



# Progress on implementation of Integrated Water Resources Management

Mid-term status of SDG Indicator 6.5.1 and acceleration needs, with a special focus on Climate Change

2024



 Austrian  
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### Acknowledgements

This report is entirely dependent on the substantial efforts and contributions of government officials and other stakeholders from 190 UN Member States in reporting on SDG indicator 6.5.1 in 2017, 2020, and 2023. National focal points coordinated the country reporting processes, involving multi-stakeholder consultations, which provide invaluable insights into the degree of implementation of integrated water resources management (IWRM) in each country. In 67 of these countries, the stakeholder consultations were co-facilitated by Regional and Country Water Partnerships of the Global Water Partnership (GWP), through the SDG 6 IWRM Support Programme, in 2023/24.

Contributors and reviewers of the report included: Paul Glennie, Lisbet Rhiannon Hansen, and Isis Oliver (coordinating lead authors), Gareth James Lloyd, and Joakim Harlin (contributing authors), Ijlitsetseg Dorjsuren (analysis and figures), all from the UNEP DHI Partnership – Centre on Water and Environment; and Colin Herron and Yelysaveta Demydenko (contributing authors, GWP); and (the following reviewers in alphabetical order of affiliation), Belynda Petrie (OneWorld), Rasoul Mikkelsen (Royal Eijkelpark), Alistair Rieu-Clarke (United Nations Economic Commission for Europe – UNECE), Austin Hamilton, Sara Hess (UN Economic Commission for Western Asia – ESCWA), Dianna Kopansky, Lis Mullin Bernhardt, Stuart Crane, Alex Forbes, and Lou Perpes (UNEP), Maija Bertule, Louise Heegaard, and Henrik Larsen (UNEP DHI Partnership – Centre on Water and Environment), Maggie Kossida (UN-Water), Gerard Payen (UN-Water Integrated Monitoring Initiative for SDG 6: Strategic Advisory Group), Rabi Mohtar (World Water Council). In addition, feedback was gratefully received from other UN-Water Members and Partners (<https://www.unwater.org/about-un-water/members-and-partners>).

This report was produced as part of the UN-Water Integrated Monitoring Initiative for SDG 6 (IMI-SDG6). We gratefully acknowledge the contributions to the UN-Water Inter-Agency Trust Fund from the following entities: Austrian Development Agency, German Federal Ministry for Economic Cooperation and Development, the European Commission, Netherlands Ministry of Foreign Affairs, Netherlands Ministry of Infrastructure and Water Management, Swedish International Development Cooperation Agency, Swiss Agency for Development and Cooperation.

Special thanks are given to the Danish International Development Agency (Danida) for its long-term support and engagement on sustainable water resources management.

**Editing:** Acolad

**Design and layout:** Dilucidar

**Photos:** Adobe Stock

### Suggested citation

United Nations Environment Programme (2024). Progress on implementation of Integrated Water Resources Management. Mid-term status of SDG indicator 6.5.1 and acceleration needs, with a special focus on climate change.

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# Abbreviations

<b>AIP</b>	Continental Africa Water Investment Programme
<b>CCA</b>	Climate change adaptation
<b>COP</b>	Conference of the Parties to the UN Framework Convention on Climate Change
<b>DRR</b>	Disaster Risk Reduction
<b>EbA</b>	Ecosystem-based Adaptation
<b>GCF</b>	Green Climate Fund
<b>GDP</b>	Gross Domestic Product
<b>GEF</b>	Global Environment Facility
<b>GIZ</b>	German Agency for International Cooperation
<b>GWP</b>	Global Water Partnership
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IWRM</b>	Integrated Water Resources Management
<b>NAP</b>	National Adaptation Plan
<b>NbS</b>	Nature-based Solutions
<b>NDC</b>	Nationally Determined Contributions
<b>OECD</b>	Organization for Economic Cooperation and Development
<b>SAMOA</b>	Pathway SIDS Accelerated Modalities of Action
<b>SDG</b>	Sustainable Development Goal
<b>SIDS</b>	Small Island Developing States
<b>UN</b>	United Nations
<b>UNDESA</b>	United Nations Department of Economic and Social Affairs
<b>UNDP</b>	United Nations Development Programme
<b>UNEA</b>	United Nations Environment Assembly
<b>UNECE</b>	United Nations Economic Commission for Europe
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>WASH</b>	Water supply, Sanitation and Hygiene
<b>WEFE</b>	Water-Energy-Food-Ecosystems Nexus
<b>WFD</b>	European Water Framework Directive

# Presenting the UN-Water Integrated Monitoring Initiative for SDG 6

Through the UN-Water Integrated Monitoring Initiative for SDG 6 (IMI-SDG6), the United Nations seeks to support countries in monitoring water- and sanitation-related issues within the framework of the 2030 Agenda for Sustainable Development, and in compiling country data to report on global progress towards SDG 6.

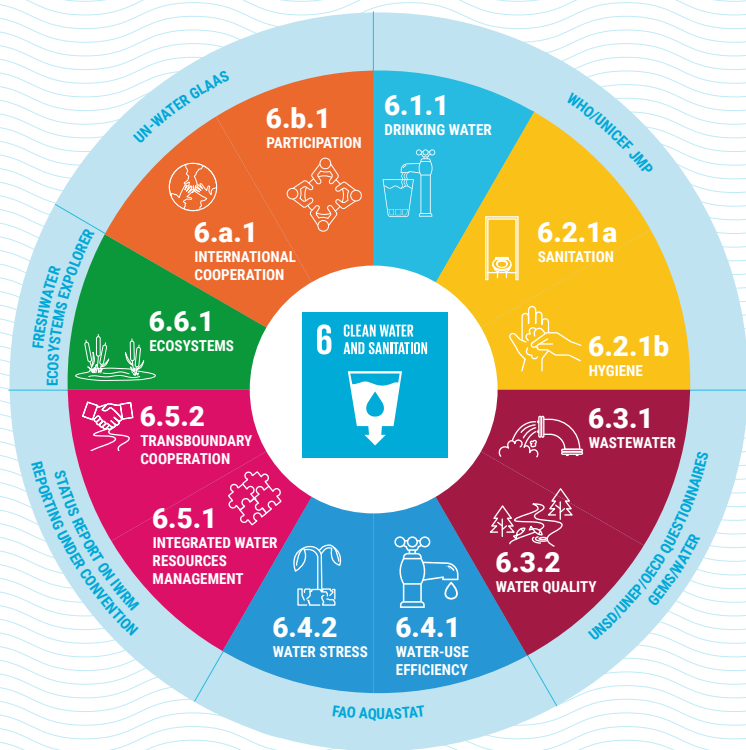
IMI-SDG6 brings together the United Nations organizations that are formally mandated to compile country data on the SDG 6 global indicators, and builds on ongoing efforts such as the World Health Organization (WHO)/United Nations Children's Fund (UNICEF) Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP), the Global Environment Monitoring System for Freshwater (GEMS/Water), the Food and Agriculture Organization of the United Nations (FAO) Global Information System on Water and Agriculture (AQUASTAT) and the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS).

This joint effort enables synergies to be created across United Nations organizations and methodologies and requests for data to be harmonized, leading to more efficient outreach and a reduced reporting burden. At the national level, IMI-SDG6 also promotes intersectoral collaboration and consolidation of existing capacities and data across organizations.

The overarching goal of IMI-SDG6 is to accelerate the achievement of SDG 6 by increasing the availability of high-quality data for evidence-based policymaking, regulations, planning and investments at all levels. More specifically, IMI-SDG6 aims to support countries to collect, analyse and report SDG 6 data, and to support policymakers and decision makers at all levels to use these data.

- Learn more about SDG 6 monitoring and reporting and the support available: <http://www.sdg6monitoring.org>
- Read the latest SDG 6 progress reports, for the whole goal and by indicator: [https://www.unwater.org/publication\\_categories/sdg6-progress-reports/](https://www.unwater.org/publication_categories/sdg6-progress-reports/)
- Explore the latest SDG 6 data at the global, regional and national levels: <http://www.sdg6data.org>





INDICATORS	CUSTODIANS
6.1.1 Proportion of population using safely managed drinking water services	WHO, UNICEF
6.2.1 Proportion of population using (a) safely managed sanitation services, and (b) a handwashing facility with soap and water	WHO, UNICEF
6.3.1 Proportion of domestic and industrial wastewater flows safely treated	WHO, UN-Habitat, UNSD
6.3.2 Proportion of bodies of water with good ambient water quality	UNEP
6.4.1 Change in water-use efficiency over time	FAO
6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	FAO
6.5.1 Degree of integrated water resources management	UNEP
6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation	UNECE, UNESCO
6.6.1 Change in the extent of water-related ecosystems over time	UNEP, Ramsar
6.a.1 Amount of water and sanitation-related official development assistance that is part of a government-coordinated spending plan	WHO, OECD
6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	WHO, OECD

# UN-Water Foreword

We stand at a critical juncture. At the midpoint of the United Nations 2030 Agenda for Sustainable Development, we risk failing to meet the promise of SDG 6 – to ensure the availability and sustainable management of water and sanitation for all.

The 2024 series of indicator reports, published by the UN-Water Integrated Monitoring Initiative for SDG 6 (IMI-SDG6), depict a crisis with profound repercussions for many other SDGs, particularly those related to poverty, food, health, education, gender equality, sustainability and environmental integrity.

Billions of people worldwide are still living without access to safely managed drinking water and sanitation services. Water pollution levels are alarmingly high. Inefficient water use practices are common. Water scarcity is a growing problem. Degradation of water-related ecosystems continues unabated. Governance and transboundary cooperation on water resources are too weak, and every continent suffers the impacts of inadequate investment in water and sanitation infrastructure.

Despite concerted efforts and global commitments, we are compelled to acknowledge that progress so far has been insufficient to meet all eight targets of SDG 6. In some regions and countries, for some indicators, progress is even reversing.

However, over the past year, the UN-Water family has come together to develop a response that aims to accelerate progress through a more holistic and integrated approach.

After the UN 2023 Water Conference, in response to the high ambitions set by Member States, UN-Water released the Blueprint for Acceleration: SDG 6 Synthesis Report on Water and Sanitation 2023, which identifies two crucial needs: for Member States to develop a UN political process for water and for the UN system to better unify its water-related efforts to support Member States.

On the first, Member States adopted a resolution that, among other things, established two future UN water conferences – one in 2026 and one in 2028.

On the second, the resolution requested of the UN Secretary-General to present a United Nations system-wide water and sanitation strategy in consultation with Member States. The Secretary-General looked to UN-Water, under my leadership, to assist with this.

The strategy will be presented in July 2024: the middle of a year that marks a pivotal moment in our collective journey towards achieving SDG 6. It is time to redouble our efforts, recalibrate our strategies, and mobilize resources to make good on our commitments to global society and the future of our planet.

We face unprecedented challenges, but we now have unprecedented tools and political momentum. The data and insight gathered by the IMI-SDG6 must guide our prioritization of efforts and investments to the areas of greatest need, ensuring no one is left behind.

Thank you for your unwavering dedication to this vital cause.



**Alvaro Lario**,  
President of the International  
Fund for Agricultural  
Development (IFAD)  
and Chair of UN-Water

# UNEP Foreword

Water is vital to human and planetary health and the internationally agreed goals that back it, including the 2030 Agenda for Sustainable Development, the Kunming-Montreal Global Biodiversity Framework, the Sendai Framework and the Paris Agreement. Yet the triple planetary crisis – the crisis of climate change, nature and biodiversity loss and pollution and waste – is affecting the availability, distribution, quality and quantity of water.

Sustainable Development Goal (SDG) 6 on water and sanitation for all is alarmingly off-track. About two billion people lack access to safe drinking water, while roughly half of the world's population experiences severe water scarcity for at least part of the year. The human rights to water and sanitation and to a clean and healthy environment are not being delivered. Climate change and population growth are expected to worsen the situation. Data indicates that the health and livelihoods of 4.8 billion people could be at risk by 2030 if water quality and monitoring is not improved.

Countries are taking positive steps. Following the 2023 UN Water Conference, countries and partners have secured over 800 commitments on water. Member States passed the [UNEA 6 Resolution on Water](#), which aims to accelerate the achievement of SDG 6. Some 45 countries and the European Union have joined the Freshwater Challenge, which backs the restoration of 300,000 km of degraded rivers and 350 million hectares of degraded wetlands by 2030. But we must do more.

The key to increased ambition and action is decision-making based on accurate and timely data. This is where the SDG 6 indicators come in. UNEP has been working with Member States over the past three years to provide data for this series of reports on the three indicators for which the organization is custodian – water quality, integrated water resources management and changes to freshwater ecosystems.

UNEP's analysis of water-related ecosystem data shows that half of countries have one or more freshwater ecosystem type in degradation. River flow has significantly decreased in 402 river basins, a fivefold increase from 15 years ago. Surface water bodies are shrinking or being lost in 364 basins. Droughts, floods and water scarcity are impacting more people. There is ineffective revenue-raising to turn water laws, policies and plans on integrated water resources management into practice in 60 per cent of reporting countries.

While this is, of course, bad news, it does at least tell nations where to direct efforts to manage water resources and freshwater ecosystems better. Data matters, and countries are supplying more of it than ever. Some 120 countries reported on the water quality indicator in 2023 – significantly more than in 2020. Citizen science-generated data is also now being used. But we still need to fill critical gaps, because when we show that integrated water management bolsters other development objectives, we can secure political will, adequate resources and real progress on SDG 6.



**Inger Andersen,**  
Under-Secretary-General  
of the United Nations and  
Executive Director of UNEP



# Executive Summary

## Implementing integrated water resources management (IWRM) is essential to achieve sustainable development.

IWRM is the internationally-recognized approach that helps to balance competing water demands from across society and the economy, without compromising the sustainability of vital ecosystems upon which our lives and livelihoods depend. It requires coordinated action across sectors, at all levels, and across borders. Using this approach can directly support countries to become more resilient to climate change and advance towards all water-related targets in Agenda 2030, including those on food (SDG 2), energy (SDG 7), ecosystems (SDG 15), and climate (SDG 13). Making use of supporting frameworks, such as the Water-Energy-Food-Ecosystems (WEFE) Nexus, and Source to Sea, can be practical ways of operationalizing IWRM and engaging across sectors and in local contexts.

Sustainable Development Goal (SDG) indicator 6.5.1 – on the level of implementation of IWRM – is a useful proxy for measuring sustainable water management. SDG 6.5.2 on transboundary cooperation provides more specific information on the critical aspect of managing upstream-downstream impacts of water development, protection and use across national borders. This progress report is based on the SDG 6.5.1 indicator data provided by 191 countries up to 2023, and includes four key messages, accompanied by suggested actions.

The image contains two main graphical elements. On the left is the SDG 6 icon, a blue square with the number '6' and the text 'CLEAN WATER AND SANITATION' in white, with a white icon of a water drop falling into a glass. On the right is the Target 6.5 icon, a blue square with 'TARGET 6.5' at the top, a central white icon depicting a water cycle with trees, people, waves, and a building, and the text 'IMPLEMENT INTEGRATED WATER RESOURCES MANAGEMENT' at the bottom.

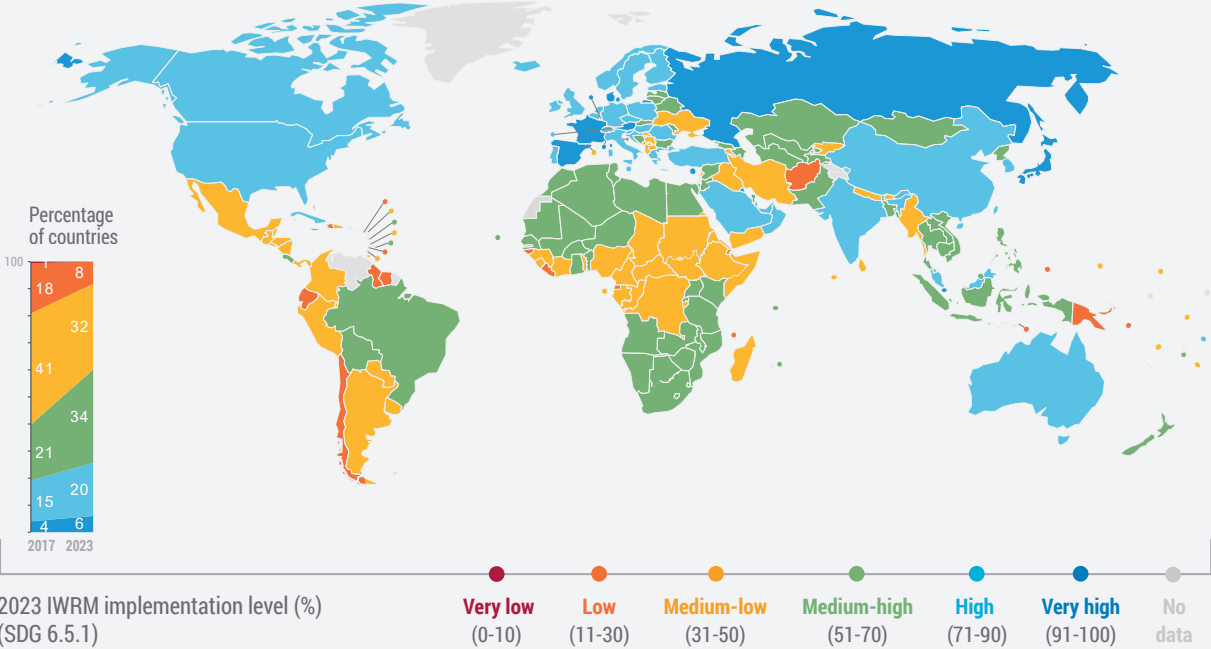
**SDG 6:** Ensure availability and sustainable management of water and sanitation for all

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

**Indicator 6.5.1:** Integrated water resources management (IWRM) implementation (per cent).

**Global indicator scores:** 2017: 49 per cent; 2020: 54 per cent; 2023: 57 per cent.

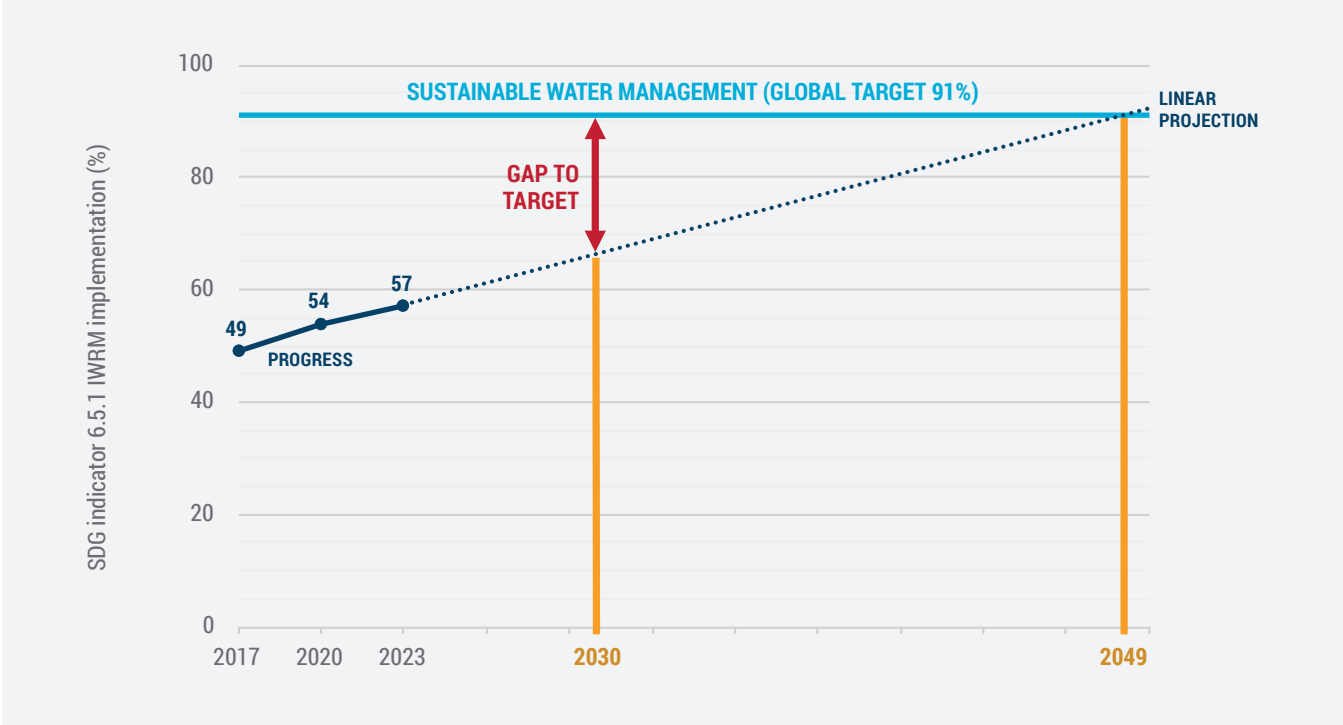
*Coordinated planning, management and financing needs to be prioritized in 40 per cent of countries which still have limited capacity to balance competing demands across sectors and cope with increasing pressures, including climate change ('low' and 'medium-low' IWRM implementation, orange and yellow colours).*



**Figure 1:** IWRM implementation per country, 2023 or most recent (SDG indicator 6.5.1).

**Reporting process:** Indicator data based on stakeholder consultations to complete an IWRM survey with 33 questions on enabling environment, institutions and participation, management instruments, and financing. 191 countries reported across three rounds (2017, 2020, 2023), with at least 170 countries per round, and 137 countries reporting in all three rounds.

**Key message 1: At the current rate, the world will not achieve sustainable water management until at least 2049 – 25 years from now (Figure 2). In 2030, at least 3.3 billion people and the economies of more than 100 countries are unlikely to have effective governance frameworks to balance competing water demands and cope with increasing pressures, including from climate change.**



**Figure 2: Status and projected progress of IWRM implementation (SDG indicator 6.5.1).**

Data based on 191 countries reporting across 2017, 2020, and 2023.

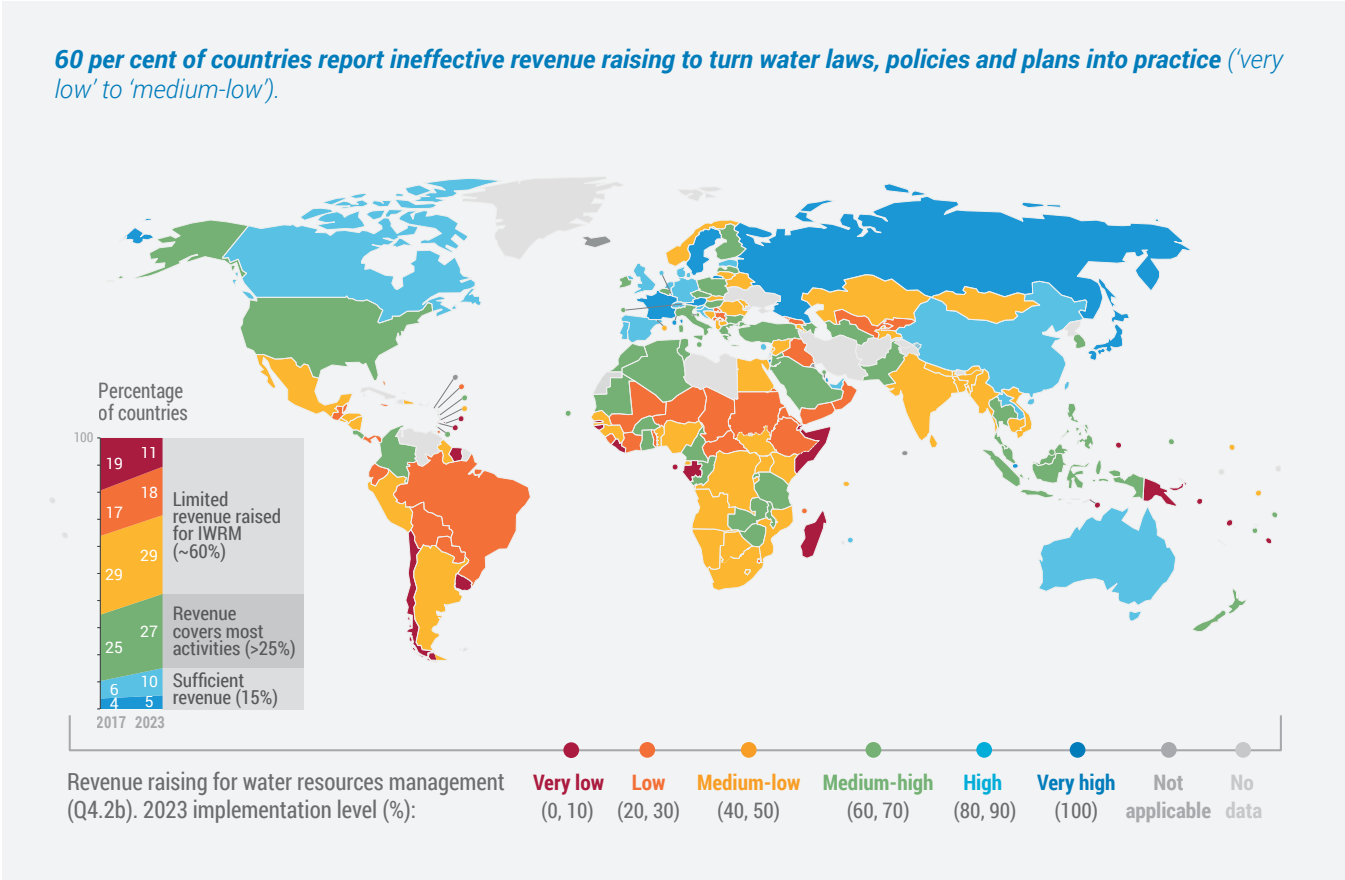
While 47 countries (26 per cent) are close to, or have reached, the target of ‘very high’ IWRM implementation, the populations and economies of 73 countries (40 per cent) are being left behind (Figure 1, ‘low’ and ‘medium-low’ IWRM implementation, orange and yellow colours). These countries typically have lower levels of socioeconomic development and are likely to experience rapidly increasing pressures – such as increased water demand and pollution – as they strive to meet development objectives. Without significant improvements in their water management, their populations are likely to continue to be highly vulnerable for decades to come from water insecurity, pollution, floods and droughts, with knock-on effects on their national economies (see Section 2.2 of main report). Sixty-three countries (34 per cent) face a similar, though less acute situation (‘medium-high’ IWRM implementation, green colours).

