



SDG Indicator 6.5.2

Calculation Methodology *and* 2nd monitoring exercise 2020-2021: *Results and key messages - ESCWA Region*



Series of SDG Webinars for the Arab Region:

UNESCO, UNESCO-IOC and UNECE

SDG 6.5.2, 14.3.1 and 14.a.1

24 May 2022

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UN WATER

**INTEGRATED MONITORING
INITIATIVE FOR SDG 6**

SDG INDICATOR 6.5.2
TRANSBOUNDARY WATER COOPERATION



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Outline



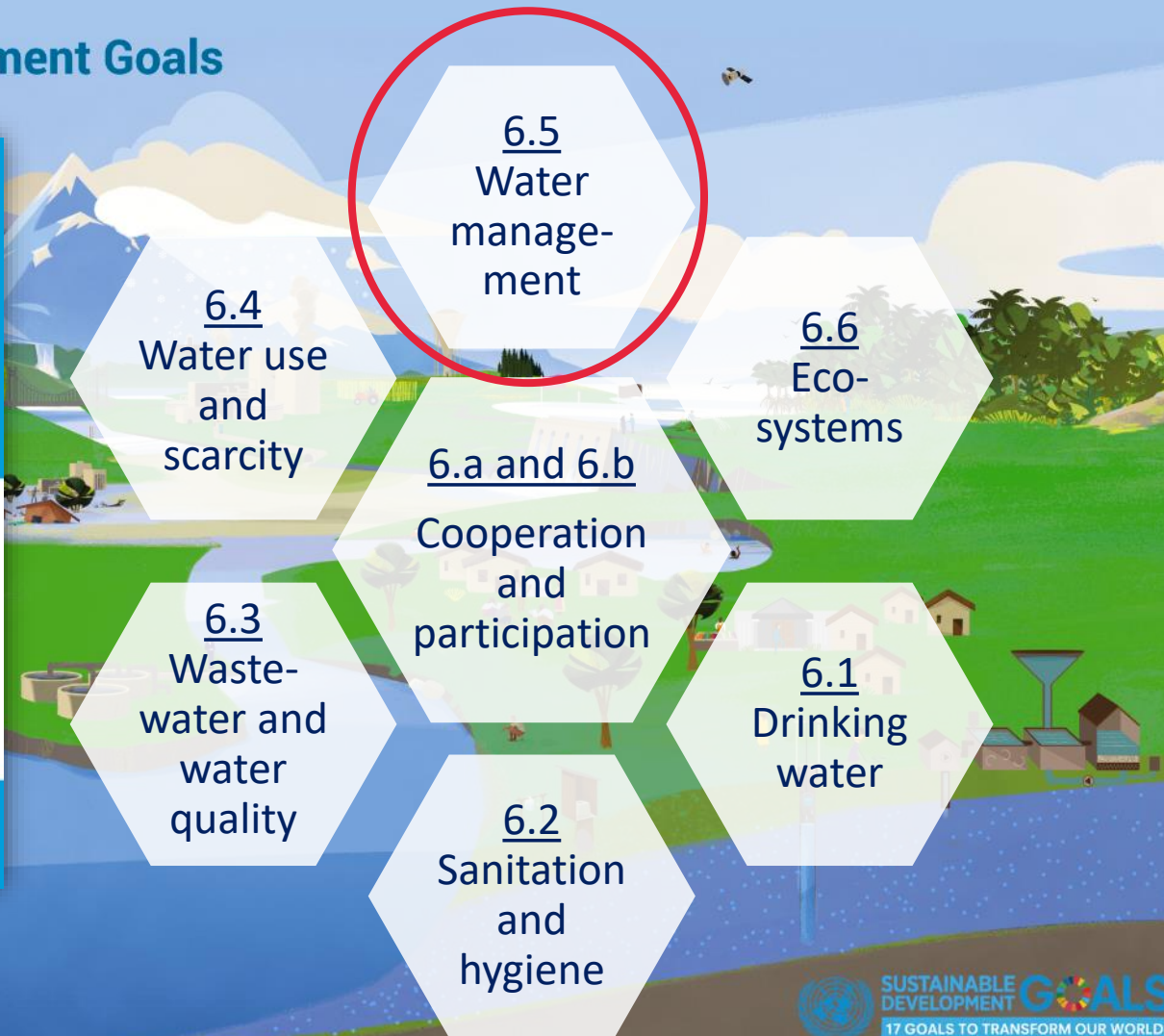
- SDG 6 reporting and the UN-Water Integrated Monitoring Initiative (IMI-SDG 6)
- Reporting on SDG indicator 6.5.2: *overview of the reporting process*
- Reporting on SDG indicator 6.5.2: *methodology for calculation (including “common difficulties”)*
- Reporting on SDG indicator 6.5.2: *2nd monitoring exercise 2020-2021: Results and key messages - ESCWA Region*
- Next steps and collaboration in view of next reporting round 2023

SDG6 Ensure availability and sustainable management of water and sanitation for all

