EVALUATION OF UNICEF SUPPORT TO WATER ESTABLISHMENTS

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United Nations Children's Fund (UNICEF Lebanon)

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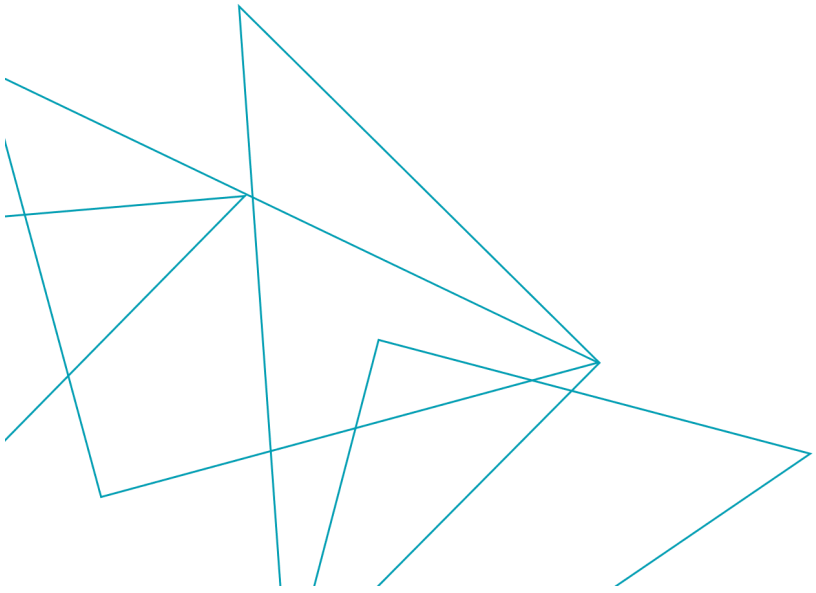

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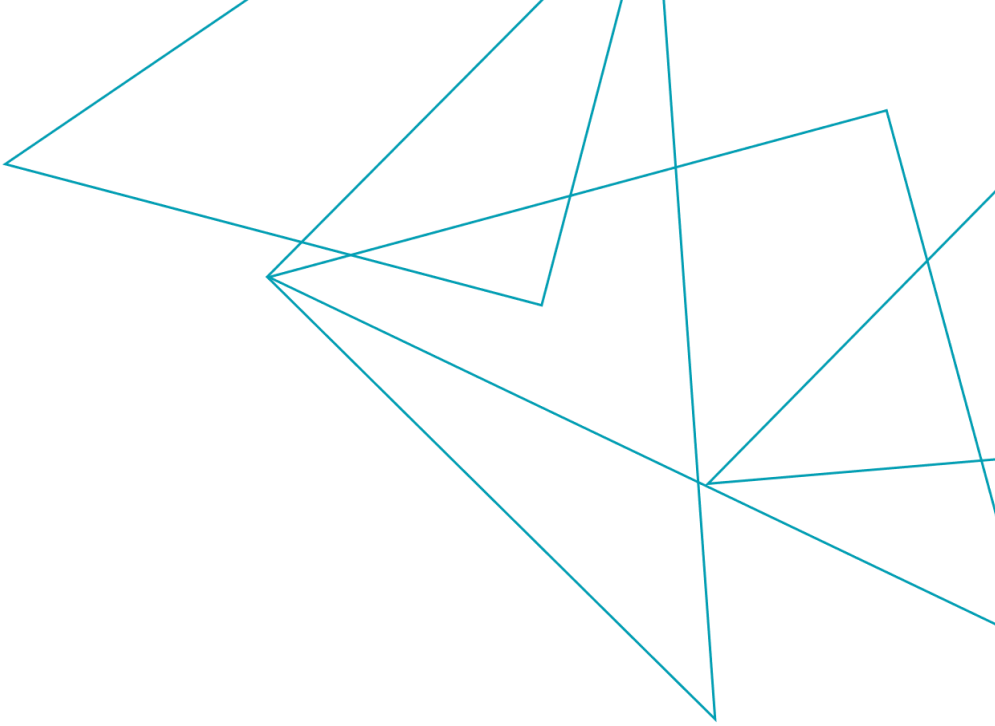

ACKNOWLEDGEMENTS

This present report results from extensive research and analysis conducted between September and December 2022 by Triangle consulting. An evaluation team comprised of qualitative and quantitative research experts was assembled and tasked with the design, research and analysis throughout the project.

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LIST OF ACRONYMS AND ABBREVIATIONS

BMLWE	Beirut and Mount Lebanon Water Establishment
BWE	Bekaa Water Establishment
CDR	Council for Development and Reconstruction
CRC	Customer Relations and Communication Unit
ERP	Enterprise Resource Planning
EU	European Union
FGD	Focus Group Discussion
GI	Group Interview
GIS	Geographic Information System
INGO	International Non-Governmental Organizations
ITS	Informal Tent Settlements
IWRM	Integrated Water Resources Management
KII	Key Informant Interview
LCRP	Lebanon Crisis Response Plan
MoEW	Ministry of Energy and Water
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organisation
NLWE	North Lebanon Water Establishment
OECD-DAC	The Organisation for Economic Co-operation and Development's Development Assistance Committee
RWE	Regional Water Establishment
SDG	Sustainable Development Goal
SLWE	South Lebanon Water Establishment
SOW	Scope of Work
TOC	Theory of Change
TOR	Terms of Reference
UNICEF	United Nations' Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WOP	Water Operator Partnerships

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EXECUTIVE SUMMARY

UNICEF, which serves as the lead UN agency for water and sanitation as part of the international humanitarian relief effort in Lebanon, continues to support the country's four main Regional Water Establishments: North Lebanon (NLWE), South Lebanon (SLWE), Beirut and Mount Lebanon (BMLWE), and Bekaa (BWE). This report presents a final evaluation of UNICEF's support to these RWEs for the period of the country program (2017 to 2022). It is the product of an overall assessment of the implementation and performance of this support, specifically its two main components of infrastructure/stabilisation and communications.

The purpose of the final evaluation is twofold: (1) to inform UNICEF's future engagement with and support to the RWEs; and (2) to provide a basis for accountability. It gives the intended users the information needed to make decisions, take action and add to institutional knowledge. The report focuses on five main points of the OECD-DAC criteria – relevance and coherence, effectiveness, efficiency, sustainability, and gender and human rights.

Relevance

The evaluation found that, up to 2019, UNICEF's project theory of change was relevant to Lebanon's context and the institutional needs of the RWEs. The project design aimed to maintain and improve water services to populations while following the priorities of the Lebanese Government and water sector laws and build RWE capacity for a transparent and coherent communication and engagement. Amid Lebanon's financial crisis, the project design was key to the survival of the RWEs by responding to their emergency needs and priorities. UNICEF's mandate as a humanitarian organisation enabled the agency to lead the crisis response to the 2019 crisis.

Effectiveness

UNICEF infrastructure activities rehabilitated water and storm water facilities, in addition to maintenance and repair of the water system. In parallel, UNICEF's communication activities helped build the internal capacity and institutional knowledge at RWES. After 2019, the project readjusted its work plan and redesigned programme priorities to adapt to the changing context. Indeed, RWEs had a decreased capacity to carry out essential repairs and maintenance operations. UNICEF's support was effective in maintaining and improving water services to populations. UNICEF's collaborations with municipalities successfully strengthened a participatory approach to managing water services. However, RWEs' lack of power source, inability to follow up, and poor network extensions constrained the effectiveness of some of UNICEF's activities.

Efficiency

Overall, UNICEF's fast administrative procedures increased the project's operational efficiency. UNICEF's regular coordination with stakeholders of the Lebanese water sector avoided overlap of interventions. However, UNICEF's post-2019 programme faced some difficulties that led to less efficient outcome inefficiencies, particularly at the call centers. UNICEF's monitoring of the overall programme was also weak, primarily due to a lack of baseline data and a clear monitoring plan for its support to RWEs.

Sustainability

Before 2019, UNICEF's support to the RWEs produced tangible outputs expected to have lasting benefits through cost recovery. The program contributed to an overall increase in subscription rate and billing, and developed the necessary complementarity between systems to achieve sustainability. Furthermore, the programme contributed to building an environment of trust among users through standardized and pro-active communication and engagement. However, UNICEF's exit from the current crisis to resume development actions remains undefined.

Gender and human rights

Gender was not a key element of UNICEF's project approach, including intervention design and implementation. At the RWEs, understanding of gender sensitivity was limited to the number of female staff and their participation in training and workshops. The CFW programme had specific quotas for women's participation, which increased throughout the project. A lack of gender-disaggregated data makes it difficult to evaluate the project's impact on equitable water distribution. Finally, UNICEF's pilot project in south Beirut improved water services to historically unserved communities.

Recommendations

In light of these findings, the evaluation team highlighted 13 key recommendations for future UNICEF programming and engagement with the RWEs. These include continuing daily support to the RWEs for the maintenance and repairs of water systems and pumps, in the absence of a solution to Lebanon's financial crisis. Continuing investing in strategic WASH infrastructure projects to reduce operational costs and increase water availability. Leveraging project-based interventions to improve RWEs' customer base and sustainable revenue through transparent communication and stakeholders engagement.

1. INTRODUCTION

This report presents a final evaluation of UNICEF's support to the four main Regional Lebanese Water Establishments (RWEs) – North Lebanon, South Lebanon, Beirut and Mount Lebanon, and Bekaa – for the period of the current country program (2017 to 2022). It is the product of an overall assessment of the implementation and performance of this support, specifically its two main programmes of infrastructure/stabilisation and communications.

The purpose of the final evaluation is twofold: (1) to inform UNICEF's future engagement with and support to the RWEs; and (2) to provide a basis for accountability. It gives the intended users the information needed to make decisions, take action and add to institutional knowledge. The report focuses on five main points of the OECD-DAC criteria – relevance and coherence, effectiveness, efficiency, sustainability, and gender and human rights.

This final evaluation report includes a description of the intervention, the evaluation's purpose, scope, objectives, approach, and methodology. It lays out the evaluation's findings according to the five criteria, and includes a risk analysis, lessons learned and recommendations.

2. BACKGROUND AND CONTEXT

Lebanon is commonly noted for its relatively 'abundant' water supplies – including regular seasonal rainfall and forty rivers - compared with the wider Middle East region. Indeed, research suggests Lebanon possesses a total of 4.5 billion cubic meters of renewable freshwater annually.[1] Despite the visibility of such water resources, Lebanon's water shortages have been recurrent, shaped largely by the country's volatile socio-economic landscape in recent decades. 2022 marked the apex of such a pattern. The Lebanese water sector is currently under unparalleled stress from factors that accentuated its pre-existing vulnerabilities, limited stakeholders' capacities to reduce or manage risk, and crippled funding resources.

Lebanon's four RWEs in charge of public water services - North, South, Beirut and Mount Lebanon, and Bekaa – have been significantly impacted by the country's financial crisis since

[1] Research conducted by The Food and Agriculture Organisation of the United Nations, Online at: https://tableau.apps.fao.org/views/ReviewDashboard-v1/result_country?%3Aembed=y&%3AisGuestRedirectFromVizportal=y

2019. As a result of the rapid and dramatic devaluation of the Lebanese Lira, the RWEs are collecting insufficient Lebanese Lira revenues to ensure the functionality of water infrastructure. The economic collapse interrupted the previously positive trend in revenue recovery aimed to cover gaps in operational costs. Furthermore, with the concomitant US Dollar shortage in Lebanon, the country's Central Bank is not able to release US Dollar to cover costs for vital repairs or imported equipment and tools. On the consumption side, citizens' diminished purchasing power means that Lebanese are struggling to pay the RWEs' water bills or to pay private providers in the parallel water supply market.[2]

The financial crisis further exacerbated Lebanon's underlying water sector challenges which were related, in part, to the influx of Syrian refugees to Lebanon since 2011. Such rapid and intense migration, of around 1.5 million Syrians, across a relatively short period of time, has increased the demand for water in Lebanon by an estimated 8 to 12%.[3] On a grander scale, the increasing visibility of climate change related extremities, in particular, droughts, has made for a dire situation. As of 2021 over 70% of the Lebanese population faces critical water shortages according to a report by UNICEF.[4]

A. WATER INFRASTRUCTURE

Lebanon's water infrastructure, already in need of major repairs, maintenance and replacement of aged water assets, was hit particularly hard by the financial crisis of 2019. The previous trend of increasing subscriptions and revenues was hindered due to the consequent loss of purchasing power by citizens. Not least, diminished public funding made the progress of necessary repairs, or the continuation of new projects, highly difficult. Indeed, many of Lebanon's water sector pipelines are old or poorly maintained. In the case study of Zahle in the Bekaa, UNICEF found that almost half of the water supply was lost through leakages in the distribution system before it reached homes or businesses.[5] Such regional vulnerabilities mirror wider patterns in the country whereby public water supply is often cut without warning or lost (40%) due to lack of maintenance and illegal connections.[6]

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[2] UNICEF, (2021), "Water supply systems on the verge of collapse in Lebanon: over 71 per cent of people risk losing access to water", online at: https://www.unicef.org/press-releases/water-supply-systems-verge-collapse-lebanon-over-71-cent-people-risk-losing-access

[3] Relief Web, "Feasibility Assessment for Water Service Provision to Informal Tented Settlements (ITS) in Lebanon: A Case Study of North Bekaa" (2017), online at: https://reliefweb.int/report/lebanon/feasibility-assessment-water-service-provision-informal-tented-settlements-its

[4] UNICEF, "Water Supply Systems on the Verge of Collapse in Lebanon", 2021, online at: https://www.unicef.org/press-releases/water-supply-systems-verge-collapse-lebanon-over-71-cent-people-risk-losing-access

[5] S. Balsom, "Water Establishments of Lebanon Empowered", UNICEF (2021), Online at: https://www.unicef.org/lebanon/stories/water-establishments-lebanon-empowered

[6] UNICEF (2021), online at: https://www.unicef.org/press-releases/water-supply-systems-verge-collapse-lebanon-over-71-cent-people-risk-losing-access

Progress on several planned water supply projects has been halted following controversies or financial reasons. Perhaps most importantly, the financial crisis stalled plans to rehabilitate networks and pumping stations. UNICEF's 2021 assessment of water supplies in Lebanon found that public water providers can no longer afford essential spare parts for maintenance, nor have the necessary US dollars available to pay for equipment and contractors.[7] Power outages – the consequence of a lack of fuel – and intermittent supply are adding pressure to the sector, stalling water treatment, pumping, and distribution.

