary ethics</li> <li>No official mechanisms are established to gather information regarding the parliamentarians' conduct in Lebanon</li> <li>Absence of whistleblower protection law</li> </ul>
Ministers	<ul style="list-style-type: none"> <li>According to Article 64 of the Constitution, the Prime Minister selects ministers and along with the President of the Republic, signs the decree forming the Cabinet</li> <li>Section three of Article 95 of the Constitution stipulates that: "The confessional communities are to be represented in a just and equitable fashion in the formation of the Cabinet".</li> <li>In 1993: creation of the Office of the Minister of State for Administrative Reform (OMSAR).<sup>10</sup></li> <li>The Special Investigation Commission (SIC) for money laundering was established in 2001 under the provision of Law No. 318 of April 20, 2013</li> <li>Creation of a directorate of human resources in the different directorates general of all ministries associated with the Civil Service Board</li> <li>Projected law approving Lebanon joining the United Nations Convention against Corruption (UNCAC) (sent to the Parliament by decree No. 17451- date 15-7-2006)</li> <li>Executives are bound by Articles 351 and 352 of the Lebanese Penal Code Law</li> <li>Executives are bound by The Illicit Enrichment Act which is not implemented</li> <li>Article 80 of the Constitution stipulates the establishment of a Supreme Council. Its function is to try Presidents and Ministers</li> <li>Article 70 of the Lebanese Constitution grants indirect immunity that protects Ministers from prosecution</li> </ul>	<ul style="list-style-type: none"> <li>No official standard codes of ethics for the members of the Executive branch</li> <li>No rules regulating conflicts of interest, for example, that might restrict a minister from running for parliament while still retaining a ministerial position</li> </ul>

6. The Illicit Enrichment Act dictates that an MP must declare his/her own assets and wealth, and the assets and wealth of their dependents within the first month in office, and within three months of leaving office.

7. These rules also determined the legal party undertaking the investigation, announcing the verdict and implementing the sanctions.

8. This law sets out the principles of public budget preparation, budget execution, submitting the final accounts for each financial year, and management of public funds. It also sets out the general regulatory framework and refers to regulatory texts for the implementation of the legislation itself. Only public administrations and some large municipalities are bound by the provisions of this decree. Articles 121, 122 and 123 of the bylaws specify a separate office that is in charge of drafting the parliament's budget and overseeing its execution.

9. According to articles 351 and 352 of the Lebanese Penal Code Law, sanctions and penalties are imposed if the gifts are accepted with the purpose of betraying the national interest.

10. Over the years OMSAR has launched anti-corruption initiatives. These include the publication of a series of Citizens' Charters, a Code of Conduct for Civil Servants, a variety of draft laws, such as the Access to Information legislation, job classifications, ideas for the reorganization of certain ministries, suggestions to simplify certain administrative procedures, the Ombudsman draft law, and the Anti-Corruption Experts project.

Governmental Bodies	Governing Laws and Regulations	Missing Integrity Component
<b>Judiciary</b>	<ul style="list-style-type: none"> <li>• The Judicial Inspection Authority (JIA), which is the oversight mechanism within the Judiciary itself</li> <li>• The law provides for the principle of impartiality and provides rules to avoid conflict of interest</li> <li>• According to Article 120 of the Code of Civil Procedure: “if a relationship is proven to exist between a judge and one of conflicting parties, then the judge will have to voluntarily step down or be forced to step down”</li> <li>• Article 116 authorizes “the Court of Cassation to mandate the transfer of lawsuits from one court to another in cases where there are suspicions of impartiality in a court”</li> <li>• Article 47 of the Legal Decree No. 150 of 1983 “prevents judges from engaging in private business transactions during their tenure, except for teaching at universities for a limited number of hours monthly”</li> <li>• Judges are bound by Articles 351 and 352 of the Lebanese Penal Code Law</li> <li>• Judges are bound by The Illicit Enrichment Act which is not implemented</li> </ul>	
<b>Political Parties</b>	<ul style="list-style-type: none"> <li>• Governed by The Lebanese Law of Associations of 1909</li> <li>• Judicial supervision over the expenditure of public funds is regulated by the Audit Court</li> <li>• The new Electoral Law of 2008 has put some regulations on the exploitation of state resources during the campaign period</li> </ul>	<ul style="list-style-type: none"> <li>• Laws regulating political financing</li> <li>• Conflict of interest legislation</li> <li>• Forcing the people running for parliament from clearly and publicly showing the amount and source of campaign funding</li> </ul>
<b>Regional and Local Governments (governorates, districts, municipalities)</b>	<ul style="list-style-type: none"> <li>• Article 114 of the Municipal Law calls for the establishment of federations of municipalities, which can undertake projects that exceed the financial capacity of a single municipality</li> <li>• Article 80 of the Municipalities’ law states that the Civil Service Council oversees the civil service staff, their appointments, transfers, dismissals, layoffs, termination of service, and issues pertaining to discipline. It also controls the competence and training of new staff</li> <li>• The municipalities are subject to financial supervision by the Ministry of Justice before the courts</li> <li>• Article 45 states that if a voter wishes to obtain a certain decree issued by the municipality, he/she has to get an approval and then pay for it</li> </ul>	
<b>Court of Account</b>	<ul style="list-style-type: none"> <li>• All COA staff, except for judges, are appointed by decree of the Council of Ministers and pass through the Civil Service Board</li> <li>• The COA auditors and employees are bound to confidentiality</li> <li>• COA Judges and employees are bound by Article 351 and 352 of the Lebanese Penal Code Law</li> </ul>	<ul style="list-style-type: none"> <li>• Confessional differences preventing the appointment of a president for the court</li> <li>• The COA lacks specific codes of conduct or codes of ethics</li> </ul>

