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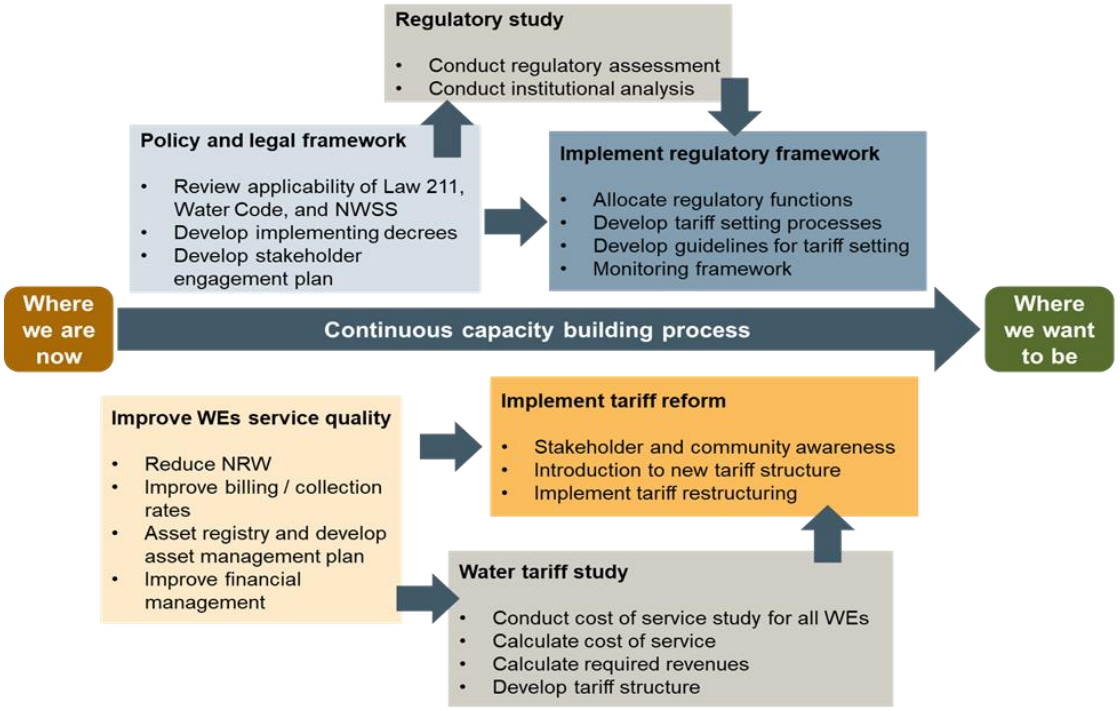
MINISTRY OF ENERGY AND WATER

INTRODUCTION OF CONSUMPTION BASED WATER-WASTEWATER TARIFFS IN LEBANON

FINAL SUMMARY REPORT

PREPARED FOR
OXFAM IN LEBANON



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INTRODUCTION OF CONSUMPTION BASED WATER-WASTEWATER TARIFFS IN LEBANON FINAL SUMMARY REPORT

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1 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, surveys and interviews of relevant stakeholders and submitted a strategy and recommendation report which were presented in the following intermediate deliverables:

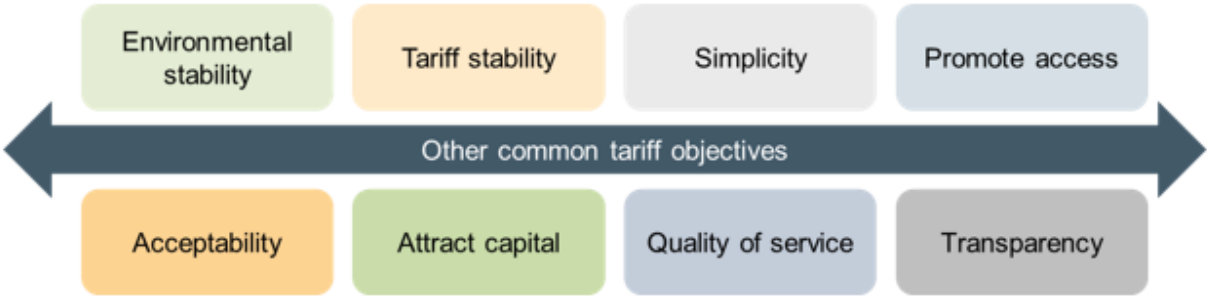
- Meta-Analysis of Learning around Water-Wastewater Tariff Restructuring/Implementation of a Consumption Based Tariff;
- Meta-Analysis of Learning around the Role and Importance of Community and Stakeholder Engagement and Communications;
- Case study reports for each of the Water Establishment (WE);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

This final summary report is an executive summary presenting the main outcomes of each deliverable.