B. SERVICE PROVISION

Water supply networks vary greatly depending on the region. While 85% of residents in Beirut, Mount Lebanon, are linked to a drinking network supply, only an estimated 68% of the North's residents are connected.[8] Water access also varies across the year with supplies often particularly low in summer months when the need is greatest.[9] Lebanon's water supply system presently has no metering system meaning residents pay a flat fee collected by four regional water establishments (RWEs), who independently set their tariffs for water services. The costs of each RWE based on a variety of socio-economical and financial factors. Depending on the area, the price remains the same within an RWE, despite cost differences for pumping and networking across areas.[10]

Cost recovery through fee collection in Lebanon's public water sector has been undermined by a variety of factors in recent years. Compared to the RWE's operation and maintenance needs, fee collection rates have remained critically low and unsustainable – even in the country's capital, where collection rates are usually higher.[11] The RWEs rely on negligible subsidies from the Ministry of Energy and Water (MoEW) and payment arrangements with the state electricity provider, EDL. While some RWEs pay their EDL bills, others don't or only partially, leaving them in debt to EDL. Despite technical assistance projects implemented by international donors, this situation has remained the same for about two decades. Indeed, since the early 1990s, international donors have contributed around $3 billion to Lebanon's

[7] Ibid.
[8] M. Safadi "Constructing Dams in Lebanon Can't Save Us", (2020), online at: https://www.linkedin.com/pulse/constructing-dams-lebanon-cant-save-us-new-future-water-safadi-/
[9] World Bank, "2010 Republic of Lebanon – Water sector: public expenditure review", Report No. 52024-LB, Social and Economic Development Group, Middle East and Africa Region.
[10] Georges Gharios and Nadim Farajalla, "Investment Plans in the Water Management Structure of a Post-War Country: The Case of Lebanon Challenges", (2020) Climate Change and Environment Program, Issam Fares Institute for Public Policy and International Affairs, American University of Beirut, online at: https://www.aub.edu.lb/ifi/Documents/publications/policy_briefs/2019
[11] Alex Ray, Karim Eid-Sabbagh, "Breaking Point", (2021), online at: https://www.asasmedia.com/upload_files/Breaking-Point-The-Collapse-of-Lebanons-Water-Sector-1.pdf

water sector, primarily financing the construction of new infrastructure projects under the Council for Development and Reconstruction (CDR).[12]

3. UNICEF LEBANON SUPPORT TO WATER ESTABLISHMENTS

UNICEF, which serves as the lead UN agency for water and sanitation as part of the international humanitarian relief effort in Lebanon, supports the four main Regional Water Establishments: North Lebanon (NLWE), South Lebanon (SLWE), Beirut and Mount Lebanon (BMLWE), and Bekaa (BWE). This evaluation focuses on UNICEF's capacity building and operational support since 2017 to the RWEs, divided into two main program components that complement each other: infrastructure/stabilization and communications.

Infrastructure and stabilization program

UNICEF provides the RWEs with infrastructure and stabilization support to ensure the sustainability of water services. This mainly included the KfW-supported work on infrastructure construction through a labour-intensive approach and the EU-supported repair and maintenance programme.

The infrastructure component is mostly based on a labour-intensive approach and includes working on self-sustainable water systems such as spring rehabilitation, as well as building reservoirs. This approach reduces the number of repairs and maintenance and therefore damages as a consequence of direct pumping from wells in the water scheme and creates manual labour jobs. The labour-intensive approach was adopted to help reduce social tensions arising from the dual lack of employment opportunities, particularly among vulnerable Lebanese and non-Lebanese youth, and from a lack of access to adequate water. Another minor part of the infrastructure component is focused on the repairs of sewage systems and rainwater discharge that are overflowing into densely populated areas. Several NGOs helped with the implementation of infrastructure projects, mostly funded by EU programs.

The stabilization component was adapted during the financial crisis to meet the most urgent needs. Amid the RWEs' decreased capacity to carry out essential repairs and maintenance operations, UNICEF ensured water systems remained effective. With funding from the EU and other donors, UNICEF has overseen most of the repairs at the four RWEs in the past three years. On average, UNICEF contractors conduct about ten repairs a week nationally, including engine and generator repairs. TheLast year, UNICEF also used about 5

[12] Ibid.

million USD from UN core funding to supply the RWEs with diesel, distributed by WFP, to keep their operations going.

Communications Programme

With the support of EU-Madad, UNICEF developed a communication strategic plan program to support the RWEs. According to the project proposal, the plan aimed to support RWEs in "behaving in a pro-active, open, coherent, systematic, efficient, and transparent manner to communicate with final users and create a more suitable perceptions and trust environment among all the stakeholders". Out of the four RWEs, three accepted to follow the implementation of a communication strategic plan to build their communication, customer relations and community engagement: BWE, NLWE and SLWE. UNICEF started preparing the communication strategy in March 2017 and the RWEs were fully engaged at the end of 2017. After the Beirut blast in August 2020, BMLWE joined the communications program for 11 months.

Through the communication strategic plan, UNICEF developed an action plan to build the RWEs' in-house capacity for customer relations and communication unit (CRC unit), by developing a new structure, and seconded three communications officers to lead the establishment and management of CRC unit in RWEs. The officers report directly to the Director General of each WE respectively. UNICEF encouraged RWEs management to hire local staff to be engaged in CRC unit work.

In parallel, UNICEF worked on the development of an enabling environment and system strengthening proposal to modernize and digitalize customer experience to improve RWEs transparency, interactive dialogue between RWEs and community (including subscribers), encourage RWEs to get closer to their customers and community and to be a good listener, get engaged in social media sphere, standardize its contents development and visual communication; at the same time UNICEF developed a comprehensive program to develop and maintain RWEs communication system resilience and flexibility by using modern technology and enhance their ICT infrastructure (hardware) and digitalized solutions and software like, call centers (3 call centers are up and running), mobile applications (3 mobile applications are up and running), automated web-applications to solve customer database discrepancies (3 web-applications are up and running), improve internal and external communication, apply best practices for managing networks system, customer portal and enhancing their ICT infrastructure and ecosystem. The four RWEs were also engaged in and benefited from a national public campaign in May 2021 to support and promote their services. With the EU-Madad first extension, UNICEF also developed several activities to respond to COVID-19 preparedness and response at RWEs.

The aim of the communication strategic plan was to build RWE's in-house capacity while maintaining their ownership in handling management, development and implementation of all projects. The communications, customers' relations, advocacy and community engagement program were based on four main pillars:

TABLE 1: COMMUNICATION PROGRAM PILLARS (SUPPLIED BY UNICEF).

Impact of the Financial Crisis

In 2017, the three pillars were infrastructure, information, and water quality control. Following the onset of the financial crisis in 2019, particularly after the rapid deterioration of water establishment services in 2021, UNICEF activities were amended to respond to the situation. The main changes were made in the infrastructure component, whereas UNICEF shifted its focus to supporting maintenance services, repairs and the supply of spare parts, and other emergency interventions.

The crisis also potentially impacted the relevance of the communications support for water establishments that had begun prior to October 2019, as the financial assumptions around water consumers' abilities to pay for services eroded. This contextual change impacted the intervention logic of UNICEF. The coherence and relevance of UNICEF programming in response to the events and aftermath of 2019 were an important factor in this evaluation.

4. EVALUATION SCOPE & OBJECTIVES

4.1 EVALUATION OBJECTIVES

The purposes of this evaluation were mainly accountability and learning, while assessing the programme's relevance and coherence, effectiveness, sustainability, efficiency, and gender

and human rights. This evaluation was conducted from August to January 2023 and focuses on UNICEF's support to the four main RWEs – North Lebanon, South Lebanon, Beirut and Mount Lebanon, and Bekaa – for the period of the current country program (2017 to 2022).

An important aspect of the evaluation was to provide a thorough analysis of how the current multi-layered crisis affects the engagement of UNICEF with the water establishments and what steps should be taken to advance UNICEF's support to these essential water providers, while trying to balance between crisis response and long-term strategic support.

The evaluation's specific objectives were to:

- Critically assess the overall relevance, effectiveness, coherence, and sustainability, as well as efficiency and gender and human rights aspects of support provided to the RWEs during the Country Programme 2017-2022;
- Identify challenges and successes of the support to the RWEs, and provide lessons learned stemming from them;
- Analyse the way the crisis impacted the engagement of UNICEF with the RWEs, considering both pre-crisis supports and modifications to the support to respond to the crisis;
- Assess the design, implementation approach and management arrangements that have contributed to or impeded the achievement of desired results, allowing for learning from successes and failures;
- Provide recommendations, based on the identification of successes and failures, to inform UNICEF's future engagement with and support to the RWEs and municipalities, when relevant, in connection with the recovery plan; and
- Provide recommendations about ways forward and the most suitable modalities to balance between crisis response and long-term strategic support.

The evaluation questions are outlined in Annex B & the evaluation matrix is in Annex C.

4.2 EVALUATION APPROACH & METHODS

A. CONCEPTUAL FRAMEWORK

Triangle used the reconstruction of the programme's theory of change and the OECD-DAC criteria to evaluate the outcomes, rationales, and implementation of the intervention. Hence, the evaluation adopted a theory-based design, using contribution analysis, to address the evaluation questions. The evaluation team also conducted a sector risk assessment to provide key recommendations for future UNICEF programming and engagement with the RWEs.

The evaluation team adopted a mixed-method approach to research and data collection for the evaluation. This approach relied on several data inputs, comprised of quantitative and qualitative data, analysis, and triangulation.

B. EVALUATION TOOLS & METHODS

The qualitative methods included conducting key informant interviews (KIIs), group interviews (GIs), and focus group discussions (FGDs), and secondary data analysis of available documentation.

Primary data

Key informant interview

Researchers conducted a total of 26 individual semi-structured KIIs with UNICEF programme staff, RWE management staff, water sector and relevant stakeholders, mainly to detect trends and perspectives at a programme and issue-specific level. The different stakeholders were uniquely placed to provide valuable insight into the project's achievements and lessons learned.

TABLE 2: KEY INFORMANT INTERVIEW SAMPLING

Strata	Participant Profile	Gender	Number
Programme Stakeholders	Ministry of Energy & Water	F	2
	Council for Development and Reconstruction	M	1
	UNICEF (Project Team)	M (all)	4
	UNICEF (M&E Team)	M (all)	2
	Cash for Work programme staff	F	1
	Water Establishment North - Management	M	1
	Water establishment South - Management	M	1
	Water establishment BML - Management	M	1
	Water establishment Bekaa - Management	M	1
	Municipalities (N/S/BML/Bekaa)	M (all)	3
	Donors	M+ F	3
	Academics & Researchers	M + F	2
	UNICEF Implementing Partner (contractors and consultants)	M (all)	2
	Community Leaders/ Shawish	M +F	2
Total	**26 (8 females, 18 males)**		

Group interviews

Researchers also conducted 8 GIs to help assess the perceptions and experiences of specific groups involved in the UNICEF's programme, namely the engineers and administrative staff of the individual water establishments. Triangle aimed to have 3 participants in each interviewed group, however, some had fewer due to a lack of staff at the establishment.

TABLE 3: GROUP INTERVIEW SAMPLING

Location	Profile	No. of interviews
North	Administrative staff	1
	Engineers/Operators (sub-office)	1
South	Administrative staff	1
	Engineers/Operators (sub-office)	1
BML	Administrative staff	1
	Engineers/Operators (sub-office)	1
Bekaa	Administrative staff	1
	Engineers/Operators (sub-office)	1
Total		**8**

Focus group discussions

Additionally, researchers conducted a total of 12 FGDs to elaborate upon, validate and draw out nuanced dynamics to inform the analysis and recommendations. FGDs were further stratified to collect valuable data on the perspectives of non-customer water users (citizens) and customers of water establishments (indirect beneficiaries of UNICEF's programme), local CSOs, community leaders, and other key stakeholders.

TABLE 4: FOCUS GROUP INTERVIEW SAMPLING

Location	FGD Profile	Gender	No. Participants
North	Sub-Office Field Location Bebnine	Male (Citizen/Consumers)	8
	Sub-Office Field Location Bebnine	Female (Citizen/Consumers)	7
	CSOs/Community Leaders Bebnine	Mixed	9
South	Sub-Office Field Location Maroub	Male (Citizen/Consumers)	8

	Sub-Office Field Location Maroub	Female (Citizen/Consumers)	7
	CSOs/Community Leaders Maroub	Mixed	10
BML	Sub-Office Field Location Barja	Male (Citizen/Consumers)	9
	Sub-Office Field Location Barja	Female (Citizen/Consumers)	7
	CSOs/Community Leaders Barja	Mixed	6
Bekaa	Sub-Office Field Location Saadnayel	Male (Citizen/Consumers)	9
	Sub-Office Field Location Saadnayel	Female (Citizen/Consumers)	8
	CSOs/Community Leaders Saadnayel	Mixed	7
Total		**12**	**95 (26 females, 59 males)**

Secondary data

A literature review accompanied by primary data collation to triangulate findings and substantiate recommendations. This included programme reports and literature shared by UNICEF, INGO & NGO reports including water sector analysis, and as other open-source literature such as academic papers and working reports.

4.3 EVALUATION LIMITATIONS & MITIGATION MEASURES

The main limitation of this study was the incomplete documentation from UNICEF and RWEs regarding all activities conducted since 2017, including the status of the RWEs internal expertise, sources, equipment, management systems and relevant capacity to implement and monitor activities. Following challenges to access documentation during the inception phase of this evaluation, UNICEF created a presentation including key missing information about the overall project. However, this evaluation outlines key documents that were inexistent or remained inaccessible to the evaluation team.

