SDG Indicator 6.5.1: Survey

Degree of integrated water resources management (IWRM) implementation

Reporting year: **2023**

Country	**LEBANON**
Submission Form	
Date of submission	19 December 2023
National SDG 6.5.1 Focal Point information	
Name, Job title	Eng. Mona Fakih, Director of Water
Organisation	Lebanese Ministry of Energy and Water
Are you the national Focal Point for any other SDG indicator (apart from 6.5.1)? **If yes, please insert 'X' for all that apply:** __6.1.1 __6.2.1 __6.3.1 __6.3.2 __6.4.1 __6.4.2 _X_6.5.2 __6.6.1 __6.a.1 __6.b.1 __Other SDG indicator(s) (please specify here):	
SDG 6.5.1 in-country data collection and reporting process overview	
Were other institutions/stakeholders involved and consulted in the reporting process for this indicator? _X_Yes __No *(Please provide further details on the consultation process in Annex C)*	
If yes, please indicate the mode(s) of consultation (please provide further details in Annex C): _X_Phone calls _X_Email exchanges _X_In-person meetings _X_Dedicated stakeholder workshop(s) _on-line survey_Other	
Contact person regarding further questions/clarifications relating to this submission	
_X_SDG 6.5.1 Focal Point listed above __Other (please specify contact details here):	

Part 1 – Introduction

This is the official survey for country reporting on Sustainable Development Goal (SDG) indicator 6.5.1: "Degree of integrated water resources management (IWRM) implementation". The indicator is measured on a scale of 0 – 100, calculated based on scores from approximately 30 questions in this survey, covering different aspects of IWRM. Indicator 6.5.1 measures progress towards target 6.5: "By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate". The target supports the equitable and efficient use of water resources, which is essential for social and economic development, as well as environmental sustainability. The actions to achieve target 6.5 directly underpin the other water-related targets within SDG-6: "Ensure availability and sustainable management of water and sanitation for all". Further guidance on completing this survey is provided in the SDG indicator 6.5.1 Monitoring Guide. Both this Survey and the Monitoring Guide are available in six UN languages (Arabic, Chinese, English, French, Russian and Spanish), and Portuguese, available on the IWRM Data Portal.

About the survey

The primary purpose of the survey is global monitoring and reporting on indicator 6.5.1. It has been designed to also be useful as a simple diagnostic tool for countries to identify strengths and weaknesses of different aspects of IWRM implementation.

The survey contains four sections, each covering a key dimension of IWRM (see definition in Annex A: Glossary):

1. **Enabling environment:** Policies, laws and plans to support IWRM implementation.
2. **Institutions and participation:** The range and roles of political, social, economic and administrative institutions and other stakeholder groups that help to support implementation.
3. **Management instruments:** The tools and activities that enable decision-makers and users to make rational and informed choices between alternative actions.
4. **Financing:** Budgeting and financing for water resources development and management.

Each section has two sub-sections covering the "National" and "Other" levels. "Other" levels include sub-national, basin, local and transboundary (see Annex A - Glossary). For most "other level" questions, the score should reflect the situation in most of the basins/aquifers/jurisdictions, unless specified otherwise. For the transboundary level questions, the score should reflect the situation in the 'most important' transboundary basins / aquifers, which should ideally be coordinated with reporting under SDG indicator 6.5.2 on transboundary cooperation. It is recognised that water resources management in federal countries may be more complex due to responsibilities at different administrative levels. You may further explain any specific circumstances relating to the level of decentralization of water resources management and responsibility in your country (e.g. federal countries and other large countries) in the free text responses (see next section).

How to complete the survey

Scoring: For each question, enter a score between 0 and 100, in increments of 10.. It is not possible to omit questions[1]. The score selection is guided by descriptive text for six thresholds, which are specific to each question. If a country judges the degree of implementation to be between two thresholds, the increment of 10 between the two thresholds may be selected. The potential scores that may be given for each question are: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100.

The thresholds for each question are defined sequentially. This means that the criteria for all lower levels of implementation must be met for a country to respond that it has reached a specific level of implementation for each question. **Bold** text in the thresholds helps the reader differentiate between thresholds.

The thresholds are indicative and are meant to guide countries in choosing the most appropriate responses, i.e. selected responses should be a reasonable match, but do not have to be a perfect match, as each country is unique.

Instructions on how to calculate the overall indicator 6.5.1 score are provided in section 5.

Narrative responses: for each question, there are two free-text fields: "Status and progress" and "Way forward". The type of information that countries may find useful to consider includes:

Status and progress: e.g. refer to relevant activities/initiatives/laws/policies/plans/strategies or similar; comment on the degree of implementation as it relates to the threshold descriptions; barriers/enablers; and reflect on progress (e.g. between reporting rounds: baseline in 2017, 2nd round in 2020, and current round in 2023). Where possible, provide a brief explanation of why the score is different to the previous round, including reflecting on recent rates of implementation of relevant activities.

Way forward: e.g. already planned or recommended activities to advance implementation of that aspect of IWRM, including identifying barriers and enablers. Include draft interim target-setting for each question where appropriate (e.g. consider actions or recommendations for making progress). Any actions or recommendations provided in this field are neither binding nor comprehensive, but may be used as inputs to country planning processes.

Specific additional guidance is provided in each field for each question. Experience from previous reporting shows that the free-text responses to each question are important, as they: increase the robustness, transparency and objectivity of the indicator scores; facilitate stakeholder consensus on each question score; help countries track progress between reporting periods; and help countries to analyse what is required to reach the next threshold.

In each field, enter the narrative response by replacing "xxx". It is recommended that the guidance text is left in the free-text fields during the stakeholder consultation process, but that this guidance text is deleted before final submission.

[1] If the country judges the question to be 'not applicable', you can enter 'n/a'. However, the survey has been designed to be relevant to all countries, and an 'n/a' response is unlikely.

Climate change considerations: For five questions (1.1c, 2.1b, 2.1e, 3.1e, and 4.1b), there is an additional free text field to provide information on how relevant aspects of water resources management and climate change adaptation/mitigation are coordinated. Recognising that climate change cuts across all aspects of water resources management, considerations of climate change are also encouraged in the free text fields of all questions.

Progress and differences since previous reporting rounds

172 countries established a baseline for indicator 6.5.1 in 2017/18, with 171 countries reporting in the second round in 2020. This is the third round of data collection. Where available, countries should refer to the previous survey responses, available here: http://iwrmdataportal.unepdhi.org/country-reports. Countries are encouraged to consider progress, or lack of progress, since previous rounds, in the 'Status and progress' fields, and give reasoning for differences in scores. Countries are welcome to use and update free text responses used in previous surveys. For Word versions of previous surveys, please contact the **IWRM Help Desk: iwrmsdg651@un.org**.

The current survey version is highly comparable, though not identical, to previous versions. Some minor amendments have been made following a review process, and noteworthy changes are described in footnotes for relevant questions. A summary of changes is provided in the SDG indicator 6.5.1 Monitoring Guide.

Data collection and submission

A broad stakeholder engagement process is encouraged to complete the survey. This helps to increase stakeholder participation and ownership of water management and decision-making processes, and makes the completed survey a more robust and useful diagnostic tool for further discussions and planning. SDG 6.5.1 Focal Points are asked to fill in the Reporting Process Form in Annex C to increase transparency and stakeholder confidence in the results at all levels. The extent and mode of stakeholder engagement is up to each country, and further guidance is provided in the Monitoring Guide. Coordination with Focal Points for other SDG indicators is encouraged where feasible and relevant.[2]

The Focal Point is responsible for the Quality Assurance and formal submission of the completed survey to the UN Environment Programme (UNEP), as described in section 6 of the Monitoring Guide.

Upon request, the SDG 6.5.1 IWRM Help Desk, hosted by UNEP (iwrmsdg651@un.org) will provide support to Focal Points and colleagues on matters such as interpretation of questions and thresholds, the appropriate level of stakeholder engagement in countries, and submitting the final indicator scores.

[2] Monitoring of 6.5.1 is being done as part of the UN-Water initiative on integrated monitoring of SDG 6 (IMI-SDG6). Support is provided in collaboration with UN-Water members and partners. For a list of questions that relate to other SDG indicators (mainly in section 3), please see Annex 3 of the Monitoring Guide.

Part 2 – The survey

1 Enabling environment

This section covers the enabling environment, which is about creating the conditions that help to support the implementation of IWRM. It includes the most typical policy, legal and planning tools for IWRM[3]. Please refer to the glossary for any terms that may require further explanation. **Please take note of all footnotes as they contain important information and clarification of terms used in the questions and thresholds**.

Enter your score, **in increments of 10**, from 0-100, or "n/a" (not applicable), in the yellow cell immediately below each question. Enter free text in the "Status and progress" and "Way forward" fields below each question. Suggestions for the type of information that may be useful are provided. You may also provide further information you think is relevant, or links to further documentation.

1. Enabling Environment							
		Degree of implementation (0 – 100)					
		Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
1.1 What is the status of policies, laws and plans to support Integrated Water Resources Management (IWRM) at the national level?							
a. National water resources **policy,** or similar.		Development **not started** or not progressing.	**Exists**, but not based on IWRM.	Based on IWRM, **approved** by government and starting to be used by authorities to guide work. (X)	Based on IWRM, being **used** by the majority of relevant authorities to guide work.	Policy objectives consistently **achieved.**	Objectives consistently achieved, and periodically **reviewed** and revised.
Score	40						
Status and progress: The Ministry of Energy and Water (MoEW) has updated its 2012 National Water and Wastewater strategies into a single consolidated plan, named the "Updated National Water and Wastewater Sector Strategy 2020"(NWSS) which applies for the period of 2020 to 2035. This NWSS takes into account the new Water law and its structuring principles and previous studies and projects in the areas of potable water, wastewater, irrigation, and management initiatives. This update can be considered as a shift from a strategy of theory and general principles into practical, implementable plans, projects and governance initiatives that set the ground to move towards the UN's Sustainable Development Goal SDG 6 and realize the principles of an Integrated Water Resources Management. SDG 6 is considered as a pillar of the updated NWSS, while another key pillar (Pillar 2) specifically targets the coordinated development and management of water resources through IWRM. To achieve this it recommends: • conducting the necessary studies and required works to prepare for the development of an IWRM Master Plan based on the River Basins Management Plans. • measuring available water resources and creating an Integrated Hydrological Information System (IHIS) that ultimately allows for better decision-making towards preparing an IWRM Master Plan and River Basin Schemes and Management Plans. • improving water quality and addressing climate change, disaster risk management, non-conventional water resources, wastewater reuse standards and sludge management. The updated NWSS needs to be approved by the Council of Ministers (CoM)							
Way forward: -The updated NWSS needs to be approved by the CoM. In the meanwhile, the draft strategy is used as a basis for the implementation of water sector reform activities.							

[3] For examples of good practices of policies, laws and plans, please see the tools, case studies, and resources in the Global Water Partnership (GWP) IWRM ToolBox.

- Finalization of the Decrees of application of Law 192
- Set-up and implementation of the IHIS

b. National water resources **law(s)**. Score 50		Development **not started** or not progressing**.**	**Exists**, but not based on IWRM.	Based on IWRM, **approved** by government and starting to be applied by authorities. (X)	Based on IWRM, **being applied** by the majority of relevant authorities**.**	Based on IWRM and all laws are being **applied** across the country.	Based on IWRM and all laws are **enforced** across the country, and all people and organizations are held accountable.

Status and progress:
The main laws regulating the water sector are Water Law 221/2000 (and its amendments: Law 241/2000. Law 228/2000 and Law 377/2001) and the Water Law/Code (Law 77) which was enacted in 2018 with subsequent amendments in 2020 (**by law 192**).
Law 221 was promulgated to improve water services management through the creation of 4 Public Water and Sanitation Establishments distributed in a regional way: the North Lebanon Regional Water Establishment (NL RWE), Beirut and Mount Lebanon Regional Water Establishment (BML RWE) , Bekaa Regional Water Establishment (B RWE) and South Lebanon Regional Water Establishment (SL RWE). This law is implemented by the Ministry of Energy and Water (MoEW) at the national level, and on a regional level through the RWEs. Law 221 and its amendments put all water usages under MEW and RWEs authority.
The Water Law/Code (from now referred to as Law 192) serves as the primary comprehensive law governing the water sector. A key aspect of this legislation is its provisions for reforms, targeting the overall institutional framework that governs the sector.
Moreover, the new water law is the first legislation that explicitly recognizes the significance of adopting an integrated approach to water management. It offers comprehensive guidelines on the process involved in establishing an **IWRM Master Plan for Lebanon**. The law emphasizes the necessity of creating this plan based on watershed or river basin schemes and outlines the specific prerequisites for their development.
Some Decrees of application for Law 192 are currently being developed, while a thorough review of the legal framework in the sector is simultaneously being conducted by MoEW. The objective of this review is to eliminate any overlapping responsibilities among stakeholders, address inconsistencies, and implement necessary reforms.

Way forward: The MoEW in collaboration with the Regional Water Establishments (RWE) are developing the Decrees of application of Law 192/2020

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
c. National integrated water resources management (IWRM) **plans**, or similar. Score 20	Development **not started** or not progressing**.**	**Being prepared**, but not approved by government.	**Approved** by government and starting to be implemented by authorities.	Being **implemented** by the majority of relevant authorities.	Plan objectives consistently **achieved**.	Objectives consistently achieved, and periodically **reviewed** and revised.

Status and progress: Although IWRM is viewed as a target for the water sector in Lebanon, it is not yet implemented in an effective way at the National level. It is introduced as a major solution in many case studies and research projects for pilot areas, which offer useful lessons for a future larger application. The implementation of the updated NWSS and Law 192 are expected to move forward in this direction because of their clear reference to the need for an IWRM approach at the hydrographic basins level, to be implemented particularly through River Basin Schemes and Management Plans.