2 TARIFF SETTING

The Meta-Analysis of Learning around Water-Wastewater Tariff Restructuring/ Implementation of a Consumption Based Tariff illustrated the fundamental objectives of water pricing and the principles of water tariff restructuring, and provided an overview of the different types of tariff structures. The main tariff objectives are presented in Figure 1.

Figure 1: Common tariff objectives



Source: EDESSA & ECA

An overview of the different types of tariff structures traditionally applied for water supply and their key advantages and disadvantages was presented in the Meta-Analysis report. The three typologies of consumption-based tariffs that are most widely adopted in the water and wastewater sector, namely **constant volumetric rate**, **Increasing Block Tariffs (IBTs)** and **two-part tariffs**. An overview of the main consumption-based tariff structures and their assessment against tariff objectives is illustrated below.

Table 1 Assessment of main consumption-based tariff structures

Tariff objective	Constant volumetric rate	Increasing Blocks Tariffs (IBT)	Fixed charge + volumetric rate
Cost recovery & financial stability	✓ Tariff can be vulnerable to demand fluctuations, but risks are lower than IBT	✓ Achieves financial viability but with higher risks and volatility for cost recovery	✓ Depends on what share of the total revenues is fixed
Economic efficiency	✓ Price paid by the user can be directly linked to marginal cost	✓ Reduced efficiency by breaking the link between prices and marginal costs	✓✓ Efficient pricing if volumetric component is based on marginal cost
Affordability & equity	✓ Customers pay according to their use and can limit their consumption	✓✓ Lifeline block can address equity concerns for low-income households	✓✓ Fixed charge can be designed as to minimise distributional impacts
Environmental sustainability	✓	✓✓	✓

Tariff objective	Constant volumetric rate	Increasing Blocks Tariffs (IBT)	Fixed charge + volumetric rate
	Promotes sustainable consumption but inefficient use is not penalised	Can provide meaningful incentives for water conservation	Incentives to reduce consumption limited by the fixed charge
Simplicity & ease of implementation	✓✓ Easily understood and implemented if accurate metering is available	✘ Complex to implement and administer	✓ Simpler than IBT but more complex than fixed or volumetric rates

Source: EDESSA & ECA

The Meta-Analysis presented a brief overview of water and wastewater pricing in Lebanon and identified the main challenges for tariff restructuring. It also analysed global experience in water tariff reforms and success factors in water and wastewater tariff setting and their applicability to Lebanon.

The assessment of the principles of water pricing and the lessons learned from global experience of tariff reforms suggests that the main barriers to the implementation of consumption-based tariffs in Lebanon should be addressed at three levels:

- Cost recovery and financial stability
  - Basic tariff structure
  - Tariff complements.
  - Pro-poor
- Institutional and legal framework
  - Strong institutions, incentives and accountability
  - Increasing participation of civil society and engagement of communities.
- Commercial aspects
  - Implementing meter installations and improving service quality
  - Increasing the number of subscribers and improving billing and collection rates
  - Monitoring the new tariff strategy and taking legal actions against all non-paying or illegal customers and enforcing disconnections.

3

STAKEHOLDER ENGAGEMENT

The Meta-Analysis of Learning around the Role and Importance of Community and Stakeholder Engagement and Communications presented the role of stakeholder engagement in water and wastewater tariff setting and other water-related issues:

- Understanding the need for stakeholder engagement in water governance and tariff setting
- Mapping water sector stakeholders and their roles in promoting engagement around tariff restructuring
- Diagnosing the main obstacles to inclusive participatory approaches to policymaking in the water and sanitation sector
- Identifying mechanisms and instruments to promote effective stakeholder engagement.