Timing and access remained challenging, especially during the cholera outbreak, mainly because the in-country research activities were conducted in person. All teams were supported by added field coordination protocols and were given additional time to reach stakeholders and beneficiaries.

There was a degree of bias to be anticipated because much of the data was gathered from interviews with project staff. Furthermore, many of these staff members were predominantly male. Hence, the team made all efforts to obtain a good cross-section of gender-balanced staff KIIs to ensure all perspectives were reflected and recommendations were crafted accordingly.

Furthermore, the worsening economic context also impacted the information shared during the discussion, with priority needs – such as fuel – is a more natural concern for many stakeholders. To mitigate this, the team worked to redirect the focus of the interviews and focus group discussions to the specific areas of research.

Some of the lines of inquiry in this study bore different safety and security risks for field teams and research participants in Lebanon. Therefore, while Triangle investigated all lines of inquiry in all areas, the specific research tool (for example, KIIs) were designed according to a conflict-sensitive methodology that reflects principles of do no harm and broader safety and security risks.

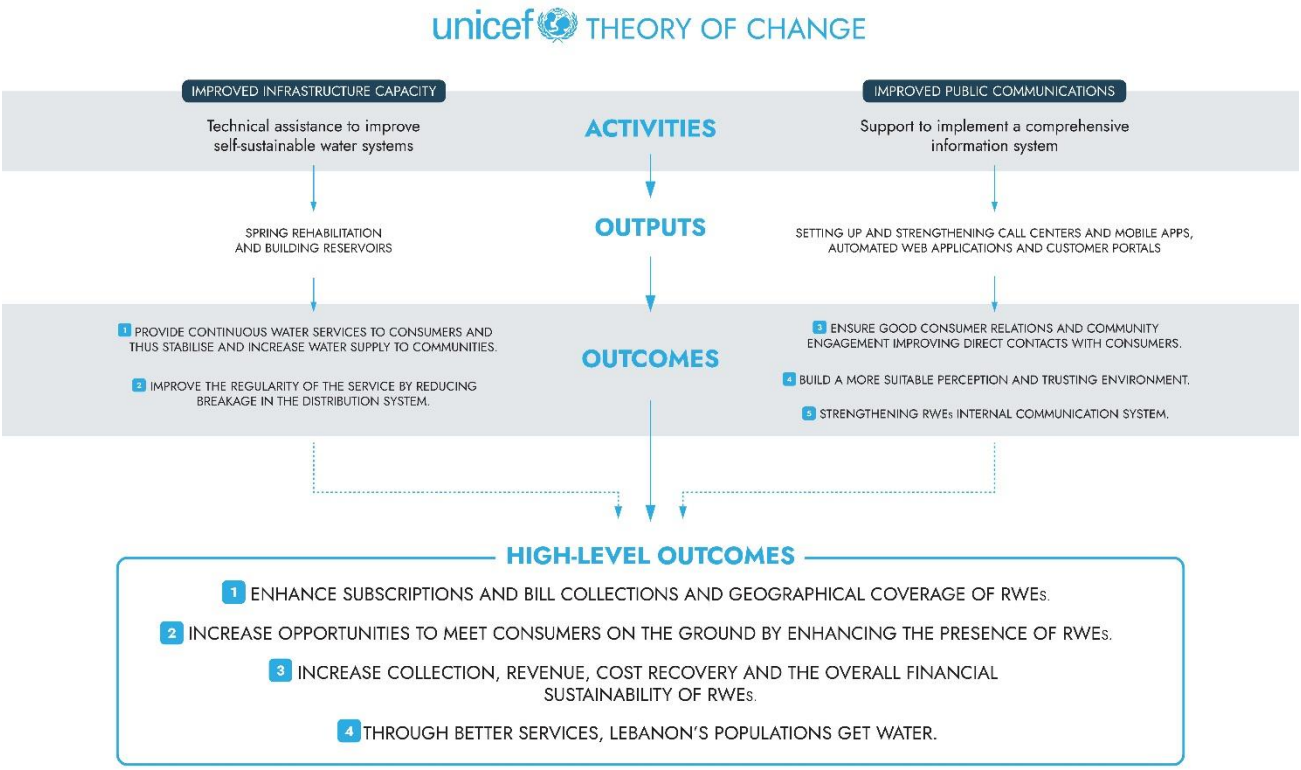
5. EVALUATION FINDINGS AND ANALYSIS

5.1 RELEVANCE AND COHERENCE

Up to 2019, UNICEF's project theory of change was relevant to Lebanon's context and the institutional needs of the RWEs. Before the crisis, three of the four RWEs (BWE, SLWE and NLWE) were not self-sustainable and needed technical and financial support. The project design to increase water flow to communities by supporting the RWEs' infrastructure, while building their communication and community engagement, was therefore seen as relevant. The project design also aimed at lifting the internal capacity of RWEs to strengthen their relationship with local populations. Qualitative data shows that management and technical staff at the RWEs recognised this approach as positive. Overall, the project's theory of change was seen as relevant in the pre-crisis context.

"The design was custom-made regarding what the establishments need" - NLWE administrative staff.

TABLE 5 RECONSTRUCTION OF UNICEF'S THEORY OF CHANGE.



The project design aimed to maintain and improve water services to populations while following the priorities of the Lebanese Government and water sector laws. The support to RWEs' interventions took into consideration the recommendations of the Evaluation of the Water, Sanitation and Hygiene (WASH) Programme within the UNICEF Country Programme in Lebanon (2013-2016). UNICEF's support to RWEs also aligned with the global Sustainable Development Goal 6 to "ensure availability and sustainable management of water and sanitation for all". UNICEF's support to RWEs was expected to help Lebanon address their needs around water service provision and its relation to sustainable development. In theory, supporting the RWEs would eventually help Lebanon achieve more sustainable water services. Furthermore, the combined actions planned to work in water quality and infrastructure to provide safe water and increase equal water accessibility, as emphasised by the JMP 2016 further assessments. The project design met the needs to ensure a safe water supply for Lebanon's communities, in line with the Lebanese government's laws (221) and the priorities set out by the MoEW.

Amid Lebanon's financial crisis, the project design was key to the survival of the RWEs by responding to their emergency needs and priorities. Post 2019, RWEs no longer had the financial or staffing capacity to keep their operations running. Notably, RWEs' procurement process did not allow them to independently make the purchases needed to continue supplying water. As such, UNICEF shifted the focus of the infrastructure programme to repairs and maintenance. The amendment of support to RWEs' interventions was requested and agreed upon with the RWEs and endorsed by the MoEW with trilateral agreements. All RWE KIIs said that the RWEs would most likely have collapsed without this support from UNICEF. The communications component remained relevant to the project even after 2019, despite severe constraints on its effectiveness and final impact, mainly cost recovery and trust building. While adapting the project design to emergency support was successful, the financial crisis destroyed the RWE's overall capacity to evolve and transform RWEs into economically and technically viable entities.

"Without this project, the establishments would have stopped working"- EBML management representative KII.

"Without UNICEF, we would've closed down and left a long time ago" – BWE management representative KII.

UNICEF's mandate as a humanitarian organisation enabled the agency to lead the emergency response to the 2019 crisis. UNICEF's organisational structure and processes enabled the agency to maintain flexibility throughout various crises, including the financial crisis, COVID-19 and the cholera outbreak. UNICEF was rapidly able to shift funds from development and longer-term actions to emergency interventions. For example, amid the financial crisis, it quickly started supporting RWEs in repairs, maintenance and supply of materials and services to ensure water distribution in a situation of inflation, lack of fuel cost and collapsed purchasing power. Furthermore, in response to the 2022 cholera outbreak, UNICEF provided emergency fuel and chlorine to RWEs. All donors reported this flexibility as

positive during KIIs. However, the paradigm shift in 2019 was not reflected at the governance level of the water sector. The Lebanese government was slow in structuring its crisis response and UNICEF took the initiative with limited agreed indicators or benchmarks. Instead, the agency successfully relied on its institutional knowledge to support the sector.

"We managed to adapt the solution to the changes. Now the flexibility of the programs allows it to work under pressure and different circumstances…" – UNICEF internal staff KII.

The project did not formalise a new theory of change relevant to the post-2019 crisis. While UNICEF and other water sector actors recognised the crisis, an official crisis response strategy was never established. Notably, UNICEF's updated theory of change was never formalised. Indeed, no conceptual document laid out UNICEF's vision for the post-2019 crisis response. UNICEF used its extensive experience in emergency response to rapidly shift priorities. Shifts in the project design after 2019 also stayed in line with government priorities, subsequently outlined in the National Water Strategy in 2022.

UNICEF regularly consulted RWEs in the process of project design. RWEs were consulted in the original programming phases and subsequent revisions of UNICEF's interventions to support RWEs. MoEW and RWEs requested the infrastructure components. UNICEF responded by strengthening the existing systems with the construction of reservoirs and the development of springs. For the rehabilitation of reservoirs, UNICEF made available an annual number of reservoirs and asked for the RWEs' input to prioritise the choice of localities. UNICEF then used a grading system to ensure that the project implementations followed current priorities and suited technical specificities. Qualitative data shows that municipalities were also consulted for their outlook on priorities. Overall, UNICEF addressed changing priorities amid a continuously evolving context.

"The priorities were being decided depending on the requests of our departments, as well as the requests of the municipalities" – BWE administrative staff KII.

5.2 EFFECTIVENESS

UNICEF infrastructure activities rehabilitated water sources and storm water networks, in addition to maintenance & repair of the water network. UNICEF planned and executed infrastructure projects with RWEs that increased water supply to communities. According to UNICEF monitoring data, these projects included building 48 reservoirs for 45,750 m3, enhancing water resource availability by rehabilitating 17 springs and improving rain and grey water disposal in five locations.

TABLE 6: UNICEF'S INFRASTRUCTURE PROJECT OUTPUTS.

Infrastructure (2017- Present)	
Reservoirs	48
Springs	17
Rain Disposal & Grey Water	5 locations
Repairs & Maintenance (Oct. 2020- to Dec 2021)	
Pumping stations	431
Water Network Repairs	52
Supply of Fuel & Chlorine	Continuous

After 2019, the project readjusted its work plan and redesigned programme priorities to adapt to the changing context. RWEs had a decreased capacity to carry out essential repairs and maintenance operations. The RWEs shared their list of priorities and UNICEF assisted the implementation of the activities through the presence of technical experts and the involvement of private companies. As such, the maintenance of the structures was partially guaranteed, however, without increasing water quantity. From October 2020 to December 2021, UNICEF's project was responsible for 431 repair interventions at pumping stations, 52 water network repairs, two spring maintenance and rehabilitation, and the supply of fuel and chlorine. While RWEs' capacity to deliver water was consolidated, the focus on water quality was reprioritized. Despite the JMP study in 2016, UNICEF continued its advocacy to publish the results and findings of JMP study with MoEW and RWEs who didn't agree in making it available for public use. However, UNICEF did not provide any documents showing follow-up on water quality control after 2017. Furthermore, this component of the project was rarely mentioned in KIIs. This is significant, given the current cholera outbreak.

"When we were about to fall, they lifted us from the edge of collapse" – BWE management representative KII.

UNICEF and its external contractors were mainly responsible for contract drafting, procurement, follow-up, and implementation. RWEs' staff involvement in these activities was limited due to the current circumstances, including low staff attendance and a lack of motivation which affected their performance. RWEs also faced difficulties providing transportation for field staff on the ground, due to the increased cost of fuel. As such, RWEs' staff were mostly involved in selecting activities and their implementation. Qualitative data shows that RWEs staff appreciated the guidance and strong professionalism among UNICEF experts and contractors.

"One of the main challenges related to the water sector concerns human resources" – Water expert KII.

The project was effective in maintaining and improving water services to populations. The project lifted the RWEs' capacity to access water by 45,750 cubic meters. The construction of reservoirs theoretically guarantees a minimum amount of daily water to a larger number of beneficiaries. Implemented reservoirs were seen to decrease the dysfunctionality of the water system by balancing water pressure in the pipes. Reservoirs are also used to manage resources to adapt to climate change as it allows more controlled distribution. The construction of new infrastructure continued after the crisis by connecting new areas that were previously not connected to the public network.

Reservoirs were effectively built through the Cash for Work (CFW) programme and private contractors. Both modalities made it possible to achieve results quickly and have increased work in the sector. The CFW programme addressed multiple factors: the dual lack of employment opportunities, particularly among vulnerable Lebanese and non-Lebanese youth, and from lack of access to adequate water. While the programme is expected to contribute to reducing social tensions and building social cohesion, there is no data to analyse its effectiveness at doing so. RWEs' involvement in this component of the project was limited. The selection of CFW beneficiaries was done externally from RWEs, based on vulnerability and eligibility criteria. During KIIs, RWE management had little to say about this programme, and some RWE staff were critical of it, citing preferential treatment towards Syrian populations. However, the CFW program shifted as financial crisis deepened, from having mainly Syrian youth benefitting from the opportunities provided – in part due to a lack of interest from Lebanese – to an even split between Lebanese and Syrians workers.

"The Cash for Work programme is mainly based on the lead of the private sector" – UNICEF CFW programme staff KII.

RWEs' lack of power source, inability to follow up, and poor network extensions constrained the effectiveness of UNICEF's activities. The construction components assigned to private companies and, according to qualitative interviews, implementing partners were effective in their implementation. There were no complaints regarding the quality or timeframes of the completed work. However, in certain localities, qualitative data

showed a lack of follow-up. RWEs were unable to provide fuel or to follow up on infrastructure interventions due to their financial and human resources weaknesses which inhibited fully achieving outcomes. Some infrastructure components, therefore, ceased functioning. As such, the effectiveness of these interventions was sometimes seen as unavailing, because some communities did not receive the service and, therefore, did not see the added value and efforts of the RWEs. Indeed, results from FGDs showed a common perception among communities that the programme's work was not completed as expected because many final consumers did not notice service enhancement. Overall, the exact impact on final consumers cannot be ascertained entirely due to a lack of baseline and endline data regarding the targeted communities. Furthermore, there was no baseline data on the RWEs' capacity to follow up on infrastructure projects, nor did the project design clearly outline the extent of the establishments' responsibilities to do so.