Climate change considerations: Lebanon's updated NDC (in 2021) considers the water sector as a key adaptation priority and includes the implementation of activities that are in line with the NWSS, in coordination with MoEW.
Moreover, climate change has been integrated in the water management plans of the 2022 NWSS, although not in sufficient details, such as climate proofing infrastructure, or impacts of wastewater management on GHG emissions, etc.
Lebanon's NAP is still under preparation, with a draft expected by end of 2024. The NAP will be in line with the NWSS 2022.

Way forward: Decrees and by-laws related to Water Law 192 need to be finalized and the Law implemented, particularly the implementation of the IWRM Master Plan, which requires financial resources that are currently not available at the level of the Government of Lebanon due to the financial crisis the country is going through. Assistance and support are therefore needed from developing partners.

1.2 What is the status of policies, laws and plans to support IWRM at other levels?							
		Degree of implementation (0 – 100)					
		Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
a. Sub-national[4] water resources **policies** or similar.		Development **not started** or delayed in most sub-national jurisdictions.	**Exist** in most jurisdictions, but not necessarily based on IWRM.	Based on IWRM, **approved** by the majority of authorities and starting to be used to guide work.	Based on IWRM, being **used** by the majority of relevant authorities to guide work.	Based on IWRM and policy objectives consistently **achieved** by a majority of authorities.	Based on IWRM and objectives consistently achieved by all authorities, and periodically **reviewed** and revised.
Score	50						

Status and progress:

The same National laws (Law 221/2000 and its amendments), Law 192 and policies mentioned above (updated NWSS) address IWRM at the subnational/hydrographic basin level. In particular, Law 373/2001 mandated the water and wastewater management responsibilities to the Ministry of Energy and Water (MoEW) and the four Regional Water Establishments (RWEs) under its supervision. Based on these laws MoEW:

- Is in charge of policy making, regulation and large infrastructure projects.
- Applies laws regarding the protection of public water domain and its use
- Manages large national water projects and oversees operation of the Water Establishments
- It is in charge of monitoring water resources and the measurement of flows, estimation of water needs, allocation of water resources in all the regions, inspection and monitoring of surface and ground water quality, and estimation of ground water storage capacities.

The four Regional Water Establishments (RWEs) work under the oversight of MoEW. They have financial and administrative autonomy in their geographical areas. They are in charge of:

- Drinking water and sanitation services, irrigation water systems
- Monitoring water quality for drinking water and irrigation in coordination with MoEW
- Defining tariffs for the services provided (potable water, irrigation and wastewater)
- Carrying out investments and feasibility studies related to the master plan prepared by MoEW.

In the past, municipalities have undertaken the management of small wastewater treatment plans and although subsequent laws regulating the water sector (see above) have clearly defined the roles of institutions in water management – as mentioned above only MEW and RWEs are in charge for water and wastewater management - some municipalities are still keeping this function.

MEW and RWEs are in the progress of solving this conflict through an MoU that would clearly describe the services to be delegated to municipalities from RWEs whenever this is applicable.

[4] Sub-national includes jurisdictions not at national level, such as: states, provinces, prefectures, counties, councils, regions, or departments. In cases where there are no explicit sub-national policies, please answer this question by considering how national policies are being implemented at sub-national levels. Responses should consider the highest, non-national level(s) as appropriate to the country. In the status description, please explain which level(s) are included in the response.

The Litani River Authority (LRA) is also an autonomous administration working under the oversight of MoEW. It is in charge of:

- Planning and operating all potable, irrigation and hydro-electrical schemes associated with the Litani River,
- Measuring all surface flows throughout the country
- Establishing and operating all hydro-electrical generating plants
- Measuring the level of groundwater in Bekaa and the South
- Monitoring water quality in the Litani River Basin
- Developing and operating all water systems connected to the Litani River and Awali Rivers in the area extending from Beirut Damascus Highway and to Lebanon's international border in the south.
- Planning the irrigation water schemes tied to the Litani River, including within the jurisdictions of SLWE and BWE.

RWEs are understaffed regarding wastewater and irrigation management/ systems and need support in terms of human resources, and especially capacity building. LRA also suffers from understaffing and limited financial resources.

Way forward:
- Finalization of Water Law 192 Decrees and bylaws and Implementing the Performance Evaluation Committee mentioned in Law 221 (Water Sector reorganization)
- Updating Regional Master Plans.

b. Basin/aquifer management plans[5] or similar, **based on IWRM**. Score 10	Development **not started** or delayed in most basins/aquifers of national importance.	**Being prepared** for most basins/aquifers.	**Approved** in the majority of basins/aquifers and starting to be used by authorities.	Being **implemented** in the majority of basins/aquifers.	Plan objectives consistently **achieved** in majority of basins/aquifers.	Objectives consistently achieved in all basins/aquifers, and periodically **reviewed** and revised.

Status and progress: Several projects funded by international donors have supported/are supporting the integrated management of river basins or aquifers and the preparation of related management plans. However, there is no consistent application of this approach towards all River Basins or aquifers, due to the lack of data, and the available human and financial resources. The case of aquifers is particularly difficult because of the karst geology of Lebanon (more than 65%) that does not make easy the delineation of aquifers and the identification of their resources, especially in the absence of data and monitoring.

Way forward:
The finalisation of Law 192 Decrees is very important for its application and also the update of Regional Water Master Plans. The law emphasizes the necessity of creating watershed or river basin schemes and outlines the specific prerequisites for their development. The updated NWSS supports this approach as well.
One major step needed for the delineation of aquifers and the identification of their water resources consists in the development of models adapted to the specific geologic features of the country. It is also essential to establish groundwater monitoring networks and to update the hydrogeological maps.
The main barrier towards achieving these objectives is the lack of monitoring of water resources, and of human and financial resources.

[5] At the basin/aquifer level, please include only the most important river basins, lake basins and aquifers for water supply or other reasons. This question only refers to these basins/aquifers. These basins/aquifers are likely to cross administrative borders, including state/provincial borders for federal countries. The basins may also cross national borders, but this question refers to management of the portions of basins within each country. Question 1.2c refers specifically to transboundary arrangements for basins/aquifers shared by countries.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
c. Arrangements for transboundary water management.[6] Score 70	Development **not started** or not progressing.	**Being prepared** or negotiated.	Arrangements are **adopted**.	Arrangements' provisions are **partly implemented**.	Arrangements' provisions are **mostly implemented**.	The arrangements' provisions are **fully implemented**.

Status and progress:
Agreements are in place for transboundary water management collaboration with Syria on the two shared River Basins, The El Kabir and Orontes Basins. The agreements are mostly implemented and result in a win-win situation for both countries. They are based on the UN 1997 Watercourses Convention ratified both by Lebanon and Syria. Furthermore, Lebanon is in the process of exploring the possibility to accede the 1992 UNECE Water Convention that might further support the implementation of existing arrangements. No agreements exist on the Hasbani -Wazzani-River Basin, due to the status of war with Israel, which is practicing hegemony on the Jordan river basin, of which Hasbani Wazzani river basin is part.

Way forward:
The lack of financial resources due to the current financial crisis both in Lebanon and Syria impairs the implementation of projects jointly agreed on the shared water resources.

Support is required from international partners to further advance the existing mechanisms and planned actions for IWRM in Lebanon, as outlined in this survey. Enhancing IWRM in Lebanon would effectively contribute to advance the implementation of transboundary agreements with Syria on the shared River Basins, once both countries have successfully resolved the financial crisis.

d. Sub-national water resources **regulations**[7] (laws, decrees, ordinances or similar).[8] Score 40	Development **not started** or delayed in most sub-national jurisdictions.	**Exist** in most jurisdictions, but not necessarily based on IWRM**.**	Based on IWRM, **approved** in most jurisdictions, and starting to be applied by authorities in some jurisdictions.	Based on IWRM, **some** regulations **being applied** in the majority of jurisdictions.	Based on IWRM and **all regulations being applied** in the majority of jurisdictions.	Based on IWRM and all regulations being applied and **enforced** in all jurisdictions, and all people and organizations are held accountable.

Status and progress:
The same National laws (Law 221/2000 and its amendments), the Water Law/Code and policies mentioned above (updated NWSS) address IWRM at the subnational/hydrographic basin level. In particular, Law 373/2001 mandated the water and wastewater management to only the Ministry of Energy and Water (MEW) and the four Regional Water Establishments (RWEs) under its supervision.

[6] For 'transboundary' definition, see Annex A. All transboundary level questions should reflect the situation in most of the 'most important' transboundary basins/aquifers, which should be listed in the 'status and progress' field. An 'arrangement' should be a formal commitment, and may be referred to as a bilateral or multilateral agreement, treaty, convention, protocol, joint declaration, memorandum of understanding, or other arrangement between riparian countries on the management of a transboundary basin/aquifer. Arrangements may be interstate, intergovernmental, inter-ministerial, interagency or between regional authorities. They may also be entered into by sub-national entities.
[7] Sub-national includes jurisdictions not at national level, such as: states, provinces, prefectures, counties, councils, regions, or departments. In cases where there are no explicit sub-national regulations, please answer this question by considering how national regulations are being implemented at sub-national levels. Responses should consider the highest, non-national level(s) as appropriate to the country. In the status description, please explain which level(s) are included in the response.
[8] This question has replaced question 1.2d from the baseline survey instrument, which was for federal countries only.

Based on these laws the Ministry of Energy and Water (MEW):
• Is in charge of policy making, regulation and large infrastructure projects.
• Applies laws regarding the protection of public water domain and its use
• Manages large national water projects and oversees operation of the Water Establishments
• It is in charge of monitoring water resources and the measurement of flows, estimation of water needs, allocation of water resources in all the regions, inspection and monitoring of surface and ground water quality, and estimation of ground water storage capacities.

The four Regional Water Establishments (RWEs) work under the supervision of MoEW. They have financial and administrative autonomy in their geographical areas. They are in charge of:
• Drinking water and sanitation services, irrigation water systems
• Monitoring water quality for drinking water and irrigation in coordination with MoEW
• Defining tariffs for the services provided (potable water, irrigation and wastewater)
• Carrying out investments and feasibility studies related to the master plan prepared by MoEW.
In the past, municipalities have undertaken the management of small wastewater treatment plans and although subsequent laws regulating the water sector (see above) have clearly defined the roles of institutions in water management – as mentioned only MEW and RWEs are in charge for water and wastewater management - some municipalities are still keeping this function.
MEW and RWEs are in the progress of solving this conflict through an MoU that would clearly describe the services to be delegated to municipalities from RWEs, whenever this is applicable. RWEs are understaffed regarding wastewater and irrigation management/ systems and need support in terms of human resources, and especially capacity building.

The Litani River Authority (LRA) is also an autonomous administration working under the oversight of MoEW. It si in charge of:
- Planning and operating all potable, irrigation and hydro-electrical schemes associated with the Litani River,
- Measuring all surface flows throughout the country
- Establishing and operating all hydro-electrical generating plants
- Measuring the level of groundwater in Bekaa and the South
- Monitoring water quality in the Litani River Basin
- Developing and operating all water systems connected to the Litani River and Awali Rivers in the area extending from Beirut Damascus Highway and to Lebanon's international border in the south.
- Planning the irrigation water schemes tied to the Litani River, including within the jurisdictions of SLWE and BWE.

Way forward:
-Finalizing the Decrees of application for Law 192
-Finalizing and approving the legal framework of cooperation between RWEs and municipalities and starting to implement it wherever applicable.

2 Institutions and participation

This section is about the range and roles of political, social, economic and administrative institutions that support the implementation of IWRM. It includes institutional capacity and effectiveness, cross-sector coordination, stakeholder participation and gender mainstreaming. The 2030 Agenda stresses the importance of partnerships that will require public participation and creating synergies with the private sector.

Please take note of all footnotes as they contain important information and clarification of terms used in the questions and thresholds. Please refer to the glossary for any terms that may require further explanation.

Enter your score, **in increments of 10**, from 0-100, or "n/a" (not applicable), in the yellow cell immediately below each question. Enter free text in the "Status and progress" and "Way forward" fields below each question. This will help achieve agreement among different stakeholders in the country, as well as help monitor progress over time. Suggestions for the type of information that may be useful are provided. You may also provide further information you think is relevant, or links to further documentation.

2. Institutions and Participation							
		Degree of implementation (0 – 100)					
		Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
2.1 What is the status of institutions for IWRM implementation at the national level?							
a. National **government authorities**[9] for leading IWRM implementation.		**No** dedicated government authorities for water resources management.	Authorities **exist**, with clear mandate to lead water resources management.	Authorities have clear roles and responsibilities to lead IWRM implementation, and the capacity[10] to effectively lead IWRM plan **formulation**.	Authorities have the capacity to effectively lead IWRM plan **implementation**.	Authorities have the capacity to effectively lead periodic monitoring and **evaluation** of the IWRM plan(s).	Authorities have the capacity to effectively lead periodic IWRM plan **revision**.
Score	30						
Status and progress: There is clear mandate for the water sector authorities to apply IWRM, based on the existing sector laws. Some Decrees of application of the new Water Law/Code are being drafted. The National Water Council (NWC), once enacted, will establish a stronger institutional IWRM framework involving relevant institutions.							
Way forward: It is necessary to strengthen the relevant institutions with human and financial resources so as to be able to carry out their roles effectively. In this framework, it is also important to support the establishment of the Integrated Hydrological Information System (IHIS) under the hierarchy of MoEW. The NWSS 2020-2035 has emphasized the importance of establishing the IHIS to address the numerous studies and estimations related to the water sector. The IHIS would serve as a strategic platform with related models and technological tools for supporting decision-making in the water sector, by providing relevant stakeholders with reliable and scientific information for integrated planning. Securing funding is necessary to establish and maintain this system successfully. Moreover, it is essential to finalize the Decrees of application for the Law 192 and for the NWC to become functional and be sustained in the long-term.							