Figure 2: Stakeholder engagement

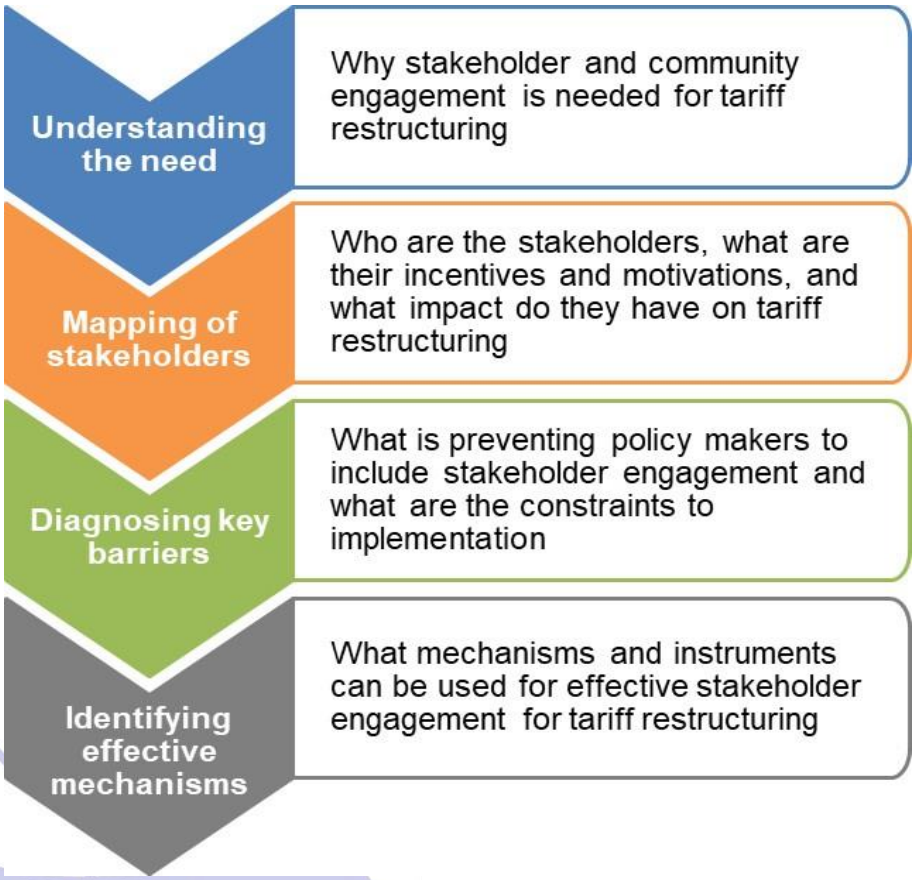
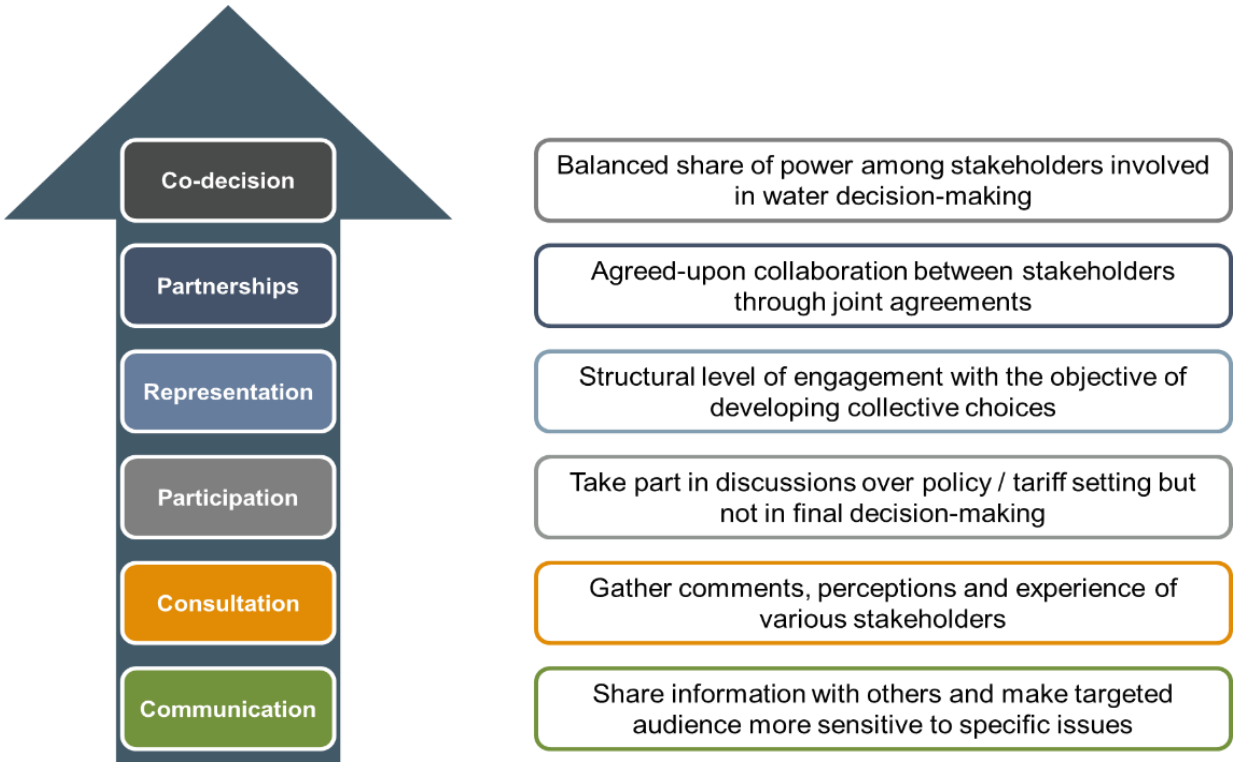