The Water Cycle in the Sustainable Development Goals

Summary Progress Update 2021: SDG 6 – water and sanitation for all
MARCH 2021

United Nations UN WATER



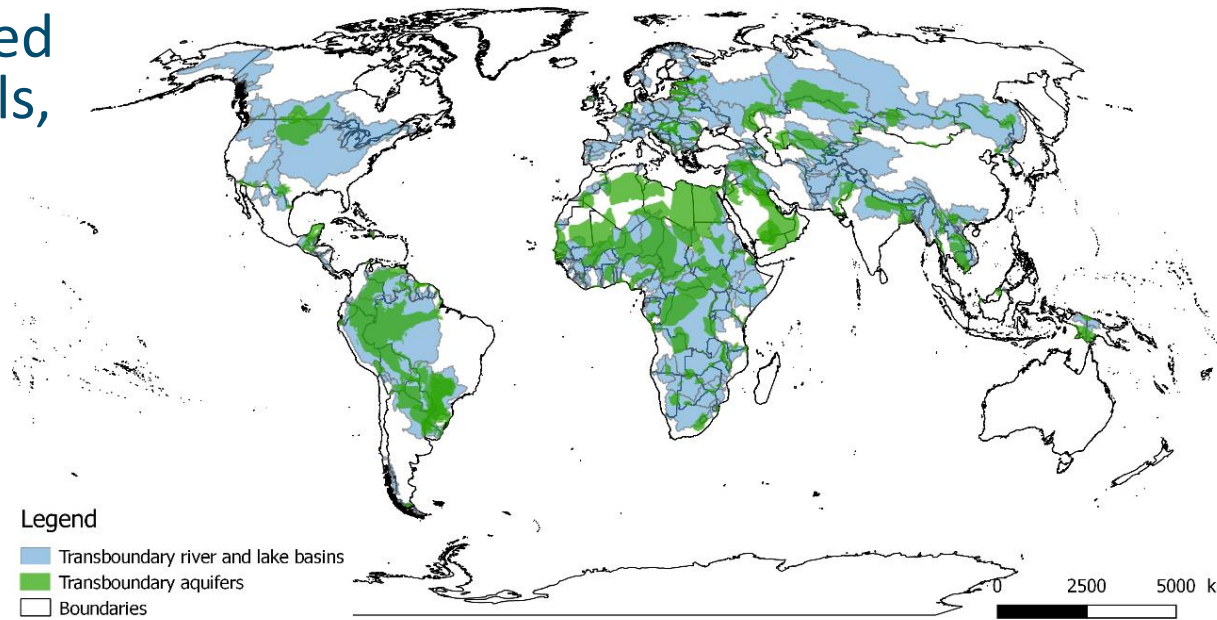
6.1.1	Safely managed drinking water services (WHO, UNICEF)
6.2.1	Safely managed sanitation services and hygiene (WHO, UNICEF)
6.3.1	Wastewater safely treated (WHO, UN-Habitat, UNSD)
6.3.2	Good ambient water quality (UNEP)
6.4.1	Water use efficiency (FAO)
6.4.2	Level of water stress (FAO)
6.5.1	Integrated water resources management (UNEP)
6.5.2	Transboundary basin area with water cooperation (UNECE, UNESCO)
6.6.1	Water-related ecosystems (UNEP, Ramsar)
6.a.1	Water- and sanitation-related official development assistance (WHO, OECD)
6.b.1	Participation of local communities in water and sanitation management (WHO, OECD)



SDG 6: Ensure availability and sustainable management of water and sanitation for all.



Target 6.5: By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.



Indicator 6.5.1 Degree of IWRM



Indicator 6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation



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- Most of the world's water resources are shared => cooperation required.
- The only SDG indicator on transboundary cooperation => important for other natural resources



Indicator 6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation



Transboundary River basins



Transboundary Aquifers

Source (based on UNEP and IGRAC): <https://ggis.un-igrac.org/view/tba>

- Most of the world's water resources are shared => cooperation required.
- The only SDG indicator on transboundary cooperation => important for other natural resources

Reporting process on SDG indicator 6.5.2



- SDG indicator framework adopted by the General Assembly in 2017
 - UNECE and UNESCO as **co-custodian agencies** for SDG 6.5.2
 - Collect information on indicator 6.5.2 **every 3 years** (as for other SDG6 indicators)
 - Ministers responsible for transboundary water officially addressed
 - First data collection 2017 => second exercise in 2020 => third in 2023
- ▶ Invitation to report is send to the Minister in charge of transboundary water resources (usually Minister of water resources)

Reporting process on SDG indicator 6.5.2



- Coordination at national and transboundary level is promoted:

- National level: Consultation of all involved stakeholders / data collection at national level (ministries, universities, geological surveys, etc.)
- National level (integration with other processes):
 - Coordination with SDG indicator 6.5.1 reporting and related team
 - Coordination for the whole SDG 6 ► Role of UN-Water's IMI-SDG 6 ("overall SDG 6 focal point")
 - Encouragement to connect with official mechanism for reporting on SDGs (NSOs)
- Transboundary level: Encouragement to exchange / harmonize between riparian states (involving River Basin Organization or other joint bodies)

- *Role of regional and international organizations (in their mandate or to facilitate discussion)*



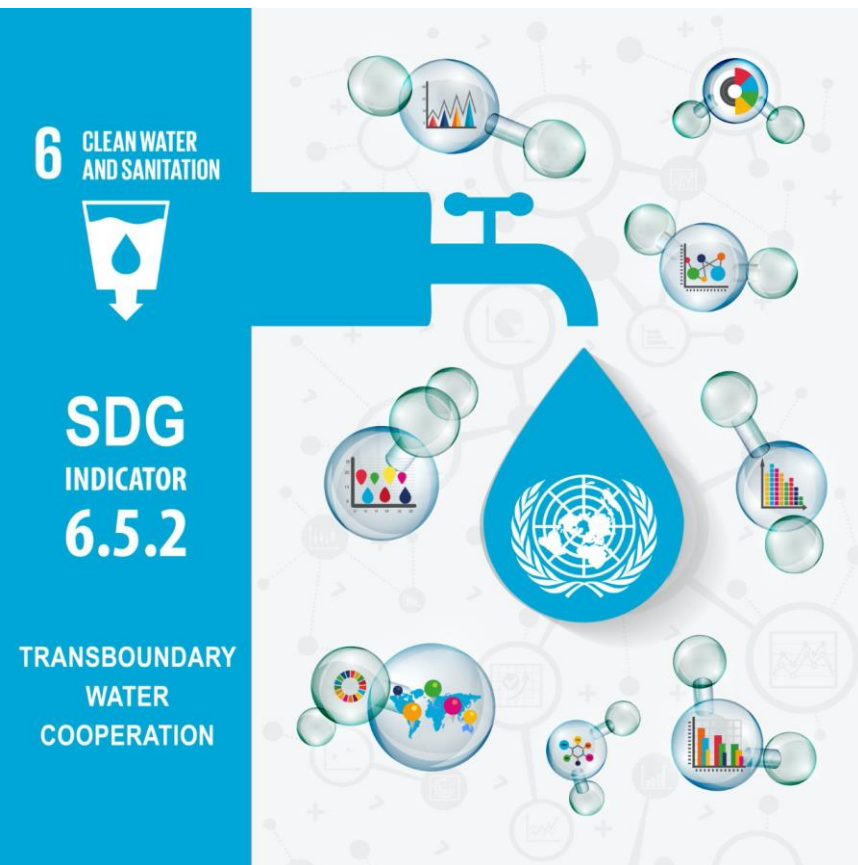
Reporting process on SDG indicator 6.5.2



- Following report submission by countries, UNECE and UNESCO **review and analyse** the reports and ~~and~~, where needed, work with countries to clarify the data so that the SDG indicator value can be accurately calculated.
 - ⇒ Extensive exchanges with Member States for clarification process
 - UNECE: river and lake basins
 - UNESCO: aquifers
- Every year in February: co-custodians submit national data updates to the UN Statistics Division