"I see the water reservoir every day, but I don't see the water" – Male consumer, Barja FGD

UNICEF's communication activities helped build the internal capacity and institutional knowledge at RWES. Before 2019, UNICEF worked on building the internal and external communication capacity of three of the four RWEs (BWE, SLWE and NLWE). The main communications outputs included the establishment of call centers, mobile applications, IP telephone systems and CRP system updates (customer database; customer portal). UNICEF also supported RWEs to strengthen their branding and social media presence to implement various communication campaigns. Following the Beirut port explosion, UNICEF also worked with BMLWE for 11 months to enhance its communication and customer engagement.

Internally, the digitalization of systems enhanced the efficiency of RWEs' departments both financially and administratively. The internal synergy between different administrative sections was enhanced, for example, the links between billing, customer database, and operations and maintenance. The digitalisation of data also avoided the loss of knowledge, experience and lessons learnt caused by personnel turnover. However, the importance of the new systems - even when adequately installed and tested - was not always understood by internal staff.

Externally, these activities helped bring users closer to establishments and vice versa, as well as build a climate of greater trust. The growing number of telephone calls to call centers and subscriptions prior to 2019 indicated a rising level of trust among users. However, KIIs with call center staff and FGDs with consumers showed that the financial crisis greatly impacted the trust environment, resulting in lower perceptions of the RWEs who are unable to deal with the reported issues. The programme increased the functionality and continuity of previous systems at the RWEs. UNICEF-seconded communication officers helped the RWEs' communication and community outreach systems to become more effective. However, it will

be difficult to ensure programme continuity within the establishment once the seconded-officer leaves.

TABLE 7: UNICEF'S COMMUNICATION PROJECT OUTPUTS, ACCORDING TO INTERNAL MONITORING

Communications (2017- Present)	
Call Centers	3 RWEs
Mobile Application	3 RWEs
Microsoft 365 & IP telephone system	3 RWEs
CRP1 – web-application for customer database update and validation	3 applications installed at RWEs and 2 pilot sites conducted and completed (South & Bekaa)
CRP2 – customer portal	3 applications developed – and designed. Implementation is depending on 3rd party intervention contracted by RWEs to link it to ERP/CRM system at RWEs
Branding, social media	4 RWEs
Communication campaigns	4 RWEs

The full accomplishments of activities were severely impacted by the crisis. While the communication activities enhanced RWEs' outreach to citizens, they did not always lead to better outcomes following the financial crisis. For example, call centers were effective in the set-up to facilitate the linkages between the establishments and the citizens; however, the RWEs did have a limited and insufficient capacity to follow up on complaints, which consequently hinder the trust between RWEs and citizens.

"It feels like we are manipulating callers by saying that 'your issue will be fixed' when it's not actually being fixed" – BWE call center staff GI.

Delays in implementing the ERP system had a flow-on effect on other communication systems. Various IT software, including the ERP system, were not always fully functioning for RWEs' departments. Notably, at the NLWE, the lack of connection – the responsibility of a third party (USAID) – greatly hindered the establishment's interaction between different departments. As a result, customers were calling NLWE's main landlines or the personal

numbers of management staff to submit complaints. Furthermore, in the north, the social and political situation impeded the NLWE's ability to deploy the CRP system and update its customer database.

"We are sending [users'] complaints by email, whereas we should be sending them through the system" – NLWE administrative staff KII.

Overall, the crisis undermined RWEs' cost recovery and financial sustainability. According to data provided by UNICEF, the billing revenues of SLWE, NLWE and BWE have remained insufficient to cover their costs. It must be noted that their balances would have been even worse without the support of UNICEF, which financially covered repair and maintenance.

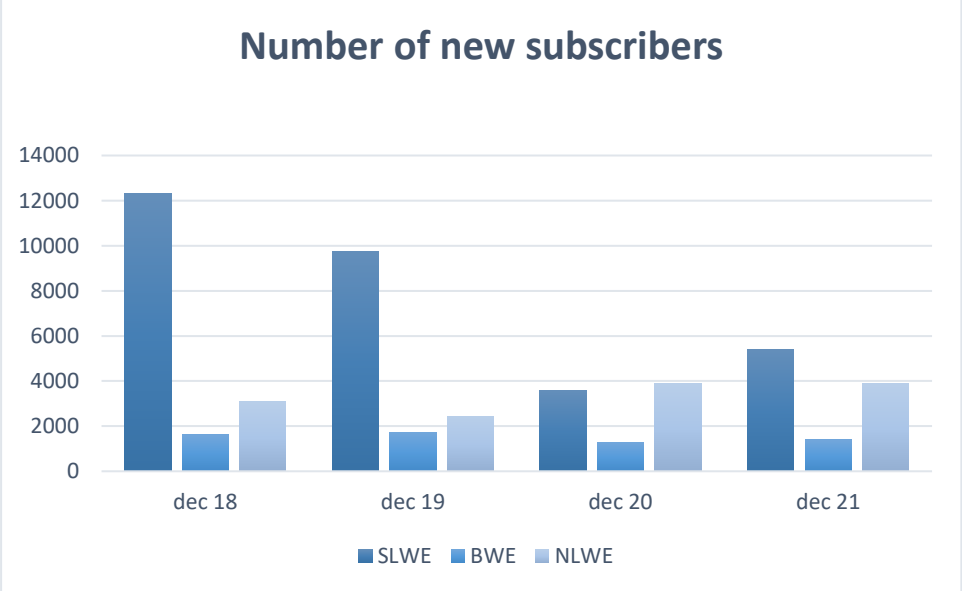


Figure 1: Number of new subscribers, collected by the RWEs and reported to UNICEF.

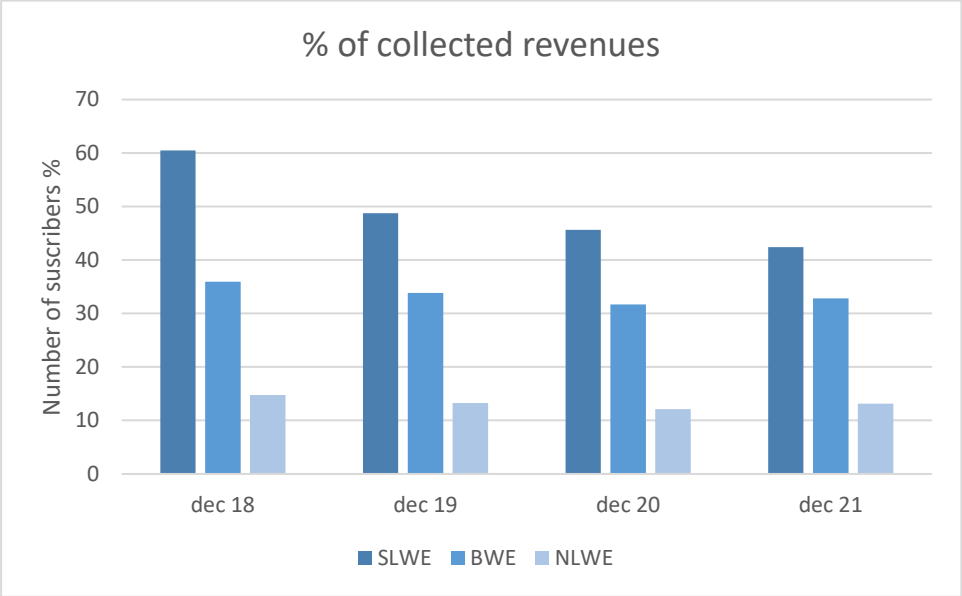


Figure 2: Percentage of collected revenues, as elaborated by UNICEF.

UNICEF's collaborations with municipalities successfully strengthened a participatory approach to managing water services. Qualitative data shows that the pilot project in Ouzai (Bourj Al Barajneh in south Beirut) improved water services to historically unserved communities. UNICEF supported contract preparations with the RWE and supervised the project's implementation. The pilot project decreased non-revenue water and increased the cost recovery of RWE. The project was hailed as an effective collaboration and a sustainable system to approach water supply. The alternative bill payment strategy, with the Union of Municipalities of South Beirut taking the role of water service provider and collector, was seen as effective. However, to enable this approach, UNICEF had to navigate a grey legal area. Overall, qualitative data shows that UNICEF's project strengthened relationships between municipalities and RWEs. Furthermore, UNICEF's improved water services contributed to building trust between communities and RWE in certain areas. Notably, in Maroub in south Lebanon, project documents showed that the collection rate increased by 27% after the support to RWEs' interventions.

"The UNICEF project was perfect. I was satisfied with their performance. I learned a lot from the UNICEF team "– Union of Municipalities in South Beirut representative KII.

5.3 EFFICIENCY

UNICEF's fast administrative procedures increased the project's operational efficiency. UNICEF's procurement process and its ability to pay in USD enabled it to rapidly oversee most of the repairs at the four RWEs. The use of contractors relieved RWEs, which were unable to

carry them out by themselves. While there is a lack of quantitative data regarding the project's delivery times, qualitative data shows it was good, with no complaints of significant delays. The Ukraine-Russia war, however, did affect the import of some spare parts for water infrastructure. This efficiency extended to the fast delivery of emergency fuel and chlorine, particularly during the COVID-19 pandemic and the cholera outbreak. Despite a lack of quantitative data regarding the CFW programme – such as a summary of implementation times – qualitative data shows no implementation delays.

"UNICEF never delayed anything, never" – BWE management representative KII.

RWEs, MOEW and implementing partners praised the efficiency of UNICEF's communication, follow-up, professionalism, and politeness. Human resources remained one of the biggest challenges faced by all RWEs. UNICEF's rapid mobilisation of relevant experts helped RWEs benefit from the project. All stakeholders praised the quality of expertise provided by UNICEF in specialist domains. Notably, UNICEF-seconded staff helped to lead and train communications staff at the RWEs. There were also no noted complaints regarding the quality of the infrastructure interventions.

UNICEF's regular coordination with stakeholders of the Lebanese water sector avoided overlap of interventions. During the project period, UNICEF had a leading role in the water sector's coordination, including in the regular meetings at the MoEW. UNICEF's position as sector lead was advantageous and enabled the agency to address gaps rapidly. Qualitative data shows that UNICEF effectively collaborated and coordinated externally with key stakeholders. However, UNICEF's role in supporting RWEs – particularly its stabilisation project component – wasn't always communicated clearly to other water sector actors. Qualitative data shows that UNICEF did not always take full advantage of existing partnerships or resources within the water sector for RWEs support. Other sector stakeholders did not always have access to UNICEF's data of RWEs' operations – for example, pumping at the station level – which could help facilitate sector-level coordination, planning and advocacy. Overall, UNICEF's collaborations with NGOs in the sector were reportedly smooth. During KIIs, several staff highlighted coordination challenges between UNICEF and USAID on the follow-up of the ERP system.

We don't have access to the raw and working databases if UNICEF is doing something with the water establishments…" – Water sector expert KII.

UNICEF's post-2019 programme faced some difficulties that led to outcome inefficiencies, particularly at the call centers. During FGDs, many consumers noted that their calls remained unanswered or that the establishments rarely followed up on the reported cases. Indeed, RWEs reported that they struggled to attend to reported cases due to a lack of staffing capacity and limited transportation options to the affected sites. The supplied data shows consumers underused that call centers. One possible explanation is the recent increase in telecommunication costs. For example, data provided by UNICEF shows

that there are three full-time staff members in the NLWE's call centre which receives 1.1 calls per day on average. About 31.1% of all cases were resolved. In the SLWE, four staff members work in the call centre, which receives on average 13.4 calls per day. About one-fifth of all cases were closed. Data for the call centre at the BWE was incomplete. Overall, these figures show that the implemented system was underutilized. While UNICEF created an effective mechanism, RWEs assigned team have limited technical, administrative financial capacity to manage it efficiently.

"Sometimes we receive many calls on the same day, but there are also times when no one calls" – BWE call centre staff GI.

UNICEF's monitoring of the overall programme was weak, primarily due to a lack of baseline data and a clear monitoring plan for its support to RWEs. No baseline study was provided for this evaluation; the lack of baseline data hindered the subsequent implementation and evaluation of the project. While there were monitoring reports for single activities, the project's overall reporting was not comprehensive. Monitoring reports were scattered and inefficiently filed, hence making it hard to evaluate the project in its entirety or its theory of change. Indeed, during KIIs, some funders said that they received activity-based reporting, with less focus on UNICEF's overall support to RWEs. Additionally, there is no evidence of an efficient monitoring system in place within RWEs to efficiently forward their operational data. The financial crisis in 2019 further impacted UNICEF's ability to monitor ongoing and new activities. UNICEF's own reporting was hindered by RWEs' weakened capacity to report on their activities independently. While UNICEF reports as agreed during funding agreements that are guided and agreed upon with each donor at the HQ level; local donor expectations can sometimes vary. At the local level, some donors highlighted during KIIs a lack of comprehensive reporting and some questioned UNICEF's long reporting periods, especially in an emergency response - for example, some UNICEF HQ-level yearly reports were seen as not sufficient in a rapidly evolving context.

"It was not clear what was our contribution to all this" – Donor KII.

5.4 SUSTAINABILITY

Before 2019, UNICEF's support to the RWEs produced tangible outputs expected to have lasting benefits through cost recovery. The infrastructure outputs included the 48 reservoirs for a total capacity of 45.750 m^3 and the rehabilitation and development of 17 springs. These activities are improving access to water and potentially increasing subscriptions and revenues, if the additional water serves new populations who become subscribers. Additionally, the activities reduce the costs of operations since the use of springs and gravity-fed distribution systems help decrease the power needs and costs of the RWEs. The communications outputs include the new branding, social media pages, and mobile applications. These activities facilitate the establishments' activities with end-users, faster and

more manageable payments, and keep users informed about RWE activities. Furthermore, RWEs reported having gained valuable communication skills that will be useful in the long term. The installed IT systems will also help reduce inputs' overall time and cost. Facing the financial crisis, UNICEF focused on the survival of the RWEs to keep the water flowing, with a decreased focus on sustainability.