Governmental Bodies	Governing Laws and Regulations	Missing Integrity Component
Civil Service/ Public Sector Agencies	<ul style="list-style-type: none"> <li>Article 12 of the Constitution guarantees that any Lebanese citizen can hold public office, if he/she is qualified</li> <li>the Taef Agreement<sup>11</sup> stated that the political sectarianism should be abolished gradually from public posts</li> <li>Decree No. 114 - Establishment of the Civil Service Board to limit political interference<sup>12</sup></li> <li>In 2011, OMSAR developed the “code of conduct for public servants” which has not been implemented in any administration</li> <li>The Civil Servants Regulations Article 15 covers the rules and regulations with respect to activities or affiliations that can lead to conflicts of interest between the public sector and civil servants’ personal interests</li> </ul>	<ul style="list-style-type: none"> <li>The ministries’ list lacks essential information on their relative administrations’ composition and budgets</li> <li>The top public offices are decided on the basis of sectarian affiliation</li> </ul>
Public Contracting	<ul style="list-style-type: none"> <li>The Public Contracting System, established in 1959</li> <li>Article 7 of the Procurement Code indicates the possibility of designating a special committee in each governorate, or district, to oversee procurement</li> <li>Article 15 stipulates that the members of the committee should be local employees</li> <li>Chapter 5 of the Legal Decree No. 2460 issued on November 9, 1959 regularizes the Administration of Tenders</li> <li>In January 2008, OMSAR published an E-government Strategy for Lebanon for E-procurement</li> </ul>	<ul style="list-style-type: none"> <li>Access to information</li> <li>Whistleblowers’ protection legislation</li> <li>Elaboration of one specific law regulating all aspects of government procurement in Lebanon</li> <li>The government does not always establish “clear rules of the game”</li> </ul>
Civil Society	<ul style="list-style-type: none"> <li>Governed by The Lebanese Law of Associations of 1909</li> <li>Follows the “notification” or “declaration” registration system</li> <li>Article 20 of the Parliamentary Elections Law in 2008 provides CSOs the right to observe elections</li> <li>Article 11 of the law: the Supervisory Commission on the Electoral Campaign (SCEC) and the Constitutional Council have the power to punish corruption</li> <li>CSOs are held accountable to the Ministry of Interior’s Department of Administrative and Political Affairs by virtue of Decree No. 10830 (09/10/1966)</li> </ul>	
Media	<ul style="list-style-type: none"> <li>Article 13 of the Lebanese Constitution: Lebanon enjoys “freedom of expression by word or pen, and freedom of the press” within the limits set by law</li> <li>The 2008 Electoral Law No. 25: introduced a law that stipulates the conditions for Electoral Media and Advertising</li> <li>Media is governed by the “dignity at work bill” of 1974, which offers no protection to whistleblowers or freedom of information</li> <li>A “Code on the Lebanese Media “ was published in 2008</li> </ul>	<ul style="list-style-type: none"> <li>Access to information legislation or freedom of information laws</li> <li>The information law should be accompanied by a Whistleblowers’ Protection Law to guarantee that journalists can work without fear of retribution in a free environment</li> </ul>

**Table 4: Laws, Regulations and Measures Founded to Enhance Integrity in the Lebanese Governmental and Non-governmental Sectors**

11. The Taef Agreement was an agreement reached to provide “the basis for the ending of the civil war and the return to political normalcy in Lebanon.” It was signed on 22 October 1989 and ratified by the Lebanese Parliament on 5 November 1989.

12. In theory, the accountability system within the Civil Service Board gives civil servants immunity from unjust decisions and protects their rights by giving them the right of appeal to the State Council in case of abuse of power from the executive officials.

### 1.3 Water Integrity Processes

In Arab countries, and in Lebanon in particular, equitable water resources allocation is a challenge for proper water governance. Existing water governance initiatives in the country have included several aspects aimed at increasing transparency, accountability and participation.

On the management level, the NWSS tackles a variety of issues related to good governance principles. It aims to improve the operating model between WEs and MoEW (World Bank, 2012):

- Developing the process for the performance monitoring and evaluation of WEs; involving stakeholder participation in the design and management of irrigation projects according to best practices;
- Strengthening the legal framework in order to improve the performance of the delivery of water and wastewater services and support the implementation of the proposed strategic initiatives;
- Establishing a unified database to include all water monitoring data and maintaining it to be regularly updated, centralized, and communicated with the consumers; and
- Designing and implementing an integrated monitoring system for irrigation water quality; and promoting conservation initiatives on domestic, industrial and irrigation demand.

On the legal level, the 6<sup>th</sup> principle of the Environment Law 444/2002 tackles the issue of public participation (free access to information and disclosure), while the 7<sup>th</sup> principle targets the issue of cooperation between the central government, local authorities (i.e. municipalities), and citizens. If applied and enforced, these principles would promote integrity and good management of water and other natural resources.

## 2. Identified Challenges to Water Integrity in Lebanon

This assessment study has identified integrity risks and corruption present in the water sector in Lebanon, based on the perceptions of more than 60 interviewees from the identified primary and secondary stakeholders (see appendix 3), in addition to views collected from a national consultation meeting and a review of reports, studies and other references.

Information collected from the interviews was transcribed and analyzed using an analytical framework<sup>13</sup> which helped identify the risk areas of specific governance processes (including actors) along with detailed risks and causes (see appendix 2). Further qualitative analysis was done using Nvivo10 software. The major identified water integrity risks and risk areas are fragmented legislation with weak enforcement; overlap in roles and duties within and between institutions; irregular permitting of well permits, illegal connections and over-abstraction; lack of national water information and data; insufficient planning; absence of budgeting; nepotism in human resources; procurement and public works; and inequitable distribution and privatization of the water sector. The following sections elaborate on each of these elements.

### 2.1 Fragmented Legislation with Weak Enforcement

According to the majority of the interviewees in this assessment, laws and regulations related to the water sector in Lebanon are poorly implemented and enforced. This perception was mostly expressed by the civil society stakeholders, while the majority of mid-level managers in the public sector did not share the same perception, most of whom believed that there is a good implementation and enforcement of laws and regulations in the water sector.

Interviewees who thought that there is a weak implementation and enforcement attributed this to the following factors:

- a lack of operational decrees for the existing laws
- weak legal prosecution
- long processes or delays for the ratification of laws by the Parliament and the Cabinet of Ministers
- deficit in lack of human and financial resources in institutions related to the water sector, mainly primary stakeholders
- poor coordination between relevant ministries
- political deadlock
- absence of one entity that is responsible for enforcement and follow-up on violations
- The absence of accountability mechanisms and the presence of corruption within the monitoring agencies

Citizens were deemed to not often comply with existing laws and regulations, resort to bribery and political connections and are commonly unaware of existing laws and regulations. This is usually due to their drive to access resources, in addition to “being used to” breaking the law.

---

13. The analytical framework used in this study was developed for the “Capacity Building Programme on Water Integrity in the MENA Region”.

## 2.2 Overlap in Roles and Responsibilities within and between Institutions

Information from the interviews indicates that the majority of stakeholders are aware of the overlap in roles and responsibilities within and between institutions, identifying it as one of the major challenges of the water sector and as a water integrity risk.

Of the public sector interviewees, 69% believed that the laws are unclear leading to an overlap of roles and duties. The majority of the respondents in the non-governmental sector stated that there is a definite overlap.

## 2.3 Irregular Permitting of Well Permits, Illegal Connections and Over-Abstraction

The main driver behind the growth of illegal wells is the inability of the government to consistently provide such a vital resource to citizens or to provide them with alternative solutions.

Even though the MoEW has set a clear procedure for issuing well permits published on its website, the procedure is often bypassed and wells are dug by bribing the monitoring agents or by exploiting political support in order to either look the other way or force the issuance of a permit where none would have been issued.

The absence of monitoring agencies and the lack of accountability mechanisms have further led to the increase of illegal wells. This has been accentuated by a rise and thriving of water distribution businesses. In recent years, this phenomenon has spread drastically, especially in the highly populated Greater Beirut area due to the increased water outages and increasing population. The tankers transport water from private wells and distribute it to households and industries. The lack of support of the government for farmers and the absence of alternative sources of water (when none is provided by the government) has pushed farmers in rural areas into digging wells illegally for irrigation. One of the interviewees stated that *"sometimes all it takes to dig a well is money"*.

These conditions also apply to the illegal connections to the water network phenomenon. Citizens in many areas in the country are connected to the water network illegally and benefit from this service without paying the required fees, exploiting their political connections or using money to bypass the law.