## Action needed on Key message 1: To progress on IWRM overall

- **Action needs to be prioritized in the 40 per cent of countries with 'low' and 'medium-low' IWRM implementation**, followed by the 34 per cent of countries with 'medium-high' implementation, building on experiences from countries that are more advanced or making good progress.
- **Coordinated planning and management is needed, in partnerships at all levels**, including as relevant: national, sub-national and basin authorities; private sector; water user associations, non-government and community-based organizations; the research sector; transboundary and regional organizations, development banks, donors, and finance institutions; and local and international development partners, including UN Country Teams and agencies.
- The types of actions needed vary between countries, and gaps can be identified from the 6.5.1 country reports, among other sources. Nonetheless, **some of the most commonly reported priority areas include:** addressing the financing gap (see Key message 2); better coordination between climate and water authorities and processes (see Key message 3); raising political commitments for IWRM at the highest national level, cross-sector coordination and stakeholder engagement (see Key message 4); as well as enhancing institutional capacity and developing and implementing laws, regulations, plans, and policies.

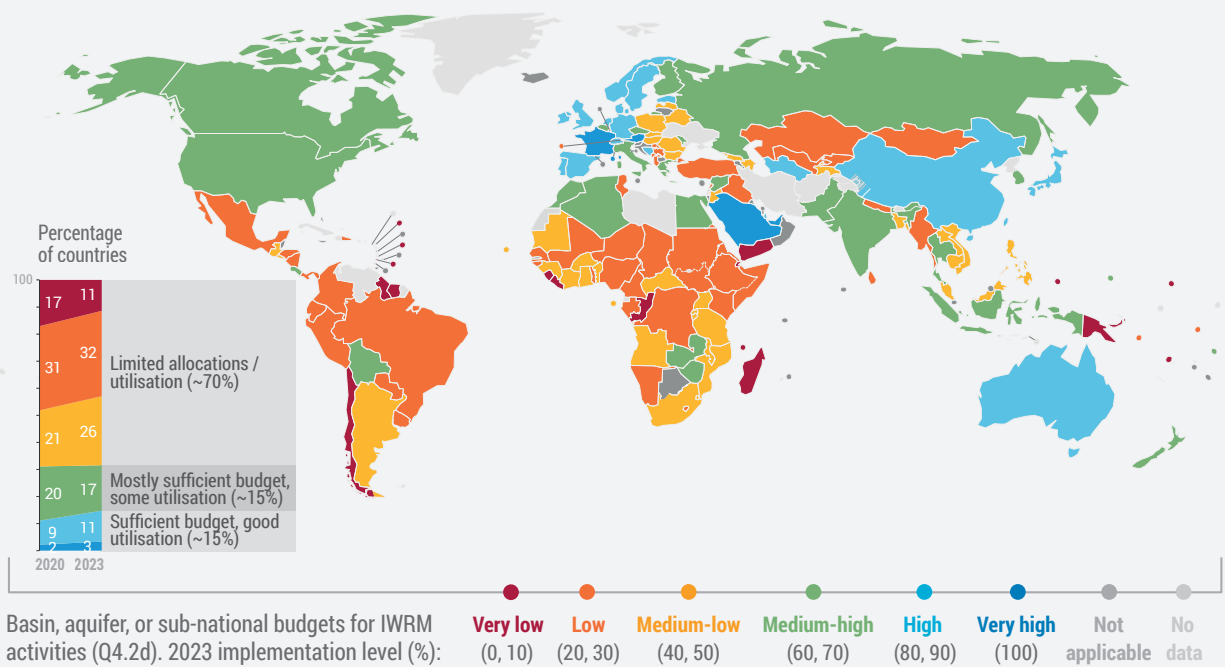
**Key message 2: Insufficient finance constrains the implementation of integrated water resources management, limiting institutional capacity, monitoring networks, and the application of management instruments. More effective revenue raising for water management and infrastructure is needed in 85 per cent of countries (Figure 3).**

Implementing IWRM requires a sustainable financing base, primarily from: (a) water-related revenue raising linked to usage; and (b) allocations from national budgets.



**Figure 3: Revenue-raising mechanisms for water resources management (SDG 6.5.1, question 4.2b).**

**70 per cent of countries report having insufficient funding to cover most of their needs for IWRM implementation at basin, aquifer, or sub-national levels** (*'very low' to 'medium-low'*).



**Figure 4: Budgets for IWRM activities at basin, aquifer, or sub-national levels (SDG 6.5.1, question 4.2d).**

## Action needed on Key message 2: Bridging the financing gap

While there is an array of approaches for increasing funding for water resources management, in the context of this report the fundamental and priority approaches should be:

- **Develop and implement revenue-raising and cost recovery arrangements, including through cross-sector approaches**, ensuring these are backed by the appropriate legislative frameworks and institutional capacity to implement them.
- **Make the case that investments in water management and infrastructure support other economic sectors and multiple development objectives**, such as those related to food and energy security, to secure greater allocations from national budgets for implementing IWRM (see Key message 4).
- **Addressing the above actions in a coordinated manner will have greater impact than if they are undertaken separately.** Making the case that water investments will support other economic sectors, for example by applying the Water-Energy-Food-Ecosystems (WEFE) nexus lens, which would mean that cost recovery is not only considered in water revenues, but for example also in revenues for food and energy production. Similarly, national budgetary contributions could also be directed towards water from budgets related to agriculture and energy.
- Governments should also consider a range of financing mechanisms appropriate to their national circumstances. See Section 2.2 of the main report, [financing section](#), for more details.



### **Key message 3: Using IWRM approaches – cross-sector, participatory management at the basin scale – in climate change adaptation efforts, presents a great opportunity to build resilience to climate change impacts.**

New data from the SDG 6.5.1 survey reveals that, while most countries appreciate the strong links between water and climate, there is significant untapped potential for strengthened links between climate change adaptation, mitigation and IWRM action. This is particularly the case in the areas of: (1) coordination between water and climate authorities, (2) policy and action planning, (3) human and institutional capacity, and (4) financing. Taking an IWRM approach not only facilitates coordination between ‘water’ and ‘climate’ but boosts resilience across all relevant sectors. Furthermore, prevention is cheaper than cure. Integrated planning, action and investment for both climate change adaptation and IWRM avoids higher costs in loss and damages from climate impacts and increases the efficiency of countries’ response to water-related disasters. Integrating Nature-based solutions (NbS) and Ecosystem-based adaptation (EbA) through IWRM also builds resilience to rising pressures such as pollution, destruction of ecosystems, and loss of biodiversity.

#### **Action needed on Key message 3: On coordinating climate and water action**

- **Coordinate planning and management between sectors, through an IWRM approach, to better adapt to the impacts of climate change.** This includes human and technical capacity, sharing data and information, coordinated financing and priority-setting within national budgets, and transboundary coordination where appropriate.
- **Use climate financing for implementing coordinated water management and cross-sector climate resilience projects,** building on the experiences of many countries that have done so, including through mechanisms such as the Green Climate Fund, the Global Environment Facility, and the Adaptation Fund.

See [chapter 3 of main report](#) for more details.

**Key message 4: Political commitments at the global level for sustainable water management have never been higher, but they have not been matched by the required finance or action on the ground. Recognizing IWRM approaches as being relevant to achieving other development objectives, including energy and food security, is critical to accelerating progress on sustainable development.**

The value of implementing IWRM for sustainable water management is not always well understood at the highest national level, where resource allocations are made.

While each country must make its own decisions on allocating funding between areas such as health, education, and poverty reduction, among others, it is important that these are informed, mutually-reinforcing decisions. They must be based on understanding the high benefit-cost ratios of investing in water management to increase productivity, reduce costs from loss and damages arising from floods and droughts, and support multiple development objectives.

**Action needed on Key message 4: To address the gap between global commitments and country progress**

- **Make the case for, and advocate the value of implementing IWRM at the highest national level**, to achieve multiple development objectives, increase budgets and secure the high-level commitment necessary for effective cross-sector coordination. Ministries responsible for planning and finance can then provide the required political mandate and financial backing, including priority-setting on allocation of funds for water-related investments (see Key message 2).
- **Mainstream IWRM into other development sector actions**, such as those aiming to achieve food and energy security, climate resilience, and water supply and sanitation, with indirect but important links to gender goals, poverty reduction, education, employment and justice. In practice, this requires policy alignment and incentives for cross-sector priority-setting for the allocation of funds towards mutually-reinforcing water-related investments.

See [chapter 4 of main report](#) for more details.

Ultimately, it is up to each country to determine what their main barriers are to achieving sustainable water management, building on SDG 6.5.1 reporting and other sources, and explore the most effective ways of overcoming them, in the national context. We hope that the findings and recommendations made in this report will help galvanize action to encourage and support countries to advance implementation of integrated water resources management, and in turn accelerate broader progress on sustainable development, particularly where it is needed most.

## Further information and support

**IWRM data portal** (<http://iwrmdataportal.unepdhi.org>): National SDG 6.5.1 reports, country summaries, global and regional results and reports.

**SDG 6 IWRM Support Programme** ([www.gwp.org/en/sdg6support](http://www.gwp.org/en/sdg6support)): Assists governments and other stakeholders in designing and implementing country-led responses to SDG indicator 6.5.1, to accelerate progress towards the achievement of water-related SDGs and other water-related objectives, in line with national priorities. It is structured in three stages, supporting countries to: (1) identify challenges through SDG indicator 6.5.1 reporting; (2) develop climate-resilient water investment plans; and (3) access financing for implementation. The Programme is operated under the guidance of the UN Environment Programme (UNEP) and coordinated by the Global Water Partnership (GWP) in collaboration with the UNEP DHI Partnership – Centre on Water and Environment and UNDP Cap-Net.

**IWRM topic briefs** are expected to be developed on different topic areas to provide additional analysis and recommendations, such as on climate, gender, and ecosystems (see Chapter 4 of main report). These will help communicate key messages and recommendations to different target audiences.



# 1. Introduction: Integrated Water Resources Management for Sustainable Development

Coordinated and sustainable water management is essential for sustainable development. Implementing integrated water resources management (IWRM) is a means of achieving this.

# 1.1 Introduction

IWRM is the internationally-recognized approach that helps to balance competing water demands from across society and the economy, without compromising the sustainability of vital ecosystems. Its importance has been recognized for decades but was further strengthened by its adoption in the 2030 Agenda, in SDG Target 6.5.

A holistic approach, IWRM aims to ensure that every aspect of water management is considered, through four main areas: enabling environment, institutions and participation, management instruments, and financing (see [Section 2.2](#)).

## Why IWRM is important

Water is a connector across most of the biggest challenges of our time, as a threat but also a resource. Implementing IWRM can help to tackle these challenges in parallel. The approach enables countries and water managers to address water-related development issues, including increasing and competing demands between users and sectors, as well as those stemming from the triple planetary crisis of pollution, biodiversity loss and climate change.

The top four global risks for the next 10 years are all environmental, linked to sustainable water management: extreme weather events, critical change to earth systems, biodiversity loss and ecosystem collapse, and natural resource shortages (World Economic Forum 2024). Vulnerability to water insecurity and climate-related disasters can arise from factors including: physical water scarcity (including over-abstraction from uncoordinated use); environmental degradation (deforestation, pollution, encroachment on water-related ecosystems); climate change impacts (floods, droughts, altered precipitation patterns); infrastructure (poorly maintained or inadequate grey and green infrastructure can impact water supply for various uses); geopolitical factors (transboundary water impacts, conflicts); and social and economic factors (marginalized and poorer communities tend to face higher water insecurity) (Caretta *et al.* 2022). To build resilience to these risks, coordinated natural resources management is needed across geographical, political, economic and sector boundaries. Coordination and good governance are the

cornerstone of integrated water resources management, given its holistic approach in trying to allow for all key demands and needs (Box 1.1).

### Box 1.1: IWRM, the Water-Energy-Food-Ecosystems (WEFE) Nexus and other complimentary integrated approaches

In addition to integrated water resources management, there are many frameworks that support the integrated, cross-sector and sustainable management of natural resources for socioeconomic benefits. These include the WEFE nexus, Source to Sea, Integrated Land Management, and Integrated Natural Resources Management, amongst others. None of these are contradictory to IWRM. In fact, adopting frameworks and terminologies that are either well known or relevant in the local context can be an effective way of operationalizing certain aspects of IWRM.

Similarly, using other water-centric terminology and frameworks which have similar approaches and objectives to IWRM, but may be more commonly used in the local context, will support progress towards these shared objectives, as long as all the aspects of IWRM (as summarized in the SDG 6.5.1 survey), are accounted for and addressed. These include [integrated catchment management](#), [integrated watershed management](#), [Ridge to Reef](#), [integrated coastal zone management](#), [ecosystem-based management](#), [water security](#), [water stewardship](#), and [sustainable water management](#). The key messages and findings of this report can be considered relevant for each of these approaches.



## What IWRM requires in practice

A country with a high level of IWRM implementation has laws, policies and plans in place that are functional, budgeted, financed, enforced, and reviewed periodically. They have strong institutions with clearly-defined mandates and effective cross-sector coordination mechanisms for efficient financing and implementation across authorities and other stakeholders. They govern surface waters and groundwater at national, subnational and basin scales, including transboundary basins, through inclusive catchment management, considering all water users and sector needs, while taking a climate and disaster-resilient approach to development, respecting nature and biodiversity, mainstreaming gender considerations, and including vulnerable groups.

## 1.2 Sustainable Development Goals and SDG 6

The SDGs are the global framework agreed by all countries to advance towards sustainable development for all by 2030 (UN 2015). **2023 marks the half-way point of implementation towards the goals, but the world is not currently on track to achieve SDG 6** (UN 2024).

The SDGs represent a comprehensive approach to addressing global challenges, as one of the fundamental principles of the SDGs is their “integrated and indivisible” nature. The SDGs were framed to encourage integrated resource management and nexus thinking for environmental, economic and social solutions. Today’s institutional endeavours are not necessarily following through on that promise, and much remains to be done to break down silos and foster collaborative action (United Nations Environment Programme [UNEP] 2024).

IWRM underpins all water-related goals and targets across the SDGs, as well as supporting the Paris Agreement on climate change, the Kunming-Montreal Global Biodiversity Framework, the Sendai Framework for Disaster Risk Reduction, and others. Viewing and addressing social and economic challenges through a natural resources management lens is increasingly captured in national planning frameworks by governments around the world, who view it as vital for building resilience to multiple pressures. Transboundary and cross-sector cooperation using an IWRM approach is needed for effective water management to increase resilience and achieve SDG Target 6.5 (UNEP 2024).



**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 implementation (per cent).

**Indicator 6.5.2:** Proportion of transboundary basin area with an operational arrangement for water cooperation (UNECE and UNESCO 2024).



# 1.3 How IWRM links to other SDG 6 Targets

IWRM linkages exist across all SDG 6 Targets and to nearly all SDGs, to a greater or lesser degree (UNESCO 2016). Thirty-two instances have been identified in which the achievement of specific SDGs depends also on the implementation of SDG 6, with IWRM being a “pivotal tool for the successful implementation of the SDGs” (UNESCO 2016). Investing in IWRM (in all senses of the term, beyond financing) should enable progress for all targets, within SDG 6 and beyond (UN-Water 2016; Libala, Nyingwa and Griffin 2021; Bilalova et al. 2023).

SDG indicator 6.5.1 effectively serves as a useful proxy indicator for sustainable water management, with excellent global coverage and an established timeline to measure progress and estimate projections.

IWRM emphasizes the importance of managing water resources in a holistic manner, which includes addressing water quality issues such as pollution and contamination (Target 6.3), that water is used efficiently by all users and stakeholders (Target 6.4), including in transboundary basins (Target 6.5). By managing water resources effectively, countries can ensure reliable access to clean and safe drinking water for all (Target 6.1) and the availability of sufficient water for sanitation (Target 6.2). Finally, IWRM approaches can safeguard and restore water-related ecosystems, including rivers and lakes, wetlands, and aquifers, which are vital for maintaining water quality, biodiversity, and ecosystem services (Target 6.6) (Figure 1.1). Countries with a high level of IWRM implementation will manage water in a coordinated and integrated way and are more likely to have advanced levels of implementation across other SDG 6 Targets.

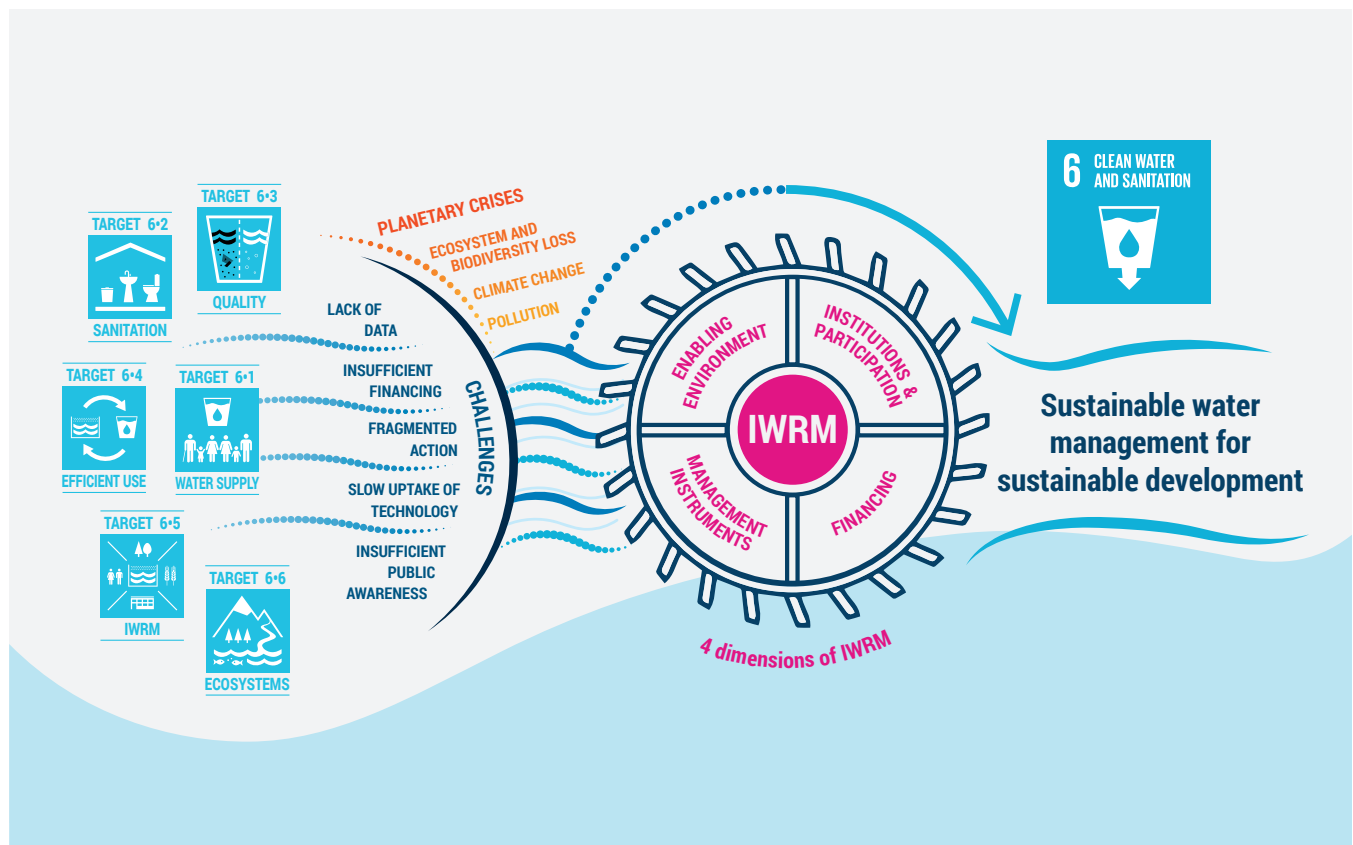


Figure 1.1: Implementing integrated water resources management (IWRM) supports and coordinates action on all SDG 6 targets and related objectives.

## Report structure and features

This report presents the progress of IWRM implementation, as measured through SDG indicator 6.5.1. **Chapter 2** presents the results of the 3rd global monitoring round that took place in 2023: Section 2.1 gives the status and trends for the overall indicator at global, regional, and national levels; Section 2.2 explores the status, barriers, and actions needed across the four main IWRM dimensions and selected questions from the 6.5.1 survey; and 2.3 summarizes the way forward. **Chapter 3** explores the interlinkages between water and climate; Section 3.1 makes the case for coordinated action; 3.2 gives the status, barriers, and actions for selected topics; and 3.3 summarizes the way forward. **Chapter 4** looks at what can be done to practically

increase action on IWRM implementation, including making the case for how IWRM supports multiple development objectives at the highest national level (Section 4.1), and across sectors (Section 4.2).

Each chapter starts with key messages and actions needed. Pale yellow boxes in the report summarize actions needed. Light blue boxes mostly provide country and regional examples of implementation. Country names included in-line in the main text refer to instances that illustrate the text, and the SDG 6.5.1 country surveys can be referred to for more detail: <https://iwrmdataportal.unepdhi.org/country-reports>. Global maps for each of the 33 SDG 6.5.1 survey questions ([Annex 1.2](#)), that are not included in the main body of the report, are provided in [Annex 2.4](#).









## **2. IWRM status and progress**

## Key message 1:

- **At the current rate, the world will not achieve sustainable water management until at least 2049 – 25 years from now** (Figure 2.1).
- **In 2030, at least 3.3 billion people and the economies of more than 100 countries are unlikely to have effective governance frameworks to balance competing water demands and cope with increasing pressures, including from climate change** (Figure 2.3).

### Action needed on Key message 1: To progress on IWRM overall

- **Action needs to be prioritized in the 40 per cent of countries with ‘low’ and ‘medium-low’ IWRM implementation**, followed by the 34 per cent of countries with ‘medium-high’ implementation, building on experiences from countries that are more advanced or making good progress.
- **Coordinated planning and management is needed, in partnerships at all levels**, including as relevant: national, sub-national and basin authorities; private sector; water user associations, non-governmental and community-based organizations; the research sector; transboundary and regional organizations, development banks, donors, and finance institutions; and local and international development partners, including UN Country Teams and agencies.
- The types of actions needed vary between countries, and gaps can be identified from the 6.5.1 country reports, among other sources. Nonetheless, **some of the most commonly reported priority areas include**: addressing the financing gap ([see Key message 2](#)); better coordination between climate and water authorities and processes ([see Key message 3](#)); raising political commitments for IWRM at the highest national level, cross-sector coordination and stakeholder engagement ([see Key message 4](#)); as well as enhancing institutional capacity and developing and implementing laws, regulations, plans, and policies.

## Key message 2:

- **Insufficient finance constrains the implementation of integrated water resources management, limiting institutional capacity, monitoring networks, and the application of management instruments.**
- **More effective revenue-raising for water management and infrastructure is needed in 85 per cent of countries** (Figure 2.10).

### Action needed on Key message 2: Bridging the financing gap

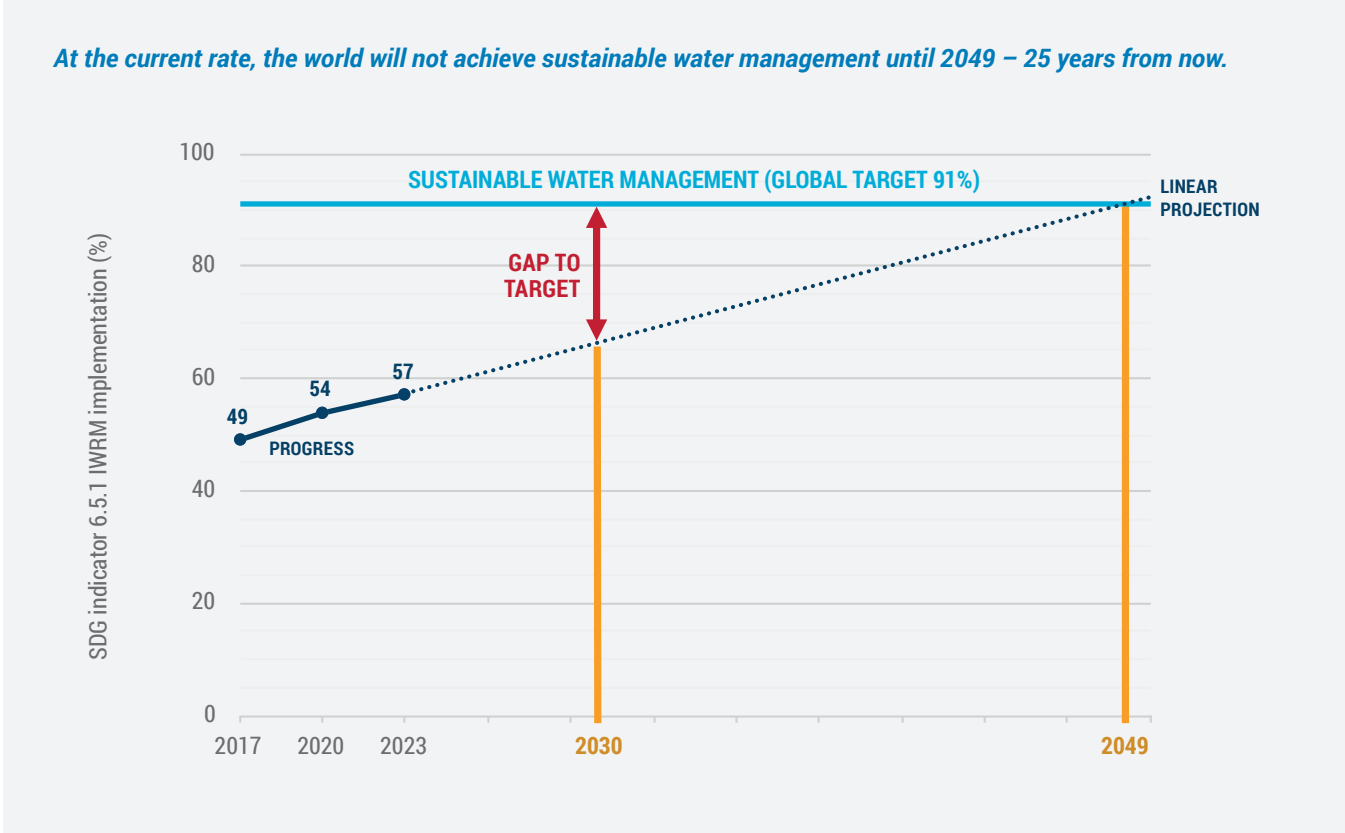
While there is an array of approaches for increasing funding for water resources management, in the context of this report the fundamental and priority approaches should be:

- **Develop and implement revenue-raising and cost recovery arrangements, including through cross-sector approaches**, ensuring these are backed by the appropriate legislative frameworks and institutional capacity to implement them.
- **Make the case that investments in water management and infrastructure support other economic sectors and multiple development objectives**, such as those related to food and energy security, to secure greater allocations from national budgets for implementing IWRM (see Key message 4).
- **Addressing the above actions in a coordinated manner will have greater impact than if they are undertaken separately.** Making the case that water investments will support other economic sectors, for example by applying the Water-Energy-Food-Ecosystems (WEFE) nexus lens, would mean that cost recovery is not only considered in water revenues, but for example also those for food and energy production. Similarly, national budgetary contributions could also be directed towards water from budgets related to agriculture and energy.
- Governments should also consider a range of financing mechanisms appropriate to their national circumstances, as well as ensuring gender responsive budgets to ensure equitable distribution of water resources. See Section 2.2, [financing section](#), for more details.