"[The project] has been an important contribution to the mindset of the water establishments…" – UNICEF internal staff KII.

The program contributed to an overall increase in subscription rate and billing, and developed the necessary complementarity between systems to achieve sustainability. Before 2019, the billing revenue at the RWEs was low but stable. The implementation of infrastructure projects and the improved communication system contributed to creating a favourable environment to increase revenue. In theory, these two components would eventually enable RWEs to become commercially-viable entities. However, the financial crisis and the COVID-19 lockdown negatively impacted RWEs' business continuity and sustainability, hindering any initiative to improve economic sustainability. Billing revenues at the SLWE, BWE and NLWE decreased and remained insufficient to cover costs. There is no data available from BMLWE. In these financial circumstances, UNICEF's interventions shifted from development to crisis response in 2019, redirecting its effort to ensure the RWEs maintained a minimum level of water supply to citizens. UNICEF's support kept RWEs' infrastructure functioning and guaranteed fixed points (complementing systems of infrastructure and communications) to resume the path of sustainability post-crisis.

"You can no longer plan ahead of time. You're just living as a survivor, day by day" – NLWE administrative staff KII.

UNICEF's exit from the current crisis to resume development actions remains undefined. UNICEF finds itself in a tricky situation. As noted in RWEs' KIIs, if UNICEF retreats, the RWEs will most likely collapse; yet, by continuing its support, UNICEF risks creating donor dependency. The current situation does not allow the development of sustainability concepts in the short term but, in line with the water sector recovery plan, envisages them towards an uncertain medium-long term. The sustainability of most project outputs will largely depend on the development of Lebanon's financial crisis and, as such, the availability of funds for the RWEs. Indeed, without the recovery of the Lebanese sector and a solution to the financial crisis, all RWEs reported that they could not sustain the benefits of the received support because they did not have the required human and financial resources to do so. RWEs are already understaffed and lack funds.

"The government should hold responsibility" – EBML management representative KII.

UNICEF's support to municipalities – particularly the Union of Municipalities in South Beirut – has the potential to help RWEs become sustainable in terms of improving water services. The pilot project in Beirut's southern suburbs was a success, according to qualitative

data. As noted above, the project brought water to unserved communities. This new governance level could be replicated to provide water where RWEs don't have access – for example, in slums, ITS, or where there is no water infrastructure. This could provide additional revenues for the RWEs

UNICEF's project lacked reporting mechanisms to document lessons learned and ensure the activities' sustainability. In emergency mode, UNICEF didn't prioritise monitoring and evaluation, or lessons learnt. The project's monitoring and evaluation strategy made it difficult to measure the sustainability of capacity-building activities amid the crisis. Furthermore, institutional knowledge was hindered because of the RWEs' low human resource capacity and the absence of lessons learned documentation. However, such information is crucial for planning and the sustainability of such activities. A lack of lessons-learned documentation will likely limit future project performance.

"There needs to be very tight monitoring about what's going on the field, even if it's very challenging in Lebanon at the moment" – Water sector expert KII.

5.5 GENDER & HUMAN RIGHTS

Gender was not a key element of UNICEF's project approach, including intervention design and implementation. Women's FGDs show that women are more impacted than men by water services because women are primarily responsible for water management at the household level. According to qualitative data gathered during KIIs, however, some UNICEF staff members considered that "water is for everyone". As such, they considered the project non-discriminatory and inclusive of men and women. In 2020, UNICEF's monitoring reports showed that the Lebanese and Syrian beneficiaries of water supply included about 139,570 women (32%), 133,571 men (30%), 84,764 girls (19%), and 81,006 (18%) boys out of a total of 438,911 beneficiaries.

"There is no focus on gender issues, but the language used is blank language that can fit all genders." – UNICEF communication staff member KII.

At the RWEs, understanding of gender sensitivity was limited to the number of female staff and their participation in training and workshops. Qualitative data shows that capacity-building activities were gender inclusive. No discrimination was noted in KIIs regarding hiring practices in infrastructure or communication projects. Notably, several RWE heads of departments are currently female. However, this is not a significant indicator because it does not provide insight into whether the women represented in RWEs participate meaningfully and are able to influence decisions.

"We are encouraging all genders to be part of our work. We are not differentiating" – NLWE management representative KII.

The CFW programme had specific quotas for women's participation, which increased throughout the project. As part of its requirements, the CFW programme's donor implemented a percentage for women's participation – currently, 25% of women. Qualitative data shows that it was sometimes challenging to find female beneficiaries with the skills and knowledge to work on infrastructure projects. The programme contributed to combatting gender stereotypes that women cannot work in construction. Extensive efforts went into addressing caregivers' concerns regarding their daughters' involvement. Furthermore, the CFW was integrated with UNICEF's child protection and GBV programmes.

"We work with the mothers and caregivers and explain to them what we're doing before we start the intervention," UNICEF CFW staff KII.

A lack of gender-disaggregated data makes it difficult to evaluate the project's impact on equitable water distribution. Gender was rarely or never mentioned in UNICEF programme documents and reporting. When gender was mentioned, it was usually in data provided by third parties, for example, the mobile application platform users' statistics. UNICEF provided no gender-disaggregated data on any of its other activities, for example, the number of calls received to the call centre. Furthermore, there was no data about whether the opinions expressed by women and marginal groups were represented in decisions at the municipal or community level.

6. RISK ANALYSIS

Triangle undertook a water sector risk assessment to ensure that, with this independent evaluation, UNICEF and its partners can make informed adjustments to its current design, implementation approach, and management arrangements, in order to enhance the long-term effects of their support.

After understanding and analysing the theory of change of UNICEF's intervention, the evaluation team conducted sector risk assessment to assess the effects of the current crisis in Lebanon on the water sector, water establishments, and UNICEF's WASH programme. This method enabled the evaluators to identify the main vulnerabilities and major risks faced and perceived by various identified stakeholders such as RWEs, MoEW, municipalities, UNICEF, customers/consumers, and other key stakeholders.

This approach provides UNICEF with an understanding of the root problems water establishments have faced since the beginning of the crisis, and allows UNICEF to separate the challenges that stem from the current context and environment in Lebanon and those that can be improved by adjustments within the specific programme structure. This analysis also provides an opportunity for UNICEF to forecast various scenarios and allow for evidence-based planning for their programming.

Inspired by risk literature, Triangle understands risk as dependent on the level of vulnerability and the likelihood of occurrence of potential hazards (socio-economic crisis, political instability, droughts, and water shortages).[13] In the suggested framework, vulnerability refers to the status of water resources, water supply system, water service, operation and maintenance system, institutional framework, funding, and monitoring system.[14] These risks are likely to intensify at the occurrence of endogenous or exogenous hazards that threaten the socio-environmental status of the system and eventually exacerbate pre-existing vulnerabilities.

Ultimately, by determining the vulnerability of the water sector, Triangle identified the major risks that threaten the socio-environmental sustainability of water provision in Lebanon and its connection to the functioning of water establishments. Specifically, this evaluation identified which vulnerabilities contribute to generating and exacerbating certain risks, alongside an understanding of which stakeholders can play a role in changing the status quo. Triangle then mapped UNICEF's interventions according to the vulnerability matrix.

TABLE 8: SECTOR RISK ASSESSMENT EVALUATION MATRIX

DIMENSION	VULNERABILITY INDICATORS	RWEs WEAKNESS	UNICEF SUPPORT
Water resources	▪ Rainfall variability ▪ Climate change hazard ▪ Water quantity ▪ Water quality	Lack of human and financial resources to implement an emergency plan and climate change adaptation measures. No follow-up on water quality mapping through a strategic programme (hazard parameters, hazard indicators, priorities selection and planning).	Setting up indicators and mapping vulnerable areas to climate change, strengthening RWEs' capacity to face extreme weather events. Supporting RWEs in selecting and planning activities in water quality hazard zones with interventions focused on water sources and wastewater, contamination linked to distribution, transport and handling.

13 Plummer et al. (2012).
14 Plummer et al. (2012); Sullivan, (2011).

Water supply	▪ Infrastructure status ▪ Water allocation ▪ Asset maintenance	Financial default increasingly likely with the 2019 crisis and associated events. Insufficient mapping of main vulnerabilities through IT support (GIS, databases etc). Areas not served by any network, old networks that require continuous maintenance, anomalies in the pressure and in the operating flow rates, poor regularity of supply, low number of subscriptions and revenues. Poor capacity within the RWEs to deal with the management of services related to the wastewater treatment plant delegated by the CDR. Lack of persuasive messaging to ensure population understand the critical situation and to limit consumption and wastewater.	Supporting repairs, maintenance and urgent consumable materials, including fuel and chlorine, according to a priority criteria to be established with RWEs (vulnerable areas, recurrent cuts etc.) Strengthening support to implement new infrastructure (reservoirs, springs) and improving existing infrastructure in the most remote and vulnerable areas (network extension), addressing climate change response through training and follow-up. Providing assistance in managing WWTP system. Reinforcing information systems with specialised communication experts.
Water service operation and maintenance	▪ Cost recovery ▪ Non-revenue water	While RWE staff have good knowledge regarding local water resources and networks,	Strengthening training on the importance of IT support to map vulnerable areas and

	▪ Operational efficiency (staff/connection or staff per served)	they underuse IT platforms to identify technical and economical vulnerability areas. NRW remains rekevant throughout Lebanon.	identify main repairs and maintenance needs. Provide technical assistance to elaborate and analyze data to better rationalize interventions (breaks and repairs mapping), upon planned priorities. Allocate funds to avoid and prevent repeated interventions on the same localities and replacing of obsolete equipment and materials. Installing bulk meter network to enforce the detection of NRW, and properly interpret the data outputs.
Water services	▪ Water access ▪ Water service level ▪ Price and affordability	A vicious cycle of inadequate service, leading to poor access and, consequently, unsustainability. Tariff revision is part of breaking this cycle.	Supporting services and simultaneously setting up an awareness campaign to ensure transparency about allocated funds (i.e. assuring users that revenues are used for priorities such as fuel, facilitating transport for maintenance etc).
Institutional framework	▪ Availability of updated law,	Despite clear roles and responsibilities for the RWEs, the MoEW is	In line with the recovery plan, advocate for the introduction of

	policy, and regulation ▪ Policy coherence and rule of law ▪ Actors' capacity ▪ Actors' clear role and responsibilities ▪ Actor coordination ▪ Actor engagement in decision making process	facing great difficulties in fulfilling its mandate and stabilising the water sector. Low salaries and recruitment criteria - through the civil service council and not based on merit - hinder capacity building in the RWEs. As such, this leaves the door open to corrupt practices.	incentives amongst RWEs staff based on specific assignments and performance to increase staff motivation and satisfaction. Supporting the MoEW in the application of the Water Recovery Plan through a coordinated approach with other donors to establish and advocating for a short-term strategy that addresses financing gaps and provides a credible path for sustainability.
Funding	▪ Availability of funding options ▪ Access to funding options ▪ Reliability of funding options	Chronic financial deficit and undefined economic analysis of the water sector.	Amid a supportive donor environment for a transition from crisis response to a recovery of the sector, UNICEF can play an active role in attracting additional funding and improving coordination with the main stakeholders, in line with a recovery plan and associated financing strategy. Supporting RWEs in coordination mechanisms to help them become leading agents in the recovery process on the ground.

Monitoring	▪ Data availability ▪ Data management system ▪ Water sector performance monitoring system	Lack of accountability and internal monitoring system. Scarce reporting (quality and timing) and not regularly updated.	Assisting RWEs in using available IT tools to rapidly strengthen monitoring systems and access data, while setting up adequate indicators. Such data needs to be readily available for key stakeholders, including donors.

7. LESSONS LEARNED

- RWEs do not have the financial or human resources to continue functioning without daily support for the maintenance and repairs of water systems and pumps, especially in the absence of a solution to Lebanon's financial crisis. Investments in infrastructure projects – such as reservoirs and springs – are crucial to reduce the operating costs for the RWEs (e.g., by reducing the need for pumping), decrease network maintenance needs and keep the water flowing to communities.

- While being demand-driven is responsive to the RWEs' needs, transparent criteria used to choose areas of intervention is crucial to ensure services to the most vulnerable communities. To avoid complaints at the local level, these criteria need to be communicated clearly to populations.

- Tools to measure capacity development activities' effectiveness are essential to capture the project's actual benefits for stakeholders adequately. To replicate successful activities, lessons learned documentation and institutional learning mechanisms need to be strengthened.

- In Lebanon's absence of a functioning electricity sector, fuel distributions will continue to be crucial to ensure water services. UNICEF can play a central role in identifying vulnerable communities and priorities, to then channel external funds to support fuel costs.

- Water quality must remain a priority in programme design, as highlighted by the current cholera outbreak. Existing IT tools can be used to define risk zones of contamination based on epidemiological evidence

- A lack of follow-up greatly hinders the implementation of infrastructure components. UNICEF's and the RWEs' information management systems and monitoring tools must be strengthened to ensure the project's effectiveness and sustainability.

- Municipalities can play a key role in strengthening a participatory approach to managing water services. Avenues need to be explored to establish effective collaborations and a sustainable system to approach water supply in marginalised communities

- Gender mainstreaming cannot be limited to increased female participation in training and workshops. The involvement of women and stakeholders needs to be an integral part of the gender mainstreaming of all RWEs-related activities.

8. RECOMMENDATIONS

In light of these findings, the evaluation team highlights the following key recommendations for future UNICEF programming and engagement with the RWEs:

In the absence of a solution to Lebanon's financial crisis, UNICEF should continue daily support to the RWEs for the maintenance and repairs of water systems and pumps. The GIS mapping system should be upgraded to identify recurring reports of damage or breakage to optimise the available resources preventing several interventions in the same area. While replacing systems is much more expensive than repairing them, continuing to fund repairs can be financially inefficient when the systems are old, worn out or mismanaged. To do so, UNICEF would do well to advocate with donors the need for greater flexibility when allocating funds for infrastructure replacements.