The lack of collaboration as well as the earlier identified overlap in roles and responsibilities between ministries hinders the proper process of monitoring and accountability. For example, the MoEW does not have the authority to close down a well itself, since the Ministry of Interior and Municipalities (MoIM) is the responsible entity to undertake such measures, which requires close collaboration which is sometimes absent.

Most of the time, the government does not know precisely where the illegal connection has been established, since the water network is underground and the metering system is not implemented and thus does not provide the establishment with correct consumption levels across the network. Of concern is the fact that there are no mechanisms to stop illegal connections to the network.

Unlicensed water suppliers (owners of tankers, private wells, etc.) over-abstraction water, as they are driven by the financial benefits they reap during dry years, like the dry winter of 2014. Interestingly, water distributors are also bribed by consumers to obtain more and "better quality" water.

## 2.4 Lack of National Water Information and Data

Lebanese water resources data is limited. This limitation is due to information-hoarding by institutes and also due to the slow recovery of monitoring agencies from the civil war and its various impacts. Furthermore, water resources data is considered to be confidential and a national security issue due to the conflict between Lebanon and Israel.

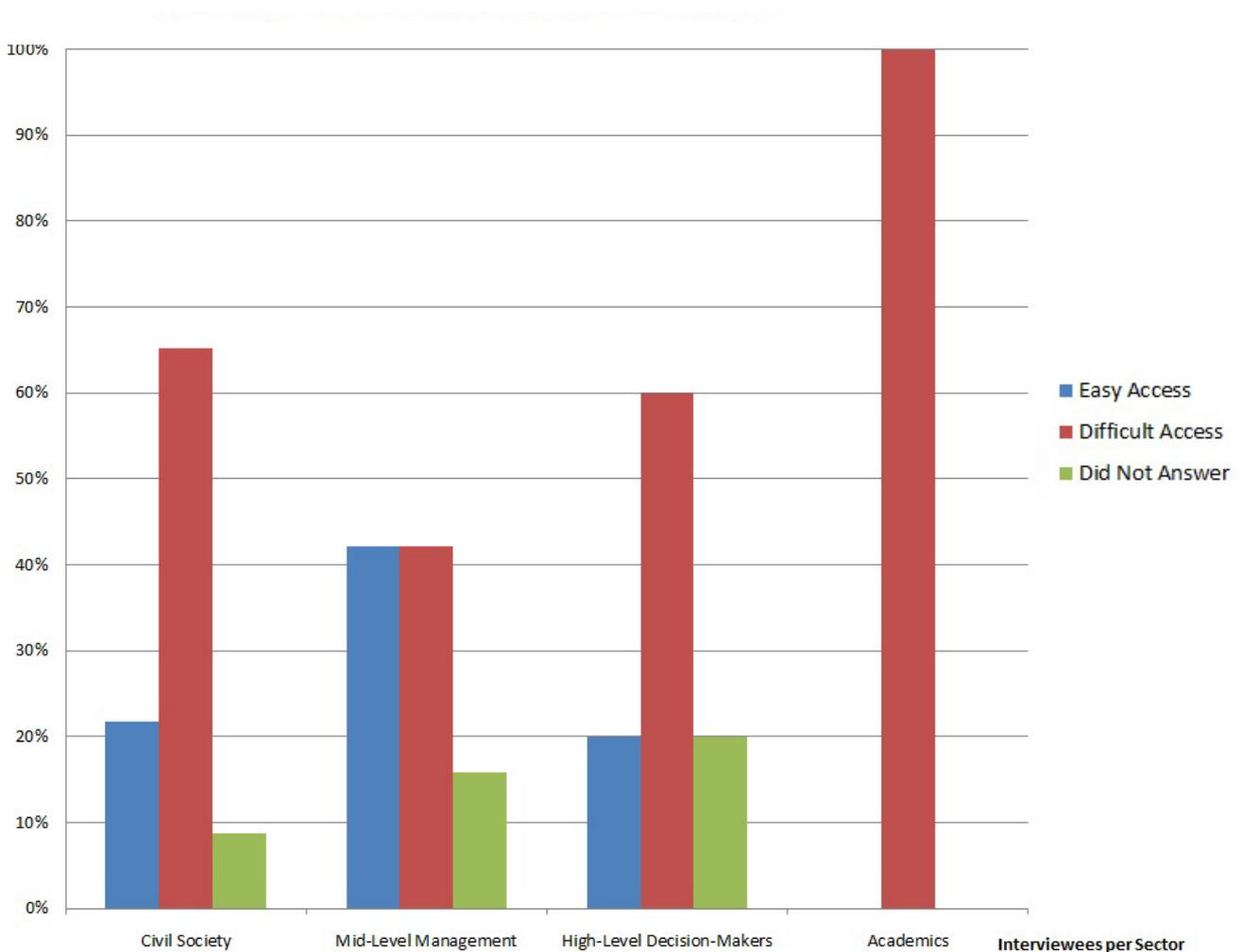
Additionally, the Lebanon country report produced by the European Neighborhood and Partnership Instrument – Towards a Shared Environmental System – notes that data is mainly produced by academic and research centers and most environment related data is generated through donor funded projects. This data is often left unpublished, leading to a duplication of work and is inaccessible by other institutions (Al Sairawan, et al, 2011).

There are no precise numbers upon which plans would be developed to better manage the resources. In fact, students who were interviewed pointed out that lack of data was a major problem they faced while conducting research.

The weak level of collaboration between the academic sector and policy-makers has hindered the major role that research results could play when setting long-term strategies and policies. On the other hand, the interviewees stated that accessing published data and information was easier from the International Governmental Organizations (IGOs).

Some of the interviewed stakeholders from IGOs and NGOs indicated that their institutes publish data in order to avoid duplication of work. Dissemination efforts are currently more advanced, through social media, websites and media appearances. All interviewees from these two sectors agree that accessing data from the public sector is hard to get when it is present, as information is considered the property of the department generating it. Data is also seen as a source of income, where citizens have to pay to get access to data thus leading to illicit financial gains from the sale of public data.

Figure 4 represents the different opinions of the interviewees on accessing data. The majority of interviewees from the public sector expressed no problems in accessing information, whereas civil society expressed that they can access information mostly through connections or through IGOs. An interviewee stated regarding this matter: *"It is extremely difficult to get access to data, you need to have connections within ministries, and that is what happened with me, and that was the only way I got information, as people are not cooperative"*.



**Figure 4: Percentage of interviewees and Ease of Accessibility to Data**

## 2.5 Absence of Budgeting

The Lebanese government is still functioning based on the national budget developed in 2005 which was set according to different priorities and does not take into consideration the recent economic inflation. The funding process in the government passes through the Ministry of Finance (MoF) which sometimes puts transactions on hold because of budgetary deficits. If a ministry and the MoF are not politically “compatible”, funds might not be obtained or might experience delays.

Because of budgetary deficits, ministries require the financial assistance of international donors that often regulate and restrict activities according to their agendas rather than local needs; noting that water and electricity provision are perceived as services that the government should provide to its citizens.