# 2.1 IWRM status and progress – global, regional, and country

## Global



**Figure 2.1: Global progress on SDG 6.5.1 on IWRM implementation.**

Note: Indicator data based on stakeholder consultation processes to complete an IWRM survey with 33 questions across 4 key dimensions: enabling environment, institutions and participation, management instruments, and financing. This figure based on data from 191 countries reporting across 3 rounds (2017, 2020, 2023)<sup>1</sup>, with at least 170 countries per round, and 137 countries reporting in all 3 rounds. See Annex 1.2 for more details.

The global average indicator score has increased from 49 per cent in 2017 to 54 per cent in 2020 to 57 per cent in 2023. Assuming 'linear' progress, this may result in a score of around 67 per cent in 2030, well below the global

target of 91-100 per cent. However, it is more likely that global progress will 'slow' as operationalizing aspects of IWRM is likely to be restricted by barriers such as financing and institutional capacity (Section 2.2).

<sup>1</sup> With corresponding progress reports published in 2018, 2021, and 2024.

# Country level

## Positive steps in most countries must be built upon to achieve water security.

40 per cent of countries still have limited capacity to balance competing demands across sectors and cope with increasing pressures, and are unlikely to meet Target 6.5 ('low' and 'medium-low' IWRM implementation, orange and yellow colours).<sup>2</sup>

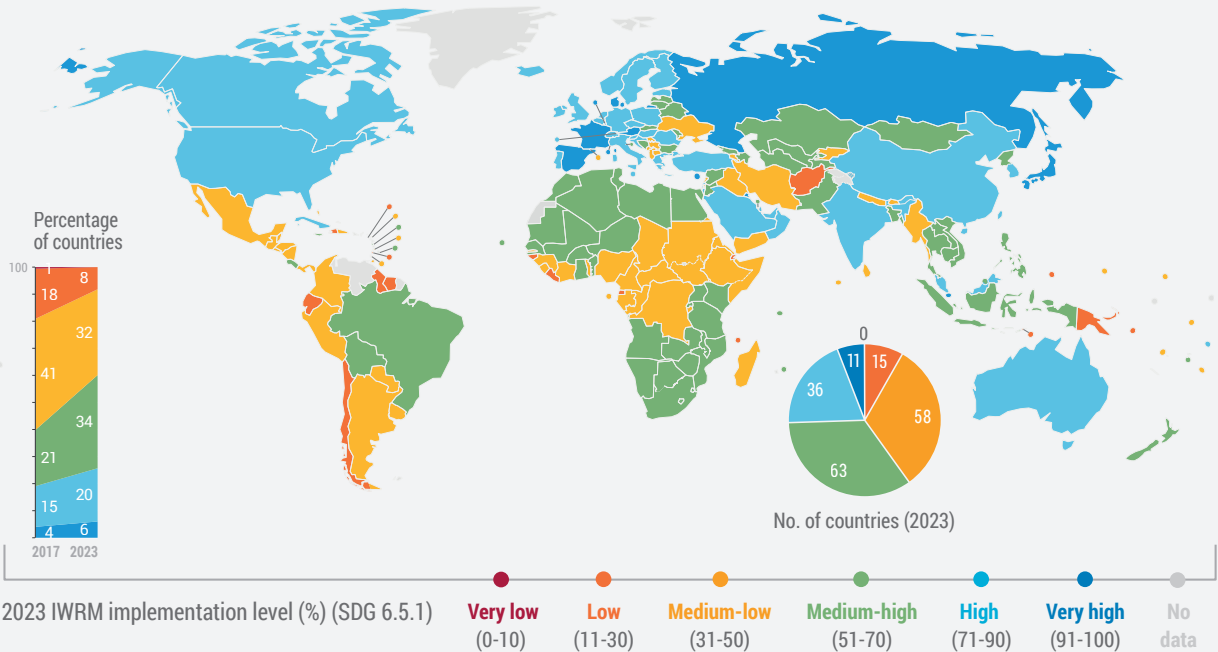


Figure 2.2: Global status of IWRM implementation, 2023 or latest (SDG 6.5.1).

Table 2.1: IWRM implementation levels, score thresholds, and general interpretation (SDG 6.5.1).

IWRM LEVEL (SCORES (%))	GENERAL INTERPRETATION	RESILIENCE TO PRESSURES
<b>Very low (0-10)</b>	Little to no sustainable water management arrangements.	Low
<b>Low (11-30)</b>	Arrangements being developed.	
<b>Medium-low (31-50)</b>	Arrangements generally approved and institutionalized, but limited implementation.	
<b>Medium-high (51-70)</b>	Implementation started, but not always effective.	Medium
<b>High (71-90)</b>	Some sustainable water management objectives met (close to target).	High
<b>Very high (91-100)</b>	<b>Global target.</b> Sustainable water resources management.	

<sup>2</sup> While the 6.5.1 methodology is designed to be statistically robust, multi-stakeholder in nature and comparable across the world, ultimately it relies on in-country self-assessment, reported through official channels (see Box 2.2 and Annex 1 for more details).

60 per cent of countries, compared to 40 per cent in 2017, have now institutionalized, and at least started implementing most aspects of IWRM ('medium-high' implementation and above). However, 40 per cent of countries (73)<sup>3</sup> are generally either still developing most arrangements for IWRM or have limited implementation of them ('low' and 'medium-low' implementation, orange and yellow colours). They are unlikely to advance sufficiently on the required governance frameworks to balance demands and be sustainably developing and managing their water resources by 2030 (see individual country scores in [Annex 2.2](#)). These countries typically have lower levels of socioeconomic development and are likely to experience rapidly increasing pressures – such as increased water demand and pollution – as they strive to meet development objectives. Such pressures are likely to be exacerbated by increasing climate change impacts. Developing and implementing the frameworks for sustainable water management, involving cross-sector coordination, becomes more critical than ever in these contexts. These are the

highest priority for action. These countries are found in all regions, with a particularly high proportion among Small Island Developing States (SIDS) (see next section "Regional level").

34 per cent of countries (63) face a similar, though less acute, situation ('medium-high' implementation, green colours). They generally have the frameworks in place, and are at least starting to implement most aspects of IWRM, though sustainable water management objectives are typically not met. Across both groups, most countries report that they do not expect to reach the global target, and many have set lower national targets (Box 2.1).

26 per cent of countries (47) are generally meeting sustainable water management objectives, and are likely to be more resilient to pressures such as climate change, ecosystem and biodiversity loss and pollution ("high" and "very high" implementation, blue colours). Further detail and examples are provided in [Section 2.2](#).

### **Box 2.1: Many countries report they do not expect to reach the global target, but most don't have official targets or sufficient budgeted plans for advancing on IWRM**

Of the countries that provided information, 50 per cent report that they are unlikely to reach the global target for SDG 6.5.1. Despite this, almost no countries have set formal national targets, and many countries do not have adequate plans, with clear pathways to secure financing, for how to advance on the different dimensions of IWRM. While 20 per cent of countries deferred to the global target (or have already reached it), 50 per cent have informally set lower national targets, through the SDG 6.5.1 reporting process (see results table in [Annex 2.2](#)). Of these, approximately 50 per cent do not anticipate they will reach their (lower) national targets by 2030 under "business-as-usual" progress.

- 9 countries have set informal targets in the 'medium-low' range (31-50 per cent)
- 30 countries have set informal targets in the 'medium-high' range (51-70 per cent)
- 42 countries have set informal targets in the 'high range' (71-90 per cent)
- 30 per cent of countries did not provide any information on target setting.

[continue on next page](#)

<sup>3</sup> Percentages and numbers of countries based on 183 countries that reported in 2023. The map in Figure 2.2 includes most recent results (2020) for an additional 8 countries, though all other maps in this report only include data for the 183 countries (see Annex 1.1 for more details).

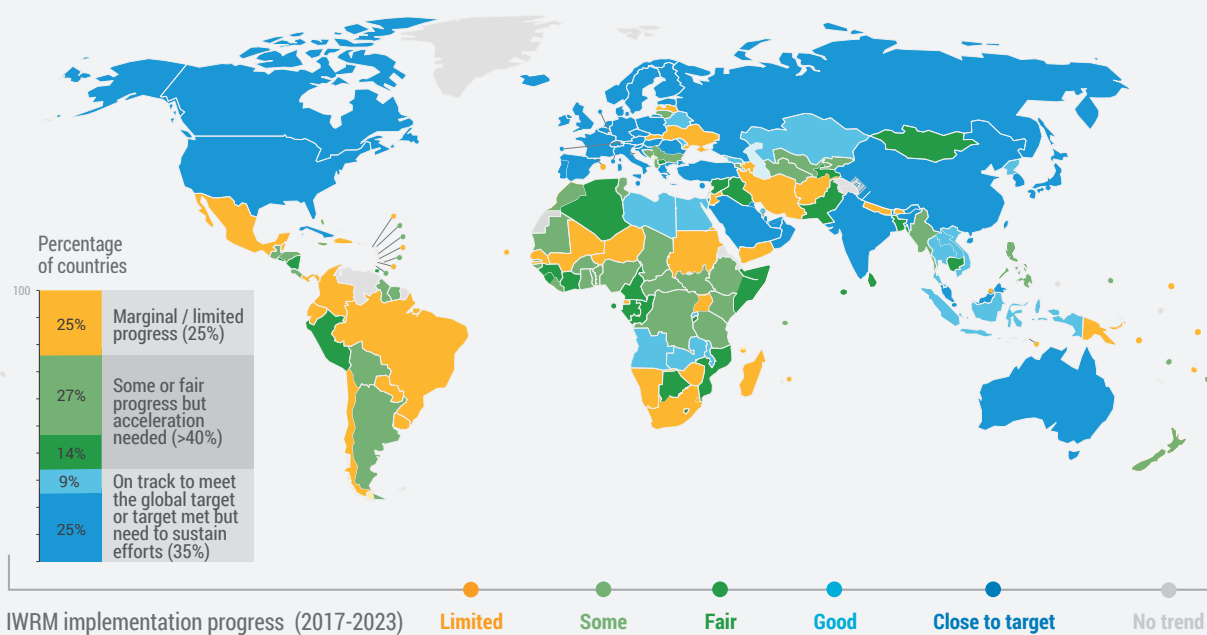
continued

The SDG 6 IWRM Support Programme can support countries to develop targets and plans. This process has been facilitated in 19 countries so far through the Programme's [Stage 2](#), with support to another 20-25 countries expected in 2024-2026. As an example, assisted by the Support Programme, [Panama defined an ambitious Action Plan](#) containing 35 key actions to be implemented over the 2022-2026 period, with a US\$14 million price tag, to which the Panamanian authorities have committed an initial US\$3.43 for implementation, with the Support Programme assisting the country to leverage other financial resources. As a result of this process and other ongoing activities, Panama advanced from 33 per cent IWRM implementation in 2020 to 40 per cent in 2023 and is well placed to be able to accelerate action in the future.

Source: SDG 6.5.1 2023 survey results (Annex B of the survey) and <https://gwp.shorthandstories.com/investing-in-iwrm-actions-in-panama/>  
<https://gwp.shorthandstories.com/investing-in-iwrm-actions-in-panama/>

## Although most countries are making some progress, it is unlikely to be at the pace required to address rising pressures.

**65 per cent of countries appear not to be making sufficient progress to achieve the global target by 2030 ('limited', 'some', 'fair' progress).**



**Figure 2.3: Progress categories for IWRM implementation (2017-2023) (SDG 6.5.1).**

Progress key: Limited (47 countries (25 per cent)) = marginal/limited progress (potentially reported regression); Some (50 countries (27 per cent)) = some progress but significant acceleration needed; Fair (26 countries (14 per cent)) = fair progress, but moderate acceleration needed; Good (17 countries (9 per cent)) = likely to be on track to meet the global target; Close to target (48 countries (25 per cent)) = close to target, or target met, but need to sustain efforts, since achieving and maintaining the objectives of sustainable water management is an ongoing process (651 scores >=71 per cent).

While IWRM implementation is not a linear process, and three data points cannot provide a statistically strong trend projection, the data at least gives an approximation of the rate of implementation. Based on this data, by 2030, it is unlikely that 123 countries, with a combined population of 3.3 billion people, will reach the global target of 91-100 per cent.<sup>4</sup> The population affected is likely to be much higher, as even countries that are “close to target” may still have proportions of their populations which are still vulnerable to various pressures (including in highly populous countries such as China, India, Russia, and USA). However, progress data at the country level should be approached with

caution. For most countries, the data-collection processes in 2017, 2020 and 2023 have involved increasingly comprehensive stakeholder consultation (Box 2.2). For a few countries, this may have resulted in significant changes in score, which are more likely to be a result of this more robust process, rather than significant progress or regression.

For this reason, the 2023 scores should be seen as the most ‘accurate’ data set (see Annex 1.4 for further discussion). Interpretation of progress should always be checked against information provided for each question in the country surveys, and responses given to Annex B of the survey.<sup>5</sup>

## Box 2.2: Countries allocate resources to conduct multi-stakeholder consultations to report on SDG 6.5.1

In 2023, governments in 67 countries contributed approximately 150 000 USD in-kind for expenses, as well as incalculable hours of staff time, towards their national multi-stakeholder consultations, to complement the financial and technical resources provided through the SDG 6 IWRM Support Programme. Co-financing from other countries has not been reported on, but is likely to be significant. These contributions were pivotal not just for monitoring, but also for increasing shared understanding of IWRM challenges, and commitment towards improving performance.

This huge mobilization effort, which brought together over 2 700 stakeholders (an average of 40 per country, with 55/45 male/female participation), also leveraged additional financial and technical commitments. In **Turkmenistan**, more than 8 000 USD was mobilized from the GIZ Project “Climate Risk Management in Central Asia”, for the consultation process. This included training government officials on the SDG 6.5.1 reporting process, which will allow them to better track country-level progress between reporting rounds. In **Tunisia**, the 2023 consultation process directly led to the creation of an inter-ministerial and inter-department IWRM Committee, with an initial three-year mandate to coordinate efforts to evaluate and boost IWRM implementation, following up on the national IWRM Action Plan (see Annex 1.3).

Source: <https://www.gwp.org/en/About/more/news/2024/driving-progress-on-iwrm-insights-from-the-2023-data-drive/>

4 Based on countries with ‘limited’, ‘some’, and ‘fair’ progress as of 2023, with projected populations in 2030 (see progress key for Figure 2.3, and Annex 1.1 for further details).

5 Country surveys available via <https://iwrmdataportal.unepdhi.org/country-reports>

## Regional level

The regional picture is mixed, and regional bodies have a role to play in supporting country implementation of IWRM.

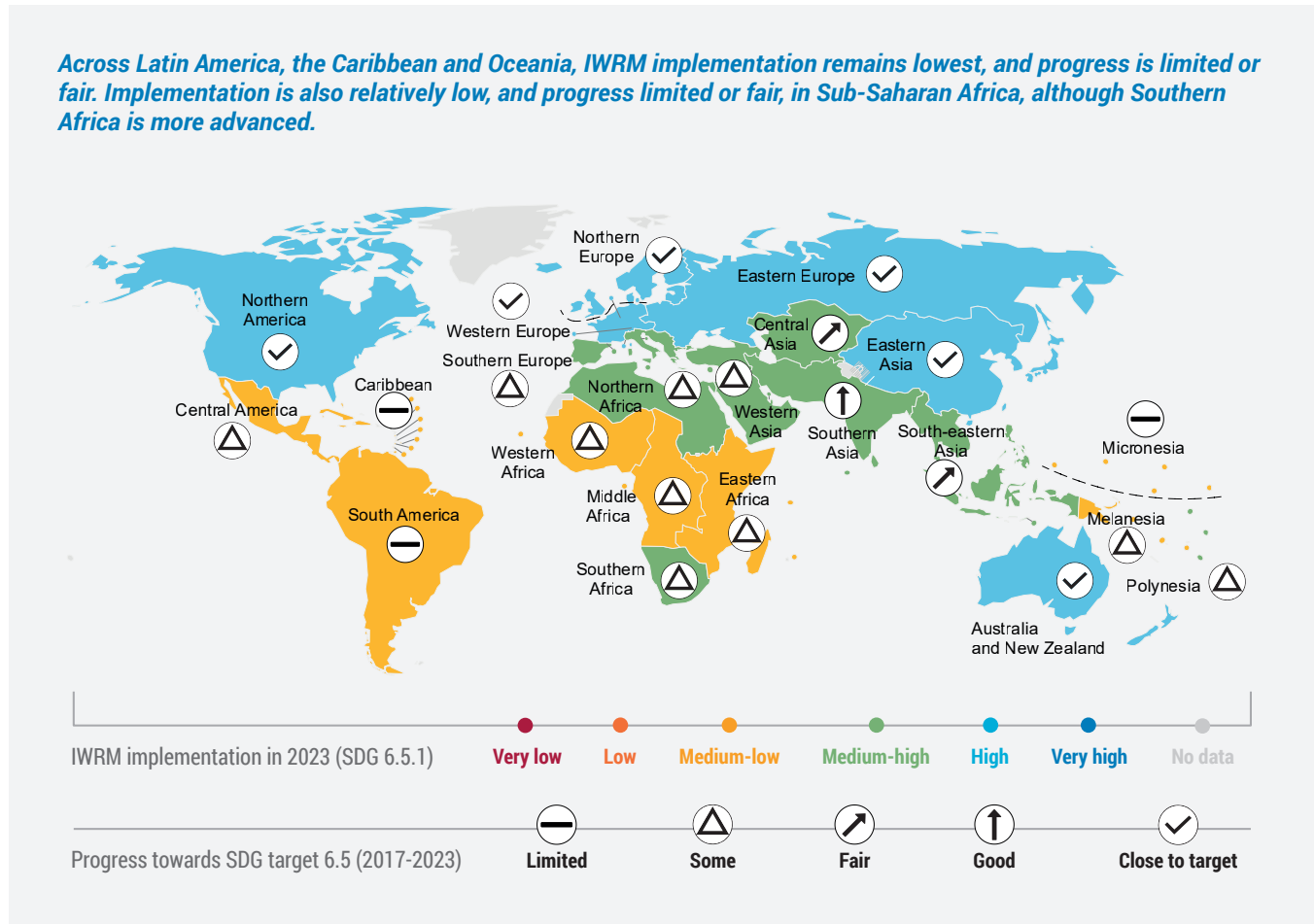


Figure 2.4: Level and progress in 22 subregions towards Target 6.5 (2017–2023).

Progress key: Limited = marginal/limited progress; Some = some progress but significant acceleration needed; Fair = fair progress, but moderate acceleration needed; Good = likely to be on track to meet the global target; Close to target = close to target, or target met, but need to sustain efforts, since achieving and maintaining the objectives of sustainable water management is an ongoing process (651 scores  $\geq 71$  per cent).<sup>6</sup>

In general, the average regional IWRM implementation score corresponds to overall levels of development, with Europe and North America, and Australia and New Zealand reporting significantly higher average IWRM implementation. Notably, each region contains countries with a range of IWRM implementation levels, showing that successful implementation is not solely a result of socioeconomic development. Some countries with

relatively high IWRM implementation, compared to their overall levels of development, include Bolivia, Burkina Faso and Lao PDR.

Positive examples exist of regional bodies and coordination mechanisms facilitating accelerated implementation of IWRM, through regional policies and programmes, and coordinated financing (Box 2.3).

<sup>6</sup> For further information on the progress calculation methodology, see Annex 1.1. For indicator scores by region and sub-region, see table in Annex 2.3.



However, in most regions, the efforts and impacts of such bodies and mechanisms should be scaled up to support the necessary progress at the country level.

Where regional or subregional frameworks are relatively weak, there may be opportunity for other international organizations to support countries.

### Box 2.3: Regional level frameworks support national implementation

**Africa:** The [Africa Water Investment Programme \(AIP\)](#) has a goal to mobilize an additional USD 30 billion per year towards water and sanitation, built on a foundation of [national revenue-raising and budgeting](#). The AIP is led by the African Union Commission and African Union Development Agency, with several continental and international partners, including the African Ministerial Council on Water ([AMCOW](#)). Several sub-regional frameworks exist that support the coordinated financing and implementation of IWRM, for example the Economic Community of West African States (ECOWAS) and the Southern African Development Community (SADC).

**Asia-Pacific:** Asian Development Bank ([ADB](#)), Asian Infrastructure Investment Bank ([AIIB](#)), and the Economic and Social Commission for Asia and the Pacific (ESCAP), amongst others, have strategies and investment plans that support the implementation of IWRM in the region.

**Central America:** The Central American Commission on Environment and Development ([CCAD](#)) supported the development of an [assessment](#) of IWRM implementation, identifying opportunities for coordination action within the institutional and policy environment in the region.

**Europe:** Many countries in Europe identify the European Water Framework Directive (WFD) as the primary framework and enabler for IWRM implementation at the national level, with WFD articles converted into national legislation.

Source: SDG 6.5.1 reporting, including UNEP (2021).

**Latin America:** Inter-American Development Bank (IDB), Conference of Ibero-American Water Directorates and Authorities ([CODIA](#)), and the Economic Commission for Latin America and the Caribbean (ECLAC) all support countries with [various activities](#) related to sustainable water management.

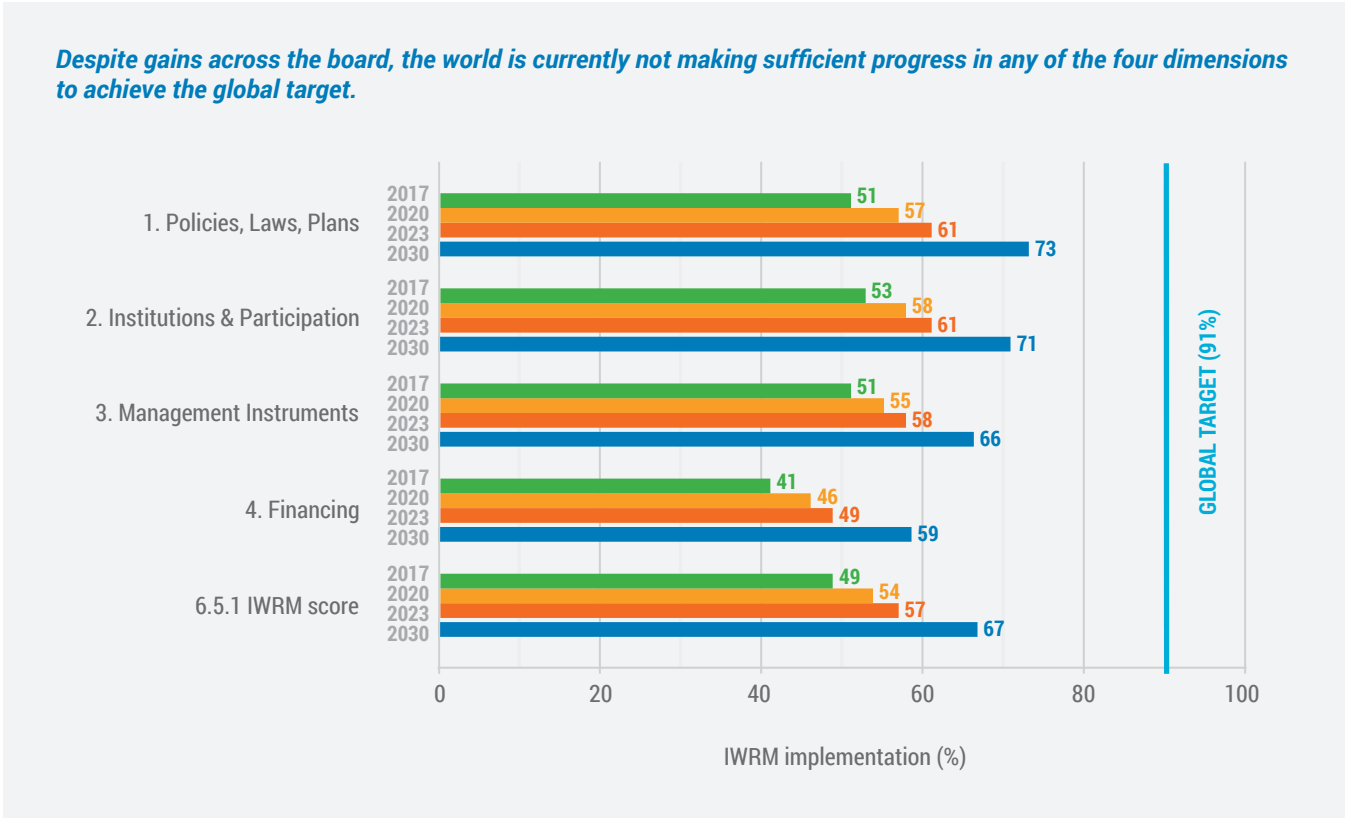
Sources: as provided in links. Lists of regions, sub-regions and associated authorities not exhaustive.

# 2.2 Progress, barriers, and action needed across the four IWRM dimensions

This section presents the progress, barriers, and action needed (in pale yellow boxes) across the four IWRM dimensions: (1) policies, laws, and plans; (2) institutions and participation; (3) management instruments; and (4) financing.<sup>7</sup> Throughout Section 2.2, the focus is on identifying the groups of countries with the lowest levels of implementation for each issue. This is because these countries are likely to

remain highly vulnerable to water insecurity, based on the topic being discussed. Furthermore, to ensure “no one is left behind” and to accelerate progress on the global average indicator score, these are generally the countries where action is needed most, and external support may be required.