Continue investing in strategic WASH infrastructure projects to reduce the operational costs and to increase water availability. UNICEF should continue its current module of investing in strategic reservoirs and springs to support the capacity of RWEs to supply water to communities. Yet, to ensure that communities get water, serious follow-up is needed. UNICEF would do well to strengthen the capacity of RWEs to consolidate project documents into an internal database of pending infrastructure proposals according to criteria, accessible for external consultations. Notably, this database would allow donors to get a clear picture and understanding of the infrastructure needs on the ground and to plan their funding accordingly. In parallel, UNICEF can leverage project-based interventions to improve RWEs' customer base and sustainable revenue through transparent communication and stakeholders engagement.

Ensure the transparency of the criteria used to choose areas of intervention to ensure water services to the most vulnerable communities. UNICEF should ensure that the criteria used by the RWEs to prioritise activities follow an equitable approach. The adopted criteria should be communicated through established communication channels, and final decisions should be officially documented and disclosed. This would allow final beneficiaries to better understand on what basis the infrastructure selection is made. These transparency mechanisms would help avoid complaints or tensions between stakeholders.

Assist the RWEs in taking responsibility for the management of wastewater treatment plants (WWTP). The transition of WWTP responsibilities from the CDR to the RWEs will put additional pressure on the establishments at a critical time, particularly given the cholera outbreak. As part of its support to RWEs, UNICEF should assist the establishments in elaborating the various private contracts concerning the management of the WWTP and to set up a performance monitoring system. Following the first phase of direct technical assistance, WWTP will most likely be managed by private contractors to ensure sustainability. It will be essential for UNICEF to strengthen RWEs' staff monitoring skills and capacity to draft management contracts based on indicators that set parameters and measure performance and set conditions for royalties and benefits. In parallel, UNICEF should also help RWEs establish community engagement activities in collaboration with municipalities to build large awareness campaigns to encourage citizens to pay for wastewater services.

Include specific criteria for fuel provisions in emergency programming. Context-relevant vulnerability indicators for fuel distributions must be clearly defined to avoid discrimination and to give priority to the most vulnerable communities. To guarantee equitable subsidies, parameters to be considered include economic difficulties and accessibility. In the current context, vulnerable areas include marginalised communities and ITS that depend on alternative, unsafe and costly water sources such as water trucking and agricultural wells. The selection criteria must be transparent and shared among communities to avoid complaints.

Amid Lebanon's cholera outbreak, update existing IT tools – GIS and ERP – to define risk zones of contamination based on epidemiological evidence. The current cholera outbreak has highlighted the risks associated with poor water quality. UNICEF should use evidence gathered to help mitigate the risks of the spread of cholera. A hazard map of the spread of epidemic diseases could be updated by combining data already accessible through water quality mapping - particularly the JMP 2017 study and subsequent updates - and locations where cholera is spreading or potentially could. Critical locations include areas with malfunctioning treatment plants, stagnant water, and an inadequate ratio of hygienic systems per population. Such updated mapping could help target areas for

chlorine distribution and identify places to install mechanical or solar-powered chlorination systems or carry out widespread residual chlorine level checks and plumbing repairs. Updated mapping tools can also help strengthen RWEs' ability to monitor the area under their jurisdiction.

Strengthen the monitoring capabilities of the RWEs, particularly its reporting mechanisms. UNICEF should help strengthen RWEs' monitoring capacity and data collection systems which are currently disorganised, lacking or absent. In addition, RWE data and graphs often lack narrative support to explain the relevant context. However, it is essential to produce fast data outputs and monitoring audits, especially in crises like cholera. As such, UNICEF should help RWEs create a monitoring system using the installed IT systems, centralise data from various departments, and set up reporting guidelines. Furthermore, monitoring activities would ensure that infrastructure implementations are functioning correctly.

Strengthen UNICEF's internal monitoring and information management systems to effectively capture programme progress and subsequent impact while ensuring timely follow-up on outputs. UNICEF should prioritise the systematisation of monitoring processes and follow-up in a manner that assigns monitoring focal point(s) to each programme to ensure that monitoring systems are being followed and programme data being plugged into a centralised filing system that is easily accessible by all relevant stakeholders. This would enable the UNICEF team to have a timely and holistic purview of implementation activities and bottlenecks at the field level. Overall, these monitoring systems would enhance overall programme efficiency. At the same time, a more effective monitoring system would safeguard UNICEF's institutional knowledge in a constantly evolving context. Monitoring systems should also be able to capture the impact on direct and indirect beneficiaries of any intervention. As such, UNICEF's monitoring systems should possess a conceptual framework backed with flexible tools to capture baseline, mid-line and end-line data.

Study potential incentives for crucial staff positions within RWEs based on performance. Unqualified and demotivated staff is one of the main challenges the RWEs face, with a flow-on effect on almost all operations. Staff retainment is critical to ensure continuous water supply and distribution, as well as to build a foundation on which to build for the strengthening of the RWEs. In line with provisions in the MoEW's Water Recovery Plan, UNICEF should work with RWEs' management to study incentives based on performance and results, identifying staff inherent to specific office activities and on the ground. Incentives linked to particular assignments and performance reduce the risk of external dependency, which direct wage support risk to develop. In the short term, the support of UNICEF-seconded personnel remains crucial to assure continuity in communication activities and to conclude the training program. Yet, UNICEF should study

the financial efficiency of the call centres and other communication activities, especially regarding the number of staff members dedicated to each.

Update the necessary IT systems to ensure each department within RWEs have the right software installed. To increase efficiency, a comprehensive inventory is needed to identify key bottlenecks with various IT systems, especially ERP systems. UNICEF should facilitate meetings with the relevant stakeholders to address issues, including RWE focal points and implementing partners. In parallel, all the installed software must be upgraded. Functioning IT systems will ensure a functional link between the call centres and the team on the ground to ensure that all cases are closed. Furthermore, an inventory of what UNICEF has provided to UNICEF should also be established and regularly updated.

Study ways to extend the successful pilot project with the Southern Suburbs Municipalities Federation to other municipalities in Lebanon. Explore avenues to establish effective collaborations and a sustainable system to approach water supply in marginalised communities. Lessons learnt can be drawn from the pilot project in Bourj Al Barajneh regarding alternative and practical bill payment methods. UNICEF should continue studying ways to navigate the grey institutional and legal provisions and advocating for changes as needed. UNICEF can assist RWEs, municipalities and citizens' associations in establishing management agreements with clear roles of responsibility for future ownership. Some IT systems could be extended to municipalities with the resources to play a role in water services. Such provisions could also help improve coordination with the RWEs for routine water service management, and indirectly build trust between citizens, the municipality and RWE.

Support the establishment of regular strategic meetings with the project's stakeholders to ensure better coordination. Coordination with donors through bilateral meetings was sometimes not in the best interest of the RWEs. It resulted in a lack of follow-up and operational malfunctions, for example, with the ERP system. RWEs should be involved in the management of coordination mechanisms and present at the table when decisions are made concerning their work. As such, UNICEF can play a critical support role in strengthening the capacity of RWE management staff to lead and meaningfully participate in coordination mechanisms – both in emergencies and the recovery phase. To ensure a holistic coordination approach in the meantime, UNICEF should organise a round table to address fundamental issues such as the distribution of fuel, the policy of incentives for staff, and the critical functions of the UNICEF-seconded staff.

Ensure that future UNICEF support to RWEs guarantees more solid gender mainstreaming. The project design needs to explicitly formulate an objective to have gender mainstreamed in UNICEF's assistance to RWEs. Within the establishments, this objective should include clear indicators to measure the project's impact on advancing gender equality and the empowerment of women positively. Furthermore, there could be customised indicators to measure women's decision-making power within RWEs - for example, by measuring the number of male and female heads of departments adopting

improved technologies or management practices. Other potential activities include setting up a gender focal point at each RWE, training female RWE staff to take on leadership roles within their departments and including a gender quota for all UNICEF-seconded staff. Within activities' targeted communities, vulnerability assessments are critical to ensure that the water needs of the most vulnerable populations – particularly women and girls – are prioritized. UNICEF should also support RWEs to seek input and advice from women on local water matters. This input should then be reflected in RWEs' communication and community engagement campaigns.

9. ANNEXES

ANNEX A: LIST OF UNICEF DOCUMENTS REVIEWED

[attached with this report]

ANNEX B: EVALUATION QUESTIONS

Relevance:

Q1. How relevant is the support for RWEs to the provision of water and wastewater services to populations in Lebanon?

- To what extent does UNICEF interventions with RWEs support the latter in responding to the need of vulnerable population and children?
- How aligned is UNICEF's support to RWEs with global priorities (UNICEF strategic plan, SDGs, and core commitments to children), and to the country context, and its government priorities?
- To what extent do the project results contribute to the achievement of UNICEF LCO child survival outcome 1 "Sustained use of safe water supply and sanitation services, and adoption of hygiene practices, by children and their families in poor communities vulnerable to climate change, conflict and public health emergencies".
- To what extent has UNICEF been able to adapt its WASH strategies to changes in needs and priorities caused by changes in the country's context, meeting the priorities launched by MoEW?

Effectiveness:

Q2. To what extent was the support provided to the RWEs successful in maintaining and improving water services to populations through viable and effective RWEs?

- Have the technical and design solutions significantly maintained and improved water and wastewater services to the populations

in Lebanon? How?

- Did the implemented solution contribute to improving the viability and effectiveness of the RWEs? How?
- What were the challenges faced in implementing the solution? What were the enabling factors of success and the lessons learned from implementation?
- Were the critical components of the work consistent with what was planned, and if not, what changes were made and why, including adaptation measures to meet the social and economic crisis?
- To what extent was the collaboration with municipalities, in particular the Union of Municipalities in South Beirut, successful in improving water service?

Q3. To what extent were the adopted activities to support the RWEs able to build institutional knowledge and strengthen the capacity of the RWEs to become technically and financially viable entities? What are the lessons learned in the process?

Q4. Did project activities show signs of creating unintended positive or negative outcomes before and after the social-economic crisis? If yes, which activities contributed to this and can be considered lessons learnt, to link emergency and development phases?

Efficiency:

Q5. Is the implemented intervention the most efficient one, compared to alternatives, in achieving the desired result?

- To what extent are the costs of the intervention justified, given the changes/effects it has achieved? To what extent are those costs proportionate to the benefits it has generated, considering the emergency environment created by the economic crisis?
- To what extent were services provided in time and results achieved within an appropriate time period?

Q6. To what extent was UNICEF able to effectively collaborate and coordinate externally with key stakeholders, and leverage existing partnerships, to ensure efficient use of existing resources for RWEs support?

Coherence:

Q7. How does UNICEF's support to RWEs fit with the work of external partners (global partners, regional partners, government, partner programmes/interventions)?

Q8. Through its different types of support to WE, to what collaboration and integration was UNICEF able to deal with other initiatives in order to work on balancing crisis approach and a long-term development approach? How? What were the challenges and success factors?

Sustainability:

Q9. To what extent has the support to the WEs had a positive impact on the sustainability of the WEs? What are the conditions to maintain their sustainability?

- How do the infrastructure improvements contribute to improving the sustainability of the WEs? Which return in terms of tariff recovery?
- How has the support to essential repairs and maintenance helped maintain the ability of the WEs to provide services? What are the prospects once this support is not guaranteed by external support?
- To what extent has support to communications, customer relations and other capacity building of the WEs contributed to their sustainability?
- To what extend is the support to municipalities, in particular the Union of Municipalities in South Beirut, likely to be sustainable in term of improving water services?

Gender & Human Rights:

Q10. To what extent has this initiative's design and implementation taken gender into consideration?

- To what extent are project objectives and activities aligned with UNICEF's strategy, especially on equity, gender, and human rights aspects?
- To what extent are the equity and gender aspects present in the design and implementation phases of the projects? What were the related constraints faced and what were their solutions?

ANNEX C: EVALUATION MATRIX

TABLE A: EVALUATION MATRIX

Scope of the Work	Criteria	Evaluation Questions	Tools for Data Analysis
Pre-Crisis and Crisis Response	**Relevance:** Vulnerability to children and most disadvantaged people	Q. 1, 2, 4, 5, 10	- Desk Review, KII (RWEs. Donors, Municipalities, UNICEF staff), Evaluation and monitoring team on approaching M&E at programme basis or at donor project basis. - FGD with communities beneficiating of the intervention, regarding changing in regular supply, cost of water and mitigation measures provided by RWEs facing the economic crisis. - KII/GIs with RWE technical and administrative staff regarding the change in behaviour among the communities and obstacles met during daily work (mobilization, lack of communication, lack of equipment, social support etc.).
	Coherence: Adapting intervention strategies to changing country context; the actions taken in dealing with the crisis are in continuity with the pre-crisis actions; not deviating from the main scope of the UNICEF intervention.		
	Effectiveness: Selection of intervention and implementation methodologies are the most appropriate and adaptable for changes of activities in order to meet context change.		
	Efficiency: Timing and costs		
	Gender & Human Rights: Considering these components during the response's design and implementation.		
Infrastructure improvement: new reservoirs, spring catchment, solar energy installations, pipelines,	**Effectiveness:** Selection of most sustainable construction interventions; energy saving; maintenance availability. Effectiveness in using NGO or contracting private companies/consultants; involvement of RWE staff. Challenge and added value of intensive labour approach.	Q. 1, 2, 5, 9	- Desk review, KII/GIs with WE technical staff, field visits (focus on sustainability of the intervention, environmental impact, community participation in final decision)

covering both water and wastewater services	**Efficiency:** Cost analysis and timing according to change of the economic context. **Sustainability:** Whether the improvements are sustainable in the long term in terms of maintenance, repairs, customer service.		- KIIs with technical staff regarding the three pillars approach- Analysis on spring selection, solar energy outputs, improvement of storage capacity versus water availability (including problems concerning deficiency and irregularities in power supply). - FGD with selected community representativeness (ToC analysis about the change provided by improvement of infrastructures). - FGD about change in trust of RWE service. KII with NGO or private company on participation and capacity building of RWE technical staff.
Essential repairs and maintenance initiated following the economic crisis	**Relevance**: joint decision to adapt intervention to crisis **Effectiveness**: valuable target of the intervention in terms of verified priorities **Sustainability**: building up an economic process to sustain expenses	Q. 1, 2, 4, 9	- Desk review, WWI/ GIs with RWE technical staff and decentralized operators. - FDG with communities regarding change in the process of transmitting intervention and timing for repairs.
Support to RWEs communications and customers service	**Relevance**: Joint assessment needs; joint acceptance of target outputs: Consolidated Contact Centres; Customer Registration Portal, Mobile Application and preliminary results on information campaign on subscription and recovery. **Efficiency:** Methodology used to develop the intervention; use of external contractors; sustainability	Q. 1, 3, 5, 10	- Desk review. - KII RWEs with managing staff and assigned staff to develop communication system. - KII with consultants. - Database analysis (subscriptions, recover etc.) from RWEs, KII with