## 2.6 Discrimination and Other Problems in Human Resources

Appointments in the public sector are usually made via the Civil Service Board (CSB) causing two conflicting views on behalf of the interviewees; according to some the hiring process is one of the best ways to fight nepotism, while others doubted its transparency as politics usually influences the hiring decisions. In addition, political influences and disagreements usually cause delay in the appointments, causing some of the applicants who may have passed the exams to find and start alternative career opportunities. An interviewee from civil society referred to nepotism in the appointment process as follows: *“No one can be hired in the public sector unless he/she has passed through the political leaders who ensure the person’s loyalty to them.”*

Out of the 12 public servants who were interviewed, 9 admitted that public institutions lacked qualified personnel because of nepotism in recruitments. It is important to note here that these findings do not deny the existence of qualified staff. In addition to nepotism, another issue faced in the public sector is that most of the positions are filled with seniors (in age) who might not be in some cases up-to-date on using and working with new methods and new technologies.

Not only is the process long, but the number of applicants to governmental jobs is decreasing according to one of the public servants; the salaries in the ministry are low, which is one of the main reasons why young professionals do not apply to governmental jobs. Furthermore, due to understaffing, those employed are delegated with additional tasks that originally should have been distributed among more employees. An interviewee from the public sector says: *“He/She does not advise his/her children to pursue a career in the public sector”.*

Throughout the interviews, it was expressed that in some circumstances, when IGOs’ staff is merged in public institutions, it has become a tremendous demotivating factor. These employees have higher compensation ranges and better working conditions than their counterparts in public institutions. This has resulted in low morale and has affected the quality of work produced by qualified public servants.

## 2.7 Procurement and Public Works

Procurement procedures are clearly set and are usually published on official websites. However, these systems are perceived as being non-transparent; the procurement procedure which is regulated by law is the same for all public institutions, and in some cases there is misinterpretation and exploitation of the law where some contractors access the required standards and eligibility criteria from undisclosed sources.

## 2.8 Inequitable Distribution and Privatization of the Water Sector

There was a general agreement among the interviewees that water resources in Lebanon are not distributed equitably due to the old infrastructure, political interference favoring certain areas for water distribution, and inability of the WEs to provide water because of electricity cuts and the high costs of fossil fuel. It is worth noting that the agricultural sector in Lebanon is the most water consuming sector, with 60% of total fresh water consumed for agriculture produce.

Interviewees from the different sectors had different views regarding privatization of the water sector. Opinions varied between supporters of privatization (10%), opponents (43%), or supporting it as long as the public sector oversees its operations, but such a mechanism does not currently exist (47%).

The main concern expressed by interviewed stakeholders concerning privatization was that access to water would only be a privilege to those who are capable of paying for it, which might lead water to becoming a luxury resource rather than a common commodity.

Some of the expressed views regarding the recent proposals on privatizing the water sector were:

*"Privatization of water will only benefit the rich and will further marginalize the poor who won't be able to afford it."*

*"In the absence of public policies for any sector, the trend of privatization will follow."*

*"Privatization will legalize the theft and monopoly of water."*

### 3. Achieving Water Integrity

---

In order to overcome the risks and challenges detailed above, it is imperative to restore faith in the public sector and secure good water governance in Lebanon. There are three main approaches that need to be followed to achieve this. The first is through legislative reform either by adopting new laws in the country and/or by updating existing laws through the addition of operational decrees to fit the current country's context and priorities. The second is through adopting a resource monitoring system through the addition of the metering system to the network. The third is through the endorsement of a multi-sectoral anti-corruption strategy taking into account economic, social, and environmental aspects.

#### ***Legislative Reform of the Water Sector***

Law 221 has properly framed the water sector in the country; however, the addition of operational decrees to this law is required as a first step towards legislative reform. These decrees elaborate each institution's roles and responsibilities. As previously indicated, the law does not explicitly specify the ultimate institution which would be the reference for all water related aspects (for instance the MoEW), including setting policies for the water and electricity sectors. This has created uncertainty when interpreting roles and hence resulted in confusion during the planning and implementation of policies. Due to time and resource limitations, this study reviewed the main laws related to the water sector in Lebanon, and recommends the review of water laws of other countries in the region to learn from their experiences.

The present regulations state that each public institution should submit bi-annual reports of their work, but this is not the situation currently. When implemented, this would improve accountability and transparency in the public sector. Reports including performance, financial audits as well as progress reports on the institution's work would reinforce accountability in the public sector.

#### ***Resource Monitoring System***

As indicated earlier, illegal tapping into the distribution networks is a major risk to integrity. Adopting the metering system is hence considered a must to control consumption levels and set tariffs based on consumptions. This will allow further monitoring of the water quantities used, as well as sustaining groundwater since payment would be done based on volume consumed. Again, an accountable and transparent monitoring entity would help decrease bad governance practices.

Monitoring agencies can lead, guide and monitor this process to avoid duplication, misinterpretation and lack of coordination, to assure that the nexus of resources is maintained.

#### ***Anti-corruption Strategy***

The current draft law for the formation of an anti-corruption committee is recommended to be revived at the parliament for further revision and endorsement. This committee would need to enjoy a high level of independence, as opposed to the current obligation of reporting to one power (executive or parliamentary); previous experiences in the region have shown that these powers tend to interfere in the committee's operation and limit its authority.

The anti-corruption committee's framework would go hand-in-hand with the goals of an anti-corruption strategy, aiming for the development of clear accountability mechanisms, introduction of transparent procedures which encourage public participation, and the enhancement of access to public information.

The committee would provide a legal structure and develop clear administrative and institutional mechanisms to reinforce transparency, accountability, public participation, and hence prevent corruption. The mechanisms to promoting integrity by fighting corruption would clearly state the detailed procedures on identifying and investigating corruption cases. Another role for the committee would be to prepare draft bills, review and assess all legislations related to combating corruption, as well as setting policies towards prevention.

This anti-corruption committee would also be responsible for the elaboration of clear, detailed and precise anti-corruption laws. Based on the country's existing baseline legal and operational structure, these envisioned laws would tackle the following aspects, which are not limited to the water sector only:

- **Political corruption:** By reviewing the Illicit Enrichment Law which stipulates in Article 15 that if a complaint is not true, the accuser risks a fine or imprisonment (Transparency International, 2012) and by passing the Protection of Whistleblower draft law and by creating an online anonymous web portal for whistleblowers who wish to report corrupt cases.
- **Petty and bureaucratic corruption:** By creating an E-Government that would minimize the interactions between the public – citizens – and the public servants. Actually, if technology were to be used, most of the procedures would be done online without having to pass through long bureaucratic paperwork, which is a doorway to bribery and corruption. Of course financial and human capital needs to be in place for the proper implementation. On another note, the wage scales of public servants would be reconsidered in governmental administrations, since the low range of remuneration is one of the reasons why employees accept bribes. The law for public access to information that is currently being discussed in the parliament, if passed and enforced, would give the public access to archived data, through clear and simplified procedures. A collective database created between institutions would facilitate sharing knowledge, and accessing and producing information. This database will also allow citizens to access the required information without having to go through long bureaucratic procedures.
- **Grand corruption:** This is mainly related to procurement and public works and it is to ensure transparency. An online public tracking system is proposed in order to follow procurement processes and statuses. A central, independent, and qualified committee for following up on procurement processes and outcomes would help in decreasing the chances of the leakage of inside information to contractors and to assure the absence of any conflict of interest between contractors, politicians and institutions.
- **Human aspects:** As discussed in the previous section, salaries in the public sector are low compared to the private sector leading to little growth in the human resource capital of any public institution and leads to corruption and bribery. New human resource policies are needed that clearly state the criteria required including the applicant's passing grade and his/her qualifications. As in the procurement related issues, these standards should be made public, thus limiting the political interference in the appointment process. The procedure, which usually passes by the Civil Service Board, should be monitored by an independent party to ensure that only the right person with the right qualifications is appointed.