Calculation methodology



Proportion of transboundary basin area with an **operational arrangement** for water cooperation

The calculation of the indicator value is based on two main elements:

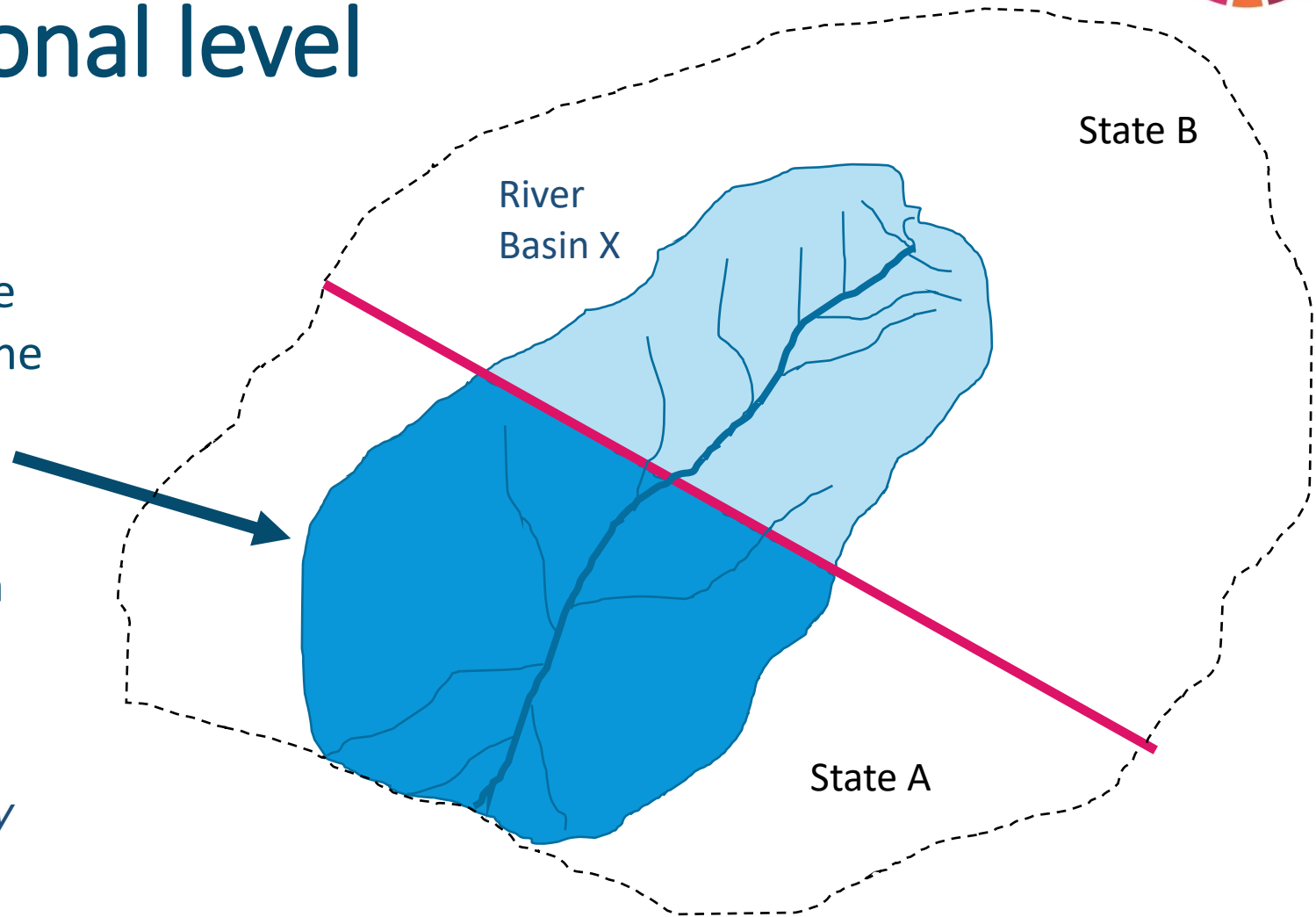
- *the spatial coverage of transboundary basin areas **located in a State**;*
- *a determination of the extent to which these areas are covered by **operational arrangements** for water cooperation.*

(Step-by-Step Monitoring Methodology for SDG indicator 6.5.2, p. 3)



Calculating the surface area of river and lake basins at the national level

- Surface area (in km²) of a basin should be calculated **only** for the part of the basin that is within the territory of the country
- Don't 'double-count' main basin and sub-basins (section I)



(Step-by-Step Monitoring Methodology for SDG indicator 6.5.2, p. 6-7)



What is an 'arrangement'?

- Formal commitments between the Riparian Parties.
- Agreements and arrangements can be called by many different names, e.g. treaty, convention, agreement, exchange of letters, declaration.
- Water provisions may be included in broader agreements on environmental cooperation or economic cooperation

(See Step-by-Step Monitoring Methodology for SDG indicator 6.5.2, p. 3; Guide to Reporting, p.17)

Calculation of SDG indicator 6.5.2



Indicator 6.5.2: Proportion of *transboundary basin area* with an *operational arrangement* for water cooperation

- **What is an ‘operational’ arrangement?**

- Treaty, convention, agreement or other formal arrangement
- Joint body for transboundary water cooperation
- Annual meetings
- Annual exchange of data and information
- Adoption of joint/coordinated water management plan, or joint objectives

- **Two components necessary for indicator value**

- Transboundary River and lake basins
- Transboundary aquifers

- **Aquifer component:**

- Directly (= a dedicated arrangement about the aquifer)
- Groundwater / Aquifers included in river basin/ upper level (binational) arrangement

Structure and content of national reports on SDG indicator 6.5.2

SDG 6.5.2 calculation

Additional information to explain, substantiate and complement indicator data

Section I Calculation of SDG indicator 6.5.2

*Calculation of SDG indicator 6.5.2 value for **transboundary rivers and lake basins** (table 1); and **transboundary aquifers** (table 2).*

Section II Transboundary basin and aquifer arrangements

*Questions to be completed for **each** river or lake basin, or aquifer system, as well as sub-basins, parts of a basin or groups of basins where appropriate*

*Gathers information on agreements and arrangements scope of cooperation, joint bodies / mechanism for cooperation, tasks and activities, exchange of information, measures, challenges and achievements, etc) => **very detailed picture of the status of cooperation on each basin***

Section III National Water Management

Questions relate to governance arrangements in place at the national level that concern transboundary waters

Section IV Final Questions

Policy-focused summary and questions on how template was completed

Step-by-Step methodology contains guidance to completing this section

Guide to reporting contains guidance to completing these sections



Aquifer component: data gathering and indicator calculation

- Collecting data from relevant (national) source; ministries, geological surveys, etc.
 - First step: identification / existence of a transboundary aquifer;
 - Second step: delineation and calculation of the aquifer area.
 - Possibility to use the Transboundary Aquifers World Map (new version 2021)
- Flexibility:
 - General delineation;
 - Strip at each side of the border where transboundary impacts are plausible.