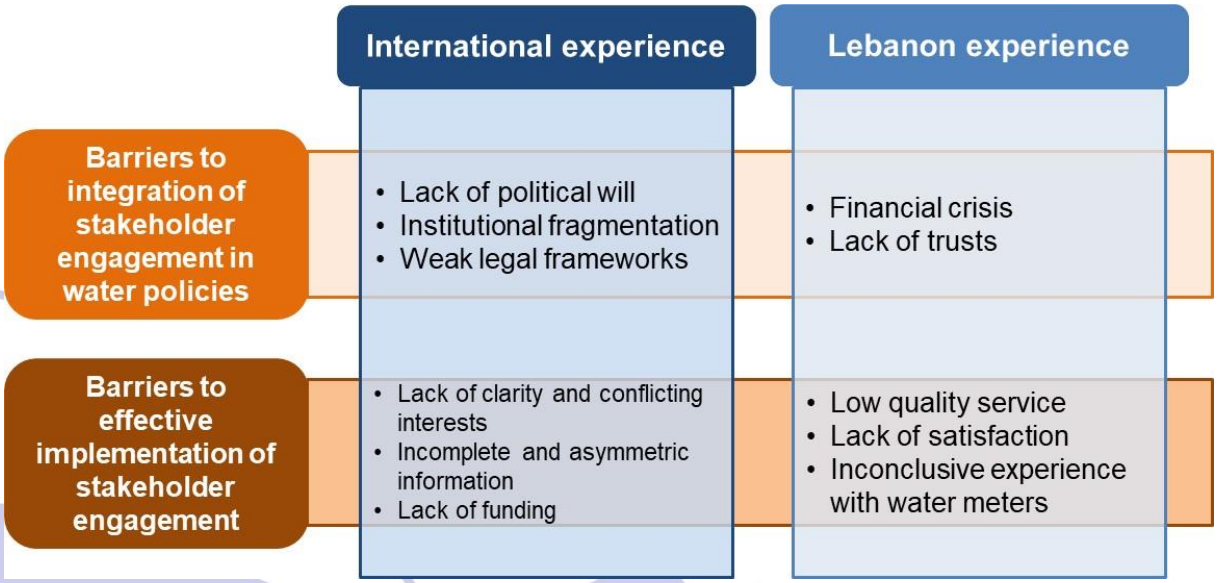
Figure 3 Levels of stakeholder engagement



Source: EDESSA & ECA, adapted from OECD (2015)

It provided an overview of the current situation in Lebanon in terms of community engagement from the perspective of different stakeholder groups and drew lessons learned from international and regional experiences of stakeholder participation around tariff restructuring.

Figure 4 Levels of stakeholder engagement



The water sector in Lebanon is highly fragmented, involving several stakeholders at various levels. The multiplicity of actors and incentives makes it difficult to achieve consensus regarding water and wastewater tariff restructuring. These challenges are further exacerbated by

- lack of trust in government authorities,
- low quality of public services, and
- negative experiences of water meters.

In order to address these challenges and successfully implement consumption-based tariffs for water and wastewater services in Lebanon, inclusive and participatory approaches to decision-making should be adopted to allow the community to express their views and concerns with regards to tariff setting and other water-related issues.

The literature and international case studies highlight that stakeholder engagement is an integral part of sound governance processes in the water and sanitation sector. A wide range of tools can be used to engage stakeholders in water and wastewater tariff setting. These mechanisms range from institutional arrangements such as Water User Associations and citizen committees to educational campaigns and media-based tools.

4

CASE STUDIES

Two case studies were prepared for each Waster Establishments addressing the attempts made to implement water-wastewater consumption based tariffs and on the role and importance of community and stakeholder engagement and communication.

These case studies identified a series of challenges that are in some cases specific to one water establishment but quite often applicable to all four water establishments.

Table 2: List of issues/challenges and potential solutions

Categories	Issues / challenges	Potential solutions
Technical	Electricity shortage	With the prevalence of water tanks in households and the actual need being often less than 1m^3 per household per day, water does not have to be supplied 24 hours per day or every day immediately as long as the water supply is coordinated to match the electricity supply to ensure that the household tanks remain filled. Support to households may be required during this interim in the installation of water tanks where required. The water supply hours and quantities have to be optimized in order to ensure a minimum service.
	Leakages	Seek funds for the rehabilitation of old and leaking networks in priority taking advantage to install meters and identify illegal connections. Management, administrative, financial reforms and restructuring required along with extensive need to rehabilitate the network.
Operational	Low billing / 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. Illegal connections/wells to be handled based on a strict procedure to avoid recidivists.
Financial	High bad debts	Balance sheet to be streamlined to remove unrealistic bad debts. Debts to EdL should be addressed. Financial structure of the WEs should be re-evaluated allowing them to have access to loans, subsidies or rely on the private 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 especially with the prevailing hyper-inflation. If discounting the arrears,

Categories	Issues / challenges	Potential solutions
		facilitating the payment terms or not imposing penalties will be considered, then a financial incentives should be provided 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 administrative tasks (selling, government operations, etc.). If agricultural water is to remain under the responsibility of some WEs, a fair and equitable tariff system (for both the WE and the consumer) needs to be implemented.
	Subscription rates devaluated	Correct the current fixed rate in stages. Consumption-based tariff may result in saving to both the WE and the population through a better management, regulation and distribution of the water.
	Current social and economic environment	Change to consumption-based tariff should either be delayed to after the fixed subscription rate has been adjusted due to inflation unless it can be done in a way to demonstrate saving to the population.
	Fee model of consumption based tariff	Consumption-based tariff should be based on a fixed portion lower than the current subscription rate and a variable portion in a way to offer the population an incentive to use less water and 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 been installed Consider obtaining budgets for repairs of leaks at household levels that will result in unnecessary high tariff to customers.