**Many countries are making progress with developing and revising laws, policies and plans, but often lack the financial, institutional, and technical capacity to implement them. As a result, water resources are not being managed sustainably, with overuse and pollution continuing, and resilience to floods and droughts relatively low.**



**Figure 2.5: Status and trends of the four IWRM dimension averages (2017-2023) (projections are based on linear extrapolation of previous data points).**

<sup>7</sup> Most of the data for the analysis in this section come from the 33 questions in the SDG 6.5.1 IWRM survey (see Annex 1.2). The scores and text for each of these provide a rich source of information on the respective topic. A summary of all global responses and scores is available for download [here](#). Additional summary progress charts and maps for each of these questions are provided in Annex 2.4.

## (1) Policies, laws, and plans

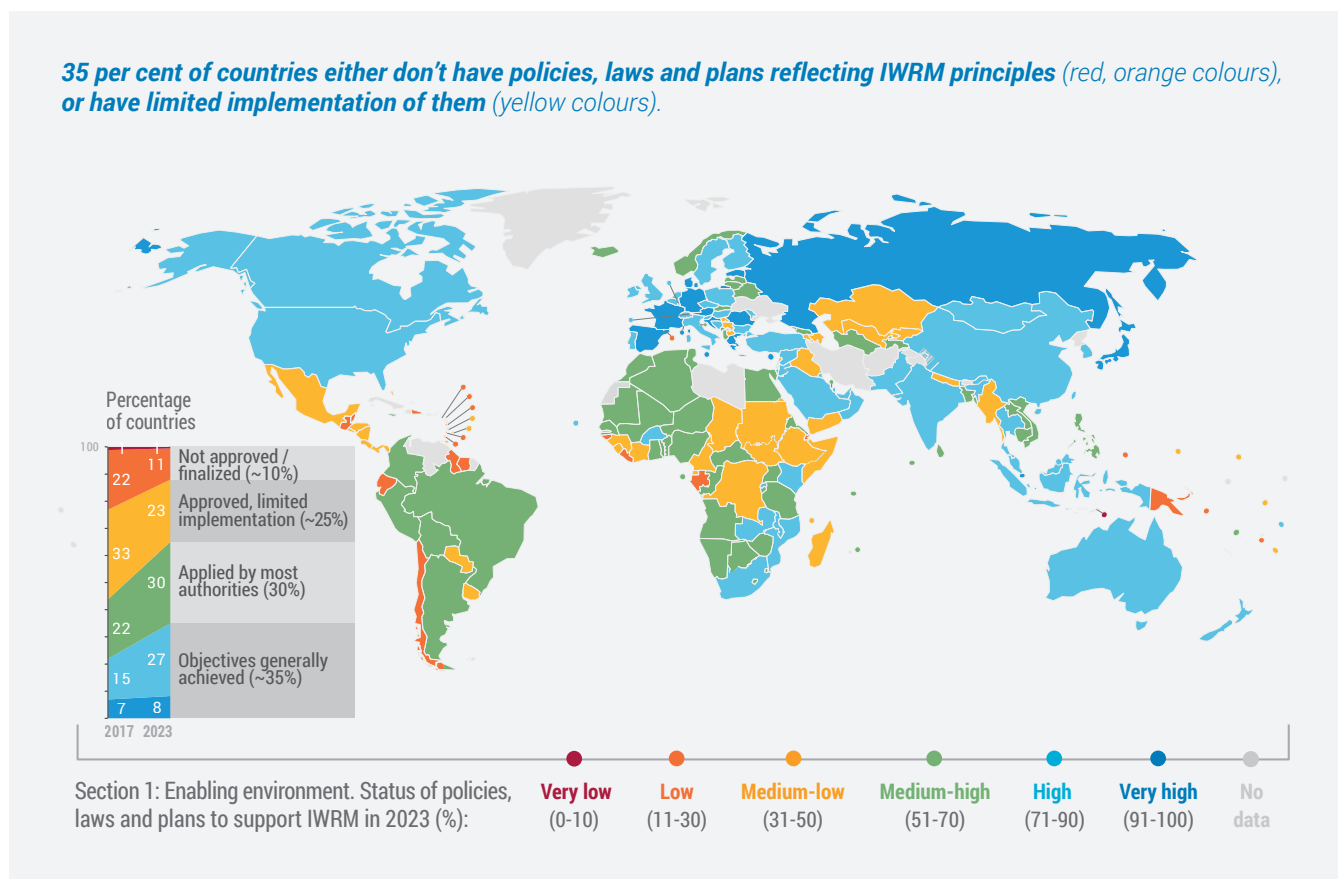
Policies, laws, and plans that address the integrated nature of water resources management – balancing needs and impacts across all levels of society, economy, and the environment – are all critical for supporting the implementation of IWRM.<sup>8</sup>

Of the four IWRM dimensions, the greatest advances have been made in the enabling environment (51 per cent to 61 per cent from 2017 to 2023, projected to reach around 73 per cent by 2030 (Figure 2.5)), with many countries developing, implementing, and revising policies, laws and plans (Box 2.4). Countries with scores between 51 per cent and 70 per cent ('medium-high') generally have policies, laws and plans

approved by government and at least starting to be used and implemented by the relevant authorities, but the objectives are generally not regularly achieved (Figure 2.6). Within the dimension, the most advanced are policies (66 per cent) and laws (65 per cent) at the national level, though plans lag (58 per cent). Implementation of each of these lags at the subnational and basin levels, compared to the national level.

### Barriers

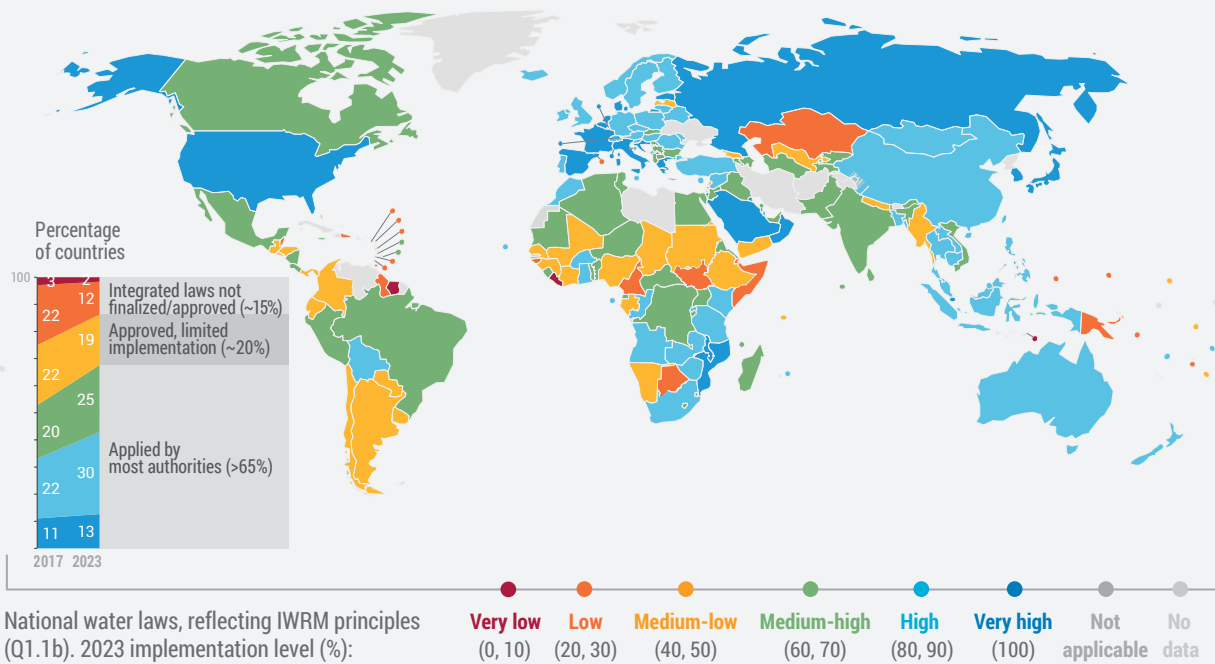
Strengthening legislative frameworks, including the capacity to enforce them, remains a major priority for almost 35 per cent of countries (Figure 2.7). However, doing so takes time, and there are many risks to the process, for example from changes of government.



**Figure 2.6: Average development and implementation of policies, laws, plans enabling environment (SDG 6.5.1, dimension 1 average).**

<sup>8</sup> See Annex 1.2 for all questions covered in dimension 1 in the SDG 6.5.1 IWRM survey, and Annex 2.4 for results maps for any questions not shown in this chapter.

**15 per cent of countries report not having approved modern water laws based on integrated approaches** (red and orange colours), **while a further 20 per cent of countries report having limited implementation of their laws** (yellow colours).



**Figure 2.7: Development and implementation of national water laws, reflecting IWRM (SDG 6.5.1, question 1.1b).**

## Key action needed on laws, policies, and plans

Governments need to develop or revise modern and effective laws and regulations, and increase capacity to enforce them, especially the 15 per cent of countries reporting not having approved modern water laws based on integrated approaches<sup>9</sup> (Figure 2.7, red and orange colours), and the 20 per cent of countries with limited implementation (Figure 2.7, yellow colours). This includes legislation for:

- coordinated development and management of water resources across sectors and uses (that is overarching 'modern' legislation, including definition of institutional roles and coordination mechanisms);
- establishing revenue-raising and power to enforce it;
- specific management arrangements, for example in the areas of: pollution control and wastewater treatment; sustainable and efficient water use management; disaster risk reduction; and protection and restoration of freshwater ecosystems and related biodiversity. These may include national and transboundary monitoring and reporting requirements and cross-sector early warning systems.

<sup>9</sup> Individual countries in each implementation level for each question can be identified from the full results file available from <https://iwrmdataportal.unepdhi.org/>.

## Box 2.4: Many countries are developing and revising laws, but outdated legal frameworks are a significant barrier in some

In the latest reporting period (2021-2023), more than 50 countries report new or revised water-related laws, though only about five developed overarching modern legislation for integrated water management. In Chile, important regulatory advances have been made which will allow gradual progress in IWRM implementation, such as the Framework Law on Climate Change (2022), the Update of the National Water Resources Adaptation Plan (2023), the Reform of the Water Code (2022), the creation of the Interministerial Committee on Just Water Transition (2022), and the Law on the Promotion of Public Investment in Irrigation and Drainage Works (2023), among others. However, some countries report that it can take many years for a major new law to be drafted, go through consultation, and be approved by parliament (for example Senegal, Trinidad and Tobago, South Sudan, Solomon Islands).

Source: SDG 6.5.1 2023 survey results

## (2) Institutions and participation

Institutions with capacity to lead IWRM implementation are needed at national, subnational and basin levels. They have an important role in cross-sector coordination. Stakeholder participation is a key element of IWRM, including governmental and non-governmental organizations and the private sector, at all levels, with consideration of gender and vulnerable groups.<sup>10</sup>

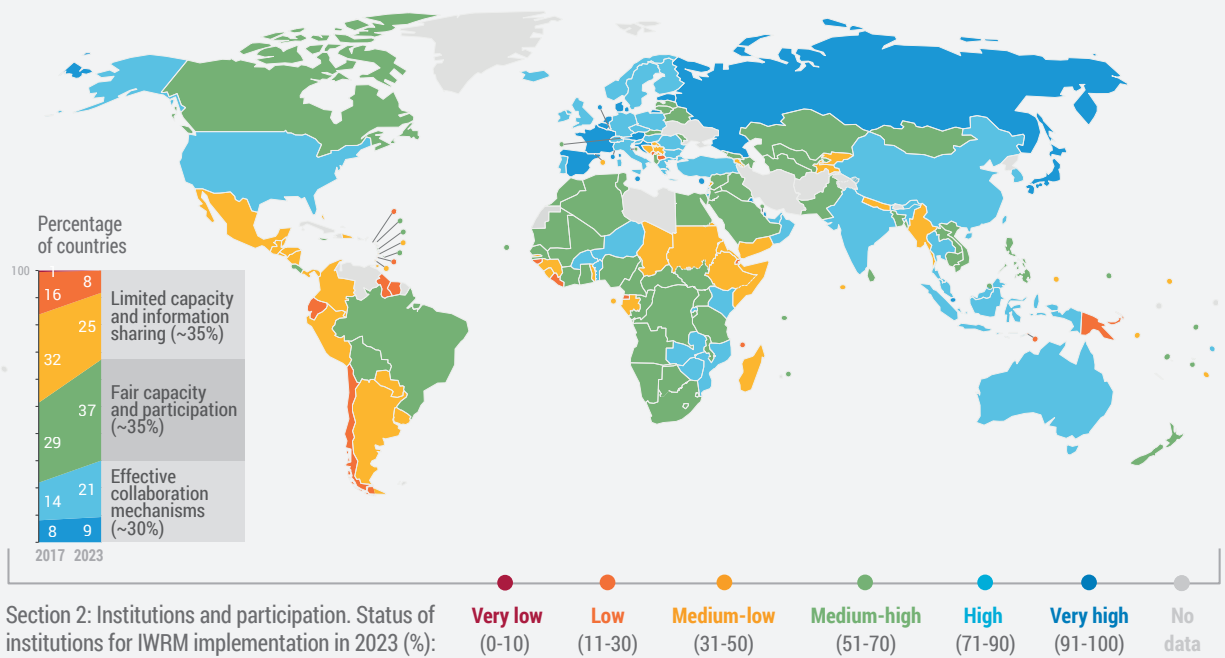
The global average score for “institutions and participation” is 61 per cent. Progress has been made since 2017 but is still too slow to reach the target by 2030 (current projected score is around 71 per cent (Figure 2.5)). However, to get a more nuanced picture of the dimension average, it is important to understand the results at the question level in each country (see below and all global maps shown in Annex 2.4).

### Barriers

- **Institutional capacity:** 35 per cent of countries don't have the institutional capacity to effectively lead IWRM implementation (question 2.1a, 'medium-low' and below).
- **Cross-sector coordination:** 50 per cent of countries don't have formal or effective mechanisms for cross-sector coordination (question 2.1b, 'medium-high' and below, Figure 4.1 (Section 4.3)). Many countries with formal mechanisms in place still cite cross-sector collaboration as a challenge (for example Greece, Angola, Zambia).
- **Capacity development:** 45 per cent of countries only have ad-hoc or limited capacity development for IWRM, for government and all stakeholders, at all levels (question 2.1e, 'medium-low' and below).
- **Public participation and gender mainstreaming:** 30 per cent of countries don't have effective public consultation processes, at national and local levels (questions 2.1c and 2.2b, medium-low and below). Countries also report a lack of monitoring and disaggregated data to interpret the status of gender mainstreaming in water resources planning (see Box 2.6).
- **Basin, aquifer and subnational institutions:** capacity at these levels is generally lower than at national level, yet these levels are critical to implement management instruments on the ground.

<sup>10</sup> See Annex 1.2 for all questions covered in dimension 2 in the SDG 6.5.1 IWRM survey, and Annex 2.4 for results maps for any questions not shown in this chapter.

**Almost 35 per cent of countries have, on average, limited institutional capacity, stakeholder involvement, and cross-sector coordination** (countries in red, orange and yellow).



**Figure 2.8: Average development and implementation of institutions and participation (SDG 6.5.1, dimension 2 average).**

## Key action needed on institutions and participation

- **Institutional and stakeholder capacity:** Governments and development partners must keep working to enhance capacity of institutions and stakeholders at all levels, particularly at basin/aquifer levels. Without this critical element, most other efforts will be in vain. See also Box 2.5.
- **Cross-sector coordination:** Ensure legislated institutional mandates and capacity for cross-sector coordination. See Chapter 4 for further related actions.



## Box 2.5: Institutional roles and mandates need to be clarified through regulations

In Uzbekistan, the 2021 Law “on Water and Water Use” defined the national bodies responsible for water resources management. A number of subsequent regulations have clarified the roles of relevant authorities, such as the Presidential decrees on measures “to transform the sphere of ecology and environmental protection and the organization of the activities of the authorized state body” (2023), “for the effective organization of the activities of the Ministry of Ecology, Environmental Protection and Climate Change” (2023), and “for the effective organization of the activities of the republican executive bodies within the framework of administrative reforms of the new Uzbekistan” (2022).

Source: Uzbekistan SDG 6.5.1 2023 survey results (question 2.1a, 2023 score of 70%)

## Box 2.6: Analytical tools to promote gender mainstreaming in policy making

To ensure the advancing of gender mainstreaming in policy and planning, the Government of Canada uses Gender-based Analysis Plus (GBA Plus). It is an analytical process that provides a method and a means to assess how diverse groups of women, men, and gender diverse people may experience policies, programmes, and initiatives. GBA Plus is an intersectional approach, considering identity factors beyond sex and gender, such as race, ethnicity, religion, age, and mental or physical disability, and how the interaction between these factors influences experiences of government policies and initiatives. Data related to gender, diversity and inclusion is then collected and published through the Gender, Diversity and Inclusion Statistics Hub. This type of approach can be used to ensure gender is mainstreamed in water resources management planning through an intersectional lens, ensuring no one is left behind.

Source: Canada SDG 6.5.1 2023 survey results (question 2.2d, 2023 score of 80%)

### (3) Management instruments

The degree of implementation of ‘management instruments’ is a measure of how the water resources and related matters are managed in practice. They include legislative, planning, economic, and technical tools and monitoring frameworks for issues such as water-use efficiency, pollution control, disaster risk reduction, and ecosystem management.<sup>11</sup>

<sup>11</sup> See Annex 1.2 for all questions covered in dimension 3 in the SDG 6.5.1 IWRM survey, and Annex 2.4 for results maps for any questions not shown in this chapter.

The global average score for management instruments has increased from 51 per cent to 58 per cent, projected to reach about 66 per cent in 2030 (Figure 2.5). However, ineffective management frameworks and tools leave people and economies vulnerable to water insecurity and climate-related disasters. 40-50 per cent of countries have only ad-hoc or limited management instruments

for disaster risk reduction (Chapter 3), sustainable and efficient water use, pollution control, and water-related ecosystems.

## Barriers

Many of the barriers for implementation of management instruments are linked to the barriers described for the other three IWRM dimensions, including: lack

of institutional and technical capacity at national, sub-national and basin levels (for example Liberia, Gambia, Lebanon); inadequate legislative frameworks, or inadequate capacity to enforce them (for example Kyrgyzstan on monitoring networks, Paraguay on pollution control); inadequate cross-sector coordination (for example Botswana, Trinidad and Tobago); and

insufficient funds to install and maintain monitoring systems for water availability, water abstractions and use, water quality, and early warning systems for disaster risk reduction (see also Section 3.2), which also means that lack of data is a persistent problem (for example Central African Republic, Guinea-Bissau, Uganda).

In general, management frameworks and tools at basin level lag the national level. Management of groundwater typically lags further still.

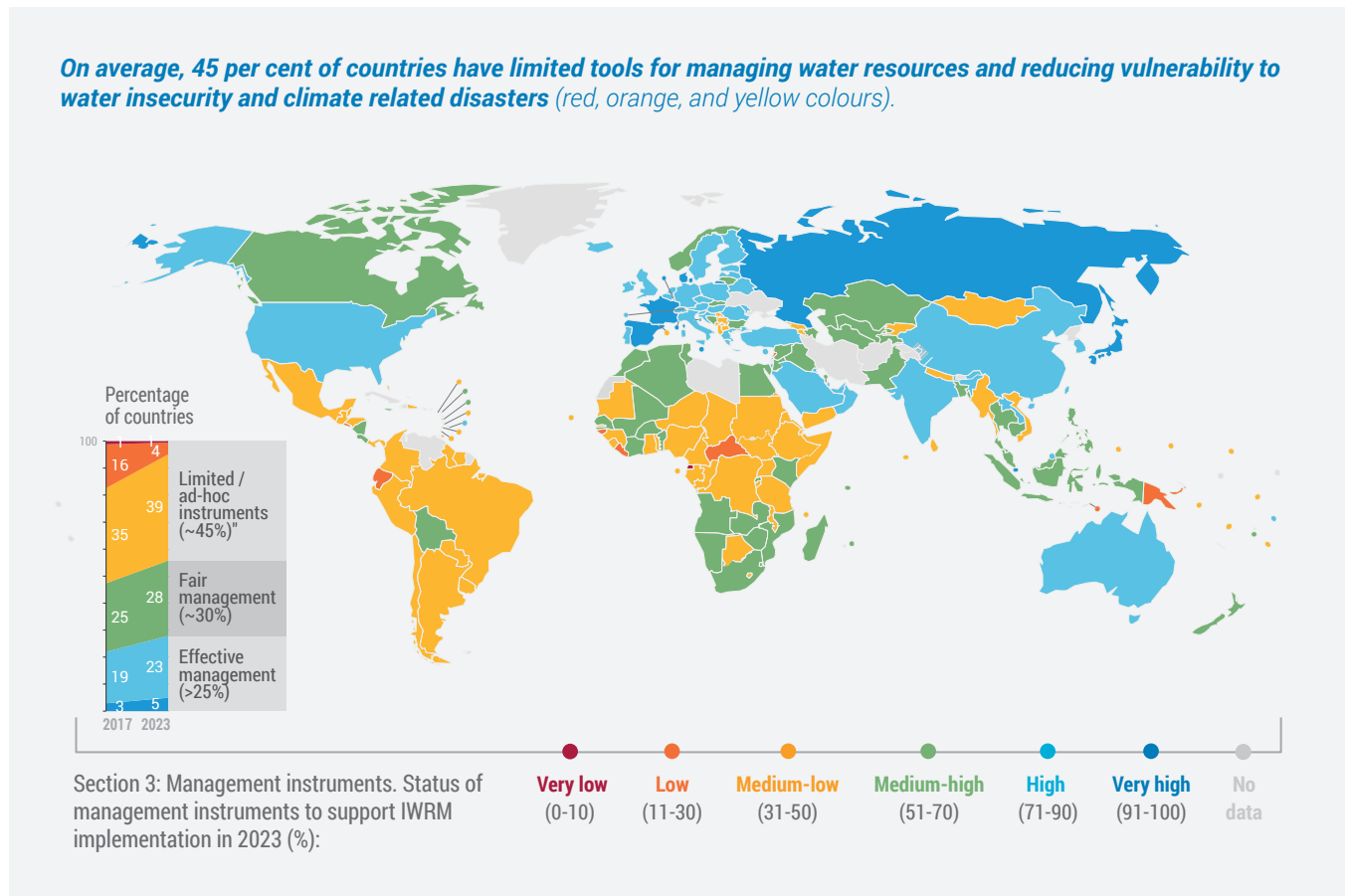


Figure 2.9: Average development and implementation of management instruments (SDG 6.5.1, dimension 3 average).

## Key action needed on management instruments

- Many of the actions needed relate to putting the ‘enablers’ in place from the other three IWRM dimensions, including: enhancing institutional and technical capacity in all areas; developing, and implementing/enforcing the supporting plans and legislative framework; and ensuring sufficient and sustainable financing.
- Design, put in place, and maintain, effective monitoring frameworks for surface waters and groundwater, covering water availability; water abstraction and use (SDG 6.4); ambient water quality and point-source pollution (SDG 6.3).
- For the above to be effective, develop and maintain data and information systems that are easy to access and understand for relevant stakeholders, that support gender-balanced decision-making processes, and ensure relevant information is embedded in decision-making processes.

### Box 2.7: Countries are putting management systems in place for ecosystem management, but challenges in implementation are significant

In the last few years, **Colombia** has made considerable efforts in the management of water-related ecosystems, particularly through the National Water Regulation Program, under the National Policy for the Integrated Management of Water Resources (2010-2022). The watershed management plan (POMCA) includes the analysis of important ecosystems. From 2019 to 2022, 25,494 bodies of water were prioritized for catchment delineation by 21 Environmental Authorities. In 2022, guidelines were developed for “sediment management at the river basin level within the framework of IWRM”, and working groups were established across 12 authorities including national sectoral authorities on energy, water and environment, and sub-national authorities with environmental mandates. In 2021, the “Policy for the Consolidation of the National System of Protected Areas” was developed, which aims to “Reduce the risk of nature loss in the National System of Protected Areas by 2030, in such a way as to guarantee the protection of biodiversity and ecosystem services that support the social, economic and cultural development of the nation”. To this end, an analysis of challenges and actions needed was undertaken, in which the provision and regulation of water was estimated to provide an economic value of 3,455 million USD to the country’s productive sectors.

Despite all these efforts, Colombia only scored 20 on the question on ecosystem and biodiversity management, noting that there is still a long way to go on implementation.

Source: Colombia SDG 6.5.1 2023 survey results, question 3.1d.