Transboundary Aquifers of the World

- Update 2021 -



SC/HYD/2021/Map-1

Prepared by IGRAC

Base maps

Country borders: The United Nations Clear Map (2018)
Rivers and lakes: ESRJ (2018)

Map projection

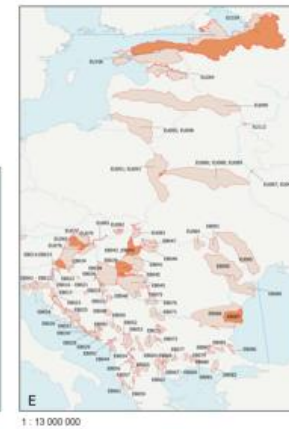
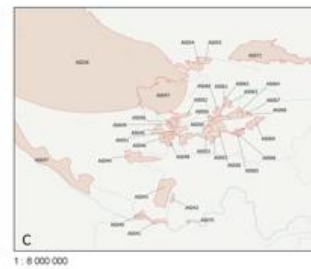
Robinson projection, geographic coordinates,
spheroid WGS84, longitude of central meridian 0°

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Disclaimer

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. A full disclaimer is available on the back of this map.



Aquifer component: from indicator calculation to fostering dialogue



- Aquifer component:
 - Directly (= a dedicated arrangement about the aquifer)
 - Groundwater / Aquifers included in river basin/ upper level (binational) arrangement
- Logics of the methodology: in case there is a transboundary issue to deal with, the arrangements and mechanism in place will allow to deal with it.
- But: issue of data and knowledge.
What do we need to know to (be ready to) manage and take action?
- Other sections of the report to provide information.
 - Beyond indicator calculation, the reporting process is there to help / foster dialogue.



Data availability on Transboundary aquifers



UNESCO IGRAC Information System on transboundary aquifers

<https://ggis.un-igrac.org/view/tba>

Transboundary Aquifer Information Sheet

10N - Sonoyta-Pápagos

Geography
 Total area TBA (km²): 16 000
 No. countries sharing: 2
 Countries sharing: Mexico, United States of America
 Population: 47 000
 Climate zone: Arid
 Rainfall (mm/yr): 230

Hydrogeology
 Aquifer type: Multiple layers hydraulically connected
 Degree of confinement: Whole aquifer unconfined
 Main Lithology: Sediment - Sand

No cross-section available

Map and cross-section are only provided for illustrative purposes. Dimensions are only approximate.

Country	SB	<5	600	Whole aquifer unconfined	Sediment - Sand	Primary porosity (fine/medium sedimentary deposits)	Secondary porosity (Fractures)	Transmissivity (m ² /d)
Mexico								3300
United States of America								

* Including aquifers/aquicludes
 X A value was provided in the questionnaire, but it was considered un-realistic and therefore removed from the table.

Inventory

Groundwater development stress (A)	Transmissivity (B)	Transboundary (C)
260	A	C



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Results of the 2nd reporting in 2020 on SDG 6.5.2 – 1

Indicator 6.5.2: Proportion of transboundary basin area with an operational arrangement for water cooperation

High level of engagement

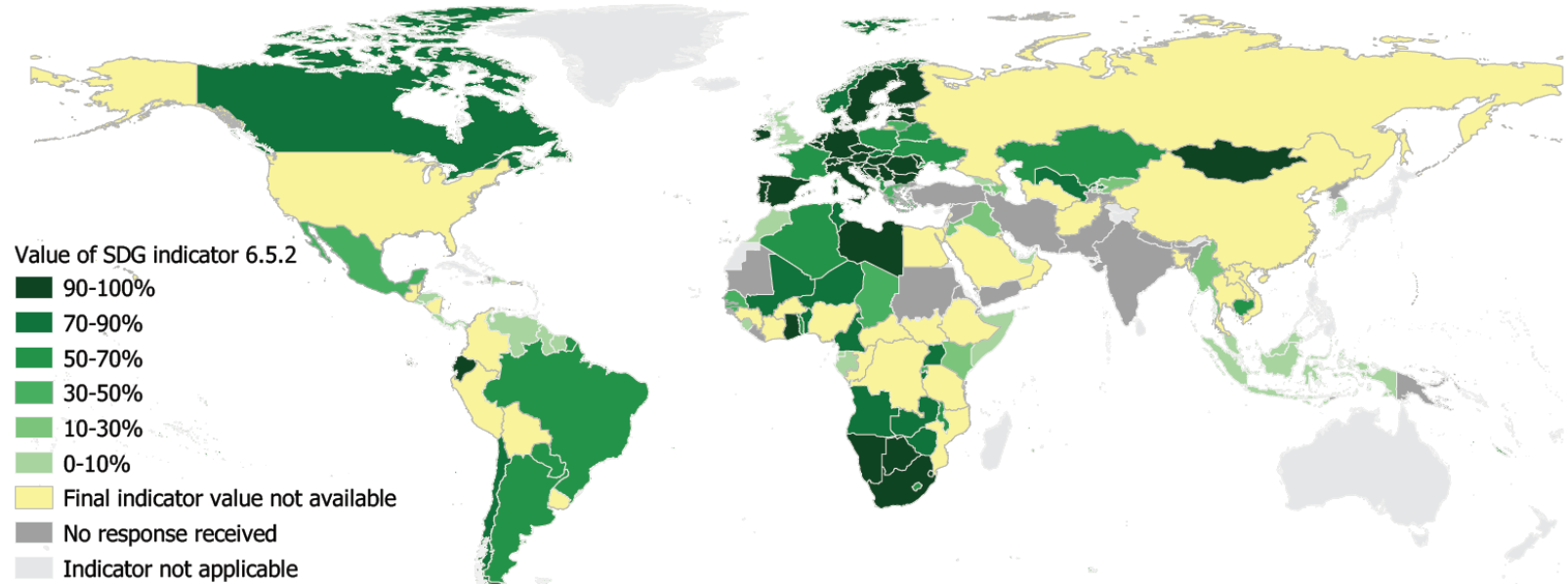
⇒ In 2020: **129** out of 153 countries submitted reports