[9] 'Government authorities' could be a ministry or ministries, or other organizations/institutions/agencies/bodies with a mandate and funding from government.

[10] 'Capacity' in this context is that the responsible authorities should have the required knowledge and technical skills, including planning, rule-making, project management, finance, budgeting, data collection and monitoring, risk/conflict management and evaluation. Beyond having the technical capacity, authorities should also have the financial capacity to actually be leading the implementation of these activities.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
b. Coordination between national government authorities representing **different sectors**[11] on water resources policy, planning and management. Score 60	**No information** shared between different government sectors on water policy, planning and management.	**Information** on water resources, policy, planning and management is made available between different sectors.	**Communication:** Information, experiences and opinions on water resources, policy, planning and management are **shared between** different sectors.	**Consultation:** Opportunities for different sectors to **take part** in water resources policy, planning and management processes.	**Collaboration:** Formal **arrangements** between different government sectors with the objective of agreeing on collective decisions on important issues and activities relating to water resources planning and management.	**Co-decisions and co-production:** Coordination through jointly agreed upon processes and power is shared between different sectors on joint policy, planning and management activities.

Status and progress:
The updated NWSS has addressed the need for additional coordination with other National institutions through the creation of a Water-Energy-Food-Ecosystems (WEFE) Inter-Ministerial Group that had its 1st Meeting in June 2023 and is expected to meet regularly with the aim to enhance technical coordination on water resources management and planning.
Moreover, Law 192 calls for the establishment of the National Water Council to encourage inter-sectoral coordination at a higher level for water resources management and planning.

Climate change considerations:
Coordination meetings are being organized by the MoE with the MoEW on issues related to climate change adaptation and NDCs. Moreover, a representative from MoE/climate change participates regularly in MoEW task force meetings.

Way forward:
It is important to establish a protocol between the different entities in order to enable the sharing of information. This seems also particularly important in order to gather a better picture of ongoing IWRM projects at the sub-National /local level and would require a closer coordination with the Directorate General of Local Administration and Councils (DGLAC) that coordinates the work of municipalities and local authorities for the Ministry of Interior and Municipalities (MoIM).

It is also important to make the National Water Council become functional so as to ensure coordination between the relevant authorities from different sectors. The working of the technical WEFE Inter-Ministerial Group should be sustained as well.

Potential improvements in strengthening the links with climate change may include a continuous engagement of MoEW representatives in the development of Lebanon's NAP (in 2024) and the agreement on developing and reporting specific adaptation indicators to use for tracking the progress of the NDC implementation (2024). Overall coordination between MoE and MoEW should be enhanced also at the level of climate funding (adaptation and mitigation). Support from International Organizations is needed for projects related to adaptation and mitigation to climate change. This also includes capacity building to access related climate funds.

[11] Relates to coordination between the government authorities responsible for water management and those responsible for other sectors (such as agriculture, aquaculture, energy, climate, water supply and sanitation, tourism, municipal use, mining and industry, environment etc.) that are dependent on water, or impact on water (including surface water / groundwater considerations).

c. Public participation[12] in water resources policy, planning and management at national level. Score 60	**No information** shared between government and the public on policy, planning and management of water resources.	**Information** on water resources, policy, planning and management is made available to the public.	**Communication:** Government authorities **request** information, experiences and opinions of the public in relation to policy, planning and management of water resources.	**Consultation:** Government authorities regularly **use** information, experiences and opinions of the public in relation to policy, planning and management of water resources.	**Collaboration: Mechanisms**[13] established, and regularly used, for the public to take part in relevant water resources policy, planning and management processes.	**Representation:** Formal representation of the public in government processes contributing to decision making on important issues and activities in relation to water resources.

Status and progress:

Sharing of information, communication and consultation with the public – including specific groups such as women, children and young people - are carried out on an ad hoc basis, but not yet in a formalised manner by authorities and development organizations/agencies.

The new Water Law foresees at least two ways in which the public can be better informed about decision-making in the water sector:

1- the operation of a National Water Council that will enhance consultation through the involvement of NGOs representatives, who will possibly be a link between the decision-making bodies and the public.
2- the River Basin Management Plans that engage public authorities, socio-economic actors and the public, in relation to objectives and measures to be undertaken to ensure a sustainable management of the water resources in the basin.

Way forward:

-Speedy finalisation of Law 192 Decrees of application. Set up and operation of the National Water Council and preparation of River Basin Management Plans, both foreseen by this Law.

- Set-up of the IHIS and preparation of regular reports about the status of water resources and relevant issues to be available for the public through the platform that MoEW wants to create within this context.

[12] 'The public' includes all interested parties who may be affected by any water resources issue or intervention. They include organizations, institutions, academia, civil society and individuals. They do not include government organizations. The private sector is addressed separately in the next question, and vulnerable groups are addressed separately in question 2.2c.

[13] Mechanisms can include policies, laws, strategies, plans, or other formal operational procedures for public participation.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
d. Private sector[14] **participation** in water resources development, management and use. Score 60	**No information** shared between government and private sector about water resources development, management and use.	**Information** made available between government and private sector about water resources development, management and use.	**Communication** between government and private sector about water resources development, management and use.	**Consultation:** Government authorities regularly involve the private sector in water resources development, management and use activities.	**Collaboration: Mechanisms**[15] are established, ~~and~~ regularly used, and rooted in the transparent and accountable involvement and partnership of the private sector.	**Representation:** Effective private sector involvement in water resources development, management and use is established in a transparent way and with proper accountability mechanisms[16] in place.

Status and progress:

Until now, PSP in the water sector in Lebanon has been limited to service contracts for the conduct of specific tasks or the operation and maintenance of pumping stations, networks and wastewater treatment plants and the preparation of Regional Master Plans (related to water, wastewater and irrigation). The contracts awarded to private companies aim at tackling the lack of human resources and capacities within the RWEs.

A more elaborated service contract of 3-year duration was awarded in 2007 by the Water and Sanitation Establishment of South Lebanon (SL RWE) for the operation of its financial and accounting systems, while the only experience of a service and management contract for drinking water services was carried out in the urban area of Tripoli (400 000 inhabitants - 10% of the Lebanese population at that time). The Lebanese Government is interested in more advanced collaborations and since 2007 it has undertaken a set of consultations with the private sector to explore the status and needed steps to improve the enabling environment for PSP in the water sector. These activities were supported by international partners and have also focused on the involvement of banks that could engage more actively in water investments, benefitting from the existing framework for investing in energy and environmental projects. Moreover, in 2017 Law 48 regulating Public Private Partnerships was approved. The High Council for Privatisation and PPP is in charge for the effective implementation of this law's provisions throughout the tendering process of PPP projects. Earlier, already in 2003 the MoEW had prepared and submitted a draft Law for approval to the Council of Ministers, which envisaged the regulation of delegation and BOT projects for the construction, operation and transfer of dams and annexed works, including water and sanitation networks as well as drinking water and wastewater treatment plants. According to this draft law, the evaluation of projects and the preparation of specifications is the responsibility of MEW that is the signatory of the PPP contracts with the approval of the Council of Ministries. This draft law set the maximum duration of such contracts to 30 years. Unfortunately, following the 2019 financial crisis, these activities have not been followed up.

Law 192 also entails provisions for PSP and allows the private sector to participate in various activities supporting the management at the RWEs. Moreover, enhancing the participation of the private sector is a priority of the updated NWSS and in the framework of its implementation several Task Forces have been created involving various stakeholders, including representing the private sector.

[14] Private sector includes for-profit businesses and groups. Private sector actors may include water users (from across sectors, e.g. agriculture, food and beverage, energy, manufacturing, mining, etc.); water and sanitation service operators; water-related technology providers; and the financial providers participating through investments in water initiatives (definition adapted from Sustainable Water Partnership (2017)). It does not include government, civil society or public academic institutions. While this question is mainly focused at the national level, please respond at the level that is most relevant in the country context. Please explain this, including differences between implementation at different levels, in the 'Status and progress field.

[15] Mechanisms can include policies, laws, strategies, plans, or other formal operational procedures for private sector participation.

[16] See description of "accountability mechanisms" in Annex A: Glossary.

Way forward:
Finalization of Decrees of application of the new Water Law/Code relevant to PSP provisions and strengthening of the public authorities to be able to deal with PSP contracts also in collaboration with High Council for Privatisation and PPP and based on Law 48 mentioned above.

In particular, it is important to further strengthen the capacity of the RWEs on PSP aspects, such as monitoring and social safeguards, and to enhance their credibility through the provision of transparent and publicly accessible reporting on the use of revenues. The PPP Law 48 (2017) also contributes to build the capacity of the RWEs so as to effectively study and manage PPP projects. Private sector involvement is sought as long as there is no competition with public sector services and for limited responsibilities.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
e. Developing IWRM capacity.[17] Score 40	**No** capacity development specific to water resources management.	**Occasional** water resources management capacity development, generally limited to **short-term** / ad-hoc activities.	**Some long-term** capacity development initiatives on IWRM are being implemented, but geographic and stakeholder coverage is **limited**.	**Long-term** capacity development initiatives on IWRM are being implemented, and geographic and stakeholder coverage is **adequate**.	Long-term capacity development initiatives on IWRM are being implemented, with **effective** outcomes, and geographic and stakeholder coverage is **very good**.	Long-term capacity development initiatives on IWRM are being implemented with **highly effective** outcomes, and geographic and stakeholder coverage is **excellent.**

Status and progress:
Capacity building activities are limited and IWRM elements are not always focused upon.
Moreover, there is a need to need to strengthen education and communication on related topics at all levels.

Climate change considerations:
Capacity building activities related to climate change adaptation and mitigation in the water sector are needed.

Way forward:
Long-term capacity building activities are needed and should be supported and complemented with research initiatives to collect new data on water resources (quantity, quality, flow measurements, etc) and hence facilitate evidence-based policy making. In particular, RWEs should be supported to become self-sustaining, not only to carry out the activities foreseen by law, but to accelerate progress towards an integrated, inclusive and transparent management of water resources.

[17] IWRM capacity development: refers to the enhancement of skills, instruments, resources and incentives for people and institutions at all levels, to improve IWRM implementation. Capacity needs assessments are essential for effective and cost-effective capacity development. Capacity development programmes should consider gender balance and disadvantaged/minority groups in terms of participation and awareness. Capacity development is relevant for many groups, including: local and central government, water professionals in all areas - both public and private water organisations, civil society, and in regulatory organisations. In this instance, capacity development may also include primary, secondary and tertiary education, and academic research concerning IWRM.

2.2 What is the status of institutions for IWRM implementation at other levels?							
		Degree of implementation (0 – 100)					
		Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
a. Basin/aquifer level[18] **organizations**[19] for leading implementation of IWRM.	Score 10	**No** dedicated basin authorities for water resources management.	Authorities **exist**, with clear mandate to lead water resources management.	Authorities have clear mandate to lead IWRM implementation, and the capacity[20] to effectively lead IWRM plan **formulation**.	Authorities have the capacity to effectively lead IWRM plan **implementation**.	Authorities have the capacity to effectively lead periodic monitoring and **evaluation** of the IWRM plan(s).	Authorities have the capacity to effectively lead periodic IWRM plan **revision**.
Status and progress: No dedicated basin authorities currently exist in Lebanon. The Litani River Basin Authority has a clear mandate to lead water resources management in this basin, but for limited issues, such as hydropower and irrigation and the monitoring of water quantity and quality in the Litani River and its tributaries. Although Law 192 refers to the preparation of basin management schemes, it does not mention how these will be administered. Another issue already mentioned above consists in the lack of data related to aquifers due to the geological situation of Lebanon and the need for specific models and technical expertise to be developed for the study of aquifers.							
Way forward: Apply technological "open source" tools and modelling of the River Basins and of aquifers, as a first step towards estimating their status and in order to prepare appropriate action plans and strategies, aligned with the provisions of the Water Law/Code.							
b. Public participation[21] in water resources policy, planning and management at the **local level.**[22]	Score 60	**No information** shared between government and the public on policy, planning and management at the local level.	**Information** on water resources, policy, planning and management is made available to the public at the local level.	**Communication:** Government authorities **request** information, experiences and opinions of the public**.**	**Consultation:** Government authorities regularly **use** local level information, experiences and opinions of the public.	**Collaboration: Mechanisms**[23] established, and regularly used, for the public at the local level to take part in relevant policy, planning and management processes.	**Representation:** Formal representation of the public in local authority processes contributing to decision making on important issues and activities, as appropriate.

[18] At the basin/aquifer level, please include only the most important river basins, lake basins and aquifers for water supply or for other reasons. These basins/aquifers likely cross-administrative borders, including state/provincial borders for federal countries. The basins may also cross national borders, but this question refers to management of the portions of basins within each country. Question 2.2e refers specifically to transboundary management of basins/aquifers shared by countries.

[19] Could be organization, committee, inter-ministerial mechanism or other means of collaboration for managing water resources at the basin level.

[20] For the definition of 'capacity' in this context, see footnote 13. Beyond having the capacity, authorities must also actually be leading the implementation of these activities.

[21] 'The public' includes all interested parties who may be affected by any water resources issue or intervention. They include organizations, institutions, academia, civil society and individuals. They do not include government organizations. The private sector is dealt with separately in question 2.1d.

[22] Examples of 'local level' include municipal level (e.g. cities, towns and villages), community level, basin/tributary/aquifer/delta level, and water user associations.

[23] Mechanisms can include policies, laws, strategies, plans, or other formal operational procedures for public participation.