## (4) Financing

This section covers the adequacy of the finance available for water resources' development and management from various sources. It includes investments and ongoing costs for water resources infrastructure, and the 'softer' elements of IWRM related to ensuring institutions have the resources available to develop, implement, and monitor their various plans and management instruments. It also includes the revenue-raising mechanisms in place to secure investments and ongoing financing.<sup>12</sup>

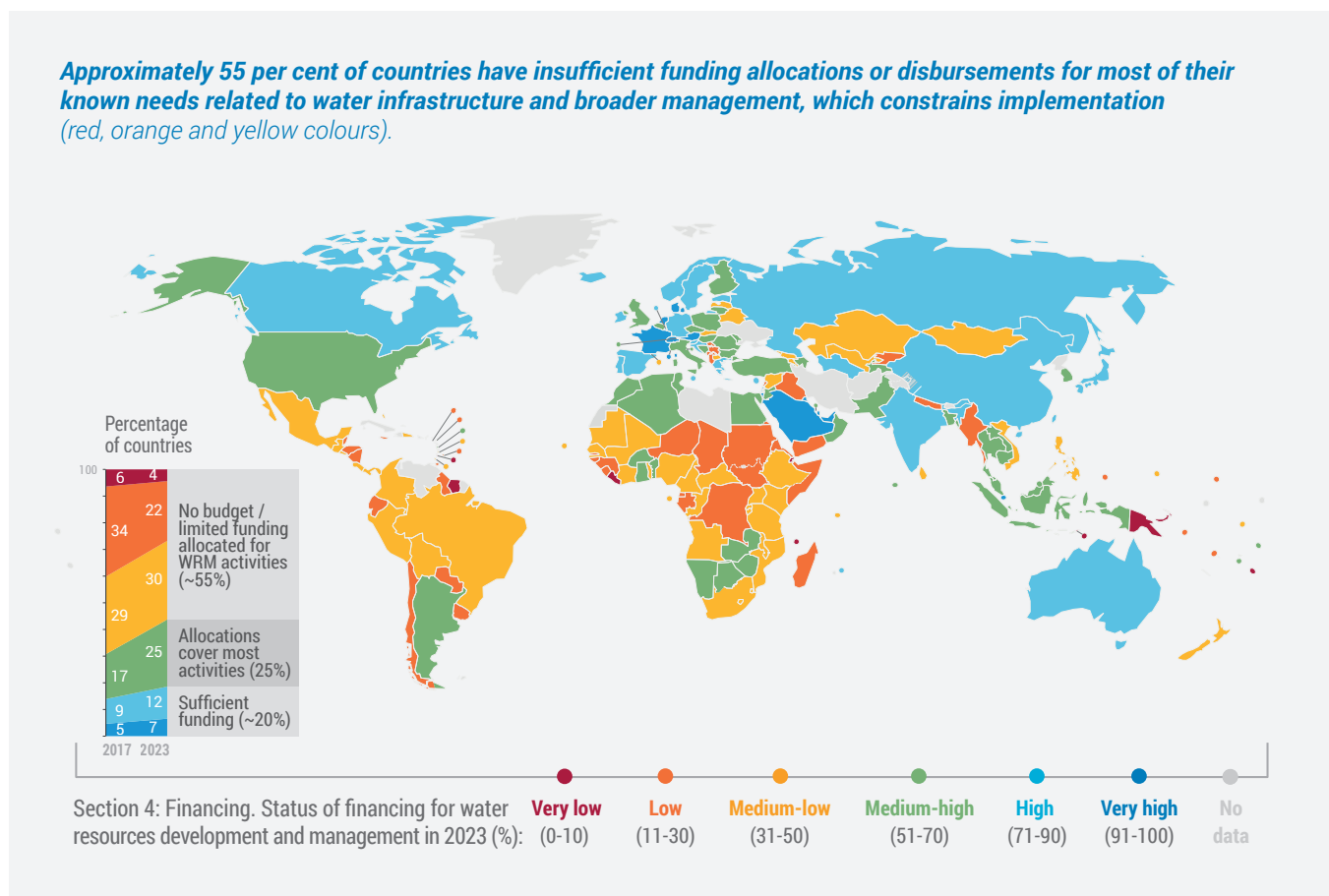
Lack of financing, particularly domestic finance sources, remains one of the major barriers to accelerating IWRM implementation (41 per cent to 49 per cent from 2017

to 2023, projected to reach around 59 per cent in 2030 (Figure 2.5). This lack of financing particularly hampers the 'operationalization' of IWRM, as it constrains institutional capacity, monitoring networks, and the application of management instruments. There may be policies, laws, and plans in place in countries, but a lack of finance is typically a bottleneck for their implementation and enforcement.

### Barriers

The main barriers related to financing include:

- **Revenue-raising:** 60 per cent of countries report not having effective revenue-raising for sustainable water management (Figure 2.11). Revenue-raising



**Figure 2.10: Average development and implementation of financing for water management and infrastructure (SDG 6.5.1, dimension 4 average).**

<sup>12</sup> See Annex 1.2 for all questions covered in dimension 4 in the SDG 6.5.1 IWRM survey, and Annex 2.4 for results maps for any questions not shown in this chapter.

is recognized as a critical component to sustainable financing (OECD 2018a), yet there is relatively little global focus on calling countries to improve this. Although some countries have made efforts to put systems in place (Box 2.8), relatively little progress has been made globally. Insufficient revenue-raising has been reported on in global IWRM status reports in 2012, 2018, and 2022 (UNEP 2012).<sup>13</sup> It is a ‘wicked problem’ as it is typically limited by the broader legislative and institutional capacity in the country, also needing to consider human rights-based approaches to access to water and sanitation. On the other hand, some countries report that

although they don’t have mechanisms for raising financing directly for IWRM activities, there are clear and sufficient allocation mechanisms from central budgets (for example Ireland, Turkmenistan).

- **Allocations from national budget:** countries report challenges with securing the necessary budget for IWRM from central national budgets, among other national priorities, as well as reduced budgets due to shocks such as conflict, health crises, and disaster relief. Approximately 70 per cent of countries report not having sufficient funding to cover most of their needs for sustainable water management at sub-national, basin or aquifer levels (Figure 2.12).

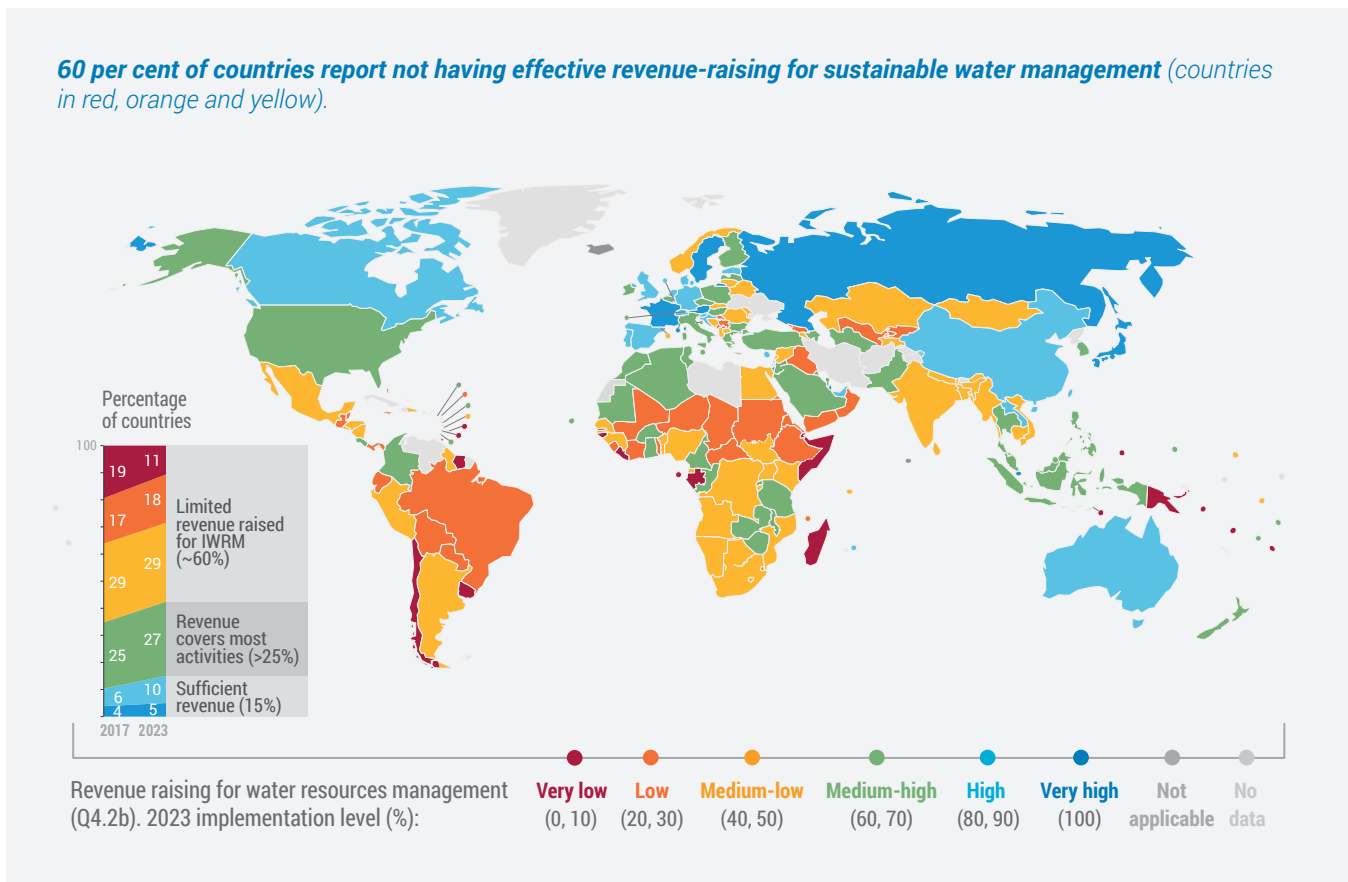


Figure 2.11: Revenue raising for water resources management (SDG 6.5.1, question 4.2b).

13 The message was also included in the key messages in the SDG 6.5.1 2018 and 2021 progress reports.

**70 per cent of countries report having insufficient funding to cover most of their needs for IWRM implementation at basin, aquifer, or sub-national levels** (*'very low' to 'medium-low', red to yellow colours*).

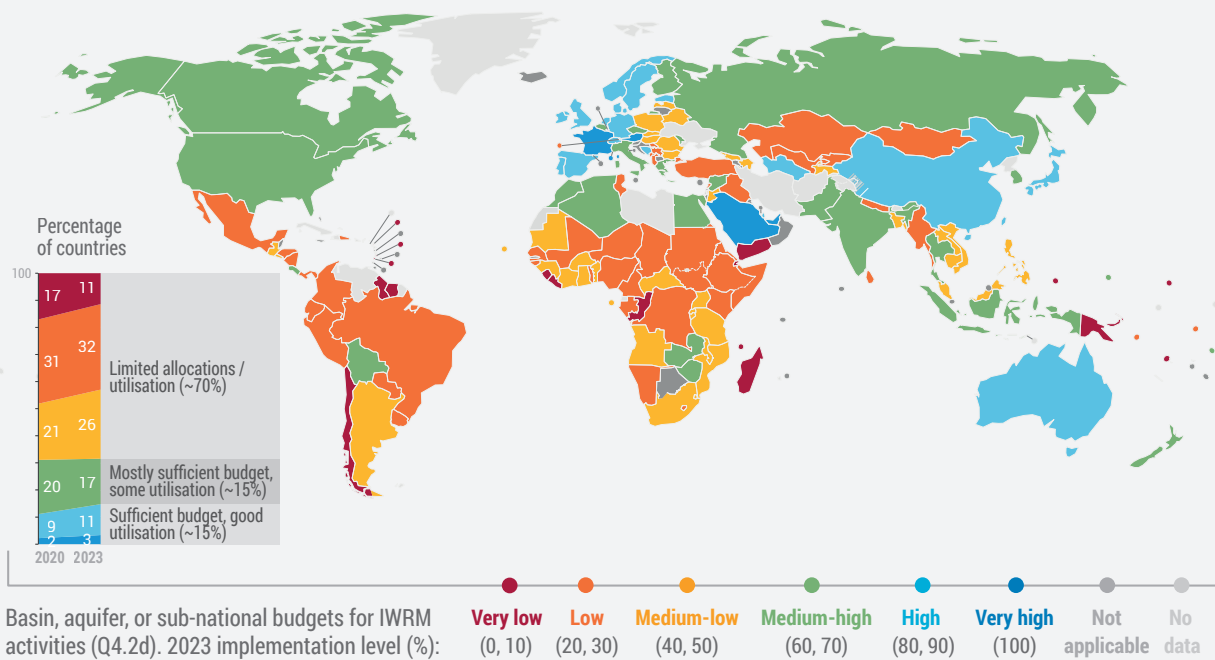


Figure 2.12: Budgets for IWRM activities at basin, aquifer, or sub-national levels (SDG 6.5.1, question 4.2d).

## Key action needed on financing

While there is an array of approaches for increasing funding for water resources management, in the context of this report the fundamental and priority approaches should be:

- **Develop and implement revenue-raising and cost recovery arrangements.** Ensure there is a legal framework in place to support revenue-raising, with adequate institutional capacity to monitor and enforce it. Ensure the human right to water is safeguarded.
- **Make the case that investments in water management and infrastructure supports other economic sectors and multiple development objectives,** such as those related to food and energy security, to secure allocations from national budgets (see also Chapter 4).
- **Addressing the above actions in a coordinated manner will have greater impact than if they are undertaken separately.** Making the case that water investments will support other economic sectors, for example by applying the Water-Energy-Food-Ecosystems (WEFE) nexus lens, this would mean that cost recovery is not only considered for water revenues, but for example also for food and energy production. Similarly, national budgetary contributions could also be directed towards water from budgets related to agriculture and energy.

continue on next page



continued

In addition:

- Governments should consider a range of financing mechanisms appropriate to their national circumstances, including, but not limited to: developing investment opportunities to secure unconventional/innovative finance, including through government and private pension funds, multi-asset funds, and green and/or blue bonds; blended finance (strategic use of development finance (or other sources) to mobilize additional finance for water management, including from private sector/commercial capital that provides returns on investments (shared risk)) (OECD 2018b); and leveraging national, regional and global financing mechanisms in related areas (including climate (chapter 3), ecosystems and biodiversity, poverty reduction, food security and sustainable agriculture).
- All of the above actions require sufficient institutional capacity and creditworthiness of water utilities and related entities, including: improved accounting and detailed budgeting of needs to develop a ‘pipeline’ of projects; measures for transparency, anti-corruption, and accountability; and restructuring for efficiency gains and cost savings.
- Develop gender responsive budgets to support gender mainstreaming in water resources management (UN Women 2023).
- Develop cost-benefit analyses that quantify the benefits of IWRM (and similar approaches such as the WEFE nexus) for economically productive sectors and broader development objectives, so as to attract financing (for example from the private sector), and secure government allocations (see Chapter 4).

## Box 2.8: Burkina Faso is prioritizing revenue-raising, but more needs to be done

In **Burkina Faso**, the revenues collected through the “Financial Contribution for Water” mechanism are increasingly considerable and allow the operation of water agencies. The main revenue is through a tax on raw water withdrawals, allowing the mechanism to contribute 22 per cent of the total budget for the national IWRM plan, and the financing of basin-level plans. It is therefore necessary to continue the momentum and ensure that all aspects of the mechanism are operationalized in order to recover revenues specific to the water sector that allow it to finance itself. Application of the polluter-pays principle, backed by the relevant laws and decrees, is also needed. In addition, State commitments to the annual budget need to be realized.

Source: SDG 6.5.1 IWRM 2023 survey, Burkina Faso: question 4.2b (score of 60%), and Annex B.

## 2.3 Way forward

Ultimately, it is up to each country to determine what their main barriers are, building on 6.5.1 reporting and other sources, and explore the most effective ways of overcoming them, in their national context. Nonetheless, many of the barriers and actions listed in Section 2.2 are likely to be common to most of the countries with IWRM implementation levels of ‘medium-low’ and below. Indeed, many of them have been identified by countries as their key priorities for advancing with IWRM implementation overall.

However, many of the barriers and recommendations for action are not new (some have been repeated for decades), and experience has shown that these actions on their own are unlikely to lead to the required acceleration in progress. To unlock progress, the key

is to work out how to put the “integrated” into water resources management by mainstreaming IWRM in other development priorities, placing it firmly as a critical enabler for sustainable development (Chapter 1), and how it can be applied to support numerous national and global objectives (Chapter 4). While even this message is not new, we have only seen the tip of the iceberg in terms of achieving it – huge potential remains. Some of the pathways for achieving this are through coordinated efforts on climate change and water (Chapter 3) and economic sectors that are highly dependent on water, such as agriculture and energy (potentially through application of the Water-Energy-Food-Ecosystems (WEFE) nexus). These sectors are almost always cornerstones of NAPs and NDCs, hence mainstreaming water in these processes supports both climate adaptation and mitigation – towards building resilience.

### Box 2.9: Further information and support

**IWRM data portal** (<http://iwrmdataportal.unepdhi.org>): national SDG indicator 6.5.1 reports, country summaries, global and regional reports, a results database, methodology, and Help Desk.

**SDG 6 IWRM Support Programme** ([www.gwp.org/en/sdg6support](http://www.gwp.org/en/sdg6support)): assists governments and other stakeholders in designing and implementing country-led responses to SDG indicator 6.5.1, to accelerate progress towards the achievement of water-related SDGs and other water-related objectives, in line with national priorities. It is structured in three stages, supporting countries to: (1) identify challenges through SDG indicator 6.5.1 reporting; (2) developing climate-resilient water investment plans; and (3) access financing for implementation. In its third phase (2023 to 2026), the Support Programme is focusing on assisting countries to overcome the multiple barriers identified in this report.

**IWRM Action Hub** (<https://iwrmactionhub.org/>): technical guidance and case studies covering all aspects of IWRM implementation, including interactive features for peer-to-peer exchanges between practitioners.

**SDG 6 Data Portal** ([www.sdg6data.org](http://www.sdg6data.org)): global data on all SDG 6 indicators.

**IWRM policy briefs**: are expected to be developed on different topics to provide additional analysis and recommendations, including on climate, gender, and ecosystems (Chapter 4).









### **3. Coordinating climate action and water management**

## Key message 3:

Using IWRM approaches – cross-sector, participatory management at the basin scale – in climate change adaptation efforts, presents a great opportunity to build resilience to climate change impacts.

### Action needed on Key message 3: On coordinating climate and water

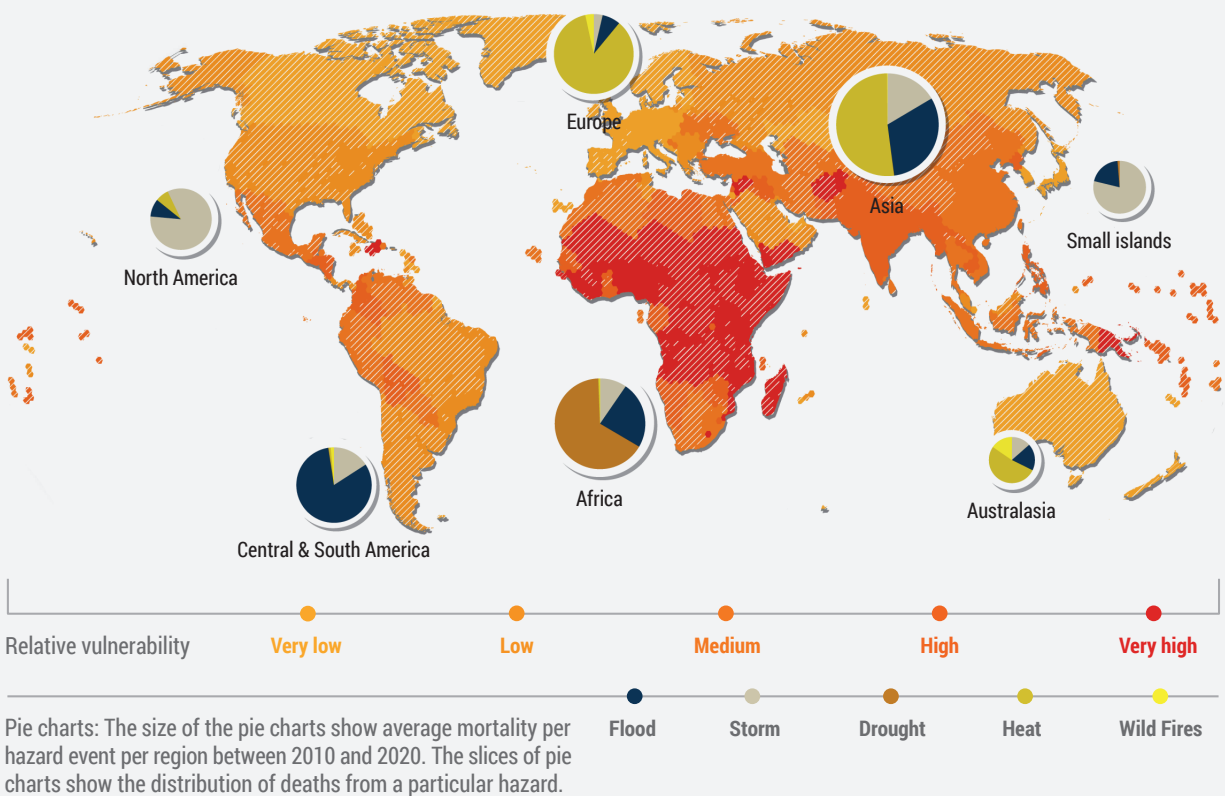
- **Coordinate planning and management between sectors, through an IWRM approach, to better adapt to the impacts of climate change.** This includes human and technical capacity, data and information sharing, coordinated financing and priority setting within national budgets, and transboundary coordination where appropriate.
- **Use climate financing for implementing coordinated water management and cross-sector climate resilience projects,** building on the experiences of many countries that have done so, including through mechanisms such as the Green Climate Fund, the Global Environment Facility, and the Adaptation Fund.

## 3.1 Why coordinating climate and water management action matters

Climate change and the related increase in frequency and intensity of extreme events have reduced food and water security, impeding efforts to meet Sustainable Development Goals (IPCC 2021; IPCC 2022). As shown in Figure 3.1, most regions of the world are vulnerable

to one or more water-related disasters (brown, grey and dark blue on the pie charts). Vulnerability to climate change is especially high in the Global South, but climate change adaptation progress is unevenly distributed and often presents gaps, prioritizing immediate and near-term risk reduction rather than transformational integrated approaches (IPCC 2022). Furthermore, women and girls generally experience the greatest impacts of climate change, which amplifies existing gender inequalities, with many of these inequalities linked to water (UN Women 2022).

*All regions are vulnerable to one or more water-related disaster, with countries in the Global South most vulnerable to climate impacts.*



**Figure 3.1: Observed human vulnerability to climate change globally (IPCC 2022).**

Progress on increasing resilience to climate change goes hand in hand with sustainable water resources management, as showcased by countries in their National Adaptation Plans (NAPs), where 48 out of 52 countries have defined water as a priority sector for climate change adaptation (CCA) (NAP Global network 2024). Therefore, promoting IWRM as a CCA solution can enable progress on achieving the SDGs by using a transformational approach to increase resilience to climate impacts.

Integrating IWRM as a solution for CCA promotes a multi-sectoral and coordinated approach for countries to successfully reduce the impacts of water-related disasters. IWRM provides an opportunity to mainstream solutions such as Nature-based Solutions (NbS) or Ecosystem-based Adaptation (EbA) in water resources

management, which is crucial to address both the climate and biodiversity crises and increase climate resilience (GIZ 2021). IWRM and CCA are interrelated, making progress on one will advance the other, further contributing to progress on SDG 6 and SDG 13, which are linked through CCA action (UNDESA and UNFCCC 2023). Additionally, investing in coordination between climate action and water management can significantly reduce projected costs of climate impacts (UNEP 2023).

Climate-water action is gaining political momentum, as demonstrated by increasing attention on water at COP27, COP28 and UNEA-6, the 2023 UN Water Conference, and the 2024 World Water Forum. For example, the COP 28 decision on the [global goal on adaptation \(GGA\)](#) includes water as the first thematic target, and calls for Parties to significantly reduce,



'climate-induced water scarcity and enhance climate resilience to water-related hazards towards a climate-resilient water supply, climate-resilient sanitation and towards access to safe and affordable potable water for all (UNFCCC 2022).

Despite growing momentum, as of 2024, countries are not on track to implement the Paris Agreement and limit global temperature increase to 1.5°C (IPCC 2021; UNFCCC 2023). Exceeding this target will lead many human and natural systems to face additional severe risks, compared to remaining below 1.5°C (IPCC 2022). Expanding climate change adaptation efforts is identified as a priority by both developed and developing countries and addressing CCA through IWRM needs to be considered as an opportunity to increase resilience to climate impacts.

## 3.2 Status, barriers, and actions needed

The status of coordination between climate change adaptation (CCA) and IWRM was analysed through countries' responses to the SDG 6.5.1 survey. While most countries acknowledge the importance of addressing IWRM and CCA in an interrelated manner, many cite the

need for progress. Four main barriers affecting IWRM and CCA coordination were identified: (1) coordination, (2) planning, (3) human and institutional capacity, and (4) financing, which broadly correspond to the four main dimensions of IWRM. While four barriers were identified, these challenges are all interlinked and it is necessary to address them in a coordinated manner to make real progress on building resilience through integrating IWRM into CCA actions.

### 1 **Insufficient coordination between authorities at different levels, and between sectors (for example water, climate, agriculture, economy, forestry) is a recurrent barrier for countries to successfully integrate IWRM into climate actions.**

Just over 50 per cent of countries report various formal coordination mechanisms between IWRM and climate change adaptation (6.5.1 question 2.1b). These include inter-institutional political and strategic fora (for example Nicaragua)<sup>14</sup>; inter-institutional committees or commissions on climate change, with representatives from relevant sectors (for example Panama, Moldova); and policies and implementation plans (for example South Africa). Despite having formal mechanisms in place, many countries still note that coordination is a challenge for institutions and sectors, tends to slow down

### Action needed to support coordination

- Promote cross-sector solutions to provide opportunities for sectors and ministries to find a common language to understand each other, and to enable the quantification of the costs and benefits of these solutions.
- Build on already existing cross-sector plans and projects such as Disaster Risk Reduction (DRR) or NbS when possible (Box 3.1). Using existing coordination mechanisms around these topics and strengthening them can lead to better coordination.

<sup>14</sup> Countries in parenthesis are examples of countries mentioning the issue in their SDG 6.5.1 survey. Full country responses can be found in the country surveys from <https://iwrmdataportal.unepdhi.org/>

## Box 3.1: Providing an integrated response to water-related disasters

Developing effective water-related DRR plans and policies requires an integrated approach which considers the needs of vulnerable populations, youth and women. In **Bangladesh**, a country facing frequent climate-induced disasters such as cyclones and tidal flooding linked to sea level rise, the [GCF funded project](#), 'Enhancing adaptive capacities of coastal communities, especially women, to cope with climate change induced salinity' running from 2018 until 2024, provides an example of a project addressing DRR through an integrated, community-based approach. An outcome of this project is to develop rainwater harvesting systems managed by vulnerable women in the area, creating employment opportunities. This project aims at shifting from short-term solutions towards community-centric solutions that build ownership and capacities across multiple stakeholders, especially women and youth.

Source: Bangladesh SDG 6.5.1 2023 survey results and link provided.

implementation, and requires increased and ongoing efforts (for example Iceland, Palau).

### 2 Development and implementation of climate and IWRM plans requires a more systematic approach.

Progress is made on planning, with around 60 per cent of countries presenting long-term plans integrating IWRM and climate (6.5.1 question 1.1c). Long-term plans such as National Adaptation Plans (NAP), Nationally Determined Contributions (NDC) and National IWRM plans can underpin coordination

between IWRM and climate change adaptation. Where such plans do not exist, IWRM and CCA implementation cannot be systematically applied and can present gaps, leading to maladaptation (UNEP 2022). Progress is still needed to ensure all countries have national integrated plans on IWRM and CCA, and implementation is adequately coordinated (for example Lebanon, Ecuador, Solomon Islands, Saint Lucia, Indonesia).

### 3 Many countries lack the human, institutional and technical resources for integrating IWRM as a climate adaptation solution.