Not on track

⇒ Only **24 countries** report all transboundary surface waters and groundwaters covered by **operational arrangements**

⇒ Progress must be **accelerated** to ensure that all transboundary basins are covered by operational arrangements by 2030

SDG Indicator 6.5.2 values and responses received during the 2nd exercise



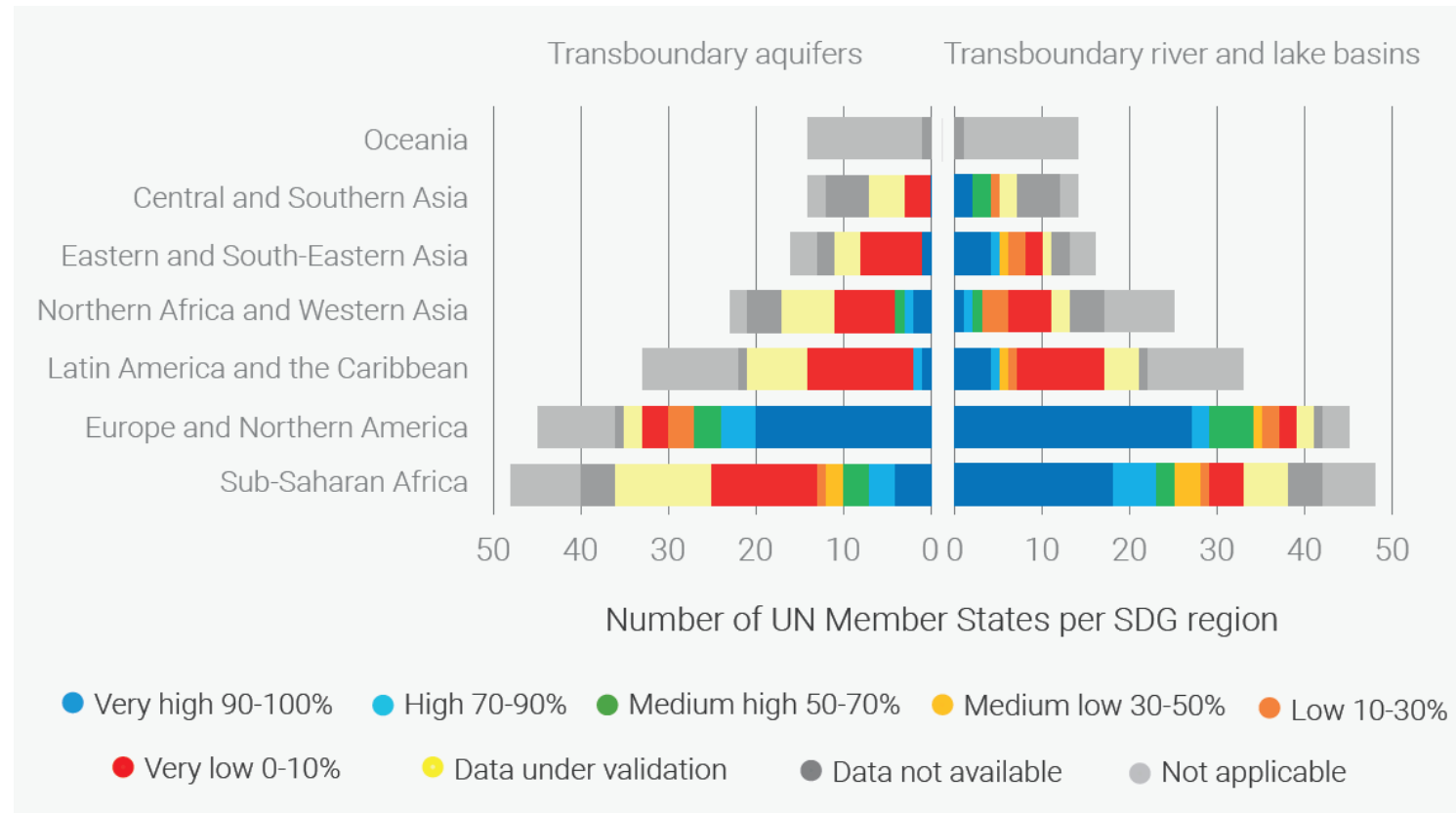
Results of the 2nd reporting in 2020 on SDG 6.5.2 – 2



- Europe, North America and Sub-Saharan Africa show greatest levels of **cooperation**
- In Latin America and Asia, much more progress is needed for water cooperation
- At least **128 basins reported lack agreements**
- Insufficient knowledge on **groundwater** systems, despite an unprecedented opportunity for countries to consider their transboundary aquifers

Positive impact

⇒ Reporting triggered **follow-up actions** in countries to **improve cooperation**