Source: EDESSA

5

SURVEY

A limited field survey was conducted by EDESSA in December 2020. It consisted in interviewing 40 households in each water establishment geographic area in addition to filling a separate questionnaire with the municipality of the largest city within each of the water establishment geographic areas and five interviews with moukhtars. The results of a number of other surveys conducted previously were also analysed.

The financial situation of the interviewed population sample was found to be precarious. The Majority of the respondents indicated subscribing to the water network and paying their bills on-time in contradiction with the assessment of the WEs. Such discrepancy could reflect a discrepancy between the WEs databases and the actual situation on the ground.

Most of the respondents that are not connected to the network would get connected. In general, respondents considered the yearly subscription rate acceptable and that it should be sufficient for the water establishment especially based on the level of service provided. Usually, the respondents indicated that they would pay more for a better service.

The vast majority of the interviewed population indicated preferring a fixed yearly subscription to a metered subscription although the interviews with the municipality representatives and moukhtars indicated that the population would favour a consumption-based tariff. Significant awareness campaigns should be conducted with the population in order to facilitate the acceptance of water-based tariffs.

The level of trust in the WEs was more often considered low. The best way for the population to contact the WE was considered to be through in-person visits to the WE or by phone. The respondents considered that the municipalities do have a role to play in the water sector at least an intermediary or a monitoring role.

Wastewater was found to be discharged to septic tanks in rural areas and in sewer in more urban areas. The majority of the respondents from Beirut/Mount Lebanon and South Lebanon considered the management of their wastewater unsatisfactory. The vast majority of all respondents would be willing to pay for their wastewater to be treated in a suitable manner.

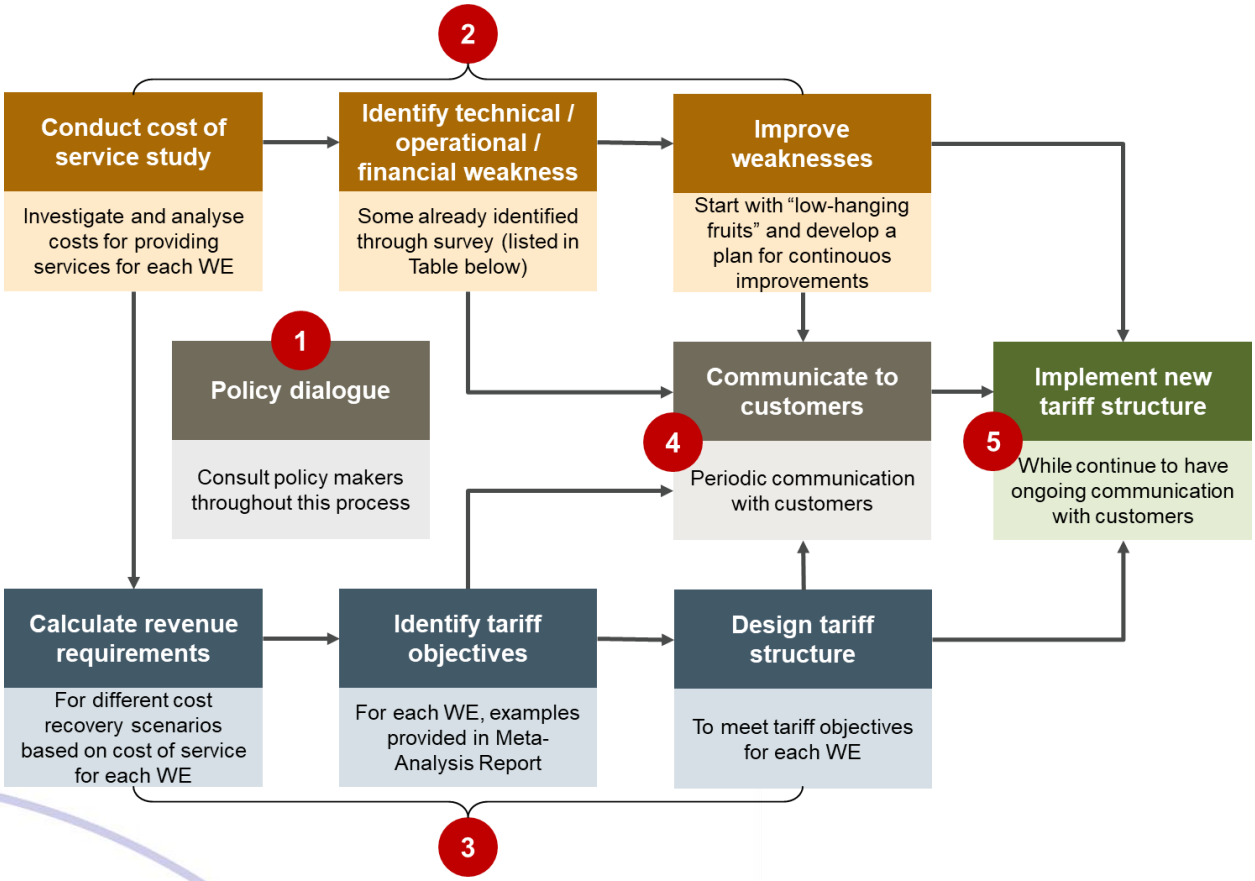
The most frequently quoted yearly price for proper wastewater management in Beirut/Mount Lebanon and North Lebanon was between 50,000 to 100,000 LBP. The most frequently provided yearly price in Southern Lebanon was between 200,000 to 400,000 LBP. The most frequent answer in the Bekaa region was whatever is required.

