





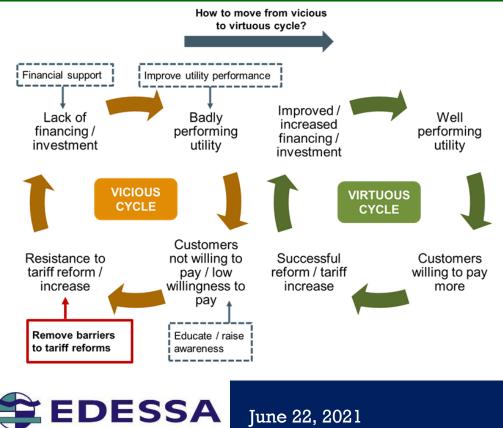


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# INTRODUCTION OF CONSUMPTION BASED WATER-WASTEWATER TARIFFS IN LEBANON

# STRATEGY AND RECOMMENDATIONS REPORT

PREPARED FOR OXFAM IN LEBANON





June 22, 2021 ED370-R2-21-0G Revision 0G

# CONSORTIUM PARTNERS



NORWEGIAN REFUGEE COUNCIL







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## LIST OF ABBREVIATIONS

| BMLWE | Beirut and Mount Lebanon Water Establishment          |
|-------|---|
| BOT   | Built-Own-Transfer                                    |
| BWE   | Bekaa Water Establishment                             |
| CRS   | Customer Representative Committee                     |
| CoS   | Council for the South                                 |
| ECA   | Economic Consulting Associates Limited                |
| GVC   | Gruppo di Volontario Civile                           |
| HCD   | High Commission for the Displaced                     |
| LRA   | Litani River Authority                                |
| MoEW  | Ministry of Energy and Water                          |
| NGO   | Non-Government Organization                           |
| NLWE  | North Lebanon Water Establishment                     |
| NRC   | Norwegian Refugee Council                             |
| NRW   | Non-revenue water                                     |
| NWSS  | National Water Sector Strategy                        |
| O&M   | Operation and Maintenance                             |
| OECD  | Organisation for Economic Cooperation and Development |
| SLWE  | South Lebanon Water Establishment                     |
| WASH  | Water, Sanitation and Hygiene                         |
| WE    | Water Establishment                                   |
| WTP   | Willingness to pay                                    |
| WVI   | World Vision International                            |
| WWTP  | Wastewater treatment plant                            |

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# INTRODUCTION OF CONSUMPTION BASED WATER-WASTEWATER TARIFFS IN LEBANON

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# **INTRODUCTION**

EDESSA, in association with Economic Consulting Associates Limited (ECA) of the United Kingdom, was contracted by OXFAM to conduct a research assignment to "provide a critical foundation from which to build future work on developing an overall strategy for water-wastewater restructuring/introduction of a consumption-based water-wastewater tariff".

To achieve the above objective, EDESSA and ECA have conducted desk research as well as surveys an interviews of relevant stakeholders, which were presented in the following intermediate deliverables:

- Meta-Analysis of Learning around Water-Wastewater Tariff Restructuring/Implementation of a Consumption Based Tariff;
- Meta-Analysis of Learning around the Role and Importance of Community and Stakeholder Engagement and Communications;
- Case study reports for each of the Water Establishment (WE); and
- Survey Report to Understand Community Perceptions.

This document is the **Strategy and Recommendations Report**, which should be read in conjunction with the previous deliverables as listed above. The objective of this report is to "outline a strategy for community engagement and communications with consumers, key community and other stakeholders to support an efficient and effective restructuring of the water-wastewater tariff/ introduction of a consumption-based water tariff, including relevant options for pro-poor tariffing in Lebanon", to "provide an analysis of the current national laws, policies, decrees and WE specific bylaws that may support or hinder a restructuring of water-wastewater tariffs, including a move towards a consumption-based tariff" and to "identify specific recommendations for changes that may be required to provide an enabling environment for waterwastewater tariff restructuring/introduction of a consumption-based tariff".





This report consists of the following sections:

- Section 2: provides recommendations for changes required within the legal and regulatory framework to allow water and wastewater service delivery with a consumption-based tariff;
- Section 3: outlines the recommended strategy for community and stakeholder engagement and communication needed for Lebanon to begin restructuring or introducing consumption-based water and/or wastewater tariffs;
- Section 4: describes the recommendations base on the Meta-Analyses previously conducted by EDESSA and ECA;
- **Section 5:** describes the identified challenges and potential solutions identified in the case studies; and
- **Section 6**: describes our proposed action plan to implement the recommendations described in the previous sections.