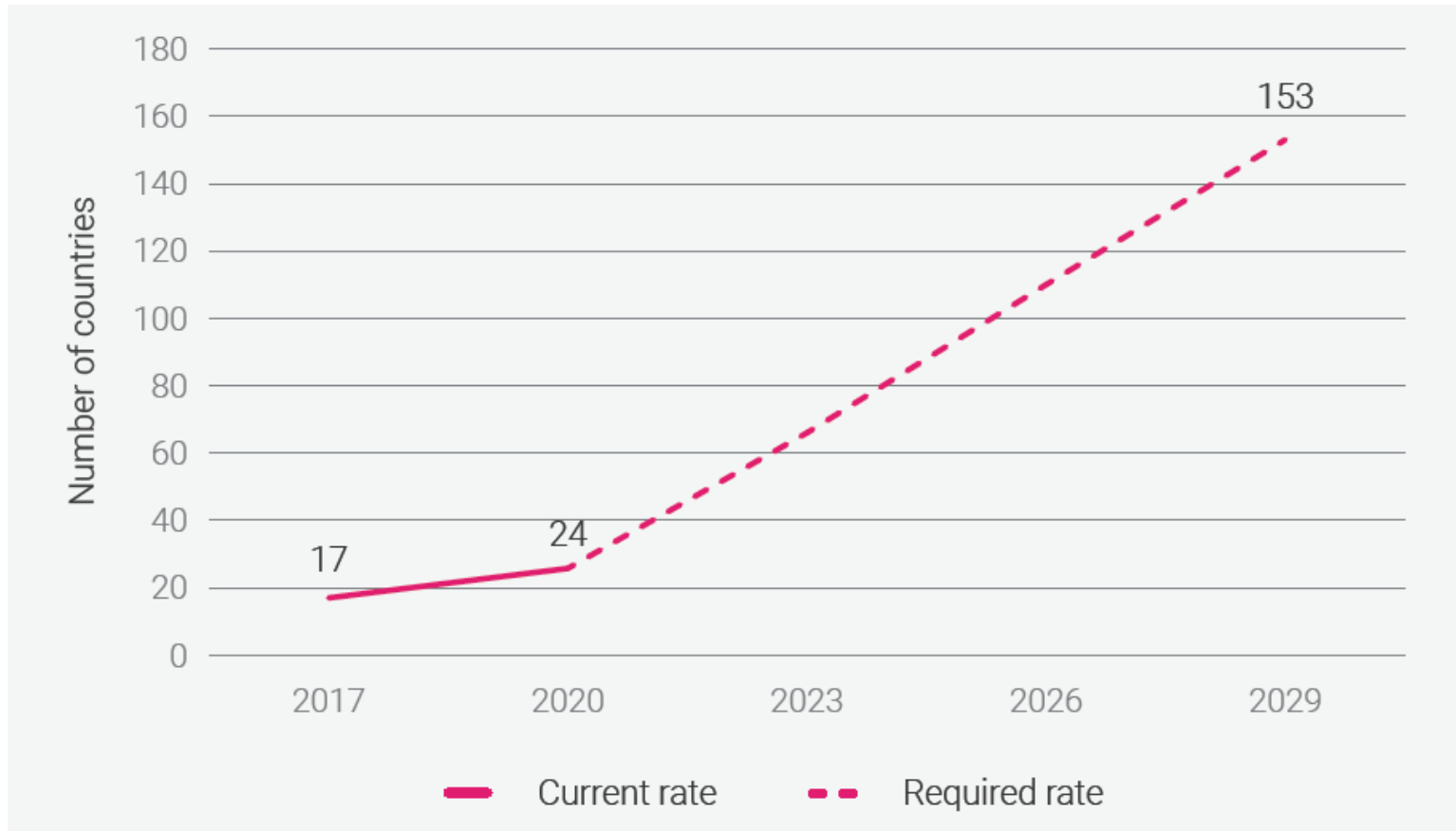


Results of the 2nd reporting in 2020 on SDG 6.5.2 – 3



- **Acceleration**

⇒ Building on the impetus offered by SDG 6.5.2 reporting process



Focus on ESCWA region

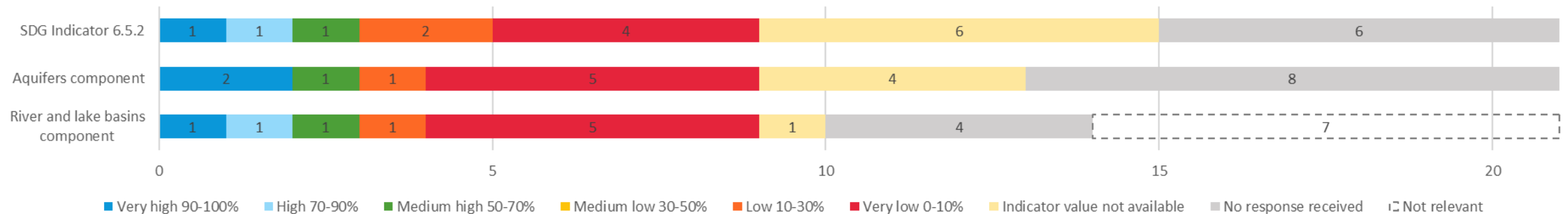


- **15 out of 21 countries** sharing water resources responded to the exercise
 - **7 countries** provided sufficient data to calculate the SDG indicator value for transboundary rivers & lakes (+ 2 countries with no transboundary surface waters – Libya and Qatar)
 - **9 countries** provided sufficient data to calculate the SDG indicator value for transboundary aquifers
 - Meaning that overall indicator value could be calculated for these **9 countries**



Information reflected in UNSD database (transmitted by custodian agencies) but sometimes not in other documents (VNR, etc.)

Breakdown of the 21 Arab countries sharing waters and SDG indicator 6.5.2 values

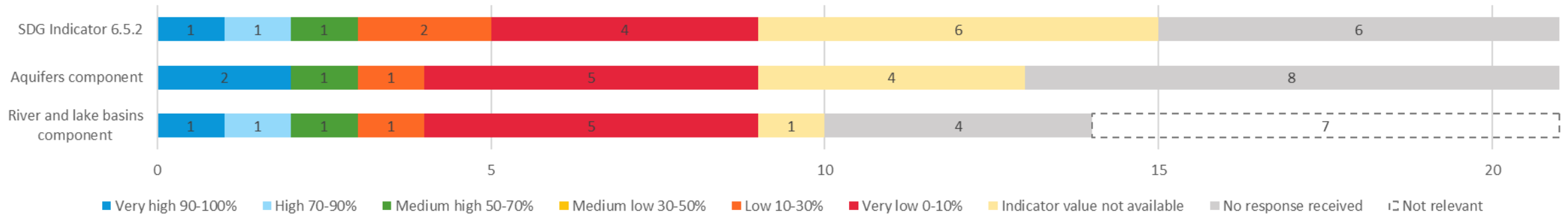


Focus on ESCWA region



- Main challenges:
 - In addition to non-reporting countries: Lack of information **on aquifers**
 - = Further information needed to calculate the value of the indicator
- Most of the countries have a **low coverage of operational arrangements, significant acceleration is required** to ensure operational arrangements are in place for all transboundary waters by 2030
 - **Only one country** has 100% of their shared rivers & lakes covered by arrangements and **only 2 countries** reported very high level of cooperation on its shared aquifers