	(how to guarantee the follow up after UNICEF commitment)		seconded personnel in charge of the programme, if employed. - FDG with selected communities regarding improved communication and transparency, participatory approach in developing tools and software. - KII with other organization implementing similar tools (USAID, NGOs etc). Collaboration, synergy and exchange experience
	Effectiveness: Assessment of whether the support achieved the intended results.		
	Sustainability: skilled personnel permanently engaged by RWEs, coverage of recurrent expenses provided by internal financial recovery.		
Engagement with municipalities, in particular, the pilot work with the Union of Municipalities in South Beirut	**Relevance:** Activities planned together following community request.	Q. 1, 6, 7, 8, 9	- KII with selected Municipalities (Mayor, influencing people, school staff, health staff) - KII with the Union of Municipalities - KII with RWE director regarding relationship with Municipalities - KII with RWE or private operators in charge of managing WWTP and water facilities
	Effectiveness: Action taken suitable for the community's needs and regional context		
	Coherence: Adapted mitigation measures for crisis period coordinated with all the actors present in the area		
	Sustainability: Role of municipalities in awareness campaign for subscription and cost recovery.		
Support to other capacity building initiatives, including staffing and any equipment provision such as for IT	**Relevance:** Needs assessment about the priorities.	Q. 1, 3, 5, 10	- Desk review, - KII/GIs with RWE technical and managing staff regarding satisfaction of received training and suggestions. - KII with RWE directors regarding sustainability and financing. - Field visits: outputs as mapping, GIS system, equipment delivered to strengthen RWEs
	Effectiveness: Actions and tools adopted, grade of knowledge acquired and satisfaction; sustainability (skill personnel, permanent staff).		
	Sustainability: Financial and technical coverage for new and upgraded capacity-building activities.		

ANNEX D: DATA ANALYSIS

DATA ANALYSIS

Data acquired during the desk review have been incorporated across several levels of the research to inform sampling, tools, analysis and reporting. Given the timeframe associated with this project, the analysis team commenced cleaning and analysing all qualitative and quantitative data as it came in from field teams. Upon completion of the data collection and analysis, Triangle presented the final findings in a presentation to UNICEF on November 24, 2022.

A team of research analysts conducted the analysis to draw robust and meaningful conclusions rooted in the Lebanese and operational context. All evaluation activities were reviewed directly in Arabic by Triangle's in-country teams to avoid loss of information in translations and reverse translations.

Triangle analysed all qualitative and quantitative data collected using the grounded theory method, also known as the Glaser-Strauss method. Under this approach, the analysis team iteratively reviewed data according to principles of inductive reasoning instead of working deductively from a hypothesis and/or predicted finding(s). The grounded theory method allowed the analysis team to validate the information from the field as necessary, further reinforcing the iterative research philosophy.

Accordingly, three main approaches were employed during qualitative analysis:

1. Categorising and classification: The analysis team defined generalisable categories iteratively according to principles of inductive reasoning instead of working deductively from a hypothesis and/or predicted finding(s).

2. Comparing, contrasting and synthesis: The analysis team then identified particular passages from interviews as they relate to emerging analytic categories. The writing of integrative memos allowed for the correlation of different themes and categories around stakeholders of the water sector and explored their interrelation. Data then was disaggregated by demographic indicators (geographical location, institution etc.) to look for patterns and correlations.

3. Triangulation: The evaluation team then triangulated data gathered through literature review and the KIIs to ensure the integrity of the findings. A minimum of two methods were necessary to inform a finding.

ANNEX E: CONSENT FORMS

INFORMED CONSENT FOR FOCUS GROUP DISCUSSIONS

At the beginning of the FGD, please read the informed consent statement, explaining the purpose of your work. Be sure to explain that all information shared and obtained during the FGDs will be treated as confidential. It is also necessary to be clear that participation is entirely voluntary and that their participation or non-participation has no impact on their wider access to assistance.

Once the above has been explained, enumerators must establish informed consent by asking the participants if they have understood and agree to the terms, purpose and intention of the interview. Only when all the participants state that they have understood and agreed to the terms, purpose and intention of the interview, should enumerators commence with questions. Should any participant require assistance, this should be provided. The enumerator should sign off on this on the next page.

Accordingly, the following statement of consent should be read out loud before commencing activities:

Hello, my name is _____ and I am part of an independent research team conducting a study on behalf of UNICEF . The purpose of this focus group discussion is to better understand the experiences and perceptions of water sectors stakeholders regarding the functioning of regional water establishments in Lebanon. The research aims to assess the logic and implementation of UNICEF activities to support water, shelter and hygiene interventions in Lebanon since 2017.

We are asking about things that you been involved with directly as a participant in water sector interventions or indirectly as a user of water services.

All participation in this discussion is voluntary and anonymous. It is important that you feel safe and free to talk. If you agree to participate in this research, all your responses will be kept anonymous and confidential. UNICEF that commissioned the research will not see your individual responses. Results of this discussion will not be shared with your neighbours or any authority, and any results will not be reported in any way that could allow for your identification. Your names and contacts will not be asked for or used.

All of you are important in this discussion and all your voices are of equal value here. We encourage everyone to share their views and respect others' opinions. We ask that you confirm that we each keep each other's participation and answers confidential as we will be discussing sensitive topics.

If you do agree to take part now, you can change your mind at any time during the focus group without any implications. If you prefer to participate in an individual discussion this is

also possible. However, if a question causes any anxiety or discomfort, you may also choose not to answer without giving a reason. Participation in this exercise will not result in any immediate direct benefits, nor is this linked to you receiving any services, or has an impact on employment. For note-taking purposes, this interview will be recorded, however with no names, to ensure confidentiality. The records of this discussion will be destroyed in 5 months and anonymity will be completely protected. Even the raw data given to UNICEF, will not include any identification markers.

This discussion should take approximately 1 to 1.5 hours to complete. If the discussion raises any concerns for you, please feel free to raise with the facilitator privately after the session or contact (the field coordinator at the following email: Tamara Nassereddine at tnassereddine@unicef.org)

Can we all agree to this? Do you have any questions that you would like to ask before we begin?

INFORMED CONSENT FOR KEY INFORMANT INTERVIEWS

Hello, my name is _____ and I am part of an independent research team conducting a study on behalf of UNICEF . The purpose of this focus group discussion is to better understand the experiences and perceptions of water sectors stakeholders regarding the functioning of regional water establishments in Lebanon. The research aims to assess the logic and implementation of UNICEF activities to support water, shelter and hygiene interventions in Lebanon since 2017.

We are asking about things that you been involved with directly as a participant in water sector interventions or indirectly in water services.

All participation in this discussion is voluntary and anonymous. It is important that you feel safe and free to talk. If you agree to participate in this research, all your responses will be kept anonymous and confidential. UNICEF that commissioned the research will not see your individual responses. Results of this discussion will not be shared with your supervisors or any authority, and any results will not be reported in any way that could allow for your identification. Your names and contacts will not be asked for or used.

If you do agree to take part now, you can change your mind at any time during the interview without any implications. However, if a question causes any anxiety or discomfort, you may also choose not to answer without giving a reason. Participation in this exercise will not result in any immediate direct benefits, nor is this linked to you receiving any services, or has an impact on employment.

This discussion should take approximately 1 to 1.5 hours to complete. For note-taking purposes, this interview will be recorded, however with no names, to ensure confidentiality. The records of this discussion will be destroyed in 5 months and anonymity will be

completely protected. Even the raw data given to UNICEF, will not include any identification markers.

If the discussion raises any concerns for you, please feel free to raise with the facilitator privately after the session or contact the field coordinator at the following email: tnassereddine@unicef.org.

Can we agree to this? Do you have any questions that you would like to ask before we begin?

INFORMED CONSENT FOR GROUP INTERVIEWS

Hello, my name is _____ and I am part of an independent research team conducting a study on behalf of UNICEF. The purpose of this focus group discussion is to better understand the experiences and perceptions of water sectors stakeholders regarding the functioning of regional water establishments in Lebanon. The research aims to assess the logic and implementation of UNICEF activities to support water, shelter and hygiene interventions in Lebanon since 2017.

We are asking about things that you been involved with directly as a participant in water sector interventions or indirectly in water services.

All participation in this discussion is voluntary and anonymous. It is important that you feel safe and free to talk. If you agree to participate in this research, all your responses will be kept anonymous and confidential. UNICEF that commissioned the research will not see your individual responses. Results of this discussion will not be shared with your supervisors or any authority, and any results will not be reported in any way that could allow for your identification. Your names and contacts will not be asked for or used.

All of you are important in this discussion and all your voices are of equal value here. We encourage everyone to share their views and respect others' opinion. We ask that you confirm that we each keep each other's participation and answers confidential as we will be discussing sensitive topics.

If you do agree to take part now, you can change your mind at any time during the interview/ focus group without any implications. If you prefer to participate in an individual discussion this is also possible. However, if a question causes any anxiety or discomfort, you may also choose not to answer without giving a reason. Participation in this exercise will not result in any immediate direct benefits, nor is this linked to you receiving any services, or has an impact on employment.

This discussion should take approximately 1 to 1.5 hours to complete. For note-taking purposes, this interview will be recorded, however with no names, to ensure confidentiality.

The records of this discussion will be destroyed in 5 months and anonymity will be completely protected. Even the raw data given to UNICEF, will not include any identification markers.

If the discussion raises any concerns for you, please feel free to raise with the facilitator privately after the session or contact the field coordinator at the following email: tnassereddine@unicef.org.

Can we all agree to this? Do you have any questions that you would like to ask before we begin?

ANNEX F: SAFETY AND SECURITY CONSIDERATIONS

SAFETY AND SECURITY CONSIDERATIONS

Security and Do No Harm

The security situation varies widely in Lebanon, presenting different risks for staff and research teams. Triangle regularly assessed security risks facing its field staff and beneficiaries to maintain operational integrity and a Do No Harm[15] approach. The "Do no harm" approach minimised research risks for all stakeholders while seeking the most significant benefits for research projects. To ensure the minimisation of risks to stakeholders, Triangle and its staff respected research subjects' decisions on participation (in whole or in part), always ensured voluntary and informed consent of research subjects, as well as made an effort reasonable effort to protect research subjects from foreseen risks (e.g. through safe places for KIIs). Research teams were trained in the Do No Harm and signed confidentiality agreements with Triangle. KII participants gave their informed consent to agree on which information would be shared. All research activities, apart from certain KIIs, followed strict privacy and anonymity procedures. Participants were also given the chance to opt out if they changed their minds or felt uncomfortable, and data was anonymised and securely held. If a subject disclosed or was suspected to be at risk outside the study, a referral system was in place to refer the subject for relevant support. Triangle's data protection policies were be applied throughout this research, including informed consent and safe ID. Upon confirmation with UNICEF, all data will be destroyed three months after completing all research activities. All Triangle researchers were be trained to abide by data protection policies, research ethics and soft skills, Do-No-Harm and safe identification. Regular updates of security risks were provided to research teams.

[15] Following the OECD DAC Guidelines's standard definition, "Do-No-Harm" is here defined as: "Ways in which international humanitarian and development assistance given in conflict settings may be provided so that, rather than exacerbating and worsening the conflict, it helps local people disengage from fighting and develop systems for settling the problems which prompt conflict within their societies."OECD (2012) *Evaluating Peacebuilding Activities in Settings of Conflict and Fragility: Improving Learning for Results*, DAC Guidelines and Reference Series, OECD Publishing, p. 11

Emergency protocols were activated in case of an emergency in the field, and UNICEF were be immediately informed. The protocols entailed that whenever an incident occured, the field team in question immediately notified the senior field coordinator, who, in turn, informed agency focal points and the team leader of the security issue. As a matter of principle, whenever a security issue occurs, all field teams are withdrawn from the field to a safe location in a prompt manner but, as much as possible, does not raise suspicion or concern amongst the local community. At the same time, agencies, the senior field coordinator, and the team leader consider the threat level and then direct field teams to either return to the field, remain in place, or relocate to a safe location.

Data Policies

Triangle abided by *UNICEF's Policy on Personal Data Protection* for all data types (e.g., written, audio, video, observation), with a special emphasis on the following sections:

Security: Personal data shall be classified through a contextual assessment of its sensitivity, in accordance with UNICEF information security standards. Appropriate organizational, administrative, physical and technical safeguards and procedures shall be implemented to protect the security of personal data, including against or from accidental or unauthorized destruction, loss, alteration, disclosure, access, or unplanned loss of availability. Such measures will include logging access, and changes to or deletion of personal data. All data will be stored in a secured location by Triangle that is password-protected.

Limited retention: Personal data shall be retained in the Triangle's filing system for the time required to achieve the purposes for which the personal data were collected. The records will be destroyed in five months and anonymity will be completely protected. Furthermore, the raw data given to UNICEF will not include any identification markers.