It is envisioned that these recommendations will be discussed in a stakeholder workshop to gain feedback from stakeholders and the Client.

#### Box 1: Notes on recommendations provided in this document

The recommendations and action plans provided in this document are based on and assume a more stable economic situation in Lebanon. With the current level of inflation and the constraints imposed by the COVID-19 worldwide pandemic, it is acknowledged that it is probably not conceivable to implement major changes that are needed to improve the water and the wastewater provision in Lebanon.





# 2

# RECOMMENDATIONS FOR CHANGES IN LEGAL AND REGULATORY FRAMEWORK

The legal basis for water and wastewater provision needs to be fully implemented and supported by clear implementing regulations and decrees to allow tariff restructuring and execution of consumption-based tariff.

# 2.1 LEGAL/REGULATORY FRAMEWORK LAW 211 OF 2000

The main legal framework for the water and wastewater sector is the Law 211 of 2000, which has the objective of restructuring the Lebanese water sector. Its key elements include<sup>1</sup>:

- Defines the role and competencies of the **Ministry of Energy and Water** as the entity responsible for policy making, planning and implementation, regulation and monitoring of the water sector. There is no specific mention in the Law about tariff approvals or tariff setting. However, Article 2 includes creating links with citizens and informing them of all matter concerning water and its uses as one of the Ministry's responsibilities.
- Establishes four **Regional Water Establishments (WEs)** as the main water and wastewater service providers responsible for operating and maintaining the water supply and wastewater infrastructure and provide services to communities (which has been done). Article 4 of Law 211 specifies that the WEs should have the competence and responsibility of suggesting water tariffs that consider socio-economic condition of the community.
- Article 9 specifically stated that the "details of implementation of this law are determined in decrees issued by the Council of Ministers, upon suggestion from the Ministry of Energy and Water". However, as of the time of writing of this report, no implementing regulations of decrees have been issued.

Law 211 of 2000 provides the overarching legal framework for the development and operation of the water and wastewater sector in Lebanon. But the law clearly envisioned and relied on the development of implementing regulations and decrees, which are not yet developed.

<sup>1</sup> The Republic of Lebanon, Law no 211/2000, The law on the Organisation of the Water Sector, available from: <u>https://www.pseau.org/outils/ouvrages/mwe law no 221 date 29 05 2000 and its amendments 2000.pdf</u>





#### WATER CODE

The Water Code initially drafted in 2005 was finally ratified in October 2020, with the aims  $of^2$ :

- Filling in the institutional gaps of Law 211 by:
  - Appointing Public Authorities as main entity to oversee and regulate water and wastewater provisions;
  - Developing National Water Council as main policy and planning institutions;
  - Encouraging private sector participation in the sector;
- Promoting 'user pay' and 'polluter pay' principles:
  - Water tariffs should be set taking into account financial sustainability of WEs and social economic conditions of the customers;
  - Drinking water tariffs can be based on consumption based on the installation of meters;
  - Continue the use of flat fees until consumption-based tariff is implemented;
- Decentralising water planning and management through River Basin Plans.

The Water Code should provide additional clarification of roles and responsibilities in the water sector and the basis for consumption-based tariffs, however, it does not include any provision for water and wastewater tariff setting processes.

#### NATIONAL WATER SECTOR STRATEGY

The National Water Sector Strategy (NWSS) was issued in 2012 to address shortcomings in the water sector in terms of infrastructure as well as sector management. The updated NWSS was issued in 2020. However, many of the key issues and gaps are still the same.

One of the key issues identified in the 2012 NWSS is the "incomplete implementation of reform law and weak interagency coordination" and the "need to achieve the ratification of the Water Code", as shown in the extract of the NWSS presented in Figure 1.

The Updated NWSS 2020 acknowledged that the revised Water Code was completed in 2020 and encouraged the new Water Code to be *"ratified soon to allow for its executive decrees to be drafted"*. Figure 2 shows the recommended ways to overcome the legal and regulatory challenges in the updated NWSS 2020.