6

RECOMMENDATIONS

The strategy and recommendations were presented in a stand-alone report. This section highlights the major findings and recommendations for Lebanon. Figure 5 summarises and illustrates recommended actions that can be done for Lebanon with first a policy dialogue, followed by a cost of service study and a plan to address the challenges. Under Task 3, required revenues would be calculated based on the set tariff objectives. These would be communicated to customers and stakeholders before actual implementation of the new tariff.

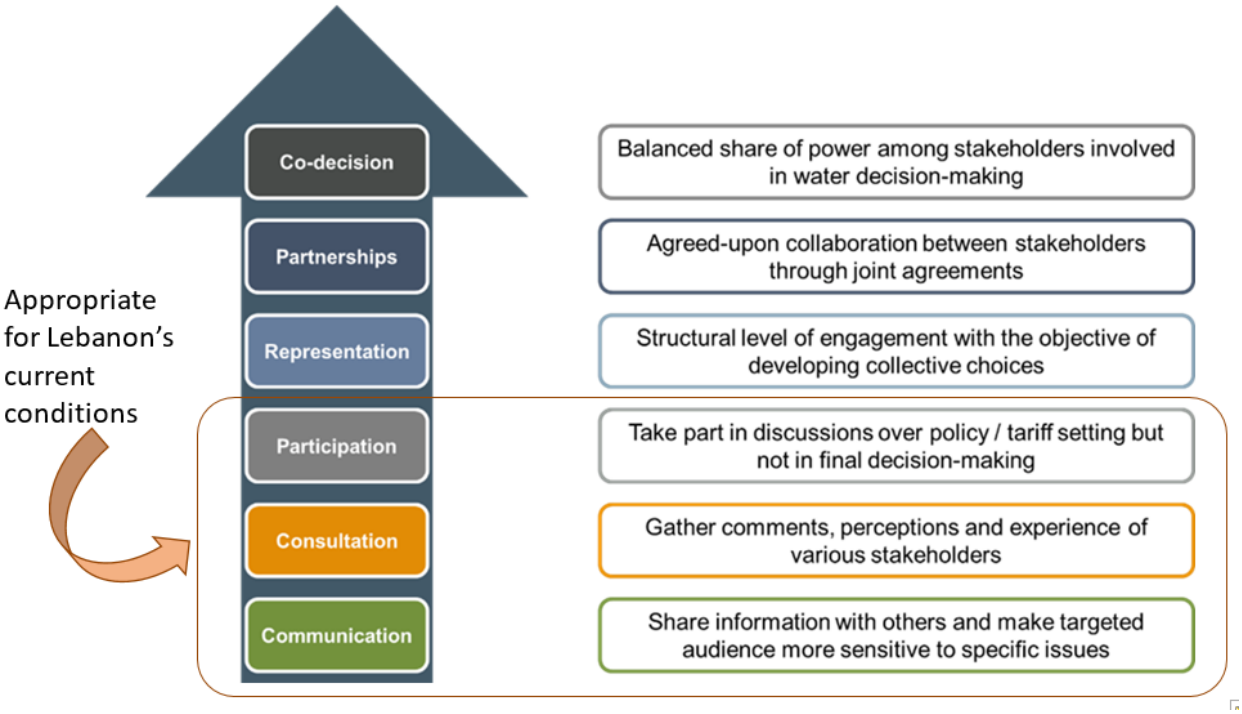
Figure 5: Recommendations for Lebanon



Source: ECA

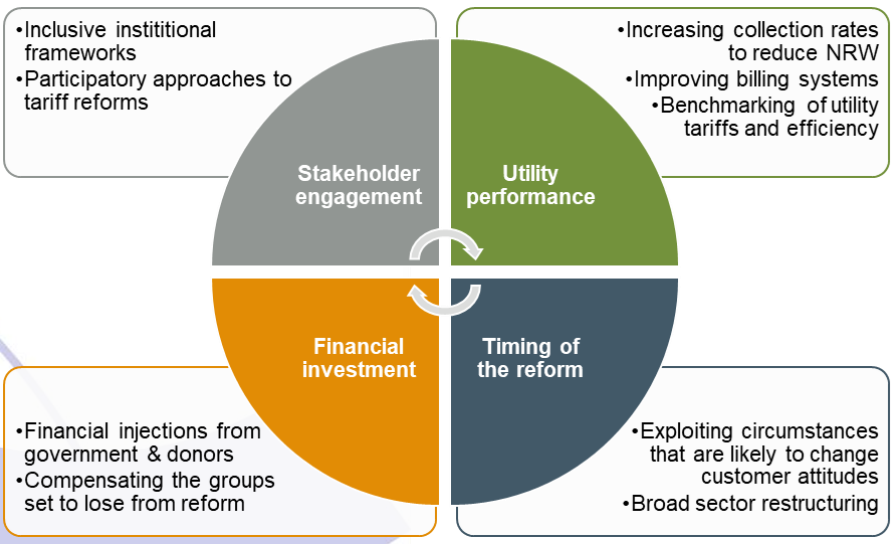