Status and progress:
Sharing of information, communication and consultation with the public are carried out on an ad hoc basis, but not yet in a formalised manner. Law 192 foresees at least two ways through which the public can be better informed about decision-making in the water sector:

1- the operation of a National Water Council that will enhance consultation through the involvement of NGOs representatives, who will possibly be a link between the decision-making bodies and the public.
2- the River Basin Management Plans that engage public authorities, socio-economic actors and the public, in relation to objectives and measures to be undertaken in order to ensure a sustainable management of the water resources in the basin.

Way forward:
-Speedy finalisation of Law 192 Decrees of application. Set up and operation of the National Water Council and preparation of River Basin Management Plans or Schemes both foreseen by this Law.
- Gather lessons learnt from projects, showcasing good practices of public participation and engagement in water resources management and upscale them
- Strengthen public consultation mechanisms on water resources policy, planning and management at the local level, in alignment with the Water Law/Code provisions. Understand needs for education, awareness raising and communication activities of different public groups and implement related actions, including by applying a gender lens.

		Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
c. Participation of vulnerable groups in water resources planning and management.[24]		Participation of vulnerable groups **not explicitly addressed** in laws, policies, or plans.	Vulnerable groups **partially addressed,** but no explicit procedures in place.[25]	**Some procedures in place**, but limited budget and human capacity for implementation.	Transparent procedures in place, with **moderate participation** of vulnerable groups (moderate budget and human capacity).	**Regular participation** of vulnerable groups (sufficient budget and human capacity, and participation is monitored through accountability mechanisms[26]).	**Meaningful[27] and regular participation** of vulnerable groups, as appropriate, and participation is monitored through accountability mechanisms.
Score	20						

Status and progress:
The participation of vulnerable groups is not explicitly addressed in laws, policies and plans. Law 192 foresees procedures through which the public can be better informed about decision-making in the water sector and express their opinion about water services. Social tariffs are addressed through this Law and the updated NWSS.

In practice, the participation of such groups is promoted through ad-hoc projects implemented mostly by international organisations.

Way forward: Enhance capacity of authorities on how to identify and consider vulnerable groups relevant to the water sector and about the best means to inform and engage them in water resources planning and management.

[24] Vulnerable groups: groups of people that face economic, political, or social exclusion or marginalisation. They can include, but are not limited to: indigenous groups, ethnic minorities, migrants (refugees, internally displaced people, asylum seekers), remote communities, subsistence farmers, people living in poverty, people living in slums and informal settlements. Also referred to as 'marginalised' or 'disadvantaged' groups. While women are often included in definitions of 'vulnerable groups', in this survey gender issues are addressed separately in question 2.2d. The score given for this question should reflect the situation for the majority of the vulnerable groups. This question has been added since the baseline to capture an element of stakeholder participation which is important in the context of 'leave no-one behind' – one of the key principles of Agenda 2030.

[25] 'Procedures' can include operational processes to, for example, raise awareness, reduce language barriers, and facilitate interaction with specific vulnerable groups.
[26] See description of "accountability mechanisms" in Annex A: Glossary.
[27] 'Meaningful' implies voices of vulnerable groups are heard, contribute to decision-making, and influence outcomes. It follows the UN Statement of Common Understanding on Human Rights-Based Approaches to Development Cooperation which provides for "Participation and Inclusion: … all peoples are entitled to active, free and meaningful participation in, contribution to, and enjoyment of civil, economic, social, cultural and political development in which human rights and fundamental freedoms can be realized."

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
d. Gender mainstreaming in water resources management.[28] Score 40	No gender mainstreaming in water resources management.	Gender mainstreaming mechanisms and practices in water resources management **being developed**	Gender mainstreaming mechanisms **exist** (but limited implementation, budget or monitoring)**.**	Gender mainstreaming **objectives**[29] **partly achieved** (activities implemented and partially monitored and funded).	Gender mainstreaming objectives **mostly achieved** (activities adequately monitored and funded).	Gender mainstreaming objectives **consistently achieved** and effectively address gender issues (activities and outcomes reviewed and revised and based on relevant accountability mechanisms[30]).

Status and progress:

UNDP's 2021 Gender analysis for Lebanon identified Women as often being "the main water resource manager at home because of their responsibilities in food production and preparation, hygiene, cleaning, washing, waste disposal and care of children and the elderly". However, based on the same analysis, women are not directly involved nor represented to influence on IWRM outcomes.

At the request of the National Commission for Lebanese Women (NCLW), gender focal points (GFPs) have been nominated within most of the ministries and public institutions. In this framework, gender mainstreaming in water resources management has been promoted through assigning a gender focal point at the MoEW.

However, gender objectives are not yet explicitly included in existing water-related laws and plans at National, sub-National and transboundary levels. Consequently, also funding, human capacity, monitoring etc. are applied so far on an ad hoc basis, in the framework of specific projects and activities. Moreover, the economic crisis prevailing in Lebanon from 2018 has been a big challenge to having sex-disaggregated data and statistics and to advance with related activities.

For additional information please refer to Gender voluntary checklist submitted together with the Survey.

Way forward:

- Apply a gender lens to IWRM related interventions, including on climate change issues. To advance with gender mainstreaming it is particularly important to:
- Collect sex-disaggregated data
- Enhance coordination among the members of the Gender Focal Point Network set-up by the National Commission for Lebanese Women in the relevant institutions

[28] Gender mainstreaming is about fully integrating gender perspectives in water planning, management, and decision-making, in a cross-cutting manner. Gender mainstreaming mechanisms can include frameworks, practices and tools aimed at achieving gender objectives related to women's participation, voice and influence in water resources management. See "Gender mainstreaming" in Annex A (Glossary), which contains links to the Gender Checklist (to support discussion on this topic), and a report on gender mainstreaming in water resources management. Gender mainstreaming mechanisms may originate within the water sector or at a higher level, but if they are primarily addressed at a higher level, then there should be evidence of gender mainstreaming within the water sector to achieve scores in this question. Any differences between implementation at national, local or transboundary levels can be explained in the 'Status and progress' field.

[29] Gender mainstreaming objectives ultimately refer to equal participation and influence in water resources management at all levels. Ways of monitoring this include (please identify any of these or similar in the 'Status and progress' field): 1) Presence of Gender Focal Point responsible for gender policy and gender concerns in authorities that deal with water resources; 2) Gender parity in decision-making processes at all levels (e.g. in meetings or board members/committee members); 3) Presence of gender-specific objectives and commitments in strategies, plans and laws related water policy; 4) Presence and role of local women's groups/organizations receiving technical and/or financial support from government/non-government organizations involved in water resources management activities; 5) Budget allocation, and procedures for collection and analysis of sex-disaggregated data of local populations, when planning for water-related programmes / projects, including infrastructure; 6) Presence of measures for improving gender parity and equity in human resources (HR) policies of authorities. Source: adapted from UNESCO WWAP Toolkit on Sex-disaggregated Water Data, 2019.

[30] See description of "accountability mechanisms" in Annex A: Glossary.

- Promote trainings on gender, including Training of Trainers (ToT)
- Set-up a gender Community of Practice engaging public and private stakeholders

- UNDP's 2021 Gender analysis includes several recommendations, like enhancing administrative databases for a more robust evaluation of gender mainstreaming and utilizing international frameworks to support sectoral gender mainstreaming, such as the UNFCCC Gender Action Plan.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
e. Organizational framework for transboundary water management.[31] Score 80	**No** organizational framework(s) for transboundary water management.	Organizational framework(s) for transboundary water management **being developed**.	Organizational framework(s) for transboundary water management **established**.	Organizational framework(s)' mandate is **partly fulfilled**.	Organizational framework(s)' mandate is **mostly fulfilled**.	Organizational framework(s)' mandate is **fully fulfilled**.
Status and progress: Agreements are in place for transboundary water management collaboration with Syria on the two shared River Basins, El Kabir and Orontes Basins. The agreements resulted in a win-win situation for both countries and included the joint planning of specific projects. They are based on the UN 1997 Watercourses Convention ratified both by Lebanon and Syria. Furthermore, Lebanon is in the process of exploring the possibility to accede the 1992 UNECE Water Convention that might further support the implementation of existing arrangements. Before the crisis that afflicted both Lebanon and Syria regular meetings were organized between the Lebanese and Syrian technical committees to discuss about specific issues of joint interest and plan for common actions and projects. No agreements exist on the Hasbani-Wazzani River Basin, due to the status of war with Israel, who is practicing hegemony on the Jordan river basin, of which Hasbani-Wazzani basin is part.						
Way forward: The lack of financial resources due to the current financial crisis both in Lebanon and Syria impairs the implementation of projects jointly agreed on the shared water resources. Support is required from international partners to further advance the existing mechanisms and planned actions for IWRM in Lebanon, as outlined in this survey. Enhancing IWRM in Lebanon would effectively contribute to the improvement of transboundary agreements with Syria on the shared River Basins, once both countries have successfully resolved the financial crisis.						
f. Sub-national[32] **authorities** for leading IWRM implementation.[33] Score 30	**No** dedicated sub-national authorities for water resources management.	Authorities **exist**, with clear mandate to lead water resources management.	Authorities have clear mandate to lead IWRM implementation, and the capacity[34] to effectively lead IWRM plan **formulation**.	Authorities have the capacity to effectively lead IWRM plan **implementation**.	Authorities have the capacity to effectively lead periodic monitoring and **evaluation** of the IWRM plan(s).	Sub-national authorities have the capacity to effectively lead periodic IWRM plan **revision**.
Status and progress: The 4 Regional Water Establishments (RWEs) are the sub-national authorities in charge for providing water and sanitation services to the region they are responsible for, based on decisions taken by MoEW that translate the requirements of relevant Laws and Strategies. Currently Law 192 Decrees of application are being prepared, including those referring to the IWRM Master Plan and the River Basin Management Plans or schemes, which will possibly specify responsibilities in more details.						
Way forward: Sub-national authorities (RWEs) need human, technical and financial resources, capacity building and training to be prepared for supporting IWRM implementation in the country.						

[31] An organizational framework can include a joint body, mechanism, authority, committee, commission or other institutional arrangement. Refers to international basins/aquifers.
[32] Sub-national can include, but not limited to: provincial, state, county, local government areas, council. In this case, sub-national should not include basin/aquifer levels as this is dealt with in question 2.2a. Answer this question for the highest sub-national level(s) that are relevant in the country, and specify what these are.
[33] This question has replaced question 2.2f from the baseline survey, which was for federal countries only. This is in recognition of the fact that many countries have sub-national authorities for water resources management, even if they are not federal countries.
[34] For the definition of 'capacity' in this context, see footnote 13. Beyond having the capacity, authorities must also actually be leading the implementation of these activities.

3 Management instruments

This section includes the tools that enable decision-makers and users to make rational and informed choices between alternative actions. It includes management programmes, monitoring water resources and the pressures on them, knowledge sharing and capacity development. Many of the questions in this section relate to other SDG 6 targets and indicators (see 6.5.1 Monitoring Guide), and coordination between different SDG reporting processes is encouraged where feasible.

Terminology used in the questions:

- **Limited, Adequate, Very good, Excellent:** Are terms used describe the status, coverage and effectiveness of the management instruments assessed in this section. Respondents should apply their own judgement based on the 'best-practice' descriptions of management instruments in the glossary, the section introduction, and through footnotes. For example, 'adequate' may imply that the basic minimum criteria for that particular management instrument are met. Please provide qualifying information to the question score in the 'Status description' cell immediately below each question.
- **Management instruments:** Can also be referred to as management tools and techniques, which include regulations, financial incentives, monitoring, plans/programmes (e.g. for development, use and protection of water resources), as well as those specified in footnotes on questions and thresholds below.
- **Monitoring:** collecting, updating, and sharing timely, consistent and comparable water-related data and information, relevant for science and policy. Effective monitoring requires ongoing commitment and financing from government. Resources required include appropriate technical capacity such as laboratories, portable devices, online water use control and data acquisition systems. May include a combination of physical data collection, remote sensing, and modelling for filling data gaps.
- **Short-term / Long-term:** In the context of management instruments, short-term includes ad-hoc activities and projects, generally not implemented as part of an overarching programme with long-term goals. Long-term refers to activities that are undertaken as part of an ongoing programme that has more long-term goals/aims and implementation strategy.
- **Accountability mechanisms:** refer to mechanisms that increase Transparency, Accountability, and Participation, and strengthen Anti-corruption (TAP-A. See also Annex A: Glossary). For each question in this section, it is suggested that TAPA-related mechanisms should "exist", as relevant, to achieve a score of 80 or 90 ("High" threshold), and should be "effective" to achieve a score of 100 ("Very high" threshold).

Please take note of all footnotes as they contain important information and clarification of terms used in the questions and thresholds.

Enter your score, **in increments of 10**, from 0-100, or "n/a" (not applicable), in the yellow cell immediately below each question. Enter free text in the "Status and progress" and "Way forward" fields below each question as advised in the Introduction in Part 1. This will help achieve agreement among different stakeholders in the country, as well as help monitor progress over time. Suggestions for the type of information that may be useful are provided. You may also provide further information you think is relevant, or links to further documentation.

3. Management Instruments						
	Degree of implementation (0 – 100)					
	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
3.1 What is the status of management instruments to support IWRM implementation at the national level?						
a. National monitoring of water availability[35] (includes surface and/or groundwater, as relevant to the country). Score 20	**No** national monitoring systems in place.	Monitoring systems established for a **limited** number of **short-term** / ad-hoc projects or similar.	**Long-term** national monitoring is carried out but with **limited** coverage and limited use by stakeholders.	**Long-term** national monitoring is carried out with **adequate** coverage but limited use by stakeholders.	Long-term national monitoring is carried out with **very good** coverage and adequate use by stakeholders.	Long-term national monitoring is carried out with **excellent** coverage and excellent use by stakeholders.