<sup>2</sup> El Amine, Y., 2016, Lebanon Water Forum: Rethinking Water Service Provision in Lebanon, Issam Fares Institute for Public Policy and International Affairs, available from: <u>https://www.aub.edu.lb/ifi/Documents/publications/conference\_reports/2015-</u> <u>2016/20160526\_oxfam\_confererence\_report.pdf</u>

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#### Figure 1: Gaps in current legal/regulatory setup identified in NWSS 2012

- Incomplete implementation of Law 221 of 29 May 2000 and its amendments, and the lack of required bylaws to finalize the implementation of the water sector reform
- The need to develop required legislation to avoid delays in private sector participation in the water sector, mainly to allow for BOTs in large capital projects
- The need to modernize irrigation laws, thus abolishing the Ottoman law of 1913 in a view to facilitate and organize the use of irrigation water, mainly through the creation of Water Users Associations (WUAs)
- The need to develop the legal requirements to support strategic priorities in the water sector
- The need to achieve the ratification of the Water Code
- The need to undertake an in-depth gap analysis of all laws and regulations governing the water sector

Source: National Water Sector Strategy, 2012

#### Figure 2: Overcoming legal and regulatory challenges in Updated NWSS 2020

Complete the **reforms** through ratification of the revised version of the Water Code:

- Preparing and adopting the decrees under the Water Code
- Specific studies will need to be conducted for some decrees (such as the tariffs and fees regime)
- Other decrees may be developed just after the final adoption of the latest version of the Water Code

The implementation of the Water Code requires several decrees to be adopted or reviewed, such as:

- Decree on vested rights over water;
- Composition and organization of the National Water Council;
- Preparation of planning in the water sector;
- Operations subject to authorizations;
- Tariffs and fees regime;
- Public water service delegation types and arrangements;
- Public utility services in flood-risk areas;
- Prevention of water deficits;
- Water Users' Association

Source: Updated National Water Sector Strategy, 2020

The action plans for filling the gaps in the legal and regulatory framework and in improving water and wastewater tariffs outlined in the 2012 NWSS was echoed in the Updated NWSS 2020. In addition, the Updated NWSS 2020 also include action plans to improve sector coordination and stakeholder engagement and communication, as well as improving the operations of WEs.

Box 2 summarises action plans in the Updated NWSS 2020 relevant to this assignment.





#### Box 2: Action plans in the Updated NWSS 2020

#### A.1 Implement the legal and regulatory framework reform (Water Code):

A.1.1 Prepare, adopt and implement the Water Code bylaws as already listed

#### **B.2 Implement consumption-based tariffs for water services**

B.2.1 Streamline the water meter billing procedure

#### **B.3 Revise the tariff structure for sanitation services**

- B.3.1 Conduct proper cost analysis of facilities O&M
- B.3.2 Base the tariff on the cost analysis and, as a minimum, cover O&M costs

#### C. 3 Enhance sector coordination

C.3.1 Improve coordination between CDR and WEs on infrastructure project planning and management

C.3.2 Organise annual sector review involving all stakeholders and partners

#### C.4 Enhance communication with user

- C.4.1 Develop a communication strategy for MoEW and WE
- C.4.2 Design and launch a national communication campaign on the water sector.

In addition to the above, the Updated NWSS 2020 also acknowledges the importance of improving quality of service of WEs through one of its strategy. This is a step forward and in line with our recommendations and proposed action plan outlined in Section 4 of this document.

At of the time of writing of this report, none of the action plans set out in the NWSS with regards to legal and regulatory framework as well as water and wastewater tariffs have been implemented.

## 2.2 COMMENTS AND RECOMMENDATIONS

The NWSS 2012, and subsequently the Updated NWSS 2020, provides a good foundation for the changes needed in the legal and regulatory framework, as well as in the restructuring of water and wastewater tariffs.

With the ratification of the Water Code in October 2020, and as acknowledged in the Lebanon Water Forum in February 2021, the next step is to develop and issue implementing decrees to supplement existing legal and regulatory framework.

The NWSS 2020 and its action plan provides a good guidance on what implementing decrees are needed and have included improvements in stakeholder coordination and customer outreach.

Therefore, there are no further recommendations for changes in legal and regulatory framework as part of this study.





# 3

# STRATEGY FOR COMMUNITY AND STAKEHOLDER ENGAGEMENT

Understanding of the purpose and benefits of having consumption-based tariffs is key to successful tariff restructuring and reform. In Lebanon, this could be achieved by improving communication between stakeholders, including raising community awareness, followed by a more consultative processes in tariff setting and determination.