In terms of stakeholder engagement, although several levels have been identified as presented in the following figure ranging from communication and consultation to partnership and co-decision, the recommended level of stakeholder participation would be to achieve communication, consultation and participation.

Figure 6: Recommended level of stakeholder engagement



Tariffs are the foundations of good financial governance, enabling the WEs 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, the WEs would struggle to secure investments necessary to maintain sustainable service levels, resulting in customers being less willing to pay. 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.

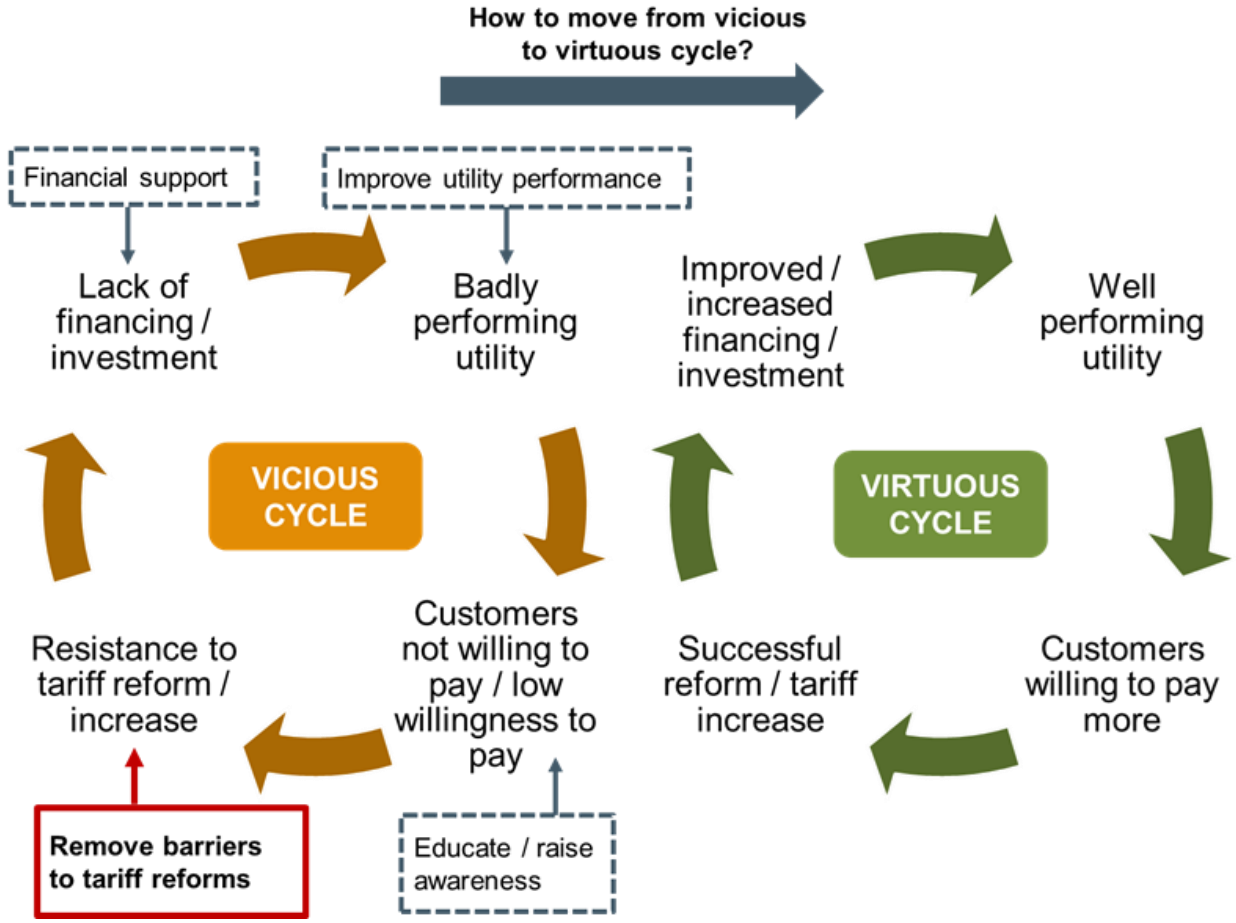
Figure 7: Key success factors to overcome resistance to tariff reforms