Motivation can be encouraged through a reward and punishment system, where civil servants can be held accountable by monitoring agencies, not by politicians. A supervision system would help in evaluating employees to receive rewards or punishments according to his/her accomplishments. A Code of Conduct for public institutions is highly advised with specific guidelines for the monitoring agencies when assessing performance.

Moreover, the ratification of related international conventions would help with the commitment of the government to anti-corruption measures such as UNCAC. This convention highlights the importance of preventing the occurrence of corruption, establishing criminal and other offences to cover wide ranges of corrupt acts, cooperating internationally to fight corruption and reconstructing societies under new governments.

## 4. Conclusion

---

This report critically assessed the national water integrity risks in Lebanon with a thorough stakeholder and institutional analysis. The main objective was to highlight these risks with detailed examples, and accordingly, to enlighten and enable decision-makers and educators to target these risks efficiently. There is a wide spectrum of capacity needs at the different levels of stakeholders involved, as in human capital, financial and awareness needs.

The current regulatory system, comprising of the legislative framework and the existing anti-corruption measures in the country, are in need of improvements and continuous political willingness is fundamental to tackle these integrity risks. Thus it is recommended to follow several routes that could assist in the process for achieving water integrity. It was apparent that the country has a good baseline of laws and water strategies which if enhanced and cleaned from corrupt practices could better manage this resource. It is obvious that anti-corruption measures are lagging behind and a huge effort needs to be made for its incorporation in the country's system. It is important to reaffirm that it is crucial to set and implement anti-corruption measures together with any kind of legislative reform. The central effort and goal would be to rebuild the lost trust between the public institutions and the Lebanese citizen.

# Bibliography

---

## References in English:

- Al Sairawan, Sanaa ; Akl, Georges, Masri, N. (2011). Towards a Shared Environmental System « SEIS » Lebanon Country Report Retrieved from <https://www.google.com.lb/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0CCUQFjAB&url=http%3A%2F%2Fwww.eea.europa.eu%2Fpublications%2Ftowards-a-shared-environmental-information%2Fdownload&ei=2ZQaVMuWFNDsaKLYgYgL&usq=AFQjCNEPUC-YAusFvXlwqRk5aAN7fAtAPQ&sig2=AMzdNwjn0ibLjzwUwjgrw&bvm=bv.75097201,d.d2s>
- Articles 2, 4, 7, 8 of the Lebanese Water Law 221 of May 26, 2000
- Article 4 of the Lebanese Environmental Law 444 of July 29, 2002
- Darwish, A. (2004). Assessment of water resources and water sector in Lebanon. Retrieved from: [http://www.boell.de/sites/default/files/assets/boell.de/images/pics\\_de/internationalepolitik/GIP11\\_Lebanon\\_Ali\\_Darwish.pdf](http://www.boell.de/sites/default/files/assets/boell.de/images/pics_de/internationalepolitik/GIP11_Lebanon_Ali_Darwish.pdf)
- EU/UOB/MOE/ELARD. (2005). *Strengthening the Environmental Legislation Development and Application System in Lebanon - SELDAS*.
- Farajalla, N.; Haydamous, P.; Kerkezian, S., & Hajj, R. El. 2014, "The Water, Energy, Food Nexus: Lebanese Policy and Institutional Analysis – Lebanon Overview presented at the International Conference on "Sustainability in the Water-Energy-Food Nexus. Synergies and Tradeoffs: Governance and Tools at various Scales" held on 19-20 May, 2014 in Bonn, Germany, <[http://wef-conference.gwsp.org/uploads/media/B02\\_Farajalla.pdf](http://wef-conference.gwsp.org/uploads/media/B02_Farajalla.pdf)>
- Lamaddalena, N., & Khadra, R. (2012). *Regional Assessment - Water Users' Associations in the SWIM-SM Partner Countries. In The WUAs Expert Regional Workshop (23-24 April, 2012), Athens. Athens: CIHEAM Mediterranean Agronomic Institute Of Bari*. Retrieved from [http://www.swim-sm.eu/files/ASSESSMENT\\_WUAs\\_FINAL.pdf](http://www.swim-sm.eu/files/ASSESSMENT_WUAs_FINAL.pdf)
- LCWMC. (n.d.). Lebanese Center For Water Management And Conservation. Retrieved October 03, 2014, from <http://www.lcwmc.org/web/index.php/en/aboutlcwmc>
- Lebanese Transparency Association. (2009). *National Integrity System Study Lebanon 2009*. Retrieved from [http://transparencylebanon.org/index.php?option=com\\_content&view=article&id=60&Itemid=129](http://transparencylebanon.org/index.php?option=com_content&view=article&id=60&Itemid=129)
- Lutz, M. (2014a, June 20). *Lebanese bathing in contaminated water*. The Daily Star Lebanon. Retrieved from <http://www.dailystar.com.lb/News/Lebanon-News/2014/Jun-20/260842-lebanese-bathing-in-contaminated-water.ashx#axzz3FdkXpnAp>
- Lutz, M. (2014b, July 10). *Water crisis plan deemed unrealistic*. The Daily Star Lebanon. Retrieved from <http://www.dailystar.com.lb/News/Lebanon-News/2014/Jul-10/263349-water-crisis-plan-deemed-unrealistic.ashx#axzz3FdkXpnAp>
- Mallat, C. (1997). *The Lebanese Legal System*. Retrieved from <http://www.mallat.com/articles/PDF/TheLebaneseLegalSystem.pdf>
- Ministry of Energy and Water. (2010a). *National Water Sector Strategy - Baseline*. Retrieved from [http://www.energyandwater.gov.lb/adminpages/page/DownloadPageFile.asp?PageFile\\_ID=433](http://www.energyandwater.gov.lb/adminpages/page/DownloadPageFile.asp?PageFile_ID=433)
- Ministry of Energy and Water. (2010b). *National Water Sector Strategy - Demand/Supply Forecasts*. Retrieved from [http://www.energyandwater.gov.lb/adminpages/page/DownloadPageFile.asp?PageFile\\_ID=433](http://www.energyandwater.gov.lb/adminpages/page/DownloadPageFile.asp?PageFile_ID=433)