Status and progress:

Existing permanent monitoring networks (for quality and quantity of resources) are insufficient to fulfil IWRM needs and planning at the National level. Additional monitoring tools are established for a limited number of short-term / ad-hoc projects and are not sustained. Moreover, there is no steady coordination among the different institutions in charge for monitoring different parameters related to water resources, sometimes resulting in duplication of data and no focus on filling gaps. Particularly critical is the monitoring of groundwater resources.

With the support of the EU/AFD Water Sector Reform Program key sources and wells' flows will be monitored throughout Lebanon (50% of resources in each RWE).

There is a great need for human, technical and financial resources in order to set-up consistent monitoring frameworks.

A feasibility study was carried out few years ago by SEMIDE to assess the needs and steps towards the set-up of a National Water Information System.

Another study is in the pipeline in relation to the possibility to set-up the IHIS, as part of the NWSS implementation process.

Way forward:

Detailed studies are needed to define the exact requirements and preparation of terms of reference before purchasing any additional monitoring stations or conducting monitoring campaigns (for water quantity and quality parameters). These studies would support the set-up of the IHIS to the benefit of all key stakeholders related to water management, who would agree - based on a protocol- about the exchange of data/information through the automated system.

In parallel, capacity on how to use the monitoring equipment needs to be built in the responsible institutions so that they will be able to carry out the monitoring tasks once the infrastructure and equipment are in place. Human, technical and financial resources are also needed to achieve these objectives.

[35] See definition of monitoring in Terminology at the beginning of section 3.

b. Sustainable and efficient water use management[36] from the national level, (includes surface and/or groundwater, as relevant to the country).	**No** management instruments being implemented.	Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar.	**Some** management instruments implemented on a more **long-term** basis, but with **limited** coverage across different water users and the country.	Management instruments are implemented on a **long-term** basis, with **adequate** coverage across different water users and the country.	Management instruments are implemented on a long-term basis, with **very good** coverage across different water users and the country, and are **effective**.	Management instruments are implemented on a long-term basis, with **excellent** coverage across different water users and the country, and are **highly effective**.
Score 30						

Status and progress:

Some management instruments exist but are mostly implemented in the short-term or in selected areas as pilot projects (e.g water metering). The same applies to campaigns and education/awareness raising events. Law 192 foresees IWRM at the basin level which would imply the set-up of management and monitoring instruments to ensure water quality and quantity and mechanisms for allocating water between sectors, as well as for environmental flows.

Concerning financial instruments there is a flat rate for both water and wastewater, which has been recently increased.

At the level of the Litani River Authority, farmers who use drip irrigation systems to save water pay a reduced water fee.

Some projects by International Organisations (e.g UNICEF, etc.) have set up in few locations across the country Local Water Committee Groups to improve the community's accountability and responsibility of local water provision in pilot zones. These groups are also responsible for improving the number of subscriptions, decreasing illegal connections, and enhancing ownership of water infrastructure to increase their longevity and functionality.

Way forward:

Preparation of the IWRM Master Plan and River Basin schemes/Management Plans following the finalization of relevant Decrees of application related to Law 192. In the meanwhile, capacity building of institutions about management and monitoring instruments (including through specialised software, open-source technological tools and models, e.g SCADA), financial incentives, the conduct of sensitization/awareness raising/education campaigns.

Moreover, the MoU currently under development to describe the services to be delegated to municipalities from RWEs, whenever this is applicable, has the potential to enhance water services. In particular, it is crucial to strengthen the management of connections and subscriptions in order to facilitate the implementation of a sustainable business model for RWEs.

[36] Management instruments include demand management measures (e.g. technical measures, financial incentives, education and awareness raising to reduce water use and/or improve water-use efficiency, conservation, recycling and re-use), monitoring water use (including the ability to disaggregate by sector), mechanisms for allocating water between sectors (including environmental considerations). Coordination with SDG indicator 6.4.1 Focal Point and results is encouraged when answering this question.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
c. Pollution control[37] from the national level. Score 30	**No** management instruments being implemented.	Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar.	**Some** management instruments implemented on a more **long-term** basis, but with **limited** coverage across sectors and the country.	Management instruments are implemented on a **long-term** basis, with **adequate** coverage across sectors and the country.	Management instruments are implemented on a long-term basis, with **very good** coverage across sectors and the country, and are **effective**.	Management instruments are implemented on a long-term basis, with **excellent** coverage across sectors and the country, and are **highly effective**.

Status and progress:

Following the financial crisis that is afflicting Lebanon since 2019, wastewater treatment stations have partially stopped working for prolonged periods due to National electricity blackouts and lack of chemicals, along with maintenance equipment. This had impacts on human health and the environment, through increased pollution loads. Thanks to the EU support (in terms of electricity provision and chemicals) these stations have now resumed their work partially. However, this support will be available until 2025 only. Moreover, with the assistance of other international organisations, MoEW is studying the possibility of installing Renewable Energy technologies at these facilities, to reduce the costs for their O&M, which is another obstacle to their proper functioning.

LIBNOR is developing the first Standard on wastewater reuse in agriculture developed a working framework involving the participation and the effective communication of stakeholders representing different national institutions (MoEW, MoE, MoA, MoPH, MoI, LARI, universities, etc.). The committee is closely followed up by the Ministry of Energy and Water, and is receiving scientific support from the International Water Management Institute (IWMI) through the ReWaterMENA and From Fragility to Resilience in CWANA projects'.

Regarding water, since 2019 crisis the water quality is not fully monitored by the RWEs due to the lack of human and financial resources (30% presence of weekly employees, cost of transportation, etc.). Depending on the capacity of the water station, irregular testing (often chemical and biological) is carried out. When water sources are contaminated, water establishments immediately treat the water and then monitor the situation with more regular testing.

Moreover, the Litani River Authority analyses specifically the quality of water in the Litani River Basin (lower and upper basins) to identify any pollutants present.

The Ministry of Public Health (MoPH) is involved when there is an impact on public health due to pollution, whereby the MOPH takes water samples from regions in which human cases are reported. The results are then provided to relevant authorities to take corrective measures when necessary (WASH sector – Ministry of Interior and Municipalities, Ministry of Agriculture).

Pollution standards and regulations are available at Ministry of Environment (MoE) but not properly enforced due to limited human capacity for regular inspections, weakness of enforcement of legislation by the internal forces and slow judiciary system to take action.

In line with the principle of activating the enforcement of environmental laws and regulations, workshops are held for MoE employees to present the standardized executive procedures being developed in partnership with the UNDP for the following six sectors:

1- Tree cutting and forest fires
2- Random fishing
3- Dumping and open burning of solid waste
4- Pollution of rivers and seas
5- Random land investment
6- Air pollution

[37] Includes regulations, water quality guidelines, water quality monitoring, economic tools (e.g. taxes and fees), water quality trading programmes, education, consideration of point and non-point (e.g. agricultural) pollution sources, construction and operation of wastewater treatment plants, watershed management. Coordination with SDG indicator 6.3.2 Focal Point and results is encouraged when answering this question.

Moreover, MoE is drafting a solid waste cost recovery law that provides a sustainable source of funding for waste management infrastructure and services, thus contributing to more effective environmental protection and sustainable development.

Way forward:

-Enhance the capacity of RWEs to protect water systems and carry out regular tests
-Prepare Decree of application related to the water police in Law 192
-Ensure the existence of environmental policies aligned with circular economy goals and explore new regulations, which incentivize sustainable practices.
-Establish economic incentives to encourage industries to adopt circular economy practices, encouraging the reduction, reuse and recycling (3R) of water.
- Encourage the incorporation of circular design principles in product development.
-Encourage and foster collaboration between governmental bodies to homogenize legal texts and streamline efforts.
-Engage industries, businesses, environmental organizations and local authorities with diverse perspectives in pollution control initiatives by encouraging participation and responsibility towards the environment.
-Enhance the pollution monitoring system through the set-up of a platform that gathers data about different environmental components from relevant governmental institutions, municipalities, NGOs and other stakeholders thus allowing the government to monitor pollution parameters.
-Update existing legal texts related to setting limits on the discharge of pollutants into water bodies (MoE Decision 8/1, 2001)

d. Management of water-related ecosystems and biodiversity[38] from the national level. Score 30	**No** management instruments being implemented.	Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar.	**Some** management instruments implemented on a more **long-term** basis, but with **limited** coverage across different ecosystem types and the country.	Management instruments are implemented on a **long-term** basis, with **adequate** coverage across different ecosystem types and the country. Environmental Water Requirements (EWR) analysed in some cases.	Management instruments are implemented on a long-term basis, with **very good** coverage across different ecosystem types and the country, and are **effective**. EWR analysed for most of country.	Management instruments are implemented on a long-term basis, with **excellent** coverage across different ecosystem types and the country, and are **highly effective**. EWR analysed for whole country.

Status and progress:

Eight rivers (Ibrahim, Jaouz, Damour, Kalb, Beirut, Awali, Arka and Assi) have been designated as “Natural Sites under the protection of the Ministry of Environment”, through Decisions issued by the Minister of Environment or Decrees from the Council of Ministers based upon the proposal of the Minister of Environment.

However, management instruments are yet limited for these natural sites, and are implemented on a short-term/ad-hoc basis through pilot projects.

Moreover, while every infrastructure project in these natural sites, including a buffer zone of 500 m from river streamlines towards the two riverbanks, needs MoE approval along with related environmental conditions before implementation (and an Environmental Impact Assessment Study, depending on the type of project), this requirement is not properly applied in a consistent manner but rather on ad-hoc basis.

[38] Water-related ecosystems include rivers, lakes and aquifers, as well as wetlands, forests and mountains. Management of these systems includes tools such as management plans, the assessment of Environmental Water Requirements (EWR), and protection of areas and species, to ensure ecosystem functions and services. Monitoring includes measuring extent and quality of the ecosystems over time. Consider coordination with SDG indicator 6.6.1 Focal Point and results, as well as with the post-2020 Global Biodiversity Framework (under the Convention on Biological Diversity), when answering this question.

Furthermore, there are four (4) sites included in the RAMSAR list of wetlands of international importance:

- Ammiq wetland is a privately owned site, which is efficiently managed by a management team. A management plan is currently being developed.
- Palm island and Tyre nature reserves are also declared as Marine Protected Areas (MPAs). They have a management team and a management plan.
- Deir El-Nouriyeh Cliffs of Ras Ech-Chekkaa: the MoE is working for its declaration as a MPA.

All the above-mentioned RAMSAR sites are also important for bird migratory species. In particular, Ammiq and Palm Island are also designated as Important Birds Areas (IBA) by BirdLife International.

In addition, among the 28 Hima (community-based management conservation areas) designated by municipalities some are freshwater areas.

Way forward:

Human and financial resources are needed to be strengthened in the institutions in charge for the management of water-related ecosystems (e.g MoE, including the Environmental Police, in addition to the Water Police, once the Decrees of application of Law 192 are finalized). More organisational Laws are also required for such bodies, along with additional capacity building.

When applicable, it is important to mainstream biodiversity into future developments or infrastructure projects. This would allow for biodiversity considerations to become integral to decisions that have the potential to impact it, e.g due to species displacement risks or disruption of existing ecosystems.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
e. Management instruments to reduce impacts of water-related disasters[39] from the national level.	**No** management instruments being implemented.	Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar.	**Some** management instruments implemented on a more **long-term** basis, but with **limited** coverage of at-risk areas.	Management instruments are implemented on a **long-term** basis, with **adequate** coverage of at-risk areas and groups.	Management instruments are implemented on a long-term basis, with **very good** coverage of at-risk areas and groups, and are **effective**.	Management instruments are implemented on a long-term basis, with **excellent** coverage of at-risk areas and groups, and are **highly effective**.
Score 40						

Status and progress:

The Government of Lebanon has taken steps to move toward a more proactive disasters risk management (DRM) approach. In 2009, the Prime Minister's Office established a Disaster Risk Management Unit, complemented by the establishment of the National Coordination Committee on Disaster Risk Reduction in 2013. Currently, Lebanon does not have an operational disaster management plan or strategy. National legislation, DRM policies, strategies, and response frameworks have been initiated with the support of international agencies https://www.gfdrr.org/en/lebanon

In 2022 a Drought Action Plan for Lebanon was funded by USAID and implemented by IWMI, and developed by a drought technical committee with representatives from MoEW, Ministry of Agriculture, CNRS, RWEs, meteorological department at the Civil Aviation Department-Ministry of Public Works and Transport. The objective of the Action Plan is to manage drought risks and reduce the costs of drought impacts. The action plan is based on an integrated approach to drought risk management, with 3 components: Preparedeness, Mitigation, Response. Unfortunately, the Early Warning System, which is part of the project, has not been implemented due to economical and COVID crises.

[39] 'Management instruments' can cover: understanding disaster risk; strengthening disaster risk governance; investing in disaster risk reduction; and enhancing disaster preparedness. 'Impacts' include social impacts (such as deaths, missing persons, and number of people affected) and economic impacts (such as economic losses in relation to GDP). 'Water-related disasters' include disasters that can be classified under the following: Hydrological (flood, landslide, wave action); Meteorological (convective storm, extratropical storm, extreme temperature, fog, tropical cyclone); Climatological (drought, glacial lake outburst, wildfire); and severe pollution events. Coordination with SDG indicator 11.5.1 Focal Point and results is encouraged when answering this question.

Under the Global Umbrella of the **Early Warnings for All** initiative (**EW4All**), the Lebanese Meteorological Department (LMD) at the Directorate General of Civil Aviation - Ministry of Public Works and Transport participates to an international effort aimed at alerting populations about disasters (forecasted or observed), in order to mitigate, or even better avoid losses (lives and livelihood) through the participation to the **C**ommon **A**lerting **P**rotocol (**CAP**) initiative. The Common Alerting Protocol is the international standard format for emergency alerting and public warning. It is designed for all types of hazards: weather events, earthquakes, tsunamis, volcanoes, public health crises, power outages and other types of emergencies.