Breakdown of the 21 Arab countries sharing waters and SDG indicator 6.5.2 values

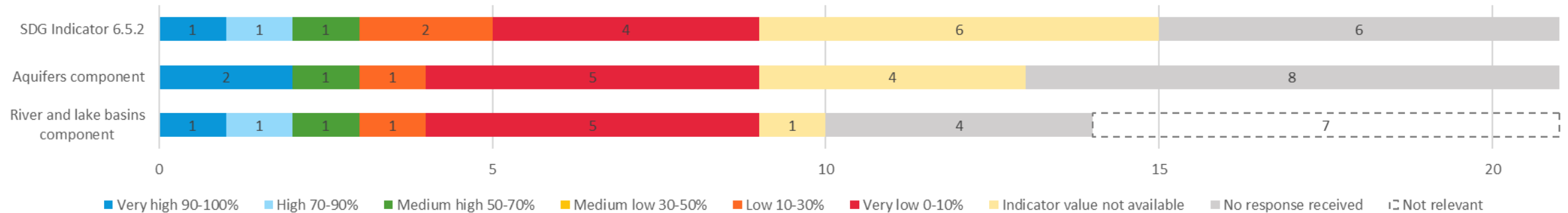


Focus on ESCWA region



- **Notable aquifer-specific cooperative arrangements exist in the region** and suggest an important basis to further develop and strengthen cooperation and reporting on transboundary waters (e.g. North-Western Sahara Aquifer System, Nubian Sandstone Aquifer System, Al-Disi/ Saq-Ram Aquifer)
- **Water cooperation and reporting benefit from regional concerted efforts** (e.g. UN ESCWA regional workshop supporting monitoring and implementation of the SDGs; February 2020)

Breakdown of the 21 Arab countries sharing waters and SDG indicator 6.5.2 values





Uptake of SDG 6.5.2 data & What is needed to advance transboundary water cooperation

National level

- Preparing the report with a consultative approach (nationally and with riparians) helps **raising attention and support** on the topic and incentive for countries to **improve cooperation**
- Interactions between co-custodians and countries, help identify data (gaps), improve knowledge and support cooperation

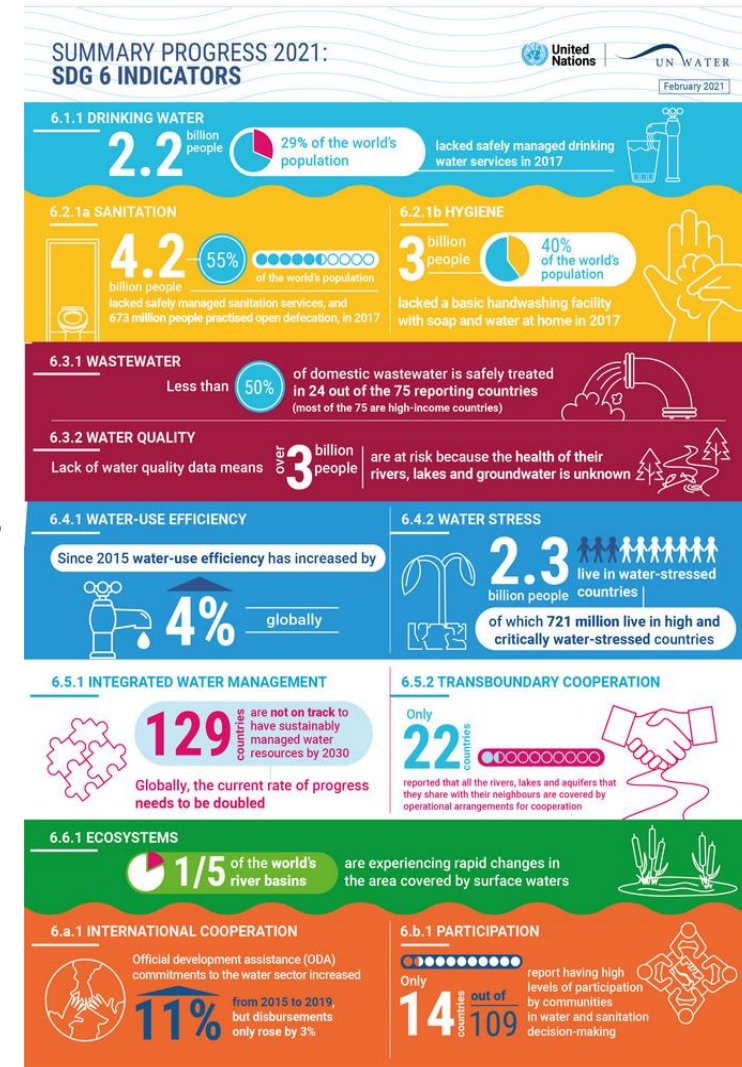
Transboundary level

- Consultation on reports with riparians helps developing a **common understanding of challenges and opportunities** that can become a basis for discussion for next steps with riparians or basin organisations

Regional and global levels

- 2nd Progress report on SDG 6.5.2 to be published in August 2021
- SDGs Reports feed into political dialogue at regional and global level (i.e. HLPF, UN Statistical Division) and towards the 2023 United Nations Water Conference

Acceleration needed – see the SDG 6 Global Acceleration framework



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Key areas to accelerate progress



Address Data Gaps



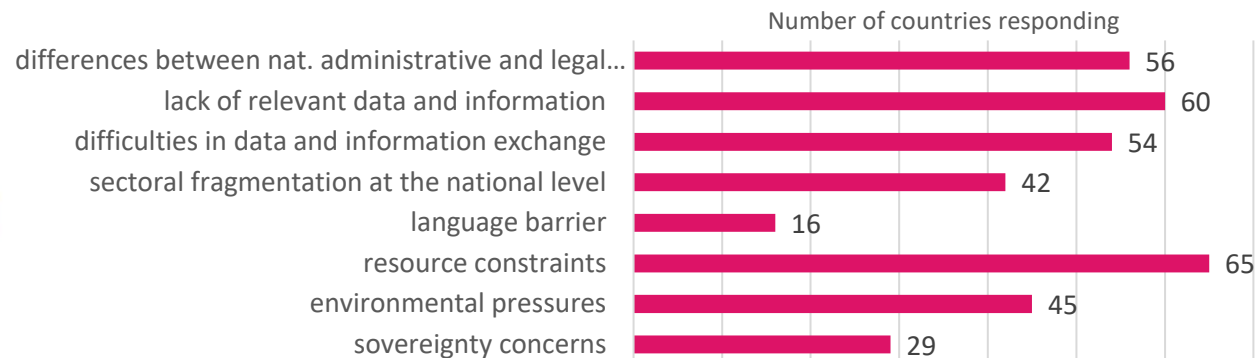
There has been **strong country engagement** in the monitoring exercise, but data remains a challenge, particularly for transboundary aquifers and countries with no **SDG indicator value**