More than three quarters of countries report not having adequate management instruments for capacity development or training on the links between climate change and IWRM (6.5.1 questions 2.1e, 3.1e). Additionally, around 40 per cent of countries have reported having limited or ad-hoc implementation of water-related DRR management (Figure 3.2), with low capacity to cope with recent disasters such as those in [Brazil](#) (2024) which are expected to increase in intensity and frequency. Lack of training for decision-makers and water-practitioners on climate aspects (for example Turkmenistan), lack of maintenance or coverage of forecasting tools and early-warning systems (for example Bahrain, Tonga), inadequate data sharing (for example Mongolia, Cabo Verde), and lack of funding available for capacity development initiatives or disaster risk reduction (for example Kyrgyzstan, South Sudan) are all barriers to jointly address

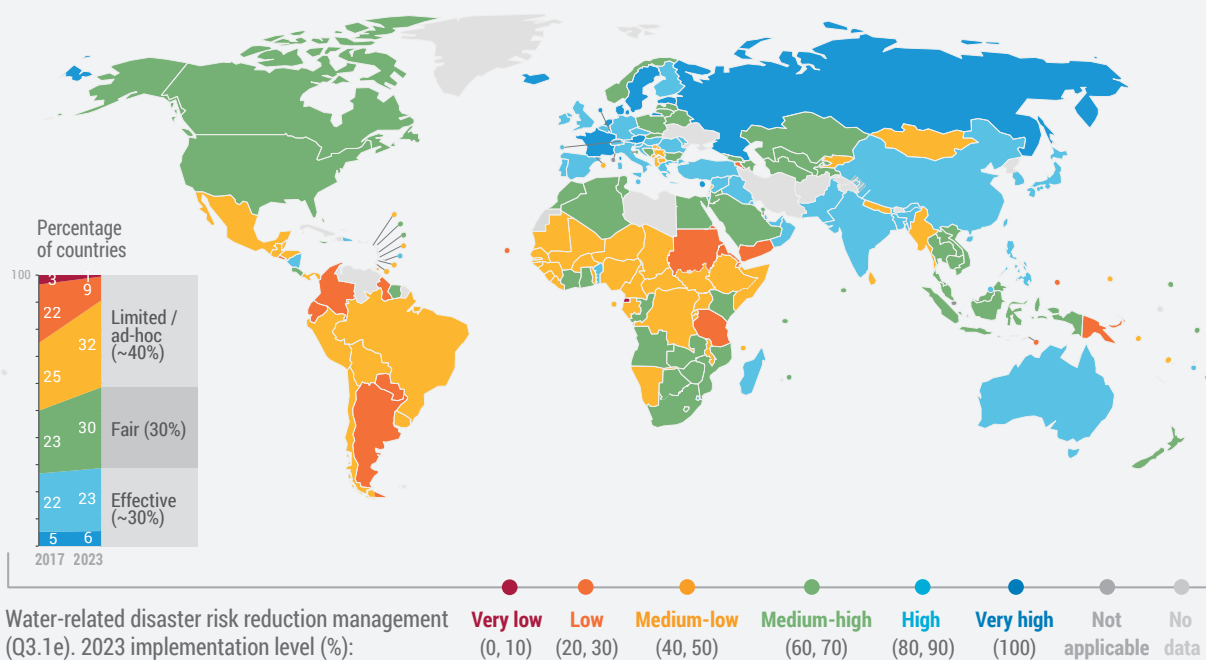
## Action needed on coordinated planning

- Design or revise climate action plans such as NAPs and NDCs to integrate IWRM as a means of ensuring cost-effective approaches, and, where appropriate, coordinate plans at a transboundary level.
- Employ existing international support mechanisms (such as the SDG 6 IWRM Support Programme) to provide technical and financial assistance to coordinate integrated planning processes and systematically mainstream climate adaptation in national IWRM action plans and vice versa.

## Action needed on human, institutional and technical capacity

- Increase national and international financing for developing and upgrading technical tools such as early warning systems and precipitation models for DRR. Part of the budget should be dedicated to train personnel on their use.
- Undertake actions that support the Sendai Framework for DRR (targets E and G), the UN Secretary General's [Early Warnings for All](#) initiative.
- Increase training on synergies between climate adaptation and IWRM for both water practitioners, climate practitioners and policy makers (Box 3.2).
- Increase capacities for quantifying the costs and benefits of integrated IWRM and CCA planning and implementation.

**40 per cent of countries have reported limited or ad-hoc implementation of water-related DRR management** (red, orange and yellow colours).



**Figure 3.2: Development and implementation of water-related disaster risk reduction management (SDG 6.5.1, question 3.1e).**

## Box 3.2: The Pan-African Centre for Water and Climate Adaptation

The [Pan-African Centre for Water and Climate Adaptation](#), launched by Egypt during COP 27, is an African training hub in the field of climate change. Affiliated to the Egyptian Ministry of Water Resources and Irrigation, the centre uses an integrated approach through institutional capacity development, infrastructure intervention, network enhancement, and training quality improvement to host a flexible and efficient training hub with innovative services on water and climate adaptation. A special focus on flood and drought management training is put forward, drawing from the experiences of international actors and facilitating capacity-building across countries and sectors. This centre provides a strong example of the possible synergies between IWRM and CCA as well as capacity-building opportunities transcending borders.

Source: Egypt SDG 6.5.1 2023 survey results, question 2.1e, and link provided.

climate change adaptation and IWRM to increase countries' resilience to water-related disasters.

#### 4 **To address the previous barriers – increase co-ordination, develop and implement plans and to enhance technical and institutional capacity on IWRM and climate action – countries cite the need to increase financing.**

Around 60 per cent of countries report mechanisms that coordinate climate and water financing (6.5.1 question 4.1b). These include legislative arrangements (for example Sweden), centralized coordinating institutions (for example Philippines), specific funds set up for climate adaptation/mitigation and natural resources management, from domestic resources (for example Rwanda), or to coordinate external financing (for example Central African Republic). Nonetheless, there is a gap between planning for climate and IWRM and implementation, that can be explained by a lack of financing (for example Nepal). Financing for IWRM through climate change funding is an opportunity for many countries to accelerate progress on both IWRM and CCA.

### Action needed on financing

- Position IWRM in national climate change policy, particularly NDCs, as a means of leveraging finance at scale.
- Explore the opportunities for leveraging climate funding to implement IWRM, building on experiences of many countries that have done so, including through arrangements such as the Green Climate Fund (GCF), the Adaptation Fund, and the Global Environment Facility (GEF), as well as multilateral and bilateral climate funding (Box 3.3).
- Ensure national budgets are coordinated in line with coordinated planning.
- Where relevant, develop and fund transboundary basin interventions to maximize benefits at a regional scale (Adaptation Fund 2022).

### **Box 3.3: Integrated climate-resilient transboundary flood risk management in the Drin River basin**

The aim of the project, funded by the Adaptation Fund, is to assist the riparian countries of the Drin basin (North Macedonia, Albania, Montenegro, Greece and Kosovo) in the implementation of an integrated climate-resilient river basin flood risk management approach. The main objective is to improve their existing capacity to manage flood risk at regional, national and local levels. This approach also aims to improve transboundary cooperation arrangements and the policy framework for flood risk management. It is a good example of a project which implements an IWRM approach for CCA using climate finance from the Adaptation fund and demonstrates how national efforts can be upscaled to the transboundary basin level. For further examples on basin-level CCA see SDG indicator 6.5.2 report (UNECE and UNESCO 2024).

Source: SDG 6.5.1 2023 survey results from the mentioned countries.

## **3.3 Way forward at the global level**

From the SDG 6.5.1 survey results (Chapter 2) we can see that action needs to be accelerated. Integrating IWRM as a CCA solution presents a great opportunity to increase resilience to water-related climate risks. There is also great potential to leverage more finance for IWRM through climate financing, which would trigger substantive progress for both fields. Most of the proposed actions to overcome the barriers cited in Section 3.2 are targeted at the national level. However, action on a global scale is also necessary. Advocacy on IWRM has never been higher (Chapter 4) and climate change is high on the global political agenda. Climate and water synergies are already being explored in the global environmental governance arena, through the UNFCCC, the Kunming-Montreal Global Biodiversity Framework, and SDG 13,14 and 15 (see Chapter 4). These efforts need to be expanded to explore the synergies between IWRM and CCA more specifically. Implementing IWRM approaches is becoming increasingly recognized as a solution for CCA, including when advocating for stronger global adaptation financing and capacity-building frameworks in future COPs (including for shared waters resilience, as expected in COP 29), and when considering global development beyond Agenda 2030.





## **4. Securing commitment and mainstreaming sustainable water management**



## Key message 4:

- **Political commitments at the global level for sustainable water management have never been higher, but they have not been matched by the required finance or action on the ground.**
- **Recognizing IWRM approaches as being relevant to achieving other development objectives, including energy and food security, is critical to accelerating progress on sustainable development.**

### Action needed on Key message 4: To address the gap between global commitments and country progress

- **Make the case for, and advocate, the value of implementing IWRM at the highest national level**, to achieve multiple development objectives, increase budgets and secure the high-level commitment necessary for effective cross-sector coordination. Ministries responsible for planning and finance can then provide the required political mandate and financial backing, including priority-setting on allocation of funds for water-related investments (see [Key message 2](#)).
- **Mainstream IWRM into other development sector actions**, such as those aiming to achieve food and energy security, climate resilience, and water supply and sanitation, with indirect but important links to gender goals, poverty reduction, education, employment and justice. In practice, this requires policy alignment and incentives for cross-sector priority-setting on the allocation of funds towards mutually-reinforcing water-related investments.

## 4.1 The disconnect between global commitments and national action on IWRM

**Political commitments at the global level for sustainable water management have never been higher (Box 4.1), but the results of negotiation have not been matched by the required finance or action on the ground.** Commitments are many, but implementation is sketchy and financing inadequate (UNEP 2024). Progress in countries is not on track to meet these global commitments and SDG 6 targets by 2030.

It is unclear why prioritizing sustainable water management is advancing so slowly when the benefits

are substantial, and the cost of water-related disasters are higher than ever. The data shows that business-as-usual will result in linear and dissatisfactory progress, and the rate of progress needs to accelerate, even double, if countries are to achieve Target 6.5 (Chapter 2).

Understandably, countries have different priorities when it comes to financing and implementing initiatives. Governments must balance sometimes competing financial demands for priority issues such as food and energy security, healthcare, and education, and integrated and sustainable water management initiatives may not be at the forefront of national political agendas. Even when countries prioritize investments related to water infrastructure and management, doing so without integration and coordination across sectors can lead to negative effects for other water uses and users. It is important that prioritization is done based

on informed decision-making that considers integration and coordination across sectors, acknowledging that sustainable water management supports multiple development objectives.

Sustainable water management is a long-term goal, and the value of implementing IWRM is often poorly understood, especially at the highest level of decision-making in countries. While a number of actions have been recommended in Chapters 2 and 3, these are unlikely to achieve the step-change required if undertaken without two critical and linked enablers:

- **Vertical enabler.** Securing leadership commitment to implementing IWRM in countries at the highest level, from heads of state and ministries responsible for development, planning, and finance (Section 4.2); and
- **Horizontal enabler.** Mainstreaming IWRM in related sectoral development goals, including those regarding climate, food, ecosystems and energy (Section 4.3)

**Securing commitment at the highest national level towards implementing IWRM, and mainstreaming the approach in other development objectives, is critical to accelerating progress towards sustainable development.**

### Box 4.1: Global action and commitments for sustainable water management

1. All countries have committed to achieving Agenda 2030, including SDG 6.5.
2. The [UN Water Action Decade 2018-2028](#) aims to accelerate efforts towards achieving SDG 6. Through partnerships and collaborative actions at local, national, and global levels, the Decade focuses on addressing water-related challenges, including water scarcity, pollution, inadequate sanitation, and lack of access to clean water. IWRM lies at the heart of the Water Action Decade.
3. [UN Water Conference 2023](#), which was the mid-term comprehensive review of the UN Water Action Decade, which [resulted in calls for](#) IWRM and integrated approaches to key challenges. Key outcomes included enhanced international cooperation, increased funding commitments, including through the 800+ commitments in the Water Action Agenda.
4. The [SDG 6 Global Acceleration Framework](#), endorsed by 161 countries in the 2021 Joint Statement for the UN High-Level Meeting on Water. It aims to coordinate the international community's support to countries to achieve SDG 6. The framework focuses on five accelerators: optimized financing, improved data and information, capacity development, innovation, and governance. All five are important for the implementation of IWRM.
5. United Nations Environment Assembly (UNEA) 6 resolution on [Effective and inclusive solutions for strengthening water policies](#) (2024), which calls upon Member States, specialized agencies, international organizations and relevant stakeholders to ***“Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate, and adopt coherent responses to the water-related challenges and risks across sectors, regions and actors, taking into account, where applicable, the interlinkages of water, ecosystems, energy, food security and nutrition, with their social, economic and environmental impacts.”***
6. The newly approved [United Nations System-wide Strategy for Water and Sanitation \(SWS\)](#), which *“provides a system-wide approach for UN entities to work collaboratively on water and sanitation, not as a sector in a ‘silo’, but holistically to address the inter-related cross-sector aspects of water and sanitation.”*

continue on next page

continued

7. [G7 Water Coalition](#), which aims “... to mainstream water and its cross-sector relevance in an impactful and coherent way into the existing fora and processes.” The G7 Climate, Energy and Environment Ministers’ Meeting in 2024 committed to establishing the Coalition.
8. An EU Blue Deal is in discussion among EU member states, the European Commission, and other relevant stakeholders.

## 4.2 Vertical enabler: Leadership commitment at the highest national level

Lack of progress on implementing IWRM processes remains a barrier to sustainable water management, especially in the most vulnerable countries with low levels of implementation (Chapter 2). A step in changing this situation can be to secure greater political will at the highest national level.

Political will, defined as the “*firm intention or commitment of a government to carry through a policy, especially one that is not immediately successful or popular*”<sup>15</sup> appears to be lagging at the highest level in countries when it comes to IWRM. A lack of understanding, coupled with poor communication of the value of implementing IWRM, remains a barrier to achieving higher levels of political will in countries.

**Countries need to step up to ensure uptake of IWRM implementation is aligned with global ambitions** (Box 4.1). Political will and leadership commitment can result in the determination, commitment, and readiness of political leaders and decision-makers to prioritize, support, and act on IWRM (for example Albania, Azerbaijan, and Malaysia, where heads of state have

recently been involved in establishing and/or chairing cross-sector water sector mechanisms). It involves the willingness to allocate resources, implement policies, and overcome obstacles in pursuit of achieving SDG Target 6.5, even in the face of competing interests. This is essential for driving meaningful change, shaping public policies, and addressing pressing challenges effectively. It is best manifested through public pronouncements which lead to legislative action, policy initiatives, budget allocations, and concrete efforts aimed at achieving integrated and sustainable water management.

To put this into practice there is a need for policy alignment between sectors and incentives for cross-sector priority setting for the allocation of funds towards water-related investments (see Section 4.3).

2023 monitoring data shows that only 10 per cent of countries consider “advocacy at the highest level” a priority.<sup>16</sup> However, only the highest levels of government can connect and coordinate integrated approaches across ministries (of planning) and connect this to the required finance (Box 4.2).

Fundamentally, many of these activities depend on the ability to better communicate and demonstrate the value of implementing IWRM for achieving broader development objectives to a range of stakeholders.

<sup>15</sup> Oxford English Dictionary definition

<sup>16</sup> Country responses to SDG 6.5.1 survey, Annex B, question 1, asking countries to identify their priority action areas to advance IWRM implementation overall.

## Action needed on the vertical enabler: Securing political commitments

- **Make the case for, and advocate, the value of IWRM:** Water sector professionals need to make the case for sustainable water management by quantifying the economic, social and environmental benefits using data, particularly at the highest levels of heads of state, and the ministries responsible for planning and finance. This includes being able to determine and communicate the economic value of water (incorporating social and environmental dimensions) (see Box 4.3) and demonstrate to a range of stakeholders that implementing IWRM will achieve broader development objectives.
- **Ministries responsible for planning and finance can then allocate the required political mandate and financial backing for effective cross-sector coordination,** including priority-setting for allocation of funds for water-related investments.

### Box 4.2: 10 per cent of countries report securing political commitments at the highest national level as a priority for advancing on IWRM

A strong political will to shift the water paradigm from a sectoral approach to IWRM is required (for example Nepal), but only a handful of countries have identified advocacy as a priority action area. Of the 125 countries who identified priority action areas in 2023 reporting, only 10 per cent made specific reference to securing political commitments at the highest level through advocacy (for example Benin, Eswatini, Grenada). The four main priorities identified by countries were building institutional capacity (43 per cent), securing finance (42 per cent), developing specific laws and regulations (41 per cent), and improving coordination (35 per cent). Making the case for and advocating the value of IWRM at the highest level is integral to the success of these top four priorities. Annex B of the survey, where countries consider their priorities, is optional. They are not prompted to consider the importance of advocacy in their free text responses.

Source: SDG 6.5.1 2023 survey results, Annex B of the Survey.

### Box 4.3: Advocating for the value of water in Tanzania

A study conducted through the SDG 6 IWRM Support Programme reveals that a conservative estimate of the contribution of water to agriculture, mining and manufacturing in Tanzania is USD 2.1 billion, or 3.31 per cent of Tanzania's Gross Domestic Product (GDP) in 2020. 95 per cent of this value came from agriculture, a sector responsible for approximately 30 per cent of the country's GDP, highlighting the importance of water for the country's economy. The outcomes of the report will be used to spark a re-evaluation of water in Tanzania, including discussions with the Ministry of Finance to review budgetary allocations.

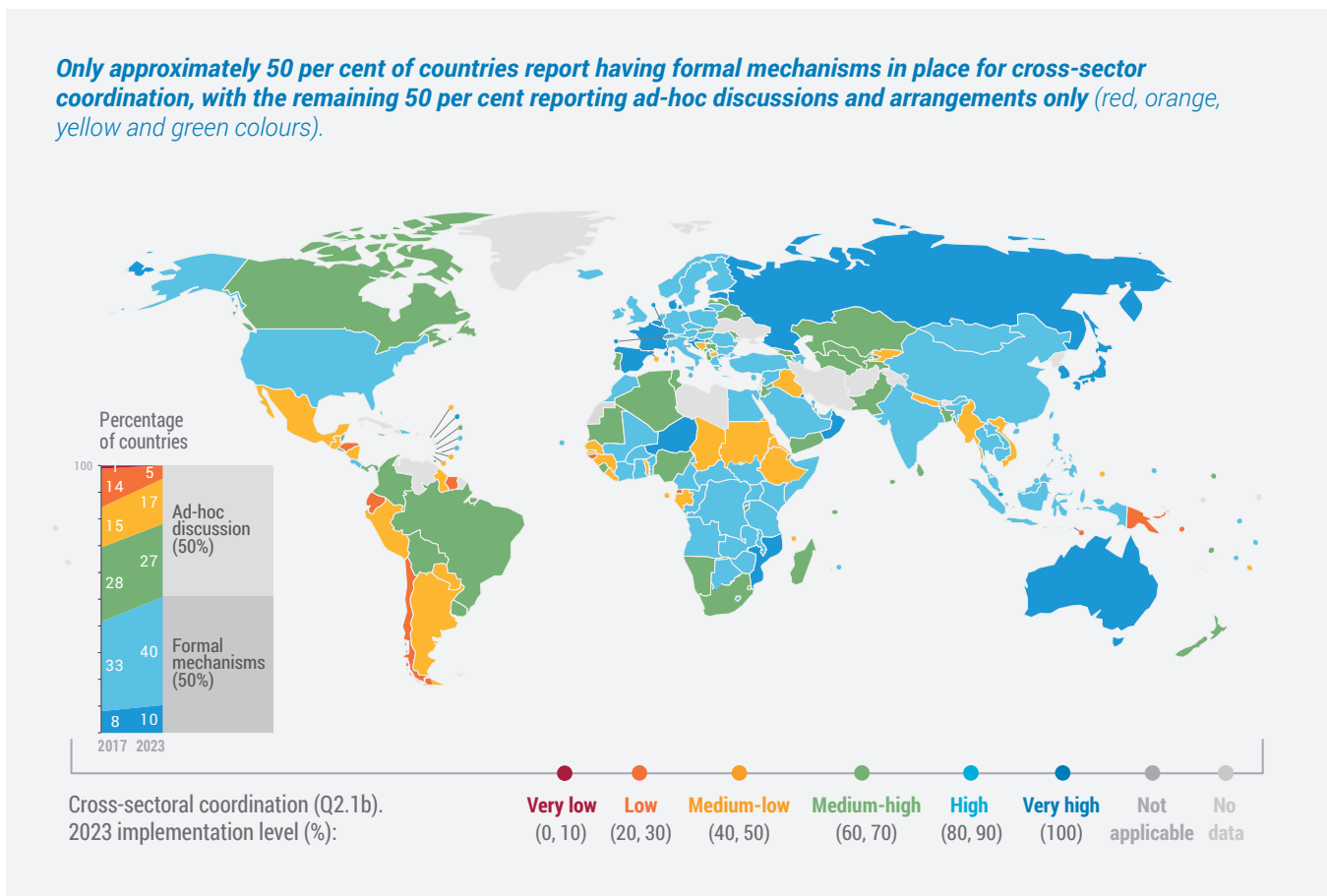
Source: GWP and Tanzania Ministry of Water, 2024. Valuing Water in Tanzania: (Re)assessing the Contribution of Water to the National Economy.

## 4.3 Horizontal enabler: Mainstreaming IWRM into other sectors

**Cross-sector coordination and investments at all levels underpins most activities.**

Sustainable water management requires effective cross-sector coordination. Access to actors outside the water box is essential to move political will, gain

sectoral support and ease public pressure for IWRM implementation. While only 50 per cent of countries report having formal cross-sector coordination arrangements in place (Figure 4.1), almost all countries report that effective coordination remains a challenge and a process of continual improvement (for example Angola, Greece, Zambia). Among competing socioeconomic priorities, there can be challenges for ministries of water and environment to effectively lead cross-sector coordination (Box 4.4).



**Figure 4.1: Level of implementation of cross-sector coordination (SDG 6.5.1, question 2.1b).**



## Box 4.4: Barriers remain for cross-sector implementation of IWRM

In Chile, bodies such as the Council of Ministers for Sustainability and Climate Change, the Interministerial Committee on Just Water Transition, and the Pilot Basin Councils, are all intersectoral mechanisms that will allow progress to be made in the coordination of IWRM policies and planning at both the national and subnational levels. However, none of these bodies possess a legal framework and this hinders progress on effective implementation, and as a result cross-sector coordination remains low (30).

In Solomon Islands, cross-sector coordination only happens during events, where project implementation presents an opportunity for cross-sector meetings to take place in the absence of more formalized structures.

Action to address climate change has enabled an opportunity for more interaction across sectors in the absence of mechanisms related specifically to water management (for example Argentina).

Source: SDG 6.5.1 2023 survey results (Chile, Solomon Islands and Argentina, question 2.1b)

While there is broad understanding and acceptance that progress in one domain frequently supports and underpins efforts in others, the fragmentation of the environmental agenda and “silo” thinking remains a major barrier (UNEP 2024). More work is needed in this space to develop more coherence of policies for better integration (World Water Council 2023).

Cross-sector coordination is challenging as it requires those involved to adhere to shared principals for implementation of actions and priorities, including shared goals and objectives, trust, clear communication, mutual respect and recognition of expertise, transparency, flexible and adaptive approaches, effective leadership, and inclusive processes (Becker and Smith 2017).

## Action needed on the horizontal enabler: Mainstreaming IWRM into other sectors

- **Mainstream water using an IWRM approach into other sector initiatives, actions and plans** (see Table 4.1). Instead of treating water management as a standalone issue, mainstreaming means recognizing water's integral role in other sectors. This will lead to more efficient and sustainable use of water resources, improved resilience to water-related challenges, and better coordination among sectors for managing water effectively.
- **Utilize and build on similar frameworks, that may be more familiar to other stakeholders and sectors in the local context, for the implementation of IWRM and to achieve mutual benefits.** These include the Water-Food-Energy-Ecosystems (WEFE) Nexus; Source-to-Sea (particularly for island states); Integrated Land Management; Integrated Natural Resources Management. Similarly, use terminology and frameworks within the 'water sphere' which have similar objectives to IWRM, but may be more commonly used in the local context, such as integrated catchment management, integrated watershed management, [water security](#), [water stewardship](#), and sustainable water management, while ensuring that all the aspects of IWRM are accounted for (see also Box 1.1).
- **Develop or strengthen cross-sector coordination mechanisms.** Intersectoral committees, including at the basin or catchment level, should be supported by legal frameworks and budget lines, have wide representation from across sectors, including public engagement and private sector representatives. By facilitating coordinated decision-making, these cross-sector coordination mechanisms can also support data sharing and joint monitoring.
- **Develop plans with realistic actions, timelines, responsibilities and budgets.** Technical and financial support is available to countries through the [SDG 6 IWRM Support Programme](#) to develop water and climate investment plans (Box 4.5).
- **Strengthen partnerships between sectors and stakeholders.** Further guidance on recommended actions for different actors is provided in Chapter 6 of the 2021 global progress report, most of which are still relevant. This includes actions for countries and states, regional bodies and transboundary basin organizations, investment banks and donors, sustainable development partners, and the private sector (UNEP 2021).

## Box 4.5: Zambia Water Investment Programme

In 2022, Zambia defined an ambitious [Water Investment Programme](#), spearheaded by the President of the Republic of Zambia, defined within the context of the Continental Africa Water Investment Programme (AIP). The cost of implementing the country's Water Investment Programme is estimated at about USD 5.75 billion between 2022 and 2030. Since 2022, the government has committed USD 1 billion for implementation of the Programme. Other countries are following suit in defining similar Water Investment Programmes, at the highest political level, such as [Tanzania](#) and [Uganda](#). The SDG 6 IWRM Support Programme can facilitate the process of countries producing such commitments.

Source: Continental Africa Water Investment Programme (AIP)

### The value of mainstreaming IWRM into other sector actions

Using recognized IWRM approaches when developing other sector plans allows practitioners to consider integrated solutions, guided by the four dimensions of IWRM. IWRM promotes a holistic approach, where water-related decisions are made within the broader context of sustainable development, leading to more balanced and effective outcomes and co-benefits. In practice, mainstreaming IWRM approaches into other sector actions (such as those in Table 4.1) could bring the following benefits:

- Achieving water security for economic, social, and environmental outcomes.
- Increasing stakeholder engagement, including vulnerable groups and considering gender diversity, using participatory processes.
- Use of recognized mechanisms and tools for cross-sector coordination on the development, management and use of water and other natural resources.
- Facilitating transboundary collaboration by using basin level approaches to resource management.
- Policy alignment between sectors where water plays a role.
- More efficient and effective revenue-raising, using an integrated, cross-sector approach.
- Creating incentives for cross-sector priority setting on the allocation of funds towards water-related investments.