# 3.1 URGENT NEED FOR COMMUNITY AND STAKEHOLDER ENGAGEMENT

Stakeholder mapping and analysis conducted earlier (results summarised in the *Meta-Analysis of Learning Around the Roles and Importance of Community and Stakeholder Engagement and Communication Report*) has shown the water sector in Lebanon is highly fragmented, involving several stakeholders at various levels (governments, customers, service providers, civil society and NGOs) with a stake in the outcome of water and wastewater policy. Figure 3 shows the institutional arrangement of the sector according to the NWSS 2012, which still the same in the Updated NWSS 2020.

The large number of stakeholders entangles decision-making around water and wastewater tariffs and highlights the **need to achieve consensus through inclusive stakeholder engagement.** 

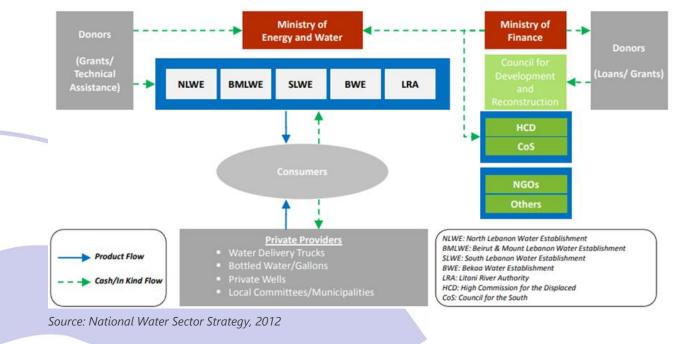


Figure 3: Institutional arrangement of Lebanon's water sector

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Additionally, a survey was conducted by EDESSA to gauge the understanding of and/or willingness of communities to pay consumption-based water and wastewater tariffs (the result of this survey is summarised in the *Survey Report*).

The survey revealed that most respondents would prefer fixed annual payment for current level of water services. However, upon explanation of what consumption-based tariff means and the benefits of it for the respondent (i.e. they will only pay for what they consume), most agree that consumptionbased tariffs will be preferred.

This shows that there is low level of understanding within the community about what a consumption-based tariff is and how this could benefit them. Therefore, there is an **urgent need to raise community and stakeholder awareness of what consumption-based tariffs entail and what the benefits would be**. However, there is a strong lack of trust between the community and the WEs, especially in terms of service quality. **Any tariff restructuring and/or reform will need to be accompanied by or even started by improvements in WEs service quality.** 

Service improvement has been identified as one of the key factors for a successful tariff reform, as summarised in Box 3<sup>3</sup>. This is true in the case of Lebanon; indeed the Survey Report has identified that consumers are not satisfied with the level of service currently provided by the WEs and therefore are not willing to accept any increase in the fixed yearly subscription. However, consumption-based tariff does not always mean increase in payments. It will mean that consumers will only pay for what they are being provided. This highlights the need for raising customer awareness and understanding of what consumption-based tariff is and their benefits.

Currently, most customers rely on the parallel water markets to buy potable water. Studies have shown that the parallel water market cost consumers three to five times the current yearly subscription<sup>4,5</sup>. If the WEs can improve the service and improve the quantity and quality of the water provided, customers may end up paying less for potable water.

<sup>3</sup> This study was conducted by ECA for the World Bank. The Background Paper summarising this study is currently under review by the World Bank.

<sup>4</sup> Cost recovery and demand management in Lebanese water sector – GVC, 2016

<sup>5</sup> Environmental and Social Impact Assessment of the Chtaura water network - Oxfam-EDESSA, 2015

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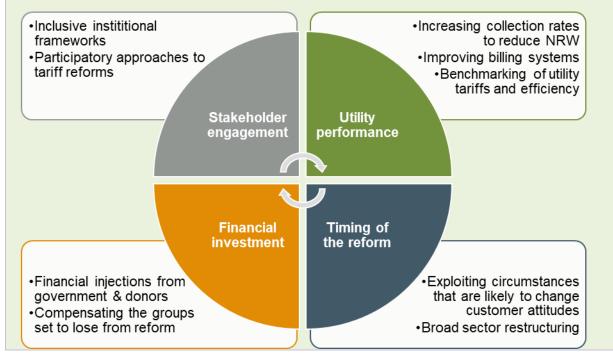




#### Box 3: Factor contributing to successful tariff reforms

Tariffs are the foundations of good financial governance within the water and sanitation sector, enabling utilities and other service providers to cover their operational costs and make provision for capital expenditures. Without strong financial management and a proven track record of achieving key performance indicators, however, utilities struggle to secure investments necessary to maintain sustainable service levels, which in turn makes customers less willing to pay and further complicates tariff reform processes.