In order to accommodate such system, the **CAP Editor Tool**, an alert editing page has been developed and made available to any country willing to publish and disseminate alerts and warnings in a standardized manner, greatly increasing alerting efficiency, timeliness, and effectiveness, with near-zero expenses. CAP messages mainly answer the following questions: What is it? Where is it? How soon is it? How bad is it? What should people do? This free tool is in use by 63 countries so far, publishing 121 CAP alert feeds. It is initialized for 380 alerting authorities in 205 countries/territories and 32 languages. More can join easily.

As a cloud-based service, the CAP Editor Tool is readily made available with nothing to install. This is the easiest way for an **Official Alerting Authority** to implement CAP. **Anyone can try out the CAP Editor Tool here as a Guest. However, to actually publish alerts, the Alerting Authority Head must designate specific persons who then login with their passwords.**

LMD has participated to the introduction workshops and training workshops to the CAP, and will soon start using the freely made available CAP Editor Tool to publish warnings and alerts that fall within its mandate.

The National Center for Remote Sensing in Lebanon has developed natural hazard maps for landslides, floods, and coastal vulnerability at a scale of 1:20000. These important datasets play a key role in enhancing national and regional land use planning strategies aimed at mitigating the impact of these inherent risks. Additionally, a collaborative effort with the Disaster Risk Management Unit, facilitated by the Italian Agency (AICS) and AFD, is underway to establish an Early Warning System for flash floods. Several pilot projects are currently in progress, with plans to extend coverage to the entirety of Lebanese territory.

The Lebanese Agricultural Research Institute (LARI) has an extensive network of weather stations and has developed tools such as LARI-LEB to disseminate notifications, ensuring that farmers stay informed about extreme climate conditions and actions to be taken to protect agriculture.

In North Bekaa, specifically in Qaa and Raas Baalbeck/Fakha, numerous projects have been initiated to establish structures designed to protect against flash floods (GIZ./UNDP/GreenPlan). These initiatives have been thoroughly studied and executed in collaboration with local municipalities. Furthermore, the development of hill lakes is progressing as part of the Green Plan, led by the Ministry of Agriculture and municipalities, with international funds reserved for various regions in Lebanon to alleviate the impact of drought and flash floods.

Law 192 also refers to the need for disaster risk management and planning at the level of River Basins. In line with this, the NWSS also describes the types of interventions needed to achieve this objective.

Climate change considerations:

Management instruments do not take enough into account climate change related disasters such as flash floods and droughts.

Technical capacity to assess impacts is strong, however the design and implementation of Drought Risk Reduction (DRR) and DRM plans is weak, and climate-proofing of water infrastructure is still not adopted in development/infrastructure plans.

The Lebanese Agriculture Research Institute (LARI) is working on developing an early warning system for water management in agriculture. However, the tool is still at research stage.

Way forward:

- Implement an Early Warning System to be prepared in case of extreme events and climate change impacts in collaboration with the drought risk unit.
- Implementation of the Drought Action Plan
- LMD has designated specific persons to the roles of composers and approvers to the CAP Editor Tool. They will soon engage in their task of alert publishing through the CAP Editor Tool. Other official alerting entities in Lebanon, who might be willing to participate to the Disaster Risk Reduction, may apply to join the CAP initiative. Then, local institutions or companies like phone operators (SMS), TVs, news publishers, social media, etc. may get those feeds (alerts and warnings) to push notifications to the general public, in order to achieve the widest outreach (no person should be left without warning (EW4All).
- Implementation of the actions described in the NWSS and related to DRM.

3.2 What is the status of management instruments to support IWRM implementation at other levels?							
		Degree of implementation (0 – 100)					
		Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
a. Basin management instruments.[40]		**No** basin level management instruments being implemented.	Use of basin level management instruments is **limited** and only through **short-term** / ad-hoc projects.	**Some** basin level management instruments implemented on a more **long-term** basis, but with **limited** geographic and stakeholder coverage.	Basin level management instruments implemented on a more **long-term** basis, with **adequate** geographic and stakeholder coverage.	Basin level management instruments implemented on a more long-term basis, with **effective** outcomes and **very good** geographic and stakeholder coverage.	Basin level management instruments implemented on a more long-term basis, with **highly effective** outcomes and **excellent** geographic and stakeholder coverage.
Score	20						

Status and progress:

Basin level management instruments are applied so far in limited, short-term/ad-hoc projects. Concerning aquifers, it was already mentioned above the difficulty of delineating them and understanding the status of their water resources due to the particular geology of the country. Another major issue already described above is the lack of an integrated hydrogeological information and monitoring system and the need for human, technical, capacity, and financial resources.

Moreover, the enabling frameworks for good governance need to be strengthened.

Way forward:

-Implement the IHIS

-Implement the River Basin Management plans

-Implement Law 192 and the NWSS

The support of international organizations is needed to achieve the above.

[40] Basin and aquifer management: involves managing water at the appropriate hydrological scale, using the surface water basin or aquifer as the unit of management. This may involve basin and aquifer development, use and protection plans. It should also promote multi-level cooperation, and address potential conflict among users, stakeholders and levels of government. To achieve 'Very high (100)' basin and aquifer management scores, surface and groundwater management should be integrated.

b. Aquifer management instruments.[41]		**No** aquifer level management instruments being implemented.	Use of aquifer level management instruments is **limited** and only through **short-term** / ad-hoc projects.	**Some** aquifer level management instruments implemented on a more **long-term** basis, but with **limited** geographic and stakeholder coverage.	Aquifer level management instruments implemented on a more **long-term** basis, with **adequate** geographic and stakeholder coverage.	Aquifer level management instruments implemented on a more **long-term** basis, with **effective** outcomes and **very good** geographic and stakeholder coverage.	Aquifer level management instruments implemented on a more **long-term** basis, with **highly effective** outcomes and **excellent** geographic and stakeholder coverage.
Score	20						

Status and progress:

Aquifer level management instruments are very limited and applied only through short-term / ad-hoc projects. Most information about aquifers is missing (delineation of aquifers, water resources they can provide both quality and quantity) because aquifers in Lebanon are very difficult to be studied due to the specific geology of the country and the lack of available financial resources.

Another major issue already described above is the lack of an integrated hydrogeological information and monitoring system and the need for human, technical, capacity, and financial resources.

Moreover, the enabling frameworks for good governance need to be strengthened.

Way forward:

- The set-up and functioning of an IHIS will provide over time reliable information about the water quality and quantity of aquifers and allow for defining management instruments and other interventions. Specific models are needed to study aquifers due to the difficulties mentioned above, in particular to solve the issue of lack of data and monitoring. Support from International Organisations and donors to this objective is needed.
- Develop and implement a hydrogeological information system
- Build capacity and enhance human, technical and financial resources related to aquifer management.
- The support of international organizations and donors is needed to achieve the above.

[41] See previous footnote on basin management instruments, which also applies to aquifers.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
c. Data and information sharing <u>within</u> countries at all levels.[42] Score 20	**No** data and information sharing.	**Limited** data and information sharing on an **ad-hoc** basis.	Data and information sharing arrangements **exist** on a more **long-term** basis between major data providers and users.	Data and information sharing arrangements **implemented** on a more **long-term** basis**,** with **adequate** coverage across sectors and the country.	Data and information sharing arrangements implemented on a more **long-term** basis**,** with **very good** coverage across sectors and the country.	All relevant data and information are online and freely accessible to all. Appropriate measures are in place to ensure data integrity[43].
Status and progress: There is limited data and information sharing, mostly on an ad-hoc / project basis. Moreover, the lack of an e-government system rather than paper-based processes is standing in the way of gathering and sharing data among relevant actors, administrations, and institutions.						
Way forward: The set-up and functioning of an IHIS will allow for effective collaboration with key stakeholders, based on agreed Protocols. As mentioned above, for this system to be set-up and work effectively it needs financial and human resources that currently cannot be made available by the Government. The IHIS will also facilitate the provision of information to the users and citizens in relation to the quality of water, disasters prevention and management interventions etc.						
d. Transboundary data and information sharing <u>between</u> countries. Score 60	**No** data and information sharing.	**Limited** data and information sharing on an **ad-hoc** or informal basis.	Data and information sharing arrangements **exist**, but sharing is **limited.**	Data and information sharing arrangements **implemented adequately.**	Data and information sharing arrangements **implemented effectively.**[44]	All relevant data and information are online and accessible between countries.
Status and progress: Some data and information sharing arrangements exist between Lebanon and Syria on the transboundary River Basins and are implemented adequately. Unfortunately, due to the current crisis in both countries (Lebanon and Syria), resources are not available for enhancing such exchanges and collaboration.						
Way forward: The set-up and functioning of the IHIS will enhance the modalities and effectiveness of information sharing. Support by International Organizations and donors is needed to enhance a shared information system related to the transboundary basins between Lebanon and Syria.						

[42] Includes more formal data and information sharing arrangements between users, as well as accessibility for the general public, where appropriate.

[43] Data integrity is the maintenance of, and the assurance of, data accuracy and consistency over its entire life-cycle.

[44] E.g. institutional and technical mechanisms in place that allow for exchanging data as agreed upon in agreements between riparians (e.g. regional database or information exchange platform with a river basin organization including technical requirements for data submission, institutionalized mechanisms for QA and for analysing the data, etc.).

4 Financing

This section concerns the adequacy of the finance available for water resources development and management from various sources.

Finance for investment and recurrent costs can come from many sources, the most common being central government budget allocations to relevant ministries and other authorities. Other sources include fees and tariffs levied on water users, polluter fees or grants from philanthropic or similar organisations. In-kind support should not be included as it is not easily measurable but can be mentioned in the 'Status and progress' field. Finance from Official Development Assistance (ODA) specifically for water resources should be considered part of the government budget. Note that the level of coordination between ODA and national budgets is tracked by the 'means of implementation' SDG indicator 6.a.1: "Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan", as part of reporting on Target 6.a: "By 2030, expand international cooperation and capacity-development support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies".

Please take note of all footnotes as they contain important information and clarification of terms used in the questions and thresholds.

Enter your score, **in increments of 10**, from 0-100, or "n/a" (not applicable), in the yellow cell immediately below each question. Enter free text in the "Status and progress" and "Way forward" fields below each question as advised in the Introduction in Part 1. This will help achieve agreement among different stakeholders in the country, as well as help monitor progress over time. Suggestions for the type of information that may be useful are provided. You may also provide further information you think is relevant, or links to further documentation.

4. Financing							
		Degree of implementation (0 – 100)					
		Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
4.1 What is the status of financing for water resources development and management at the national level?							
a. National budget[45] for water resources **infrastructure**[46] (investment and recurrent costs).		**No budget** allocated in national investment plans.	**Some budget** allocated but only partly covers planned investments.	**Sufficient budget** allocated for planned investments but insufficient funds disbursed or made available**.**	Sufficient budget allocated and **funds disbursed for most** planned programmes or projects.	Sufficient funds disbursed for investment and recurrent costs, and **being utilised in all** planned projects. Accountability mechanism(s)[47] in place.	Budget **fully utilised** for investment and recurrent costs, post-project evaluation carried out, budgets reviewed and revised. Accountability mechanisms are effective.
Score	20						
Status and progress: Following the start of the financial crisis in 2019 the country is in a dare economic situation and the resources available at the level of the Government are minimal, both for new infrastructure projects and for the operation and management of the existing ones.							
Way forward: There is a need for human and financial resources, capacity building and training of the RWEs so that they will be ready to deal with infrastructure management and operation and in this way the profitability of the sector will also improve. Adoption of the NWSS by the CoM and allocation of National funds towards its implementation. These funds will need to be substantially matched by donors' support even after the financial crisis resolves, also considering the presence of a huge number of Syrian refugees, who need substantial water and wastewater services, which adds a burden on already scarce resources.							

[45] Allocations of funding for water resources may be included in several budget categories or in different investment documents. Respondents are thus encouraged to examine different sources for this information. When assessing the allocations respondents should take account of funds from government budgets and any co-funding (loans or grants) from other sources such as banks or donors.

[46] Infrastructure includes 'hard' structures such as dams, canals, irrigation schemes, flood control, stormwater drainage etc., as well as 'soft' or 'green' infrastructure and environmental measures such as catchment management, sustainable drainage systems etc. The focus should be on infrastructure related to 'broader' water resources management, as opposed to infrastructure for drinking water supply or sanitation services (WaSH) (noting that WaSH financing is covered in the GLAAS surveys). Any differences in budget between water resources and WaSH infrastructure should be explained in the 'status and progress' field. Budgets should cover initial investments and recurrent costs of operation and maintenance.

[47] See description of "accountability mechanisms" in Annex A: Glossary.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
b. National budget for **IWRM elements**[48] (investments and recurrent costs). Score 0	**No budget** allocations made for investments and recurrent costs of the IWRM elements.	**Allocations** made for **some** of the IWRM elements and implementation at an early stage.	Allocations made for **at least half** of the IWRM elements but insufficient for others.	Allocations for **most** of the IWRM elements and some implementation under way.	Allocations include **all** IWRM elements and implementation regularly carried out (investments and recurrent costs). Accountability mechanism(s) in place.	Planned budget allocations for all elements of the IWRM approach **fully utilised**, budgets reviewed and revised. Accountability mechanisms are effective.

Status and progress:

There are no National budget allocations for IWRM elements. The implementation of Law 192 - once the decrees of application are prepared, and the approval by the CoM of the NWSS should induce the Government to consider allocations for such elements. These funds will need to be substantially matched by donors' support even after the financial crisis resolves, also considering the presence of a huge number of Syrian refugees, who need substantial water and wastewater services, which adds a burden on already scarce resources.