- MOE; UNDP; ECODIT. (2011). *State and Trends of the Lebanese Environment*. Retrieved from [http://www.undp.org.lb/communication/publications/downloads/SOER\\_en.pdf](http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf)
- Msarra, A.; Morkos, P. (2006). *Promoting the Rule of Law and Integrity in the Arab World* A background paper about the State of the Judiciary in Lebanon (pp. 1–29).
- Nash, M. (2014, September 1). *Water: Less blue, more gold*. The Executive. Retrieved from <http://www.executive-magazine.com/economics-policy/water-less-blue-more-gold>
- NOW. (2013). Environment minister calls for halt of Janneh dam project. Retrieved October 08, 2014, from <https://now.mmedia.me/lb/en/archive/543701-environment-minister-calls-for-halt-of-janneh-dam-project>
- Sleiman, I. (2009). *Report on the State of Parliament in Lebanon. The Arab Center for the Development of the Rule of Law and Integrity*. Retrieved from [http://www.arabruleoflaw.org/Files/PDF/Parliament/English/P2/Lebanon\\_ReportP2S2\\_En.pdf](http://www.arabruleoflaw.org/Files/PDF/Parliament/English/P2/Lebanon_ReportP2S2_En.pdf)
- SOGESID. (2005). *Local Water Supply, Sanitation and Sewage Country Report* (pp. 1–19). Retrieved from [http://www.emwis.org/documents/emwis-main-studies/studies-country/Lebanon\\_Final.pdf/download/1/Lebanon%20Final.pdf](http://www.emwis.org/documents/emwis-main-studies/studies-country/Lebanon_Final.pdf/download/1/Lebanon%20Final.pdf)
- World Bank. (2012). *Lebanon Country Water Sector Assistance Strategy*.

#### Arabic References:

شديد ل. (٧ تشرين الاول ٢٠١٤) – قضية سد جنة تتفاعل. جريدة السفير

(Chedid, 2014) Retrieved from:

<http://www.assafir.com/Article/1/376586>

مجذوب ط.، (٢٠١٣). دراسة عن النزاهة في مرفق المياه اللبناني – مكافحة الفساد في قطاع التربية والصحة والمياه

(Majzoub, 2013) Retrieved from:

<http://www.pogar.org/publications/ac/2013/ANTI%20CORRUPTION%20BOOK-%20Nov%202.pdf>

حرب ج.، زيت ب (٢٠١١) – واقع النزاهة و الفساد في العالم العربي – ”خلاصة دراسات حالات ثمانى بلدان عربية

(Harb, 2011) Retrieved from:

<http://www.arpacnetwork.org/arpdocs/APACanticorr2009-2010.pdf>

# Appendices

## Appendix 1 - Laws and Regulations of the Lebanese Water Sector

Law	Argument
Law 1913 (قانون الري العثماني)	Irrigation Law of the Ottomans
Order No. 144, 1925	Protection of surface water and groundwater resources
Order No. 320/26, 1926	Protection of catchment areas
Decree No. 2761, 1933	Instructions relating to the discharge of waste water and dirty material
Decree No. 639, 1942	Protection of Nabaa Al Assal Spring, Faraya
Decree No. 227, 1942	Projects of dragging drinking water
Decree No. 2383, 1943	Forbidding the extraction of materials from a part of the Beirut river
Decree No. 65, 1943	The establishment of a trade union association for drag water from Al Jawz river
Law dated (04/08/1954)	Creation of the Litani River Authority
Decree No. 10231, 1955	Tripoli Water Investment System
Law 1956	Creation of the Barouk Water Establishment
Decree No. 14873, 1957	Creation of the "Water and Electricity Establishment of Tyre"
Decree No. 18023, 1957	Creation of the "Water Establishment of Zahle and its Surroundings"
Decree No. 20022, 1958	Creation of the "Irrigation Establishment of Al Kasimiye and Ras Al Aayn"
Decree No. 890, 1959	Creation of the "Water Establishment of Metn"
Decree No. 1298, 1959	Creation of the "Water Establishment of Saïda"
Decree No. 10276, 1962	Protection zones for water sources and recharge areas
Law No. 3, 1963	Forbidding the extraction of groundwater in private properties in the Bekaa region
Decree No. 15886, 1964	Supervising the work of digging wells and monitoring them
Law No. 66/20, 1966	Creation of the Ministry of Water and Electrical Resources
Decree No. 5469, 1966	Organizing the Ministry of Water and Electrical Resources and specifying its responsibilities
Law No. 67/86	Forbidding the extraction of groundwater in private properties in the region between Al Mot river and Al Ghadir river
Decree No. 14438, 1970	Restrictions on the depth of unlicensed boreholes
Decree No. 3275, 1972	Creation of independent establishments for drinking water
Decree No. 4537, 1972	Organization of the independent establishments for drinking water
Decree No. 7432, 1974	Merging of the Kasimiya and Ras Al Aayn Irrigation Establishment with the Litani River Authority
Decree No. 8735, 1974	Pollution from solid and liquid waste
Law No. 81/14, 1981	Creation of an independent establishment called "Kobayet Water Establishment"
Law No. 64, 1988	Pollution from hazardous waste
Decree No. 5113, 1994	Creation of the Batroun Drinking Water Authority
Decree No. 5114, 1994	Creation of the Koura Drinking Water Authority
Decree No. 5115, 1994	Creation of the Doniyeh Meniyeh Drinking and Irrigation Water Authority
Decree No. 5116, 1994	Creation of the Akkar Drinking and Irrigation Water Authority
Decree No. 5792, 1994	Creation of the Bcharri Drinking and Irrigation Water Authority

Decree No. 6323, 1995	Creation of the Zghorta and its Caza Drinking and Irrigation Water Authority
Decree No. 6476, 1995	Assignment of the irrigation functions to the Barouk Water Establishment
Order No. 39, 1995	Contracting with coordinators for the continuation of the monitoring water program
Decision No. 2528/C, 1996	Protection of groundwater at El Kneisse
Decree No. 9626, 1996	Creation of a public institution entitled Beirut and Mount Lebanon Authority/Establishment and the merging of some water authorities and committees within this authority
Decree No. 9627, 1996	Creation of a public institution entitled North Lebanon Water Establishment and the merging of some water authorities and committees within this authority
Decree No. 9628, 1996	Creation of a public institution entitled Southern Bekaa Water Establishment and the merging of some water authorities and committees within this authority
Decree No. 9629, 1996	Creation of a public institution entitled Northern Bekaa Water Establishment and the merging of some water authorities and committees within this authority
Decree No. 9630, 1996	Creation of a public institution entitled South Lebanon Water Establishment and the merging of some water authorities and committees within this authority
Decree No. 680, 1998	The preservation and protection of boreholes
Law 221 (dates 29-5-2000) amended by law 241 (dates 7-8-2000)	In 2000, the Lebanese government passed a new water law. Under this legislation, the 21 water authorities, formerly responsible for water, were consolidated into four establishments, overseen by the federal MoEW
Law 228, 31 May 2000	A national privatization law has been enacted expressly to encourage the private sector participation in all sectors, including water and electricity. Law 228 establishes a framework within future public-private initiatives will be able to: Regulate the economic sector in question Identify regulatory bodies to oversee public-private transfers and monitor privatized projects Specify the duration of transactions pursuant to Article 89 of Lebanon's Constitution
Law 337 (dated 14-12-2001)	Article 3 replaces the name of the Ministry of Hydraulic and Electric Resources with the Ministry of Energy and Water. The spirit of this law is to separate clearly between the macro and micro management of water, and strengthen the policy of the decentralization by granting more autonomy to regional authorities involved in the day to day management of the water supply. The new water establishments should abide by the new law which comprises of the following aspects: They function according to their own regulations and are subject to approval by the Parent Ministry. The said regulations shall be approved by the Council of Ministers. It implies that the said Offices may allow themselves the necessary flexibility in their regulations to be able to operate on commercial basis. An independent audit shall be appointed to control the accounts. Recruitment shall depend only on real needs of the new Offices and shall no longer come under the Public Service Commission in this field. A performance Evaluation Commission shall be set up within the MoEW to prepare the supervision work especially with regard to valuation and monitoring of the functioning of the Offices. The business plan, prepared by the establishments, shall be updated annually and have the prior approval of the Ministry. Finally, the Chairman of the Board of Directors shall at the same time be the Executive General Director of the establishments and this will help to facilitate work and avoid any conflicts between the Board of Directors and the executive power (General Director) within the Institution.