To address these challenges and embark on a positive feedback loop to sustainable improvements in water service delivery, we have identified four key success factors to overcome resistance to tariff reforms. These are summarised in the diagram below.



Source: ECA for a Water Tariff Study conducted for the World Bank

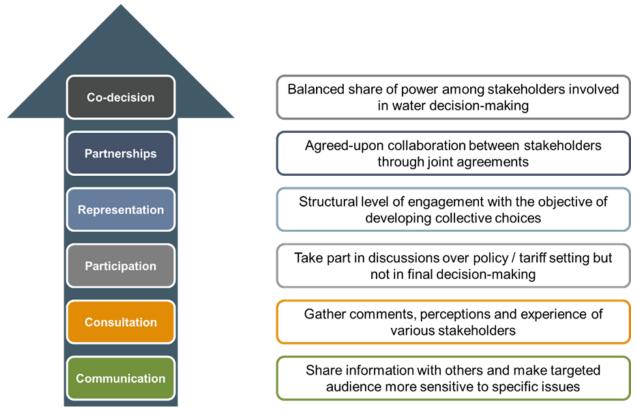




# 3.2 POSSIBLE TYPES OF COMMUNITY AND STAKEHOLDER ENGAGEMENT

The Meta-Analysis of Learning Around the Roles and Importance of Community and Stakeholder Engagement and Communication Report suggests good practices to engage community and stakeholders in tariff restructuring. For ease of reference, the six levels of engagement are illustrated in Figure.

#### Figure 4: Levels of stakeholder engagement



Source: adapted from OECD (2015)<sup>6</sup>

The first level is **communication**, which aims to share information and raise awareness among different actors. This dimension provides stakeholders with information on key water sector issues such as tariff levels and structures but not necessarily with the ability to affect decision-making. This typology gradually progresses up to more intensive levels of stakeholder engagement with higher degrees of authority over decision-making.

<sup>6</sup> OECD, 2015, Stakeholder Engagement for Inclusive Water Governance, OECD Studies on Water, OECD Publishing

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## 3.3 COMMENTS AND RECOMMENDATIONS

Given the current situation and existing legal and regulatory framework, improving and/or implementing the first three levels of community and stakeholder engagement will bring the most benefit to Lebanon's water sector.

- Communication improve and raise awareness and understanding of consumption-based tariffs and the benefits for all stakeholders;
- Consultation with improved understanding of consumption-based tariff, feedback can be gathered on community and stakeholder's perception of consumption-based tariffs. This consultation has partially been done through the survey and interviews conducted for this study. However, a more structured consultation process is needed accompanied or preceded by communication as above.
- Participation in time, after the first implementation of water tariff restructuring (as envisioned in the NWSS), a more interactive discussion can be conducted with the community about further possible tariff restructuring or changes.

The next three levels of engagement require the first three levels to be in place and operational. Therefore, these should be considered after some progress has been made and some of the recommendations have been implemented.

Our analysis shows that some efforts have been made to engage community and stakeholders by the Ministry, WEs, and/or the municipalities.

Table 1 summarises existing efforts and what can be done to improve stakeholder engagement.

As mentioned in Section 3.1, stakeholder engagement alone will not ensure successful tariff restructuring or reform. Therefore, although this document focuses on recommendations for community and stakeholder engagement, **a** wider more comprehensive water sector reform embracing policies, institutions, regulation and financing is highly recommended and needed to improve the water sector in general.

Box 4 summarises the need for comprehensive water sector reform to make the transition from **vicious cycle**, where poor utility performance generates resistance to reforms, to a **virtuous cycle** where good performance enhances willingness to pay (WTP), increasing revenues and leading to continuous improvements.

The factors leading to vicious cycle as described in Box 4 can be seen currently at play in Lebanon's water sector, emphasising the need for a comprehensive water sector reform.