Upscale capacity development

Capacity building is important for negotiating and implementing operational arrangements

Main challenges faced by countries in cooperating on transboundary waters – Sect. IV, Q°1, all reporting countries



Strengthen legal frameworks



The water conventions and the draft articles on transboundary aquifers offer a solid basis upon which to **revise** or **negotiate** new arrangements

Leveraging and mobilizing expertise

There is a need to **upscale and coordinate** the activities of international organizations to **provide targeted support** to countries



Building political will

addressing **structural barriers** and finding **innovative financing mechanisms** is needed to address current financing shortfalls



SDG 6 Global Acceleration Framework



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Benefits of transboundary water cooperation for the overall sustainable development agenda



Multiple benefits of cooperation

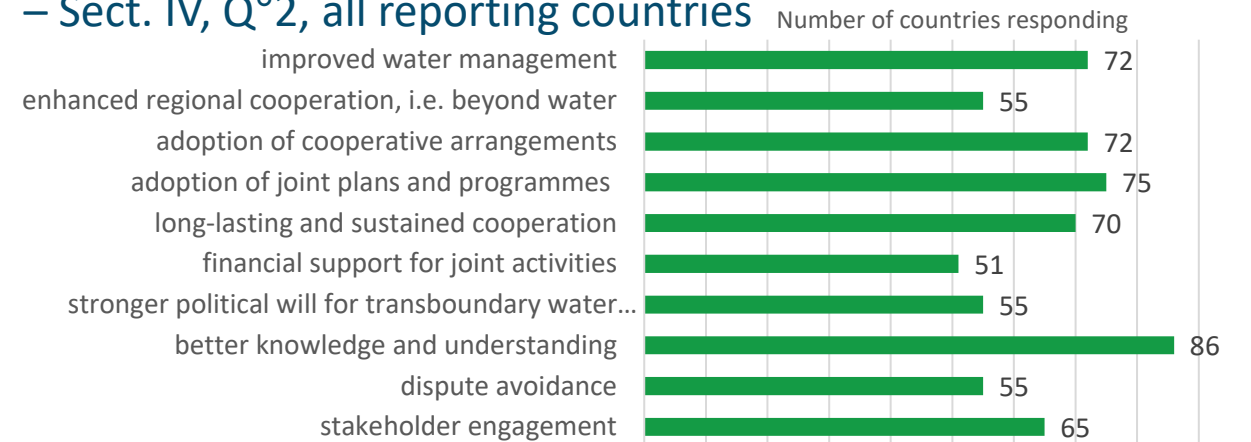
include peace, regional integration, sustainable development and environmental protection



The 6.5.2 reporting highlighted the key role of institutional arrangements for peace and conflict prevention:

- dispute and conflict prevention is a subject of cooperation in water agreements or arrangement in 74% of responses
- settling of differences and conflicts is part of the joint body tasks and activities in 58% of responses

Main achievements in cooperating on transboundary waters – Sect. IV, Q°2, all reporting countries





Example of uptake of 6.5.2 monitoring to enhance cooperation

Senegal-Mauritanian Aquifer Basin (BASM) cooperation

- ✓ progress in cooperation on groundwater in the region
- ✓ in part triggered by the first reporting exercise on SDG 6.5.2 in 2017
- ✓ building success of surface water cooperation and on the expertise of RBOs
- ✓ Cooperation initiative and **Regional Working Group** for Transboundary Cooperation –
 - ✓ consists of riparian States and RBOs,
 - ✓ with support from UNECE, IGRAC, Geneva Water Hub, and financial support from the SDC and EU.
- ✓ **Momentum:** Gambia, Guinea-Bissau, Mauritania and Senegal **signed a declaration** on the establishment of institutional transboundary cooperation on BASM during MOP9 (29 September 2021)



Perspectives

- 2030 = 100% cooperation?
 - Need to increase efforts
- Use reports as a basis for dialogue to enhance cooperation
 - National, basin, regional levels
 - Identify gaps and challenges
- Use the information for future planning
 - Develop roadmaps
- Next reporting
 - Increase coordination of reports at basin level
- Discuss with basin organizations



Thanks for listening!



6.5.2 Help Desk

transboundary_water_cooperation_reporting@un.org

transboundary_water_cooperation_reporting@unesco.org

2nd Progress report on SDG 6.5.2

www.unwater.org/publications/progress-on-transboundary-water-cooperation-652-2021-update

Further information

UNECE:

www.unece.org/water/transboundary_water_cooperation_reporting.html

UNESCO: https://en.unesco.org/themes/water-security/transboundary_water_cooperation_reporting

UN-WATER SDG6 monitoring: www.sdg6monitoring.org/indicator-652

UN-WATER SDG6 data portal: www.sdg6data.org/indicator/6.5.2



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SDG INDICATOR 6.5.2
TRANSBOUNDARY WATER COOPERATION

SDG6.5.2 in the Arab region – 2



Country Name	Response received 2017	Response received 2020	rivers and lakes component value, in %	aquifers component value, in %	Overall SDG indicator 6.5.2 value, in %
Algeria	yes	yes	0	58.32	57.54
Bahrain	no	no	N		
Djibouti	no	no			
Egypt	yes	yes	100	No data provided	NA (not available)
Iraq	yes	yes	15.04	0	10.61
Jordan	yes	yes	61.69	14.92	23.23
Kuwait	yes	yes	N (not relevant)	NA	NA
Lebanon	no	yes	76.42	No data provided	NA
Libya	no	yes	N	97.96	97.96
Mauritania	no	no			
Morocco	yes	yes	0	0	0
Oman	yes	yes	N	NA	NA
Qatar	yes	yes	N	0	0
Palestine	no	yes	NA	NA	NA
Saudi Arabia	no	yes	N	NA	NA
Somalia	yes	yes	0	0	0
Sudan	no	no			
Syrian Arab Republic	no	no			
Tunisia	yes	yes	0	100	80.47
United Arab Emirates	no	yes	0	0	0
Yemen	no	no	N		



SDG INDICATOR 6.5.2

TRANSBOUNDARY WATER COOPERATION

■ Very high 90-100%
 ■ High 70-90%
 ■ Medium high 50-70%
 ■ Medium low 30-50%
 ■ Low 10-30%
 ■ Very low 0-10%
 Indicator value not available
 No response received
 Not relevant