In 2023, several international partners (AFD, EU, GIZ, UN HABITAT, UNICEF, USAID, WB etc.) have provided sustainable solutions within stormwater and wastewater management, water supply services and conserving existing resources. However, these do not meet the full requirements for a National IWRM implementation and further investment is required.

Climate change considerations:

The NWSS integrates priorities for adaptation to climate change. Once the NWSS is approved by CoM the Government will allocate funds towards its implementation, including the climate change related actions. However, the financial resources available at the Government need to be substantially matched by International Organizations and donors, and especially climate change funds. Unfortunately, Lebanon is not benefitting from such funds due to cumbersome procedures and long timeframes to secure them, which reflect a poor attention to support the country and result in additional costs due to inaction.

Way forward:

Further investment is needed throughout the spectrum of IWRM. A climate lens has to be applied in all future projects. Considering Lebanon's energy crisis, climate resilient and WEFE Nexus interventions should be prioritised and funded for, including through climate change funds.

Procedures for the disbursement of climate change funds by international organisations should be more expedite and simplified for greater efficiency and impact.

[48] 'IWRM elements' refers to all the activities described in sections 1, 2 and 3 of this survey that require funding, e.g. policy, law making and planning, institutional strengthening, coordination, stakeholder participation, capacity development, and management instruments such as research and studies, gender and environmental assessments, data collection, monitoring etc.

4.2 What is the status of financing for water resources development and management at other levels?						
	Degree of implementation (0 – 100)					
	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
a. Sub-national or basin budgets for water resources **infrastructure**[49] (investment and recurrent costs). Score: 20	**No budget** allocated in sub-national or basin investment plans.	**Some budget** allocated in sub-national or basin investment plans but only partly covers planned investments.	**Sufficient budget** allocated for planned investments in sub-national or basin investment plans, but insufficient funds disbursed or made available.	Sufficient budget allocated and **funds disbursed for most** planned programmes or projects.	Sufficient funds disbursed**,** for investment and recurrent costs, and **being utilised in all** planned projects. Accountability mechanism(s) in place.	Budget **fully utilised**, for investment and recurrent costs, post-project evaluation carried out, budgets reviewed and revised. Accountability mechanisms are effective.
Status and progress: Following the start of the financial crisis in 2019 the country is in a dare economic situation and the resources available at the level of the Government are minimal, both for new infrastructure projects and for the operation and management of the existing ones.						
Way forward: There is a need for human and financial resources, capacity building and training of the RWEs so that they will be ready to deal with infrastructure management and operation and in this way the profitability of the sector will also improve. Adoption of the NWSS by the CoM and allocation of National funds towards its implementation. These funds will need to be substantially matched by donors' support even after the financial crisis resolves, also considering the presence of a huge number of Syrian refugees, who need substantial water and wastewater services, which adds a burden on already scarce resources.						
b. Revenues raised for IWRM elements.[50] Score: 40	**No revenues** raised for IWRM elements.	**Processes in place** to raise revenue but **not yet implemented**.	**Some revenue raised,** but generally not used for IWRM activities.	Revenues raised cover **some** IWRM activities.	Revenues raised cover **most** IWRM activities. Accountability mechanism(s) in place.	Revenues raised **fully cover** costs of IWRM activities. Accountability mechanisms are effective.
Status and progress: Currently, the only revenues are raised for water and wastewater services together by means of a fixed tariff. This tariff has been raised twice in the last few years to cope with O&M financial needs, in the framework of the Water Sector Recovery Plan. This might create an excessive burden on some population segments who cannot afford to pay for the tariff. The Government plans to install water meters and apply a volumetric tariff. However, the installation of water meters requires the financial support of international partners.						
Way forward: Improvement of services will increase the trust of people in the service providers (RWEs) and improve the collection of fees. The extension of metering will allow for volumetric charges. Support is needed by international partners to ensure the normal operation of water and wastewater services due to the current financial crisis and the increased needs for such services due to the presence of huge numbers of Syrian refugees.						

[49] Refer to footnotes 47 and 48, from question 4.1a.

[50] For 'IWRM elements', see above footnote. **Level**: revenues are likely to be raised from users at the local, basin, or aquifer levels, though may also be raised at other sub-national or national levels (please indicate which level(s) in the status and progress field). **Revenue raising** can occur through public authorities or private sector, e.g. through fees, charges, levies, taxes and 'blended financing' approaches. E.g. dedicated charges/levies on water users (including household level *if* revenues are spent on IWRM elements); abstraction & bulk water charges; discharge fees; environmental fees such as pollution charges, Payment for Ecosystem Services (PES) schemes; and the sale of secondary products and services.

	Very low (0)	Low (20)	Medium-low (40)	Medium-high (60)	High (80)	Very high (100)
c. Financing for transboundary cooperation.[51] Score 0	**No specific funding** allocated from the Member State (MS) budgets nor from other regular sources.	MS **agreement** on country share of contributions **in place** and in-kind support for the cooperation organisation/arrangement.	**Funding less than 50%** of that expected as contributions and by regulation.	Funding **less than 75%** of that expected as contributions and by regulation.	Funding **more than 75%** of that expected as contributions and by regulation.	**Full funding** of that expected as contributions and by regulation.
Status and progress: Currently there is no budget allocated for transboundary cooperation by Lebanon and Syria, due to the financial crisis that is afflicting both countries. Both need support from international organisations to finance transboundary cooperation.						
Way forward: No resources seem to be available in the short or medium terms to finance transboundary cooperation, unless through the support of international donors/organisations.						
d. Sub-national or basin budgets for **IWRM elements**[52] (investment and recurrent costs). Score 20	**No budget** allocations at sub-national or basin level for investments and recurrent costs of IWRM elements.	**Allocations** made for **some** of the IWRM elements at sub-national or basin level and implementation at an early stage.	Allocations made for **at least half** of the IWRM elements at sub-national or basin level but insufficient for others.	Allocations for **most** of the IWRM elements at sub-national or basin level and some implementation under way.	Allocations include **all** IWRM elements and implementation regularly carried out (investments and recurrent costs). Accountability mechanism(s) in place.	Planned budget allocations for all elements of the IWRM approach at sub-national or basin level **fully utilised**, budgets reviewed and revised. Accountability mechanisms are effective.
Status and progress: There are no budget allocations for IWRM elements. The implementation of Law 192 - once the decrees of application are prepared, and the approval by the CoM of the NWSS should induce the Government to consider allocations for such elements. These funds will need to be substantially matched by donors' support even after the financial crisis resolves, also considering the presence of a huge number of Syrian refugees, who need substantial water and wastewater services, which adds a burden on already scarce resources. In 2023, several international partners (AFD, EU, GIZ, UN HABITAT, UNICEF, USAID, WB etc.) have provided sustainable solutions within stormwater and wastewater management, water supply services and conserving existing resources. However, these do not meet the full requirements for IWRM implementation and further investment is required.						
Way forward: Further investment is needed throughout the spectrum of IWRM.						

[51] In this question "Member States (MS)" refers to riparian countries that are parties to the arrangement. "Contributions" refers to the annual share of funds agreed from MS national budgets to support the agreed TB cooperation arrangement. Regular funds obtained from for example, water user fees (e.g. hydropower charges) and polluter-pays fees based on existing regulation are also considered as sustainable funding. As variable and unsustainable, donor support should not be considered in the scoring, but may be referred to in the 'Status and progress' and 'Way forward' fields.

[52] 'IWRM elements' refers to all the activities described in sections 1, 2 and 3 of this survey that require funding, e.g. policy, law making and planning, institutional strengthening, coordination, stakeholder participation, capacity development, and management instruments such as research and studies, gender and environmental assessments, data collection, monitoring etc. This question has been added since the baseline survey, acknowledging the importance of funding being available at more 'operational' levels.

5 Indicator 6.5.1 score

How to calculate the indicator 6.5.1 score

Please complete the table below as follows:

1. Calculate the average score of each of the four sections by averaging all question scores in each section, rounded to the nearest whole number.
   Example: Section average of 41.5 should be rounded to 42. Section average of 70.2 should be rounded to 70. If 'not applicable' is selected for any question, this should not be included in the indicator calculations, and therefore will not affect the average score. However, questions with a score of '0' (zero) should be included.
2. Calculate the average of the four section scores (whole numbers) to give the overall score for indicator 6.5.1, **rounded to the nearest whole number**.
   Example: Calculating final IWRM score from four section scores: (81+ 63 + 47 + 58)/4 = 62.25. Final 6.5.1 score (rounded to a whole number) = 62.

   Please note an automated calculation template is available here if required.

Section	**Average Scores** (all values rounded to nearest whole number)
Section 1 Enabling environment	40
Section 2 Institutions and participation	45
Section 3 Management instruments	30
Section 4 Financing	17
Indicator 6.5.1 score **= Degree of IWRM* implementation (0-100)***	**33**

* Use rounded section average scores (to the nearest whole number), to calculate the indicator score, and round this to the nearest whole number.

Interpretation of the score

The score indicates the 'degree of implementation of integrated water resources management', on a scale of 0 to 100, with 0 signifying 'very low' implementation, and 100 signifying 'very high' implementation. However, the true value of the survey to countries lies within the scores, 'status and progress' and 'way forward' fields for each question, as this helps to identify which actions need to be taken to move towards a greater degree of implementation of IWRM.

Annex A: Glossary

Accountability mechanisms: provide ways for all partners to hold each other to account on the specific, measurable, time-bound actions they have committed to. In the context of this survey, they may include activities that increase Transparency, Accountability, and Participation, and strengthen Anti-corruption (TAP-A). Together, these form a framework for integrity.[53] For example, in relation to the financing questions in section 4, 'accountability mechanisms' typically include mechanisms that make data and information on budgets and expenditures publicly available, and enable participatory budgeting and monitoring of expenditure where appropriate. Such mechanisms should include functions to identify and address corruption and mismanagement.

Authorities: could be ministry or ministries, or other organizations/institutions/ departments/agencies/bodies with a mandate and funding from government.

Basins: Includes rivers, lakes and aquifers, unless otherwise specified. For surface water, the term is interchangeable with 'catchments' and 'watersheds'.

Federal countries: Refers to countries made up of federated states, provinces, territories or similar terms.

Gender mainstreaming: Gender mainstreaming is about fully integrating gender perspectives in water planning, management, and decision-making, in a cross-cutting manner. It is not just about increasing women's representation on committees, or having a general national legal framework on gender equality, although those actions may be part of the overall framework. The dedicated Gender Checklist can be used as a discussion tool to help stakeholders to agree on the score for question 2.2d, and to inform the 'status and progress' and 'way forward' responses to that question. The Gender Checklist is derived from the report - Advancing towards gender mainstreaming in water resources management – which presents examples of some specific mechanisms, practices, and tools that have been developed and used by countries in order to progress with gender mainstreaming in water resources management. These have been grouped into six categories: (1) advocacy, high-level commitment, changing prevailing norms and stereotypes; (2) legislative and policy framework and governance; (3) human capital, financial resources, institutions, and support organisations; (4) women's participation and parity; (5) monitoring activities to track and assess progress; (6) awareness raising, capacity development, and education.[54]

IWRM: Integrated Water Resources Management (IWRM) is a process that promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. IWRM is not an end in itself but a means of achieving three key strategic objectives:

- efficiency to use water resources in the best way possible;
- equity in the allocation of water across social and economic groups;
- environmental sustainability, to protect the water resource base, as well as associated ecosystems.

National (level): Refers to the highest level of administration in a country.

Sub-national / state (level): refers to levels of administration other than national. For federal countries, these are likely to be provinces or states. Non-federal countries may still have sub-national jurisdictions with some responsibility for water resources management, e.g. regions, counties, departments.

Programmes: Nation-wide plans of action with long-term objectives, for example to strengthen monitoring, knowledge sharing and capacity development, with details on what work is to be done, by whom, when, and what means or resources will be used**.**

Transboundary: Refers to surface and groundwater basins that cross one or more national borders. Only the most important transboundary basins or aquifers that are regarded as significant, in terms of economic, social or environmental value to the country (or neighbouring countries), need to be included in this survey. It is up to countries to decide which ones these are. Where feasible, basins/aquifers included in this survey should be cross-referenced with those included in 6.5.2 reporting, and the focal point for 6.5.2 should be consulted in this process. In the absence of 6.5.2 data or national databases, global databases on transboundary river basins (http://twap-rivers.org/indicators/), and transboundary aquifers, may be referred to. If you include a national (sub-basin) as part of a larger transboundary basin, please also include the name of the larger basin. When answering transboundary questions, the majority of most important basins/aquifers must meet the criteria described in each threshold to achieve the score for that threshold.

Stakeholders: In this survey, stakeholders are the main groups important for water resources management, development and use. Examples of stakeholders in each group are given in footnotes as they appear in the survey.

Water Resources Management is the activity of planning, developing, distributing and managing the optimum use of water resources. Ideally, water resource management planning considers all the competing demands for water and seeks to allocate water on an equitable basis to satisfy all uses and demands. An integrated approach (see IWRM) is needed to ensure water resources management is not isolated within sector silos resulting to inefficiencies, conflicts and unsustainable resource use.

[53] Source: Water Integrity Network: Integrity Walls. https://www.waterintegritynetwork.net/integrity-walls-tap/

[54] Mainstreaming gender in resources management supports a range of targets in the SDGs, including under Goal 5 on achieving gender equality and empowering all women and girls (e.g. SDG Target 5.5). Furthermore, question 2.2d also addresses the call for gender disaggregated data in the 2030 Agenda (e.g. SDG Target 17.18).