|               | keholder<br>agement | Ministry of Energy and<br>Water Resources  | W | ater Establishments   | Μ | unicipalities   |
|---------------|---------------------|--|---|---|---|---|
|               | Already done        | <ul> <li>Include water tariff<br/>restructuring in the<br/>NWSS action plan.</li> </ul>  | • | Some have web-based<br>platforms and social media<br>tools to interact with<br>customers.   | • | Unknown   |
| Communication | Could be done       | <ul> <li>Develop and<br/>implement national<br/>awareness raising<br/>program.</li> <li>Publish information on<br/>planned water tariff<br/>restructuring (leaflets,<br/>booklets, advertising in<br/>radios or TV, etc.).</li> <li>Conduct workshops for<br/>WEs and<br/>municipalities.</li> </ul> |   | Publish information on<br>planned water tariff<br>restructuring.<br>Make available service<br>performance updates.  | • | Develop and<br>implement local<br>awareness raising<br>program.<br>Publish information<br>on planned water<br>tariff restructuring.<br>Conduct workshop<br>for community<br>leaders and<br>community in<br>general. |
|               | Already done        | Unknown  | • | Some websites include<br>possibility of feedback<br>from customers.   | • | Unknown   |
| Consultation  | Could be done       | <ul> <li>Develop consultation<br/>processes required to<br/>be followed by WEs<br/>and municipalities.</li> <li>Conduct capacity<br/>building workshops for<br/>WEs and<br/>municipalities.</li> </ul>   | • | Develop customer<br>feedback system (via<br>website, in questionnaires,<br>etc.).<br>Conduct periodic surveys.<br>Develop customer<br>consultation process with<br>regards to tariff changes. | • | Develop communit<br>consultation proce<br>with regards to tar<br>changes.   |
|               | Already done        | • Unknown  | • | Unknown   | • | Unknown   |
| Participation | Could be done       | <ul> <li>Develop policy and<br/>guidelines for WEs and<br/>municipalities to<br/>develop community<br/>participation in the<br/>sector.</li> <li>Conduct capacity<br/>building workshops for</li> </ul>  | • | Develop processes to<br>interact with customer<br>representatives.  | • | Establish customer<br>representative<br>committee (CRC)<br>and/or WE custom<br>representatives<br>within the<br>community.<br>Develop processes   |
|               |                     | WEs and<br>municipalities.   |   |   |   | to allow the CRCs participate in wate<br>sector policy<br>development and<br>plans.   |

#### Table 1: Stakeholder engagement in Lebanon – what is done and what could be done

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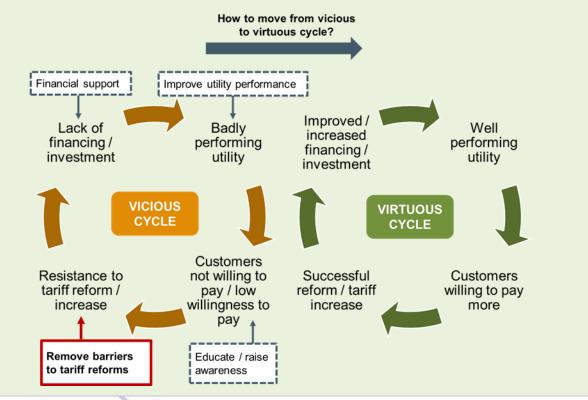


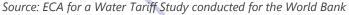


#### Box 4: Moving from vicious to virtuous cycle of water sector performance

The key factors preventing the move to a virtuous cycle can be grouped into the following categories (as illustrated in the diagram below):

- Poor utility performance Public water services in many countries are inadequate, with low billing and collection rates, high losses, and intermittent service, which often obliges households to look for alternative solutions of water typically at higher costs. Inefficiencies and low-quality service leads to negative perceptions and low satisfaction among customers, who in turn become less willing to pay their bills, reinforcing the negative spiral of low revenues from low tariffs and collection rates.
- Lack of trust The absence of dialogue between final users and institutions as well as among institutions is one of the most frequently cited problems affecting water service delivery. When customers do not see water utilities and policy makers as being accountable for poor performance, they lose trust in public authorities and become reluctant to pay for unsatisfactory and inadequate services, much less to accept tariff increases.
- Lack of funding Insufficient revenues undermine the ability of utilities to make investment plans and hamper the implementation of sector reforms. Tariff policies should complement other forms of financing to support utilities' strategic planning of capital maintenance and expansion requirements, while keeping them viable and avoiding situations where large tariff increases are needed.