Table 4.1: Examples of opportunities for mainstreaming IWRM (and water) across sector goals and plans in countries (noting that many of the opportunities are overlapping and mutually supportive).

SECTORS AND GLOBAL FRAMEWORKS FOR ACTION	EXAMPLES OF ACTIONS WHERE MAINSTREAMING WATER, USING AN IWRM APPROACH, CAN ACHIEVE CO-BENEFITS AND ACCELERATE PROGRESS
<p><b>Climate change</b></p> <p><u>UNFCCC Paris Agreement, SDG 13</u></p>	<ul style="list-style-type: none"> <li>• Develop and implement NAPs, particularly in relation to agriculture, energy, health, infrastructure, and ecosystems.</li> <li>• Set and achieve NDCs, promote the conservation of wetlands and peatlands to reduce greenhouse gas emissions.</li> <li>• Invest in climate-resilient water infrastructure and practices.</li> <li>• Enhance public awareness/education on climate and water interlinkages.</li> <li>• Enhance monitoring and forecasting systems, including early warning systems for water-related climate risks, such as droughts and floods.</li> </ul>
<p><b>Ecosystems and Biodiversity</b></p> <p><u>Kunming-Montreal Global Biodiversity Framework, SDG 14, SDG 15, SDG target 6.6, UN Decade on Ecosystem Restoration</u></p>	<ul style="list-style-type: none"> <li>• Establish protected areas and conservation zones to safeguard critical habitats and species in water environments.</li> <li>• Implement sustainable land-use practices to minimize habitat destruction and fragmentation.</li> <li>• Promote sustainable fisheries management and aquaculture practices.</li> <li>• Support research and monitoring programs to assess biodiversity status and trends in water-related environments.</li> <li>• Pollution control legislation, monitoring, and enforcement.</li> <li>• Promote nature-based solutions in water environments.</li> </ul>
<p><b>Energy Security</b></p> <p><u>SDG 7, UNFCCC Paris Agreement</u></p>	<ul style="list-style-type: none"> <li>• Integrate water and energy planning to optimize water use in energy production processes.</li> <li>• Promote renewable energy technologies that have minimal water requirements, such as solar and wind power, where appropriate.</li> <li>• Enhance water efficiency in energy extraction, processing, and transportation activities.</li> <li>• Implement water-saving measures in energy-intensive industries to reduce freshwater withdrawals and wastewater discharges.</li> <li>• Facilitate multi-sectoral dialogue and collaboration to address water-energy nexus challenges and trade-offs.</li> </ul>

SECTORS AND GLOBAL FRAMEWORKS FOR ACTION	EXAMPLES OF ACTIONS WHERE MAINSTREAMING WATER, USING AN IWRM APPROACH, CAN ACHIEVE CO-BENEFITS AND ACCELERATE PROGRESS
<p><b>Food Security, Sustainable Agriculture</b></p> <p><u>SDG 2</u></p>	<ul style="list-style-type: none"> <li>• Promote sustainable water use in agriculture through efficient irrigation techniques, soil moisture management, and rainwater harvesting.</li> <li>• Invest in water infrastructure for small-scale irrigation schemes to support food production in rural areas.</li> <li>• Implement integrated water and land management approaches to optimize agricultural productivity while protecting water resources and ecosystems.</li> <li>• Enhance access to water for domestic use and livestock watering to improve food security in vulnerable communities.</li> <li>• Supporting research and extension services to disseminate best practices for water-efficient farming and water-smart agriculture.</li> </ul>
<p><b>Disaster Risk Reduction (DRR)</b></p> <p><u>Sendai Framework for Disaster Risk Reduction, Early Warnings for All (EW4A)</u></p>	<ul style="list-style-type: none"> <li>• Strengthen water-related DRR measures, including early warning systems, floodplain management, and emergency response plans.</li> <li>• Improve infrastructure resilience to water-related hazards, such as dam safety upgrades and flood-proofing measures.</li> <li>• Enhance community preparedness and awareness of water-related risks through education and capacity-building programs.</li> <li>• Integrate disaster risk reduction considerations into water resources management and land-use planning processes.</li> <li>• Promote nature-based solutions for disaster risk reduction, such as restoring natural floodplains and mangrove forests.</li> </ul>
<p><b>Land management</b></p> <p><u>UN Convention to Combat Desertification, SDG 15</u></p>	<ul style="list-style-type: none"> <li>• Implement integrated watershed management approaches to address land degradation, soil erosion, and sedimentation of water bodies.</li> <li>• Promote sustainable land-use practices, such as agroforestry, soil conservation, and land reclamation, to protect water resources and reduce runoff pollution.</li> <li>• Enforce land-use planning regulations to minimize urban sprawl and prevent encroachment on water-sensitive areas, such as floodplains and wetlands.</li> <li>• Support land tenure reform and community-based natural resource management initiatives to enhance land stewardship and water quality protection.</li> <li>• Invest in monitoring and research to assess the impacts of land management practices on water quantity and quality.</li> </ul>



**WaSH, water safety and wastewater**

SDG 6

- Invest in infrastructure for water supply systems, including piped water networks, boreholes, and protected wells that consider water balance and demand now and in the future.
- Implement water quality monitoring programs to ensure compliance with safety standards and guidelines.
- Implement source water protection measures, such as land-use planning, watershed management, and pollution control, to safeguard water supplies.
- Develop and implement wastewater treatment and reuse programs to reduce pollution of water bodies and protect public health.
- Encourage resource recovery from wastewater, including energy generation, nutrient recycling, and irrigation water reuse, to promote sustainability and reduce environmental impact.

**Safeguarding SIDS**

SIDS Accelerated Modalities of Action (SAMOA) Pathway

- Develop and implement plans tailored to the unique water challenges of small island developing states (SIDS), such as limited freshwater resources, saltwater intrusion, and vulnerability to extreme weather events.
- Invest in water infrastructure for rainwater harvesting, desalination, and wastewater treatment to enhance water security and resilience.
- Promote water conservation and demand management measures to address water scarcity and ensure sustainable water use.
- Strengthen coastal zone management to protect freshwater resources from saltwater intrusion and pollution.
- Build capacity for climate adaptation and disaster resilience in water governance institutions and local communities.

## IWRM Policy Briefs

In support of the global survey and this report, a series of policy briefs are expected to be developed, building on the 2023 SDG 6.5.1 monitoring data, to provide a more detailed progress update and recommendations on various topic areas. These will help communicate key messages and recommendations to different target audiences. These are expected to cover the following topics:

- Climate and IWRM
- Freshwater ecosystems, biodiversity management and pollution control
- Disaster risk reduction: floods, droughts, early warnings for all
- Effective cross-sector coordination
- Financing for IWRM to achieve multiple objectives
- Gender mainstreaming in water resources management
- Implementing the Water-Energy-Food-Ecosystems (WEFE) Nexus
- Target 6.5: 6.5.1 IWRM and 6.5.2 transboundary cooperation



# References

Adaptation Fund (2022). *Transboundary Approaches to Climate Adaptation: Lessons learned from the Adaptation Fund's Regional Projects and Programmes*.

Becker, J. and Smith, D. B. (2017). *The Need for Cross-Sector Collaboration*. Stanford Social Innovation Review; Stanford Vol. 16. Iss.1 (Winter 2018) C2-C3

Bilalova, S., Newig, J., Tremblay-Lévesque, L.C., Roux, J., Herron, C., and Crane, S. (2023). *Pathways to water sustainability? A global study assessing the benefits of integrated water resources management*. <https://doi.org/10.1016/j.jenvman.2023.118179>

Caretta, M.A., Mukherji, A., Arfanuzzaman, M., Betts, R.A., Gelfan, A., Hirabayashi, Y. et al. (2022). *Chapter 4: Water*. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. DOI: <https://doi.org/10.1017/9781009325844.006> [accessed 7 June 2024]

Global Water Partnership and Tanzanian Ministry of Water (2024). *Valuing Water in Tanzania: (Re)assessing the Contribution of Water to the National Economy*.

GIZ (2021). *Integrating EbA and IWRM for climate-resilient water management*.

Intergovernmental Panel on Climate Change (2021). *Summary for Policymakers*. In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*.

Intergovernmental Panel on Climate Change (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. <https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-4/> [accessed 7 June 2024].

Libala, N., Nyingwa, A., and Griffin, N. (2021). *Mapping water and sanitation interlinkages across the sustainable development goals: Report to the Water Research Commission*. Unilever Centre for Environmental Water Quality, Institute for Water Research, Rhodes University.

National Adaption Plan Global network (2024). *Trends in Key Themes: Sector Integration* <https://trends.napglobalnetwork.org/trend-in-key-themes/sector-integration> [accessed 7 June 2024].

Organisation for Economic Co-operation and Development (2018a). *Blended Finance Principles for Unlocking Commercial Finance for the Sustainable Development Goals*.

Organisation for Economic Co-operation and Development (2018b). *Financing water Investing in sustainable growth*. OECD Environment Policy Paper No. 11.

United Nations (2015). *Transforming our world: The 2030 Agenda for sustainable development*. A/RES/70/1 <https://sustainabledevelopment.un.org> [Accessed 7 June 2024]

United Nations (2024). *The Sustainable Development Goals Report 2024*.

United Nations Department of Economic and Social Affairs and United Nations Framework Convention on Climate Change (2023). *Synergy Solutions for a World in Crisis: Tackling Climate and SDG Action Together*.

United Nations Economic Commission for Europe and United Nations Educational, Scientific and Cultural Organization (2024). *Progress on Transboundary Water Cooperation. Mid-term status of SDG indicator 6.5.2, with a special focus on climate change*.

United Nations Educational, Scientific and Cultural Organization (2016). *Chapter 4.2 Links between Target 6.5 and other SDG 6 targets, in Transboundary water cooperation and the Sustainable Development Goals*.

United Nations Environment Programme (2012). *The UN-Water Status Report on the Application of Integrated Approaches to Water Resources Management*.

United Nations Environment Programme (2021). *Progress on Integrated Water Resources Management. Tracking SDG 6 series: global indicator 6.5.1 updates and acceleration needs*.

United Nations Environment Programme (2022). *Blending Water Management and Climate Change Adaptation Approaches*.

United Nations Environment Programme (2023). *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*. Nairobi. <https://doi.org/10.59117/20.500.11822/43796>

United Nations Environment Programme (2024). *Effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution*. Report for UN Environment Assembly.

United Nations Framework Convention on Climate Change Conference of the Parties (2022). *Decision -/CMA.5 Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3*, [https://unfccc.int/sites/default/files/resource/cma5\\_auv\\_8a\\_gga.pdf](https://unfccc.int/sites/default/files/resource/cma5_auv_8a_gga.pdf) [accessed 30 May 2024].

United Nations Framework Convention on Climate Change (2023). *Nationally determined contributions under the Paris Agreement Synthesis report by the secretariat*. [https://unfccc.int/sites/default/files/resource/cma2023\\_12.pdf](https://unfccc.int/sites/default/files/resource/cma2023_12.pdf) [accessed 30 May 2024]

United Nations-Water (2016). *Water and Sanitation Interlinkages across the 2030 Agenda for Sustainable Development*. Geneva.

United Nations Women (2022). *Explainer: How gender inequality and climate change are interconnected*. <https://www.unwomen.org/en/news-stories/explainer/2022/02/explainer-how-gender-inequality-and-climate-change-are-interconnected> [Accessed 18 June 2024]

United Nations Women (2023). *What is gender-responsive budgeting?* <https://www.unwomen.org/en/news-stories/explainer/2023/11/what-is-gender-responsive-budgeting> [Accessed 18 June 2024]

World Economic Forum (2024). *Global Risks Report 2024*. <https://www.weforum.org/publications/global-risks-report-2024/>

World Water Council (2023). *Opening up integrated water resource management to include energy, food, health and education*. World Water Council Report 2023. [https://www.worldwatercouncil.org/sites/default/files/2023-09/REPORT\\_IWRM\\_2023\\_WEB.pdf](https://www.worldwatercouncil.org/sites/default/files/2023-09/REPORT_IWRM_2023_WEB.pdf) [accessed 18 June 2024]









# **Annex 1 Indicator methodology and data collection**

# Annex 1.1 SDG indicator 6.5.1 methods and interpreting the results

SDG indicator 6.5.1 effectively serves as a proxy indicator for sustainable water management, with excellent global coverage and an established timeline to measure progress and estimate projections.

**Data coverage:** SDG indicator 6.5.1 status and progress is based on survey data from 191 countries across three data collection rounds (2017, 2020, 2023). Most status maps and data in this report are based on 183 countries that reported in 2023. Only the overall SDG 6.5.1 indicator score (Figures 1 and 2.2) include an additional eight countries with ‘most recent’ data from 2020 (see Annex 2.2 for individual country results).

**6.5.1 survey:** The survey has 33 questions across four dimensions: (1) Enabling Environment (laws, policies and plans); (2) Institutions and Participation; (3) Management Instruments; and (4) Financing. Each question is scored on a scale of 0-100, averaged to give dimension scores, which are in turn averaged to give the indicator score (see Annex 1.2 for a survey summary). The full survey template, and all country responses, are available at <https://iwrmdataportal.unepdhi.org>. Survey inputs are based on a stakeholder consultation process (Annex 1.3 and Box 2.2). Further information on how the indicator methodology is performing is provided in Annex 1.4.

**Global target:** In line with Target 6.5, the global target for indicator 6.5.1 is to reach a “very high” level of IWRM implementation (score of 91 per cent -100 per cent), by

2030. This equates to having the frameworks in place, and them being implemented sufficiently, to sustainably manage water resources, balancing the needs of different sectors and minimizing the risk of pressures (as discussed in Chapter 1). Countries may also set their own national targets (see Box 2.1 and Annex 2.2).

**Status:** Six IWRM implementation levels are defined, from ‘very low’ to ‘very high’, with general interpretations and score thresholds given in Table 2.1. Countries with scores below 50 per cent (‘medium-low’ and below) are likely to have broader limitations on institutional and financial capacity to advance significantly on IWRM, and additional external support may be needed. Interpretations of scores for individual survey questions can be found in the SDG 6.5.1 survey template and country responses.

**Calculating trends:** Global trends are based on a linear projection of average indicator scores in 2017, 2020, and 2023. Country, sub-regional and regional trends have been calculated using a modification of UNSD’s ‘trend to target’ method (download the methodological note [here](#)). For the country-level analysis in Section 2, Figure 2.3, the number of countries unlikely to reach the global target is based on countries with “limited”, “some”, and “fair” progress as of 2023. Progress categories are based on score differences between 2023 and 2017 where available (164 countries), or between two of the rounds (23 countries). Population projections are based on UN 2030 projections using <https://population.un.org/wpp/Download/Standard/MostUsed/>

# Annex 1.2 SDG indicator 6.5.1 survey overview (2023)

## SECTION 1: ENABLING ENVIRONMENT

### 1.1 Status of policies, laws and plans to support IWRM at the national level:

- 1.1a National water resources policy, or similar
- 1.1b National water resources law(s)
- 1.1c National integrated water resources management (IWRM) plans, or similar

### 1.2 Status of policies, laws and plans to support IWRM at other levels:

- 1.2a Sub-national water resources policies or similar
- 1.2b Basin/aquifer management plans or similar, based on IWRM
- 1.2c Arrangements for transboundary water management
- 1.2d Sub-national water resources regulations (laws, decrees, ordinances or similar)

## SECTION 2: INSTITUTIONS AND PARTICIPATION

### 2.1 Status of institutions for IWRM implementation at the national level:

- 2.1a National government authorities for leading IWRM implementation
- 2.1b Coordination between national government authorities representing different sectors
- 2.1c Public participation in water resources, policy, planning and management at national level
- 2.1d Private sector participation in water resources development, management and use
- 2.1e Developing IWRM capacity

### 2.2 Status of institutions for IWRM implementation at other levels:

- 2.2a Basin/aquifer level organizations for leading implementation of IWRM
- 2.2b Public participation in water resources, policy, planning and management at the local level
- 2.2c Participation of vulnerable groups in water resources planning and management
- 2.2d Gender mainstreaming in water resources management
- 2.2e Organizational framework for transboundary water management
- 2.2f Sub-national authorities for leading IWRM implementation

## SECTION 3: MANAGEMENT INSTRUMENTS

### 3.1 Status of management instruments to support IWRM implementation at the national level:

- 3.1a National monitoring of water availability (incl. surface and/or groundwater)
- 3.1b Sustainable and efficient water use management at the national level (incl. surface and/or groundwater)
- 3.1c Pollution control from the national level
- 3.1d Management of water-related ecosystems and biodiversity from the national level
- 3.1e Management instruments to reduce impacts of water-related disasters - national level

## SECTION 4: FINANCING

### 4.1 Status of financing for water resources development and management at the national level:

- 4.1a National budget for water resources infrastructure (investment and recurrent costs)
- 4.1b National budget for IWRM elements (investments and recurrent costs)

### 4.2 Status of financing for water resources development and management at other levels:

- 4.2a Sub-national or basin budgets for water resources infrastructure (investment and recurrent costs)
- 4.2b Revenues raised for IWRM elements
- 4.2c Financing for transboundary cooperation
- 4.2d Sub-national or basin budgets for IWRM elements (investment and recurrent costs)

## CALCULATION OF THE NATIONAL SDG 6.5.1 SCORE (DEGREE OF IWRM IMPLEMENTATION 0-100)

**Each question is scored out of 100.** (Section 1 average score + Section 2 average score + Section 3 average score + Section 4 average Score) / 4 = national SDG 6.5.1 score

## ANNEXES

A: Glossary; B: Key priorities and targets for IWRM implementation; C: 6.5.1 country reporting process form  
Download full survey and supporting materials from the IWRM Data Portal: <http://iwrmdataportal.unepdhi.org/>

## Annex 1.3 Stakeholder consultation processes for data collection

A central aspect of the SDG 6.5.1 national reporting exercise is the multi-stakeholder process aiming to reach consensus on country scores and text responses to the survey questions.

Many countries reported that this comprehensive process achieved a number of secondary but important outcomes, including awareness-raising among different stakeholders of the concept and value of IWRM; creation of a common understanding of various aspects of water resources management, and their current status; and discussion of the key barriers to IWRM implementation and priority actions to overcome them (Box A.1).

### Box A.1: Country examples of the usefulness of the 6.5.1 survey to countries.

In Sri Lanka, stakeholders noted that the consultation process provided crucial information on Sri Lanka's key challenges, progress, and ways forward to achieve sustainable water management. The biggest added value of the reporting process was the relations built and knowledge shared between stakeholders. This data-driven approach to assessing governance challenges not only helped to guide future actions towards achieving SDG 6.5, but also facilitated collecting IWRM data at different levels and reaching consensus among stakeholders, laying the foundation for effective IWRM implementation.

Source: <https://www.gwp.org/en/About/more/news/2024/driving-progress-on-iwrm-insights-from-the-2023-data-drive/>

Other countries reported that the completed survey was an important input for the reformulation of the National IWRM Policy (for example Colombia, personal communication), and as a basis for prioritizing actions for improving IWRM implementation (for example Costa Rica, Georgia, personal communication).

SDG 6.5.1 National focal points led the stakeholder consultation processes, with 75 per cent affiliated to water ministries or similar (Figure A.1.1).

### Focal Point affiliation by category

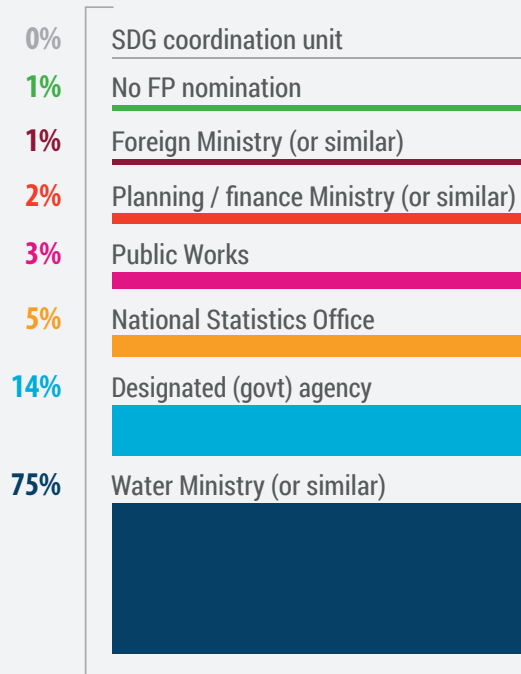


Figure A.1.1: SDG 6.5.1 Focal Point affiliation 2023.

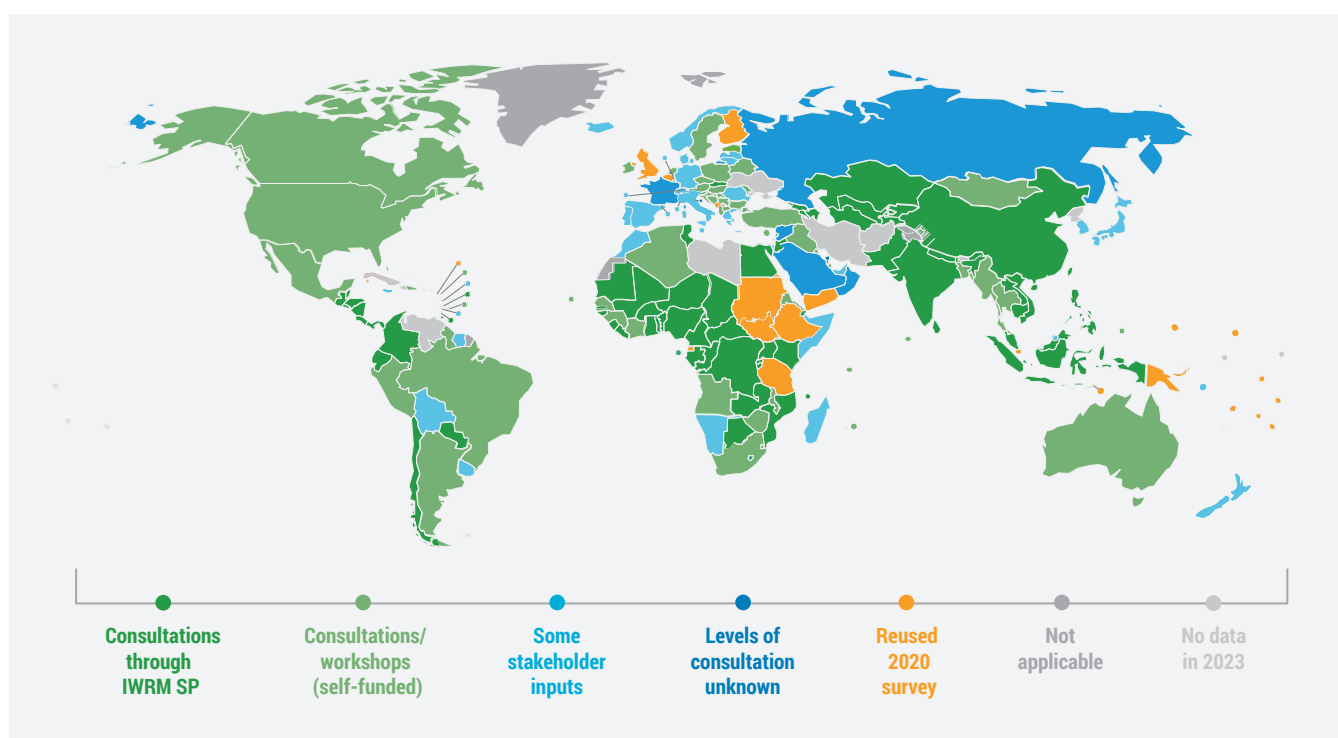
\*"Water ministry (or similar)" indicates a ministry with chief responsibility for water resources management, often merged with other areas such as natural resources, the environment, climate change, land, energy, agriculture, fisheries, forestry or mines.



In Annex C of the SDG 6.5.1 survey, countries were asked to provide a brief overview of the stakeholder consultation process, including the types of stakeholders involved and their level of engagement. Countries used various means for stakeholder consultation, typically involving one or more workshops, either in-person, virtually, or hybrid. Approximately 150 countries held one or more in-person or virtual workshops, or received broad stakeholder inputs through various means (Figure A.1.2). Of these, 67 countries received financial and technical support to engage a facilitator for the consultation processes, through the SDG 6 IWRM Support Programme, with national co-financing (see Box 2.2, Section 2.1). Consultations convened approximately 2 700 stakeholders from a variety of sectors (averaging approximately 40 stakeholders per country). Most countries strived to have gender-balanced representation of stakeholders, resulting in several countries engaging around 55 per cent male and 45 per cent female participants in 2023. Higher male representation in consultations is likely due to higher male proportion of the workforce in

government authorities. The resulting stakeholder consultation reports provide further detail on which stakeholders participated and how, as well as the key discussion points, challenges and opportunities for progress on IWRM implementation in the respective countries.<sup>17</sup> More opportunities to leverage funding from, and contribute to, other projects and programmes should be investigated in the next data collection round, to increase the robustness and usefulness of the consultation process in more countries.<sup>18</sup>

Beyond the 67 countries assisted through the SDG 6 IWRM Support Programme, approximately 50 countries self-funded consultation workshops, as recommended in the [SDG 6.5.1 Monitoring Guide](#). Of the remaining countries, approximately 35 countries received broad stakeholder inputs through other means (for example emails, phone calls), 21 reused their 2020 submission, and in approximately seven countries, the extent of stakeholder consultation is not well known, but it is understood that discussions were mainly held within relevant government departments.