Law No. 444, 2002	Environmental protection
Law No. 401, enacted on 5 June 2003	In February 2003, public participation in the management of the Tripoli Water Authority was approved, the main objective being defined as “the conclusion of a service and management contract with a private contractor to strengthen the Tripoli Water Authority”.
Order of the Council of Ministers No. 3, 2003	10-year water plan for dams and mountain lakes

## Appendix 2 - Analytical Framework for Water Integrity Risk Assessment in Lebanon

Governance Process	Risk Area	Detailed Risk	Causes	Actors Involved	Proposed Measures
Policy-making Legislation Regulations and Enforcement	Absence of legislative process for allocation of water rights between different sectors (residential, industrial, touristic and agriculture)	<p>Inequity in the distribution of water between the different economic sectors (agriculture, industry, tourism, households) as well as between rural and urban areas</p> <p>Lack of monitoring from the government's side on the usage of water by consumers</p>	<p>Lack of exact information on the needed water quantities for each sector</p> <p>Absence of legislation regulating the distribution of water</p> <p>Lack or weak enforcement of the existing laws regulating the water sector</p> <p>The application of outdated laws</p>	<p>MPs</p> <p>Council of Ministers</p> <p>MoEW</p> <p>MoT</p> <p>MoA</p> <p>MoIM</p> <p>MoPH</p> <p>Research centers such as the Lebanese Agricultural Research Institute (LARI), National Council for Scientific Research (CNRS) and Universities for Data WEs</p>	<p>Trainings on legislation writing</p>
	Lack of distribution of water in a fair, equitable manner	<p>Inequitable and unsustainable water distribution to households (in terms of water quantities)</p> <p>Water distribution is inequitable due to availability of the resources in some areas compared to others</p>	<p>Old and deteriorated infrastructure</p> <p>Political interference through providing the means in having access to water for specific communities; this is mainly to showcase the good deeds that politicians implement</p> <p>Use of money to divert water to rich areas away from less well-to-do areas</p>	<p>MoEW</p> <p>WE s</p> <p>MPs</p> <p>Council of Ministers</p> <p>Judiciary system</p>	<p>Awareness campaigns on water rights</p>

Governance Process	Risk Area	Detailed Risk	Causes	Actors Involved	Proposed Measures
Policy-making Legislation Regulations and Enforcement	Weak law enforcement	<p>Lack of compliance of citizens towards the country's laws and regulations</p> <p>The presence of more than one enforcing governmental body and the absence of coordination between these bodies</p>	<p>Weak legal prosecution due to the lack of accountability and fining mechanisms</p> <p>Under-staffed ministries; this leads to the inability of implementing enforcement activities</p> <p>Lack or weak enforcement of the existing laws on regulating the water sector</p>	<p>MoIM</p> <p>WEs</p> <p>End users</p> <p>The public</p> <p>Media</p>	Enactment of laws and regulations ensuring fairness and equity in water distribution
	Lack of data	Lack of laws concerning data sharing between institutions, and between the public institutions and the community	<p>Water data is perceived by authorities as sensitive and should not be freely given</p> <p>Some people with access to data use this access to generate additional income; data = money</p> <p>Inexistence of some data, some systems are not monitored (e.g. groundwater pumping rates, or water table levels, etc.)</p>	<p>Research centers such as LARI, CNRS and universities</p> <p>MoIM</p> <p>MoEW</p> <p>MoA</p> <p>MoE</p> <p>MoPH</p> <p>WEs</p> <p>The public</p>	Development of open access databases

Governance Process	Risk Area	Detailed Risk	Causes	Actors Involved	Proposed Measures
Policy-making Legislation Regulations and Enforcement	Roles and responsibilities among agencies are overlapping	<p>The presence of more than one enforcing governmental body and the absence of coordination between these bodies</p> <p>Very general legislation which leads to overlaps in responsibilities and therefore ambiguity in accountability</p>	<p>Lack of operational decrees for the implementation of existing laws, such as Law 221</p> <p>The application of outdated laws which do not clearly specify the distribution of the responsibilities</p>	<p>MoIM</p> <p>MoEW</p> <p>MoA</p> <p>MoE</p> <p>MoPH</p> <p>WEs</p> <p>Judiciary system</p> <p>MPs</p> <p>Council of Ministers</p> <p>Experts in the Lebanese legal framework and legal water issues</p> <p>End users</p> <p>The public</p>	
	Weak participation of the public in the formulation of water sector policies, legislation and regulations	<p>Low levels of trust between the citizens and the governmental bodies</p> <p>Lack of laws concerning data sharing between institutions, and between the public institutions and the community</p>	<p>Political and personal interests are above the public's interest</p> <p>Abuse of power and positions</p> <p>Political influence</p> <p>Corruption in management</p> <p>Lack of accountability to the public in delivering services</p> <p>Unequal enforcement of the law: enforcement of the law on some users while others are considered above the law</p> <p>Absence of participatory processes at the policy planning stage</p> <p>Governmental bodies are not offering solutions to public problems; the private sector or civil society rather plays that role</p>	<p>The public</p> <p>End users</p> <p>Public administrations</p> <p>MoEW</p> <p>MoA</p> <p>MoE</p> <p>Law enforcing bodies such as the MoIM</p>	<p>Appealing employment in the public sector through competitive salaries and benefits, career development and continuous development of professional skills</p> <p>Development of clear environmental laws and regulations</p> <p>Setting a timeframe for voting on laws</p>

Governance Process	Risk Area	Detailed Risk	Causes	Actors Involved	Proposed Measures
Policy-making Legislation Regulations and Enforcement	Enforcement of pollution legislation	Lack of enforcement and implementation of the environmental laws, even though according to some experts, the Lebanese environmental law is one of the best	New laws that are in the pipeline to be voted on by the Parliament or to be ratified The long process (or the delays) for ratifying laws by Parliament and the cabinet	MoEW MoA MoE MoT MoI MoIM MoET WEs Research centers Civil society Experts End users	
		Lack of inspection and control of the water resources	Weak legal prosecution		
		Environmental law 444, is not enough; there is a need of additional legislation that regulates more specific environmental conditions	Insufficient human and financial resources in enforcing regulations		
		Lack of application decrees of existing laws	Lack of public awareness		
		Poor coordination between relevant ministries which sometimes leads to deadlock and halting of large water related projects			