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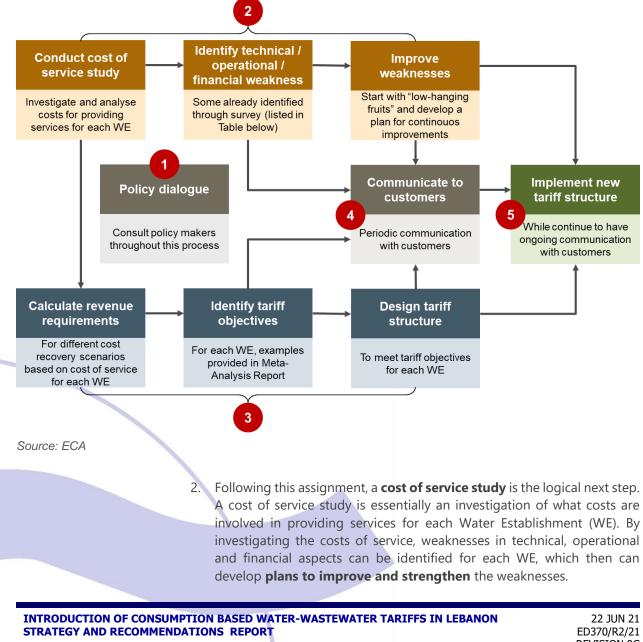


# **RECOMMENDATIONS BASED ON** THE META-ANALYSES

Based on the findings from the two Meta-Analysis reports, Figure 1 below summarises and illustrates recommended actions that can be done for Lebanon.

1. First, a **policy dialogue** should be started to discuss issues and challenge the water sector is facing and how consumption-based tariffs accompanied by stakeholder engagement can be used as one way to improve the sector.

#### Figure 5: Recommendations for Lebanon





Section 5 provides a preliminary list of issues and challenges identified through the *Case Studies* done for this assignment.

- 3. Once the true cost of service is known, the **revenue requirements** can be calculated for different cost recovery scenarios. The principles of tariff design, which begins with knowing the cost of service, calculating revenue requirements, **identifying tariff objectives** and choosing a **suitable tariff structure** is included in the *Meta-Analysis of Learning around Water-Wastewater Tariff Restructuring/Implementation of Consumption-Based Tariff* Report.
- 4. The results and processes from Points 2 and 3 above should be **communicated to customers and wider stakeholders**. For example, customers need to be informed about planned improvements that will impact their services, and of any planned changes to the way they pay their bills. To educate and raise awareness of customers and other stakeholders, it will be also good to share the processes that resulted in the planned improvements and/or tariff changes. The *Meta-Analysis of Learning around the Role and Importance of Community and Stakeholder Engagement and Communication* Report and the *Strategy and Recommendation* Report includes suggestions on how to engage with customers and stakeholders.
- 5. Improvements to services and/or changes to tariff structure and ways of billing can be **implemented** and will have higher success rate and acceptance from customers and stakeholders if they have been informed from the beginning. Ensure that there a robust monitoring mechanism is in place to monitor progress of service improvements. Customer and stakeholder engagement should also continue beyond projects.





# 5

# **IDENTIFIED CHALLENGES FROM CASE STUDIES**

A number of challenges were identified during the preparation of the case studies with the individual WEs. These have been categorized and presented in the following table along with potential solutions that would need to be further investigated in subsequent works.

#### Table 2: List of issues/challenges and potential solutions

| Categories   | lssues / challenges               | Potential solutions   |
|--------------|-----------------------------------|---|
| Technical    | Electricity shortage              | With the prevalence of water tanks in households and the actual<br>need being often less than 1m <sup>3</sup> per household per day, water<br>does not have to be supplied 24 hours per day or every day<br>immediately as long as the water supply is coordinated to match<br>the electricity supply to ensure that the household tanks remain<br>filled. Support to households may be required during this interim<br>in the installation of water tanks where required.<br>The water supply hours and quantities have to be optimized in<br>order to ensure a minimum service. |
|              | Leakages                          | Seek funds for the rehabilitation of old and leaking networks in<br>priority taking advantage to install meters and identify illegal<br>connections.<br>Management, administrative, financial reforms and restructuring   |
| Onerretienel |                                   | required along with extensive need to rehabilitate the network.   |
| Operational  | Low billing /<br>collection rates | The installation of meters will offer the population information on their water consumption.  |
|              |                                   | Population habits to be changed to accept paying for water services.  |
|              |                                   | The WE's databases should be updated and corrected to reflect the situation on the ground and real accounts receivables.  |
|              |                                   | WEs, municipalities, EdL and Ogero should share their databases in order to update them amongst the various sectors.  |
|              | High illegal connections          | Use social peer pressure to pinpoint illegal connections.<br>Illegal connections/wells to be handled based on a strict<br>procedure to avoid recidivists.   |
| Financial    | High bad debts                    | Balance sheet to be streamlined to remove unrealistic bad debts.<br>Debts to EdL should be addressed.   |