Annex B: Key priorities and targets for IWRM implementation

1) What are the **priority action areas**[55] to advance IWRM implementation overall in the country? Include priorities/actions that are ongoing, already planned, and/or those that may be emerging based on the survey results. Where relevant, please also note the status of implementation of the priorities/actions (e.g. giving some indication of necessary follow-up).
   Answer: Based on the review process for SDG 6.5.1 the following priority action areas have emerged:
   a. Finalization of Decrees of application of Law 192 by Ministry of Energy and Water (MoEW) and their approval by the Ministry of Justice (MoJ) and the Council of Ministers (CoM)
   b. Approval of the Updated National Water Sector Strategy (NWSS) by the CoM
   c. Maintaining operational the existing water and wastewater facilities beyond the period of assistance provided by International organizations (up to 2025)
   d. Connection of existing wastewater treatment plants to the related networks and their operationalization to ensure further reduction of pollution.
   e. Implementation of complete wastewater treatment systems in all Lebanon.
   f. Implementation and operation of the Integrated Hydrological Information System (IHIS) with related monitoring systems, which will facilitate the collection, storage and sharing of information among pertinent institutions and other stakeholders, thereby contributing to informed and coordinated decision-making on the preparation of River Basin plans/schemes and strategies in alignment with the Water Code/Law. The IHIS shall process through technological tools (models, SCADA etc.) raw data to prepare information/reports targeted to specific groups and the public.
   g. Update of Regional Master Plans to better integrate water, wastewater, irrigation, environment related dimensions, etc. Development of River Basin Management Plans - Implementation of a Programme of Measures for the Lebanese River Basins in order to identify the major challenges and necessary interventions, based on an IWRM approach and in alignment with the Water Law/Code.
   h. Set-up Climate Change Early Warning systems and implement the Drought Action Plan recently prepared by a technical inter-Ministerial Committee.
   i. Explore with priority alternative financial options, including climate financing and options, in particular through the Green Climate Fund.
   j. Improved communication and collaboration among various institutions to achieve policy coherence and integrated management, through:
      - Set-up and functioning of the National Water Council
      - Sustain the Water-Energy-Food-Ecosystems (WEFE) Inter-Ministerial Group that encourages technical collaboration on issues of common concern related to the implementation of the NWSS/MoEW
      - Encourage the WEFE Nexus Policy Dialogue and related interventions
      - Promote the functioning of other focused Committees engaging various Ministries and administrations, on specific issues of common interest. It is particularly important to enhance coordination with the institutions related to Climate Change and Food Security in the context of water scarcity due to climate variability and change.

[55] Priority action areas: could include any of the aspects covered in this survey, or others. E.g. improving cross-sectoral coordination; raising the profile of the importance of IWRM implementation at the highest planning and financing levels (advocacy); developing or implementing laws, strategies, plans, programmes, projects; improving revenue raising; improving monitoring and evaluation of implementation; increasing institutional capacity at national/basin/aquifer level; improving transboundary cooperation, etc.

k. Promote education, awareness raising and capacity building at all levels, adapted to the targeted stakeholders. Regarding capacity building needs and with the objective of optimizing limited financial resources, it is advisable to conduct a needs assessment and evaluate the potential for collaboration and integration of capacities among relevant stakeholders.

l. Apply a gender lens to IWRM related interventions, including on climate change issues. To advance with gender mainstreaming it is particularly important to:
   - Collect sex-disaggregated data
   - Enhance coordination among the members of the Gender Focal Point Network set-up by the National Commission for Lebanese Women in the relevant institutions
   - Promote trainings on gender, including Training of Trainers (ToT)
   - Set-up a gender Community of Practice engaging public and private stakeholders

2) **Target setting**

The intention of the table below is to encourage discussion among stakeholders on the likelihood of reaching the global targets[56], or on the need to establish national targets. It can also be used to inform regional and global processes about whether countries feel they are on track to meet the global targets or not, and if they prefer to set national targets.

Scores may be the same in both columns. It is also possible to only complete one column, and/or to only provide scores for the overall indicator (bottom row). I.e. use the table as is most useful.

Section	Business-As-Usual (BAU) projected score for 2030*	National target for 2030**
Section 1 Enabling environment	40	77
Section 2 Institutions and participation	45	70
Section 3 Management instruments	30	57
Section 4 Financing	17	57
Indicator 6.5.1 score = Degree of IWRM implementation (0-100)	**33**	**65**

* approximate score (or range), based on reporting in 2017, 2020, 2023, current rates of progress, and stakeholder judgement. A simple calculation template is provided in the calculation template (see 'Projections-Targets' worksheet), if useful.

** potential 'realistic' score by 2030, if certain measures are put in place, for example as described in question 1 of this annex. Please indicate if these are existing targets, or informal targets defined during this monitoring process.

[56] Average scores of 91 or above ('very high' category), for each of the four dimensions and the overall indicator score.

3) **Additional comments on target-setting:**
Answer:
- The BAU projected scores for 2030 are based on the current situation and do not account for any additional advancements or improvements.
- The national targets for 2030 take into consideration the progress outlined in the Survey's "Way forward" sections. Additionally, it is anticipated that once the country has recovered from the crisis, the Government and public funds, along with financial assistance from donors, will support the advancement of interventions related to Integrated Water Resources Management (IWRM).

4) **Additional general comments** (e.g. related to the: status/challenges of IWRM implementation; country context; threats to water resources; impacts of climate change, or other):
Answer: No additional comments

Annex C: 6.5.1 country reporting process form

To increase transparency and confidence in results, please provide a brief overview of the reporting process. e.g. main actors involved; meetings/workshops held; other means of gathering inputs from stakeholders; iterations of drafts and finalisation/approval processes. Also note the main challenges/strengths of the process. Use as much space as needed. If you have completed a full Stakeholder Consultation report, please provide a brief summary here, and refer to that report.

Focal Point affiliation	Ministry of Energy and Water

Brief process overview:

The process for the Review and Monitoring of SDG 6.5.1 has been conducted with the assistance of GWP-Med through the following six key steps:

- **We sent invitations** at the beginning of October to over 150 stakeholders in Lebanon, including institutions, administrations, research/academia, NGOs, private sector, international organizations, and donors. These invitations also outlined the different steps planned for the national SDG 6.5.1 review.
- **We held an online introductory event** on October 12th to discuss the SDG indicator 6.5.1 survey and the expected contributions from stakeholders. This event was attended by 35 participants representing various national institutions (10), regional water establishments (2), national research centers (2), universities (1), NGOs (2), international organizations (4), and private sector organizations (4).
- **The survey was filled** by November 7th by 22 stakeholders using the online tool provided by GWP. Only a few stakeholders submitted their input in written form via email or orally. The stakeholders who contributed came from different national institutions and departments (10), regional water establishments (2) and sub-national administrations (1), national research centers (2), universities (2), NGOs (2), international organizations (3), and also included water experts (1).
- **The Ministry of Energy and Water (MoEW), as the focal point for the indicator, compiled the survey**, taking into account stakeholders' contributions (see above point) and also the 2020 survey. This was carried out during a meeting on November 13th attended by MoEW officials from various Services and Departments (Water Quality, Irrigation, Wastewater, Groundwater and Geology, Programs and Plans), the Minister's advisor, and representatives from regional water establishments (2). The compiled version of the survey was then shared with the relevant stakeholders prior to the final workshop.
- **Concerning the Gender Checklist,** the SDG 6.5.1 Focal Point worked with the National Commission for Lebanese Women (NCLW), the institution responsible for addressing gender mainstreaming and women's issues in Lebanon, to coordinate the details of the gender-dedicated session during the final workshop and determine the most effective methods for promoting discussion on the relevant checklist's questions.
- **We organized the final workshop** on November 28th, focused on finalizing the survey, compiling Annex B, and completing the gender voluntary checklist. There were 36 participants, including representatives from national institutions (MoEW, MoA, MoE, MPWT, MoT, MoI, MoPH, some represented by different Services and Departments), regional water establishments (2), NGOs (5), international organizations (2), gender-related organizations (2) - including the National Commission for Lebanese Women, the institution in charge for gender mainstreaming and women equality - and one women NGO, private sector organizations (4), and water experts (2). A dedicated session, facilitated by the NCLW, was held to complete the gender voluntary checklist.
- **We have incorporated the feedback received during the final workshop** and shared the final draft survey and gender voluntary checklist with the participating stakeholders.

For further information, please see Lebanon's SDG 6.5.1 Stakeholder Consultation Report for 2023, available from https://www.gwp.org/en/sdg6support/sdgmap/.

Any main points of difference in stakeholder opinion in answering the survey questions?:

There has been opinion difference on three points, related to the scoring of two specific questions in the current Survey and the overall scoring of one section under the estimated National target for 2030.

Regarding question **3.1.c, which pertains to pollution control at the national level**, the initial provisional scoring of 40 was deemed excessive given the current circumstances in the country. After considering various factors, it was ultimately decided to lower the score to 30.

Concerning question **3.1.d, which focuses on the management of water-related ecosystems and biodiversity at the national level**, potential scores of 30 or 40 were suggested. However, after thorough discussions on the current situation, it was determined that a score of 30 would be more appropriate.
Finally, the proposed score for **Section 4, which addresses financing related to the National target for 2030**, was deemed too high overall and statistically challenging to achieve in the short to medium term. However, after exchange of views the score was kept based on the anticipation that, once the country has recovered from the crisis, the Government and public funds, along with financial assistance from donors, will support the advancement of interventions related to IWRM. This would also reflect and be the result of progress in the other four dimensions, particularly in the enabling environment for IWRM.

Additional comments on the survey or supporting materials, if any:
For the completion of the survey, the GWP-prepared online tool was extensively used by the involved stakeholders. The different input was compiled and inserted in the draft survey that was discussed during the final workshop.
Furthermore, the online evaluation link was used in order to collect feedback from the stakeholders on the consultation process and the conduct of the final workshop.

For further information, please see Lebanon's SDG 6.5.1 Stakeholder Consultation Report for 2023, available from https://www.gwp.org/en/sdg6support/sdgmap/

Stakeholder groups	**Level of engagement** (mark with 'X')			**Additional information** (e.g. which stakeholder organisations were involved, how they contributed or were engaged, or any challenges faced)
	Low (given opportunity to contribute)	**Medium** (some input)	**High** (discussion/ negotiation)	
National water agencies			X	The key National Water Agency is the Ministry of Energy and Water (MoEW). The Focal point for SDG 6.5.1 and the Heads of various Services and Departments have been engaged in the process, namely: Water Quality, Irrigation, Wastewater, Groundwater and Geology, Programs and Monitoring, Minister's Advisor. During a collaborative meeting held at MoEW premises, these relevant parties worked together to incorporate the input received from stakeholders via the Online tool and through direct feedback on specific questions and drafted the Survey version that was then distributed to all stakeholders invited to the SDG 6.5.1 review process.
Other public sector agencies			X	Presidency of the Council of Ministers (PCM), Ministry of Agriculture (MoA), Ministry of Environment (MoE), Ministry of Industry (MoI), Ministry of Tourism (MoT), Ministry of Public Works and Transport (MPWT), Ministry of Interior and Municipalities (MoIM), Ministry of Public Health (MoPH), Lebanese Center for Energy Conservation (LCEC), Council for Development and Reconstruction (CDR), National Commission for Lebanese Women (NCLW). The above stakeholders contributed to the process through the Online Survey or direct feedback by email/orally and through their participation in the final workshop.
Sub-national water agencies			X	Beirut and Mount Lebanon Regional Water Establishment (RWE), South Lebanon RWE, Litani River Authority.

				They contributed to the process through the Online Survey, the participation in the drafting of the Survey in collaboration with the MoEW during the dedicated meeting (see above) and during the final workshop.
Basin/Aquifer agencies				N/A – There are no such agencies in Lebanon
Water User Associations				N/A – There are no WUA in Lebanon
Civil society			X	Association Libanaise pour la Maîtrise de l'Energie et de l'Environnement (ALMEE), Lebanese Water Actors Platform (LEWAP), Lebanese Coastal Forum, Cedars for Care, Women's Association of Deir el Ahmar (WADA), Association for Community and Environment (ACE). The above organisations provided input through the Online Tool and/or during the Final workshop.
Private sector		X		Bureau Technique pour le Développement (BTD), MORES s.a.r.l, Lebanese Micro-Finance Association (LMFA), Order of Architects and Engineers The above organisations provided input during the Final workshop.
Vulnerable groups				N/A - In the current crisis situation, the sense of vulnerability has extended to a larger share of the population, as there is a significant number of Lebanese citizens and other residents who are no longer able to benefit from basic services, including access to enough water of good quality. This situation also extends to the representatives of the public institutions that participated in the process.
Gender expertise			X	National Commission for Lebanese Women (NCLW), Gender Focal points for the MoEW and the Ministry of Public Works and Transport (MPWT), Women's Association of Deir el Ahmar – WADA NCLW led a session focused on the Gender voluntary checklist during the Final Workshop. WADA provided input to the checklist beforehand and also during the final workshop. The gender focal point at MoEW is also responsible for SDG 6.5.1, while the gender focal point from the Ministry of Public Works and Transport (MPWT) contributed to completing the Survey using the Online Tool and participated in the finalization of the Survey and the gender checklist during the Final Workshop. Overall, there has been a balanced participation of females (F) and males (M) throughout the entire process, as follows: - Online introductory event (F/M = 17/18) - Survey filling (F/M = 15/16) - Final Workshop (F/M = 20/16)

				This may have contributed to internalize in a balanced manner gender-related perceptions within the overall SDG 6.5.1 review process, including during the completion of the voluntary gender checklist.
Research/academia		X		National Council for Scientific Research (NCRS), Lebanese Agriculture Research Institute (LARI), Lebanese University, Institute of the Environment-Balamand University The above stakeholders contributed to the online Survey and/or to the Final Workshop.
Transboundary expertise			X	Focal Point for SDG 6.5.2
Other SDG focal points			X	Focal Points for SDG 6.4.2, 6.3.2
International Organisations			X	FAO, UNDP, UNICEF contributed to the online Survey and/or to the Final Workshop.