Governance Process	Risk Area	Detailed Risk	Causes	Actors Involved	Proposed Measures
Policy-making Legislation Regulations and Enforcement	Issuance of well permits	<p>The increasing number of illegal wells (number of illegal wells is three times the number of the legal wells)</p> <p>Laws related to wells are very broad and outdated</p> <p>Weak monitoring capacities of the existing wells</p> <p>Ignoring relevant guidelines when issuing permits</p> <p>Bribery to cover up illegal drilling of wells</p>	<p>Lack of coordination between the stakeholders or public institutions responsible for monitoring wells</p> <p>Corruption (bribery) of the responsible parties</p> <p>Lack of accountability</p> <p>The nonexistence of a sole enforcing, monitoring, and holding accountable unit</p> <p>Weak capacities of the institutions in monitoring bribery</p> <p>Lack of knowledge – thus ability - of setting up monitoring networks</p> <p>Lack of implementation of the laws governing wells</p>	<p>MoEW</p> <p>MoIM</p> <p>End users</p> <p>WEs</p>	<p>Development of an open access database for wells</p> <p>Well metering</p>
	Over-abstraction of groundwater resources	<p>Drying out of communal springs traditionally used by communities, due to over-abstraction of groundwater by private wells</p> <p>Over-abstraction leading to intrusion of sea water</p> <p>Unlicensed water suppliers over-abstracting water (selling water as a source of financial income)</p> <p>Bribery of water supervisors (responsible of distributing water) by the consumers in order to obtain more water</p> <p>Political influence in backing well owners</p>	<p>Lack of monitoring of existing wells (legal or illegal)</p> <p>Lack of accountability</p> <p>Personal financial interests by selling water without the required permits</p> <p>The perception of water as a right, not a service</p>	<p>MoEW</p> <p>MoIM</p> <p>Farmers</p> <p>WEs</p> <p>End users</p>	<p>Well logging</p> <p>Training on how to set up monitoring networks and how to operate and maintain these.</p>

Governance Process	Risk Area	Detailed Risk	Causes	Actors Involved	Proposed Measures
Planning and Budgeting	Planning	<p>Lack of implementation of plans</p> <p>No clear vision in the modifications and amendments of legislative texts</p> <p>The exclusion of some institutions in the design phase of strategies and in decision-making processes, while these institutions play a great role in monitoring and implementation</p> <p>Lack of continuity - Plans are set according to each minister's priorities; this affects the continuity of plans, resulting in inefficiency</p> <p>Lack of political will to implement plans</p>	<p>Turnover of ministers, leading to a shift in projects and plans and priorities. This is usually visualized when some big infrastructure projects such as dams are stopped due to political influence of ministers. Lack of scientific data</p> <p>Reliance on old data</p> <p>Lack of participatory approach</p> <p>Plans set according to personal interests rather than the public's benefit</p> <p>The slow bureaucratic system which resort to bribery to speed up the process</p> <p>Lack of coordination between the different governing bodies</p>	<p>MPs</p> <p>MoEW</p> <p>Council of Ministers</p>	<p>Trainings on writing water sector strategies</p>
	Budgeting	<p>Ministries working on the last presented budget to the government in 2005</p> <p>Lack of financial resources</p> <p>Old budgets, set according to certain priorities</p> <p>Old budgets do not take into account the yearly price inflation</p> <p>Donor agencies regulating and restricting projects according to their agendas rather than it being needs-based</p> <p>For NGOs: Acquisition of funds in an unsustainable way, (according to the funding themes) leading to the discontinuation of projects, for example the shifting of funds to the Syrian crisis</p>	<p>Lack of transparency in obtaining and employing funds</p> <p>Lack of accountability</p> <p>Political standoff concerning the national budget</p> <p>Low collection rates in some regions denying the WEs to be financially independent</p>	<p>MoEW</p> <p>MoA</p> <p>MoE</p> <p>MoIM</p> <p>WEs</p> <p>LRA</p> <p>Council of Ministers</p> <p>MPs</p> <p>International funding agencies</p>	<p>Trainings on development of annual budgets</p> <p>Trainings on development of futuristic budgets</p>

Governance Process	Risk Area	Detailed Risk	Causes	Actors Involved	Proposed Measures
Human Resources Management	Nepotism in recruitments	<p>Appointment of personnel based on the demands of decision-makers, instead of qualifications</p> <p>High vacancy rate (MoEW 80% vacant)</p> <p>Low hiring rate</p> <p>Little growth in human capital</p> <p>The quality of the work is not up to professional standards</p> <p>Establishments contacted by phone to offer jobs to people who are not qualified but have a political connection</p>	<p>The Civil Service Board is responsible for recruitment but is influenced by political decision-makers</p> <p>Lengthy hiring process</p> <p>Employees hired according to connections, and not based on qualifications</p> <p>Persistence of employees in public service, who mostly do not have the expertise and up-to-date technical skills in water resources management</p> <p>Insufficient qualified personnel</p>	<p>Civil Service Board</p> <p>Ministries</p> <p>Decision-makers</p> <p>Public servants</p> <p>Media</p>	<p>Accountability measures</p> <p>Creation of a reward system</p>
	Payments for promotions and transfers	<p>Demotivated employees</p> <p>Less qualified employees trained because ministries cannot afford not having these employees present</p>	<p>Imbalance between public servants and IGO employees merged within ministries with regard to salaries and benefits</p> <p>NGOs and private companies offer higher scales of compensation</p> <p>Job applicants to the public services are mainly of lower qualifications, as higher qualified experts are attracted by the more lucrative benefits offered in other sectors</p> <p>Lack of trainings and training budgets</p> <p>Lack of clear job descriptions</p>	<p>Civil Service Board</p> <p>Ministries</p> <p>Decisions-makers</p> <p>Public servants</p>	<p>Trainings on new technologies</p> <p>Trainings on good governance practices</p>

## Appendix 3 - List of stakeholders interviewed:

### 24 interviewees from the governmental sector:

- Advisor to a Minister (1)
- Engineers (4)
- Environmental focal point (1)
- Heads of Departments (10)
- Head of Municipality (1)
- MPs (3)
- Minister (1)
- Senior Environmental Advisor (1)
- Project Manager (1)
- Project Officer (1)

### 36 interviewees from the non-governmental sector:

- Assistant Professor (1)
- Consultants (3)
- Country Director (1)
- Directors of NGOs (6)
- Environmental Engineers (2)
- Farmers (6)
- Hydrologist (1)
- Journalists (3)
- Local Sales Manager in a water selling company (1)
- Professor (1)
- Program and Project Coordinators (3)
- Regional Advisor (1)
- Senior Water and Sanitation Specialist (1)
- Students (4)
- Treasurer of an NGO (1)
- Water Resource Manager (1)

**The Issam Fares Institute for Public Policy and International Affairs (IFI)**

American University of Beirut | PO Box 11-0236, Riad El Solh 1107 2020, Beirut, Lebanon  
Tel: +961-1-374374, Ext: 4150 | Fax: +961-1-737627 | Email: [ifi@aub.edu.lb](mailto:ifi@aub.edu.lb) | Website: [www.aub.edu.lb/ifi](http://www.aub.edu.lb/ifi)

---