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| Categories | Issues / challenges                           | Potential solutions   |
|------------|---|---|
|            |   | Financial structure of the WEs should be re-evaluated allowing<br>them to have access to loans, subsidies or rely on the private<br>sector for project financing.   |
|            |   | The Government has a major role to play in supporting access to enter certain neighbourhoods and collect fees.  |
|            |   | Arrears should be dealt with in fairness for the paying customers<br>especially with the prevailing hyper-inflation. If discounting the<br>arrears, facilitating the payment terms or not imposing penalties<br>will be considered, then a financial incentives should be provided<br>to good paying customers. |
|            |   | Use social peer pressure to pinpoint illegal connections and late payers.   |
|            |   | The population needs to be made aware of the actual cost of providing water services.   |
|            |   | Proof of water bill payments should be required for administrativ tasks (selling, government operations, etc.).   |
|            |   | If agricultural water is to remain under the responsibility of some<br>WEs, a fair and equitable tariff system (for both the WE and the<br>consumer) needs to be implemented.   |
|            | Subscription rates                            | Correct the current fixed rate in stages.   |
|            | devaluated                                    | Consumption-based tariff may result in saving to both the WE<br>and the population through a better management, regulation and<br>distribution of the water.  |
|            | Current social and<br>economic<br>environment | Change to consumption-based tariff should either be delayed to<br>after the fixed subscription rate has been adjusted due to inflatio<br>unless it can be done in a way to demonstrate saving to the<br>population.   |
|            | Fee model of<br>consumption based<br>tariff   | Consumption-based tariff should be based on a fixed portion<br>lower than the current subscription rate and a variable portion in<br>a way to offer the population an incentive to use less water and<br>not just be charged for larger water consumption.  |
|            |   | Fixed portion of the rate could include provision for minimal social service.   |
|            |   | The project could include an option to pay a flat fee or a consumption-based tariff.  |
|            |   | Apply consumption based-tariffs where meters have already bee installed   |
|            |   | Consider obtaining budgets for repairs of leaks at household levels that will result in unnecessary high tariff to customers.   |



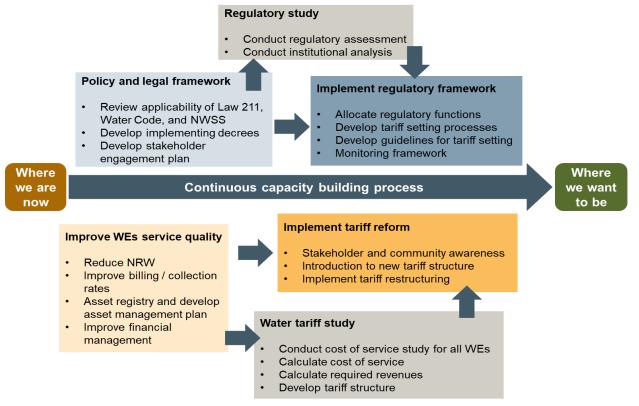


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# **PROPOSED ACTION PLAN**

Changes to the legal and regulatory framework and having a strategy for community and stakeholder engagement would be a good start to implement tariff restructuring and reform. However, without improving quality of service as part of a wider sector reform, implementation of consumption-based tariff will most likely face significant resistance. Figure 6 illustrates the action plan recommended that will improve the management of the water sector in general, including eventually implementing consumption-based tariffs.

#### Figure 6: Proposed action plan



Source: ECA

Improvements and changes to the existing policy and legal framework should be prioritised to provide the necessary enabling environment for other reforms. In parallel and as a priority, the service quality of the WEs needs to be improved to address current community lack of trust and negative perception of the WEs. These two activities should be accompanied by a regulatory study to assess and develop a regulatory framework that is suitable for Lebanon, and a water tariff study to understand cost of service and therefore suitable tariff levels and structures for each of the WEs. The results of these studies will enable the implementation of the regulatory framework and tariff restructuring and/or introduction of consumption-based tariffs. These actions can be refined and included in the updated version of the NWSS.

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Please contact Oxfam for more information. E-mail: Jbabassian@oxfam.org.uk.

The information in this publication is correct at the time of going to press.

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#### HEAD OFFICE - BEIRUT:

145 HABIB BACHA EL SAAD STREET – LYAN BUILDING – BEIRUT 2064 2506 – LEBANON PHONE: (+961-1) 615140 – FAX: (+961-1) 615142 – E-MAIL: BEIRUT@EDESSAGROUP.COM

WEB: WWW.EDESSAGROUP.COM