ORGANISATIONAL RISKS AND MITIGATION STRATEGIES

Risk Management Matrix

Risk	Likelihood	Mitigation Measures
Inaccessibility of project area of operations due to security or public health concerns.	High	♦ Slightly postponing the field activities in a particular locality or seeking an equivalent locality from a sampling perspective in a more secure locality. ♦ Shifting methods in a particular locality to remote modalities (KIIs).
Risk of harm to research team and research participants by government agents or	Low	♦ In cases where there is an emergency in the field, emergency protocols will be activated and UNICEF will be immediately

armed groups.		informed. The protocols entail that whenever an incident occurs, the field team in question will immediately inform the senior field coordinator who, in turn, informs agency focal points and the team leader of the security issue. ♦ As a matter of principle, whenever a security issue occurs, all field teams will be withdrawn from the field to a safe location in a manner which is prompt but, in as much as possible, does not raise suspicion or concern amongst the local community. At the same time, agencies, the senior field coordinator and the team leader will consider the threat level, and then direct field teams to either return to the field, remain in place, or relocate to a safe location.
Exposure to infection and spreading of COVID-19 to research team, research stakeholders, and local communities in the area of operations.	High	Strictly adhering to COVID-19 containment measures (e.g. social distancing, mask-wearing, use of gloves and hand sanitation) in case of low risk. In case of high risk, cancel field trip to area of operations, and adopt remote evaluation modality and limited research scope in that particular locality.

ANNEX G: QUALITY ASSURANCE STANDARDS & PROCEDURES

TRIANGLE QUALITY ASSURANCE STANDARDS & PROCEDURES

Triangle maintains rigorous quality assurance mechanisms to ensure that data collection, analysis and reporting standards are maintained and developed throughout project lifecycles. These assurance mechanisms are centred around six core mechanisms to ensure that research produced by Triangle is rigorous, ethical, adheres to international best

practices and meets the highest quality research standards. Triangle's management team are the ultimate duty-bearers of quality assurance mechanisms while team leaders are tasked with upholding standards throughout project cycles. In turn, Triangle's management team holds bi-weekly meetings with team leaders in order to ensure that quality assurance mechanisms are adhered to and corrective actions are taken in due course.

ADHERENCE TO LEGAL AND ETHICAL GUIDELINES

Triangle will abide by UNICEF's Procedure for Ethical Standards throughout this research. Furthermore, research conducted by Triangle seeks to ensure accordance with local laws and regulations as well as the adoption of ethical research principles throughout project cycles. As such, Triangle's management team first conduct legal and ethical briefings with team leaders and primary staff involved in research activities prior to the commencement of research activities. During this process, contextual legalization and regulations are reviewed in order to ensure that research activities fall within the law of any localities where the company operates. Subsequently, an assessment of ethical considerations is conducted depending on the research in question; for example, with regard specific ethical considerations pertaining to research involving children, survivors of sexual- and gender-based violence.

Accordingly, team leaders will be tasked with ensuring that legal and ethical guidelines as defined in UNICEF's Procedure for Ethical Standards are maintained and upheld. Monitoring and assurance of legal and ethical guidelines are conducted by Triangle management who review progress at project milestones and during bi-weekly quality assurance meetings with team leaders.

PROJECT MANAGEMENT

Project management procedures at Triangle are an integral part of research activity and resource allocation. Triangle's management team consistently allocates and manages human and non-human resources to particular projects during the proposal phase, so as to ensure that such resources are available when projects commence, according to the level of effort planned.

When projects commence, Gantt charts are only the start of project planning and resourcing at Triangle. During the inception phase of projects, Triangle engages in a deep assessment of project requirements and reallocates resources according to an updated set of needs and timelines. During this process, a set of internal Key Performance Indicators (KPIs) are set by Triangle management and agreed to as realistic and achievable by team leaders. Team leaders are mandated to produce bi-weekly quality assurance reports and

present them to Triangle's management team for approval of project progress and agreement upon adjustments, if required.

TRAINING & TECHNICAL CAPACITY

Triangle believes that each research project requires a specific set of general skills and competencies that are supplemented by project-specific training to ensure that quality assurance standards and mechanisms are understood as well as adhered to by all research team members. Each team member undergoes a one-on-one assessment by a team leader to ensure that they have the technical capacity and resources to implement research activities accorded to them. Once the assessment is complete, any general training is scheduled and resources are allocated accordingly. When all team members are assessed to have the general training, skills and resources to conduct research activities, team leaders engage with Triangle's management team to identify project-specific training, technical capacity, and resources. Having identified these needs, Triangle management schedule and conduct project-specific training in advance of deployment.

TOOLS & ADAPTATION

Research tools developed by Triangle's team undergo a rigorous process of review by team leaders, technical advisors and external quality assurance officers. Once tools are compiled by Triangle's team, they are passed on to a technical advisor with knowledge of the project for review. Doing so ensures that the tools adhere to the technical specifications of project sector's as well as the any project requirements that may have been overlooked during tool compilation. Once technical comments are incorporated, tools are then submitted to for external quality assurance to Triangle management before they are submitted to clients for review.

After client review, tools are translated and formatted according to the needs of the project (for instance programming on hand-held devices). In particular, translated tools are reviewed to ensure meanings translate across languages. Once this process is complete, the Triangle team takes a segment of research subjects and pilots research tools on these subjects accordingly. Data from the pilot testing is then assessed by project teams in order to identify areas that are non-applicable or can be tailored to make tools more context-specific and results oriented. Finally, tool adaptation is discussed between team leaders and management teams at Triangle before amendments are agreed and adapted for deployment.

Adaptation of tools at Triangle continues throughout field research. Team leaders cover the need or lack thereof for tool adaptation with management teams during bi-weekly quality

assurance meetings and at key project milestones. Decisions on the applicability of adaptation are then taken jointly between team leaders and clients.

ANALYSIS & REPORTING

Upon completion of research activities, data from the research activities undergoes a process of review and cleaning before analysis commences. Data and formats are reviewed by team
leaders and analysts to identify any gaps in deliverables or number of research activities. If such gaps are identified, field teams are queried for justification and/or further completion of research activities. Field teams also remain on standby throughout the analysis and reporting phase for probing and clarification of any emerging needs from analysis teams.

Analysis frameworks vary from project to project based on the nature of the research in question. That said, each project contains a built-in analysis framework which team leaders monitor and ensure adherence with by analysts. These frameworks are developed during the pre-project and inception phases, and are adapted during the field research phase to reflect data collection realities.

Triangle ensures a minimum of two analysis rounds in order to ensure that findings are grounded in rigorous consideration and review, while the expectations and needs of clients are also incorporated in analysis and reporting. Triangle analysts employ analysis frameworks to produce a set of preliminary findings, trends and patterns from the data provided by field teams. These preliminary findings are then discussed by core team members to identify areas for further probing and quality assurance. In order to ground-truth, preliminary findings are shared with field teams for their input. Only then are preliminary findings shared with clients for review and further discussion on probing, direction and areas for recommendation.

Once this multi-stakeholder feedback has been compiled, analysts conduct another round of assessment in order to wean out nuanced findings and conduct further probing of priority areas. This process could, upon the approval of Triangle management, require further fieldwork to be conducted. At the end of this process, preliminary findings are updated and compiled as findings. With findings completed, analysts, the team leader and Triangle management discuss appropriate recommendations to meet client needs and address research questions in full.

The writing process at Triangle is both iterative and adaptive: team leaders ensure that analysis outputs are formulated in a manner which can be incorporated into clear, concise

and accessible language that reflect previously agreed upon reporting formats. Reports are compiled jointly by writers, editors, analysts and overseen by team leaders. At the end of the first draft, an external quality assurance officer who is knowledgeable of the research field in question is informed of project and client requirements and mandated with a thorough review of the document in question. Project teams then address external quality review concerns before first draft reports are copy-edited and submitted for client review, comment incorporation and report finalisation.

LESSONS LEARNED & PROJECT COMPLETION

Triangle believes in fostering relationships with clients beyond project completion. That is why Triangle engages clients in a post-project debrief to identify lessons learned, areas for further cooperation, as well as methods to improve quality assurance during future research projects. Project review workshops produce written reports on the aforementioned areas, which are then reviewed for accuracy by clients and filed accordingly.

END OF QUALITY ASSURANCE STANDARDS & PROCEDURES

ANNEX H: CODE OF CONDUCT

INTRODUCTION

Triangle's Code of Conduct lays out ethical standards which ensure the protection of, and respect for informants, clients, and programme beneficiaries, as well as Triangle employees, consultants, partners and their employees. Further, the Code of Conduct is designed to ensure effective processes and accountability for assignments. All those contracted by Triangle (hereafter: staff) shall act by, and uphold the core values and guiding principles laid out in the document below in all their professional activities to avoid misconduct in workplace settings[16]. Outside of workplace settings, staff should uphold the standards set out in this code of conduct so as to ensure that no ill repute comes to themselves or to Triangle. Senior personnel at Triangle have a particular responsibility to uphold these standards and shall set a good example in all their activities.

To ensure that the Code of Conduct is enforced at all times, Triangle will train its staff on its Code of Conduct regularly. External research personnel contracted by Triangle will be

[16] A 'workplace setting' is defined as any location or conveyance used in connection with Triangle's activities, including, but not limited to Triangle's offices, client offices, field research locations, conferences, social events connected with Triangle or its clients, email correspondence or phone conversations.

instructed on research subjects' protection. Triangle is also committed to keep its Code of Conduct updated and will inform and educate its internal and external staff about any updates.

CORE VALUES AND GUIDING PRINCIPLES

Do no harm

Triangle's "Do no harm" philosophy commits to the values of the Charter of the United Nations, the respect for human rights, social justice, human dignity, and respect for the equal rights of men and women. The "Do no harm" approach minimises research risks for all stakeholders, while seeking greatest benefits for research projects. To ensure the minimisation of risks to stakeholders, Triangle and its staff respect research subjects' decisions on participation (in whole or in part), will always ensure voluntary and informed consent of research subjects, as well as will make effort reasonable effort to protect research subjects from foreseen risks (e.g. through safe places for KIIs).

Respect and equality

Triangle and its staff acknowledge and respect local cultures, customs, and traditions and always take into account cultural differences and corresponding approaches. As such, all stakeholders (i.e. research subjects, staff and clients) will be treated with courtesy and respect. The selection of research subjects will be fair and based on circumstances on the ground. Triangle and its staff will act — and interact with all stakeholders — truthfully and without deception at all times. Triangle is also committed to treating all stakeholders fairly, regardless of gender, ethnicity, national or religious background, age, disability, marital status, parental status or sexual orientation.

Vulnerable groups

Triangle and its staff are aware that vulnerable groups (such as—but not limited to—children, youth, women, and people with disabilities) are predominantly prone to violence, exploitation and/or neglect, which gives extra reason to commit to handling their participation in the research process according to internationally-recognized best practices. Triangle and its staff also recognise, respect, and understand the physical and emotional privacy of participants of the vulnerable populations. Apart from emotional safety, Triangle and its staff recognise the need for a physically safe environment to conduct research activities and will strive to ensure gender- and context-sensitivity at all times. Furthermore, Triangle and its staff will strive to facilitate accessible venues for people with disabilities to secure their participation in the research process.

Quality of work and fairness

Triangle offers a comprehensive approach to its work to impress upon stakeholder's competence, integrity, and honesty. By agreeing to an assignment, Triangle acknowledges to have understood projects' objectives, to possess staff qualified to achieve those objectives, as well as to have the necessary capacity to process the assignments' tasks. Triangle always seeks to establish a mutual understanding with clients about objects, scope of work, and workplan. Furthermore, Triangle stands for fairness and impartiality and acknowledges the fact that all disputes are multifaceted. For this reason, Triangle and its staff will seek to provide balanced objective reporting, no matter the complexity of the subject at hand. Triangle and its staff will abstain from personal opinions and will confine themselves to evidence-based reporting and recommendations.

Confidentiality and privacy

Triangle is aware of the sensitivity and confidentiality of data collected in the field. Therefore, Triangle and its staff will protect the privacy of research subjects and will not disclose any confidential information (such as names, addresses, etc.) unless prior approval by the research subject is provided. Qualitative and quantitative information gathered during the research process will be used in an aggregated format or will be cleaned from identifying information to ensure that any agreed upon anonymity is upheld.

Conflicts of interest

Triangle strongly avoids conflict of interest to rule out biased objectivity in its research process. However, in case conflicts of interest occur, Triangle and its staff will inform all parties involved in a transparent manner and endeavour to remove or mitigate the effects of any conflicts of interest. Triangle and its staff and the work they produce is and will always be independent and will not be influenced by political or social pressures or economic incentives, bribes or favours.

Harassment and anti-fraternization

Triangle is committed to providing a safe environment for all its staff and stakeholders free from discrimination on any grounds and from harassment at work including sexual harassment.[17] [18] Triangle operates a zero tolerance policy for any form of sexual harassment

[17] Sexual harassment is defined as an unwelcome conduct of a sexual nature which makes a person feel offended, humiliated and/or intimidated. It includes situations where a person is asked to engage in sexual activity as a condition of that person's employment, as well as situations which create an environment which is hostile, intimidating or humiliating for the recipient. Sexual harassment can involve one or more incidents and actions constituting harassment may be physical, verbal and non-verbal.

[18] UNSG (2017) 'Special measures for protection from sexual exploitation and abuse: a new approach '. https://undocs.org/A/71/818

in the workplace, treat all incidents seriously and promptly investigate all allegations of sexual harassment. Any staff member found to have sexually harassed another will face disciplinary action, up to and including dismissal from employment. All complaints of sexual harassment will be taken seriously and treated with respect and in confidence and no one will be victimised for making such a complaint. Triangle also recognises that anyone can be a victim of sexual harassment, regardless of their sex and of the sex of the harasser. Triangle recognises that sexual harassment may also occur between people of the same sex. What matters is that the sexual conduct is unwanted and unwelcome by the person against whom the conduct is directed.

Triangle also upholds anti-fraternization policy which prohibits all supervisor-subordinate romantic relationships and requires staff to notify Triangle's management of romantic relationships with other staff, so that the Triangle may place the staff in different departments or projects. Any relationship that interferes with the company culture of teamwork, the harmonious work environment or the productivity of employees, will be addressed by applying the progressive discipline policy up to and including employment termination. Adverse workplace behaviour —or behaviour that affects the workplace that arises because of personal relationships — will not be tolerated.

END OF CODE OF CONDUCT

END OF DOCUMENT