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

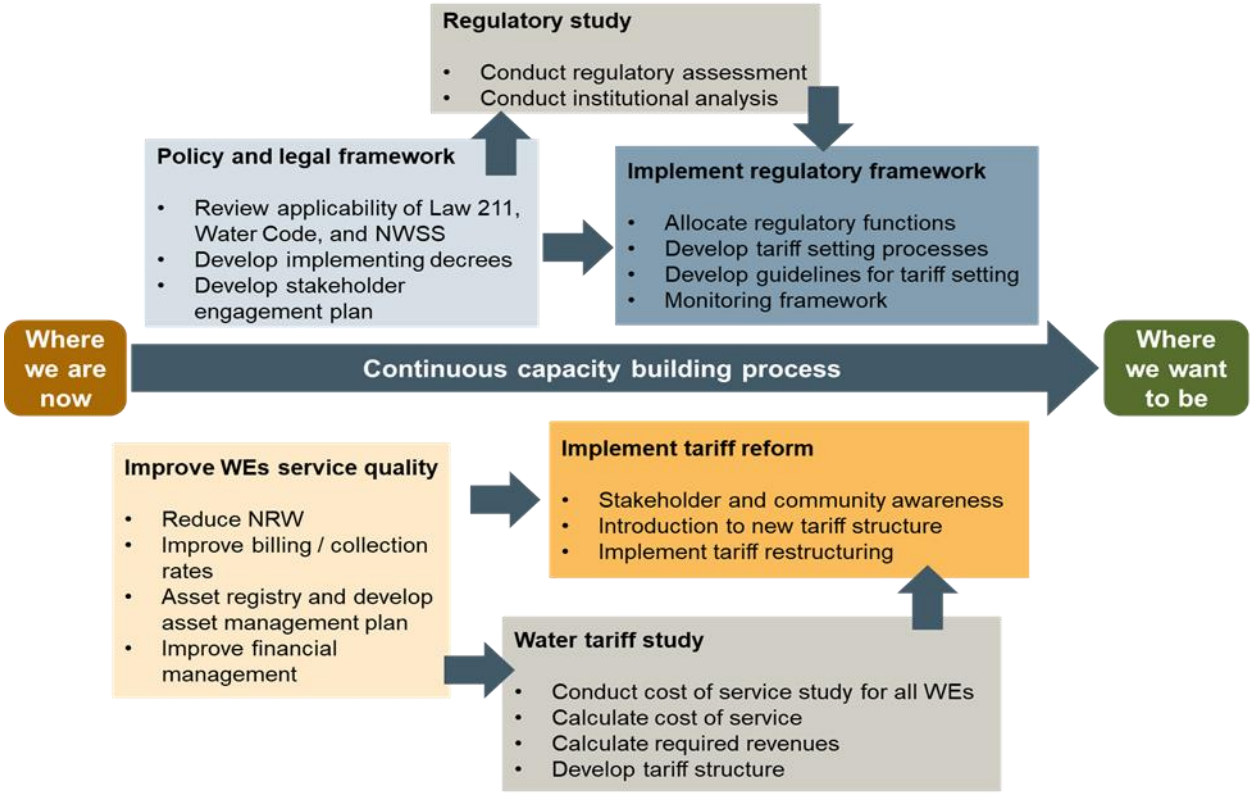
- Poor utility performance
- Lack of trust
- Lack of funding

Figure 8: Moving from vicious to virtuous cycle of water sector performance



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. The proposed action plan for Lebanon is presented in the following diagram.

Figure 9: Proposed action plan



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

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.

Oxfam has been working in Lebanon since 1993. We provide humanitarian assistance to vulnerable people affected by conflict, and we promote economic development, promotion of good governance at a local and national level, and women's rights through our work with our partners. Oxfam also works with local partners to contribute to the protection and empowerment of marginalized women and men.

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