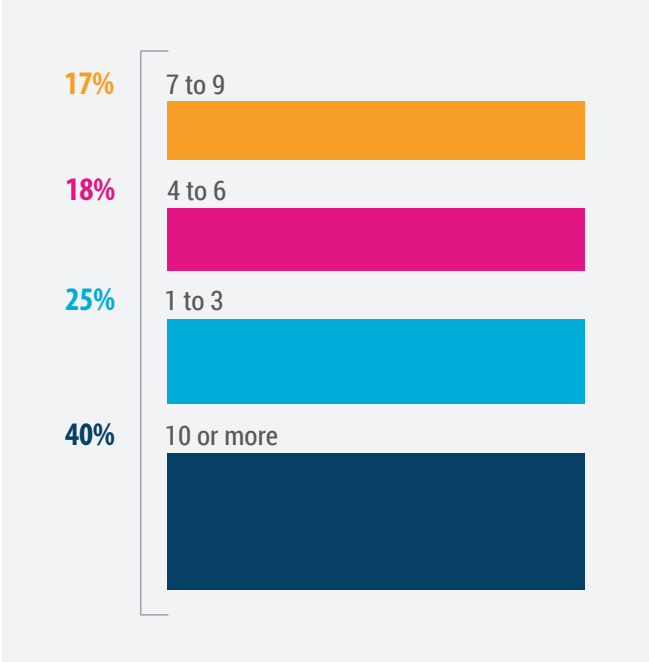


**Figure A.1.2: SDG 6.5.1 consultation processes for 2023 data collection.**

<sup>17</sup> Stakeholder consultation reports available from <https://www.gwp.org/en/sdg6support/sdgmap/?location=&region=&country=&stage=1&progress=0>

<sup>18</sup> More insights from the 2023 data drive can be found here: <https://www.gwp.org/en/About/more/news/2024/driving-progress-on-iwrm-insights-from-the-2023-data-drive/>

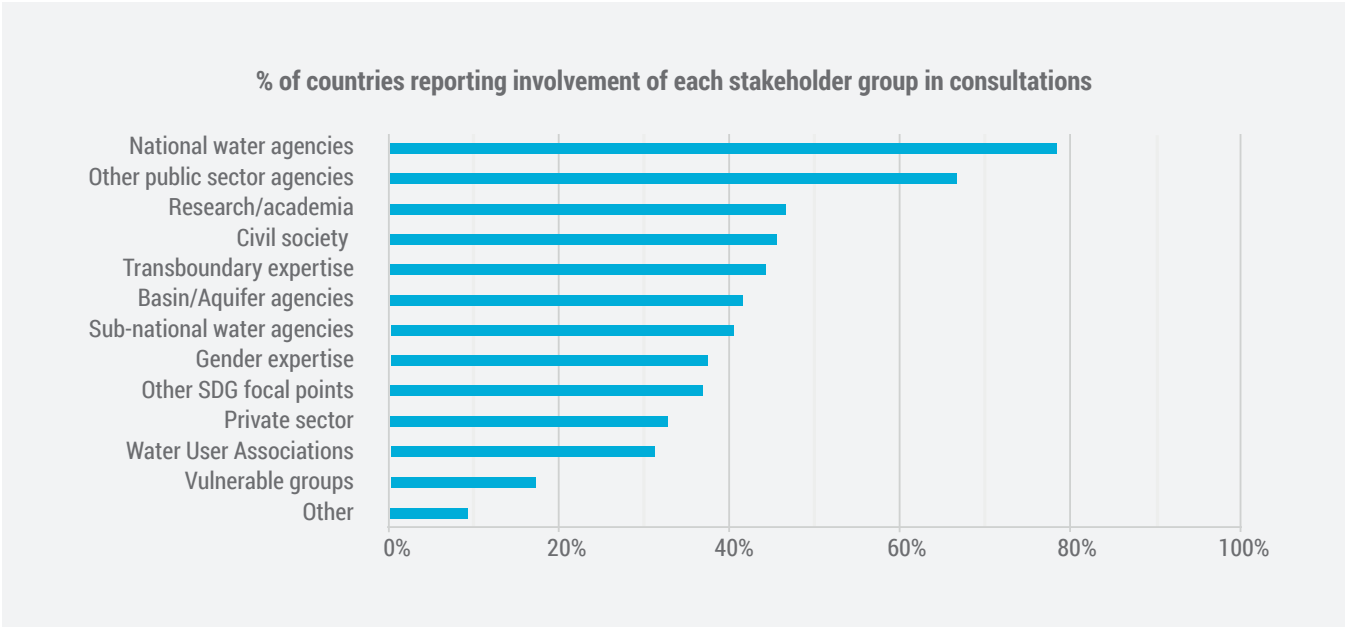
Most countries consulted a wide range of stakeholders at different governance levels and across sectors (Figure A.1.3).



**Figure A.1.3: Percentage of countries engaging different numbers of stakeholder types in 2023 reporting.**

Countries were asked to define the level of engagement from stakeholder groups as low (given opportunity to contribute), medium (some input) or high (discussion/negotiation). Considering medium and high levels of engagement, the highest levels of engagement came from national water agencies and other public sector agencies, with around 45 per cent of countries also engaging civil society, research/academia, and transboundary expertise (Figure A.1.4). The broad range of stakeholders represented point to a fairly comprehensive consultation process in most countries. However, in many countries there is a need for more involvement of other SDG 6 focal points (and focal points from other SDGs); local-level actors such as basin organizations, water-user associations and subnational water agencies; and the private sector.

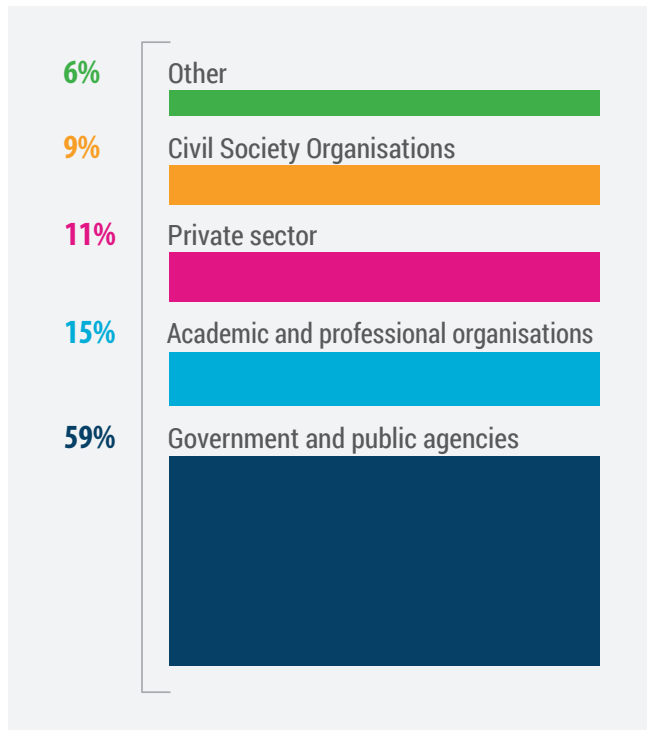
In addition to facilitating Stage 1 stakeholder consultations, the SDG 6 IWRM Support Programme developed an [online IWRM Survey tool](#) in 2023 to streamline data collection from diverse stakeholder groups across countries. The online survey is freely available to all stakeholders on the IWRM Action Hub in seven languages.



**Figure A.1.4: Percentage of countries engaging various stakeholder types in 2023.**

Note: Based on medium or high engagement levels (Annex C of 6.5.1 survey), 183 countries.

In 2023, the tool was formally used by 17 countries for stakeholder consultations, collecting more than 220 inputs from stakeholders globally. Government officials represent the largest stakeholder group which used the tool (59 per cent), followed by academia and professional organizations, the private sector, and civil society organizations (Figure A.1.5).



**Figure A.1.5: Types of stakeholders using the online IWRM Survey tool.**

The approach to using the online survey varied between countries, ranging from pre-consultation, to real-time joint scoring during consultations, and targeted invitations to specific stakeholder groups like development organizations or local government officials for input to relevant sections of the survey. Overall, feedback from stakeholders underscores the tool's user-friendliness and efficiency, with over 70 per cent satisfied by its simplicity and speed in recording scores.

## Annex 1.4 How the 6.5.1 monitoring methodology is performing

- **Data coverage: Excellent.** 191 countries across SDG period, 137 countries reporting in all three rounds (2017, 2020, 2023).<sup>19</sup> Number of countries per reporting round: 2017: 173; 2020: 186; 2023: 183.
- **Data quality: Fair.**
  - **Comprehensiveness and transparency of data collection process:** Data quality has incrementally improved between data collection rounds, with more countries conducting (and documenting) more rigorous stakeholder consultation processes (see Annex 1.2), as recommended in the [SDG 6.5.1 Monitoring Guide](#). In 2020 and 2023, countries were asked to document their consultation process in Annex C of the SDG 6.5.1 survey. In 2020, 85 per cent of countries provided some response, and 45 per cent held a strong consultation process (it was Annex E in the 2020 version of the survey). In 2023, 90 per cent of countries provided some response, and 74 per cent held a strong consultation process. Almost 90 countries assisted through the SDG 6 IWRM Support Programme across the three rounds, developed detailed [Stakeholder Consultation Reports](#). For more information, see Annex 1.3.
  - **Transparency/confidence in the question scores:** For each of the 33 questions, countries provide a “status description” and “way forward”. This adds transparency and confidence in the results as well as the shared commitment to improve the scores in the future.
  - Despite the above, in some countries **more could be done** in subsequent data collection rounds to increase stakeholder engagement in the reporting process, and increase transparency by enhancing the information provided in the free text fields to each question.

<sup>19</sup> This includes State of Palestine. Only three UN Member States have not yet reported (Kiribati, Nauru, Venezuela).

- **Benefits of the reporting process to countries (considering resources required):** Many countries report significant benefits of the reporting process. Both in terms of developing a common understanding of priorities and challenges among government and non-government stakeholders (for example Sri Lanka), as well as having the completed survey as a useful source of information for ongoing planning and communication (for example Colombia). The fact that most countries invest significant time and other resources in the consultation process shows that they see value in the process, beyond a ‘box-ticking’ exercise to report on the SDGs (Box 2.2). Even for countries assisted with monitoring through the SDG 6 IWRM Support Programme, the financial support mainly covers a facilitator and venue hire – all staff time and expenses are still paid by the government (co-financing) (Box 2.2). The value placed on the reporting process is also illustrated by the fact indicator 6.5.1 is in the top 10 per cent of all 248 SDG indicators in terms of data coverage,<sup>20</sup> despite the time and resources required. In subsequent rounds, efforts should be made by UNEP, as the custodian agency, to reduce the reporting burden on countries, whilst still encouraging countries to benefit from stakeholder consultations, and resulting in a comprehensively completed survey.
- **Interpreting progress towards target:**
  - **Global and regional levels:** Good. Global and regional averages demonstrate progress towards the target.
  - **National level:** Generally good, with some exceptions. For most countries, data reflects accurate progress towards the target. In some countries, stakeholder consultation processes may have become increasingly robust, which should be taken into account when interpreting data trends. In some cases, data for certain questions, or even the indicator overall, may show stagnation or even regression, whereas in practice there may have been progress on the ground. Such nuances are typically described in the “status and progress” free text field for each question, and/or in Annex B of the survey, question 3 (additional comments on target-setting) and/or question 4 (additional general comments).

#### **How the survey has been used to support prioritization, target-setting, and implementation**

The survey has been designed so that it can be used as a diagnostic tool to identify strengths and weaknesses across various aspects of IWRM, and at different levels. This supports national planning to define priorities and activities to advance on specific areas. Many countries use the framework of the survey (that is IWRM across four dimensions) to assess and plan progress towards the target.

In 2023, countries were also asked to estimate progress towards the target, by providing “business-as-usual” and “target” scores (see Box 2.1 and the last column of the results table in Annex 2.2).

<sup>20</sup> <https://unstats.un.org/sdgs/dataportal/analytics/DataAvailability>



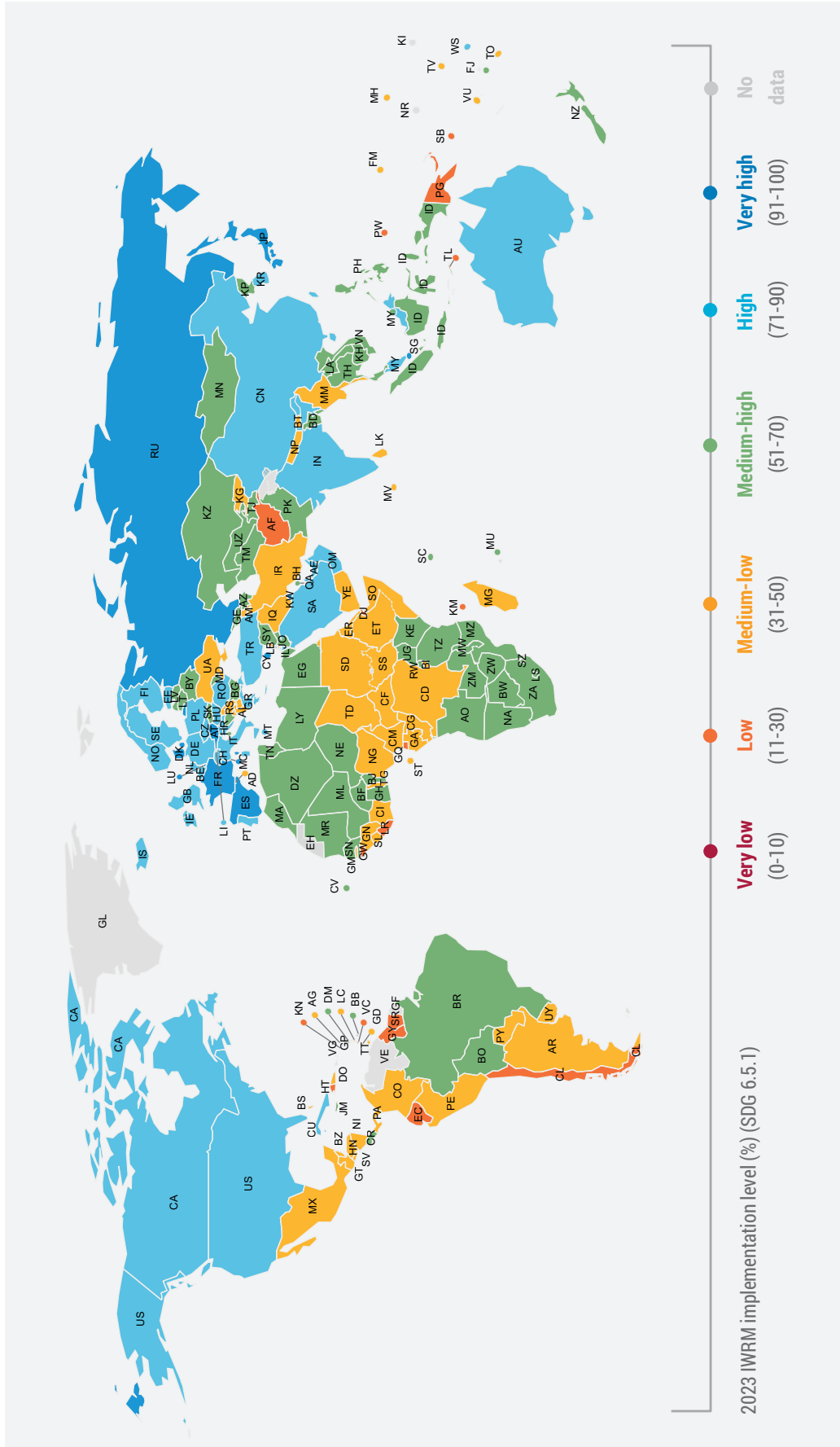






# **Annex 2 SDG 6.5.1 Results**

# Annex 2.1 SDG 6.5.1 IWRM implementation level map with country codes



Note: Country names and codes shown in Annex 2.2.

## Annex 2.2 SDG 6.5.1 Country results table

COUNTRY (WITH COUNTRY CODE)	6.5.1 IWRM SCORES (%)			PROGRESS <sup>II</sup>	2030 TARGET (%) (UNOFFICIAL) <sup>β</sup>
	2017	2020	2023		
Afghanistan (AF)	12	12	ND	L	ND
Albania (AL)	43	47	47	S	100
Algeria (DZ)	48	54	60	F	ND
Andorra (AD)	36	36	36	L	91
Angola (AO)	37	61	62	G	75
Antigua and Barbuda (AG)	30	35	38	S	42
Argentina (AR)	38	ND	50	S	60
Armenia (AM)	36	52	46	S	65
Australia (AU)	86	88	85	C	ND
Austria (AT)	91	91	91	C	ND
Azerbaijan (AZ)	66	57	55	L	65
Bahamas (BS)	33	34	40	S	75
Bahrain (BH)	40	39	59	G	ND
Bangladesh (BD)	50	58	64	F	ND
Barbados (BB)	42	46	51	S	ND
Belarus (BY)	38	54	64	G	79
Belgium (BE)	78	82	82	C	ND
Belize (BZ)	20	21	32	S	60
Benin (BJ)	63	68	68	S	ND
Bhutan (BT)	32	33	ND	L	ND
Bolivia (BO)	49	52	55	S	59
Bosnia and Herzegovina (BA)	61	53	65	S	ND
Botswana (BW)	41	48	56	F	ND
Brazil (BR)	51	63	51	L	ND
Brunei Darussalam (BN)	ND	70	70	L	ND
Bulgaria (BG)	60	69	68	S	75-84
Burkina Faso (BF)	63	66	70	S	77
Burundi (BI)	32	47	48	F	58
Cabo Verde (CV)	64	62	62	L	ND
Cambodia (KH)	46	59	62	F	75
Cameroon (CM)	34	40	49	F	80
Canada (CA)	ND	ND	73	C	ND
Central African Republic (CF)	31	37	44	S	70
Chad (TD)	32	37	38	S	68
Chile (CL)	23	32	26	L	52
China (CN)	75	80	81	C	80
Colombia (CO)	50	57	41	L	55
Comoros (KM)	26	20	25	L	38
Congo (CG)	32	43	48	F	68
Costa Rica (CR)	43	51	51	S	ND
Côte d'Ivoire (CI)	32	40	49	F	79
Croatia (HR)	90	90	90	C	95
Cuba (CU)	80	82	ND	C	ND
Cyprus (CY)	91	93	93	C	ND
Czechia (CZ)	79	80	80	C	80
Democratic People's Republic of Korea (KP)	38	63	ND	G	ND
Democratic Republic of the Congo (CD)	31	32	40	S	65
Denmark (DK)	93	95	95	C	ND
Djibouti (DJ)	ND	ND	24	ND	44
Dominica (DM)	40	47	53	S	ND
Dominican Republic (DO)	36	36	39	L	ND
Ecuador (EC)	42	38	26	L	45
Egypt (EG)	40	56	63	G	ND
El Salvador (SV)	21	23	38	F	78
Equatorial Guinea (GQ)	24	23	23	L	ND
Eritrea (ER)	ND	ND	37	ND	80
Estonia (EE)	80	85	89	C	100
Eswatini (SZ)	53	59	58	S	75
Ethiopia (ET)	31	41	41	S	ND
Fiji (FJ)	ND	56	56	L	ND
Finland (FI)	75	80	80	C	ND
France (FR)	100	100	100	C	ND
Gabon (GA)	14	29	33	F	56
Gambia (GM)	30	31	37	S	ND
Georgia (GE)	35	44	54	G	77
Germany (DE)	88	89	88	C	ND
Ghana (GH)	49	57	60	S	71
Greece (GR)	83	86	85	C	98
Grenada (GD)	25	31	35	S	71
Guatemala (GT)	25	21	33	S	55
Guinea (GN)	24	25	40	F	ND
Guinea-Bissau (GW)	ND	19	23	S	ND
Guyana (GY)	16	19	28	S	ND
Haiti (HT)	29	30	ND	L	ND
Honduras (HN)	21	25	34	S	50
Hungary (HU)	73	75	76	C	ND
Iceland (IS)	52	69	75	C	88
India (IN)	ND	45	75	C	90
Indonesia (ID)	48	66	70	G	90
Iran (Islamic Republic of) (IR)	59	40	ND	L	ND
Iraq (IQ)	25	38	44	F	ND
Ireland (IE)	81	81	87	C	ND
Israel (IL)	85	85	89	C	90

COUNTRY (WITH COUNTRY CODE)	6.5.1 IWRM SCORES (%)			PROGRESS <sup>IT</sup>	2030 TARGET (%) (UNOFFICIAL) <sup>B</sup>
	2017	2020	2023		
Italy (IT)	55	77	78	C	81
Jamaica (JM)	43	50	51	S	ND
Japan (JP)	94	95	95	C	ND
Jordan (JO)	63	64	64	L	80
Kenya (KE)	53	59	62	S	ND
Kiribati (KI)	ND	ND	ND	ND	ND
Kuwait (KW)	82	94	95	C	N/A
Kyrgyzstan (KG)	ND	31	38	S	46
Lao People's Democratic Republic (LA)	49	62	68	G	85
Latvia (LV)	64	62	62	L	ND
Lebanon (LB)	32	25	33	L	65
Lesotho (LS)	33	45	53	G	75
Liberia (LR)	15	15	22	S	56
Libya (LY)	47	60	ND	G	ND
Liechtenstein (LI)	70	72	73	C	ND
Lithuania (LT)	57	61	61	S	75
Luxembourg (LU)	90	89	92	C	98
Madagascar (MG)	36	38	39	L	80
Malawi (MW)	40	55	58	G	68
Malaysia (MY)	43	63	73	C	85
Maldives (MV)	35	42	50	F	65
Mali (ML)	53	52	53	L	ND
Malta (MT)	75	86	89	C	95
Marshall Islands (MH)	33	36	36	L	ND
Mauritania (MR)	45	47	53	S	100
Mauritius (MU)	64	68	68	S	75
Mexico (MX)	49	42	41	L	41
Micronesia (Federated States of) (FM)	38	49	49	S	ND
Monaco (MC)	90	94	99	C	99
Mongolia (MN)	43	45	57	F	95
Montenegro (ME)	34	35	35	L	ND
Morocco (MA)	64	71	70	S	85
Mozambique (MZ)	55	62	66	F	100
Myanmar (MM)	27	33	38	S	50
Namibia (NA)	59	53	60	L	ND
Nauru (NR)	ND	ND	ND	ND	ND
Nepal (NP)	33	37	37	L	59
Netherlands (NL)	93	92	90	C	>90
New Zealand (NZ)	58	65	62	S	ND
Nicaragua (NI)	ND	30	42	F	58
Niger (NE)	50	53	52	L	95

Nigeria (NG)	35	44	47	S	66
North Macedonia (MK)	22	33	39	F	ND
Norway (NO)	63	68	71	C	ND
Oman (OM)	33	79	80	C	85
Pakistan (PK)	50	56	63	F	80
Palau (PW)	ND	ND	26	ND	ND
Panama (PA)	37	33	40	L	74
Papua New Guinea (PG)	25	19	19	L	ND
Paraguay (PY)	32	27	35	L	54
Peru (PE)	30	41	46	F	ND
Philippines (PH)	51	56	62	S	90
Poland (PL)	40	74	75	C	80
Portugal (PT)	74	72	76	C	80
Qatar (QA)	82	81	90	C	93
Republic of Korea (KR)	68	76	81	C	ND
Republic of Moldova (MD)	32	46	68	G	83
Romania (RO)	72	77	79	C	N/A
Russian Federation (RU)	79	88	95	C	N/A
Rwanda (RW)	35	66	68	G	95
Saint Kitts and Nevis (KN)	22	23	23	L	ND
Saint Lucia (LC)	40	40	41	L	ND
Saint Vincent and the Grenadines (VC)	ND	24	25	L	ND
Samoa (WS)	70	75	75	C	ND
San Marino (SM)	66	66	68	L	80
Sao Tome and Principe (ST)	23	33	44	F	78
Saudi Arabia (SA)	57	57	83	C	90
Senegal (SN)	53	50	55	L	80
Serbia (RS)	30	36	39	S	50
Seychelles (SC)	45	55	53	S	ND
Sierra Leone (SL)	19	36	37	F	88
Singapore (SG)	100	100	100	C	ND
Slovakia (SK)	66	61	57	L	80
Slovenia (SI)	58	87	83	C	90
Solomon Islands (SB)	26	30	29	L	58
Somalia (SO)	10	22	34	F	61
South Africa (ZA)	65	71	60	L	75
South Sudan (SS)	38	43	43	S	ND
Spain (ES)	82	87	92	C	ND
Sri Lanka (LK)	25	47	49	F	64
State of Palestine (PS)	ND	62	41	L	ND
Sudan (SD)	40	34	34	L	ND
Suriname (SR)	15	23	22	S	ND
Sweden (SE)	89	86	86	C	ND
Switzerland (CH)	81	81	84	C	86
Syrian Arab Republic (SY)	ND	56	63	F	ND
Tajikistan (TJ)	ND	46	54	F	ND
Thailand (TH)	ND	53	70	G	80



COUNTRY (WITH COUNTRY CODE)	6.5.1 IWRM SCORES (%)			PROGRESS <sup>II</sup>	2030 TARGET (%) (UNOFFICIAL) <sup>β</sup>
	2017	2020	2023		
Timor-Leste (TL)	14	14	14	L	ND
Togo (TG)	32	34	46	S	59
Tonga (TO)	30	35	35	S	ND
Trinidad and Tobago (TT)	25	34	41	F	70
Tunisia (TN)	55	60	60	S	75
Turkmenistan (TM)	ND	64	68	S	100
Tuvalu (TV)	47	45	48	L	ND
Uganda (UG)	59	62	57	L	ND
Ukraine (UA)	39	39	ND	L	ND
United Arab Emirates (AE)	75	79	83	C	ND
United Kingdom of Great Britain and Northern Ire- land (GB)	77	79	79	C	ND
United Republic of Tanza- nia (TZ)	50	54	54	S	ND
United States of America (US)	ND	77	77	C	ND
Uruguay (UY)	ND	34	36	L	75
Uzbekistan (UZ)	45	48	52	S	68
Vanuatu (VU)	39	45	45	S	ND
Venezuela (Bolivarian Republic of) (VE)	ND	ND	ND	ND	ND
Viet Nam (VN)	38	52	56	G	66
Yemen (YE)	39	36	36	L	ND
Zambia (ZM)	46	58	66	G	91
Zimbabwe (ZW)	61	63	63	L	73

## II Progress categories and interpretation

L = Limited = marginal/limited progress;

S = Some = some progress but significant acceleration needed;

F = Fair = fair progress, but moderate acceleration needed;

G = Good = likely to be on track to meet the global target;

C = Close to target = close to target, or target met, but need to sustain efforts, since achieving and maintaining the objectives of sustainable water management is an ongoing process (651 scores  $\geq 71$ ).

Country progress categories are also shown in a global map in Figure 2.3 in Section 2.2.

Limitations on interpreting country trend data is provided in Section 2.2.

## β 2030 Target (per cent) (unofficial).

Countries were invited to provide an unofficial target for SDG 6.5.1 (in Annex B of the 6.5.1 survey). These were mostly discussed by stakeholders as part of the 6.5.1 reporting process in 2023. See Annex B, questions 3 and 4, of each country's survey for more information. <https://iwrmdataportal.unepdhi.org/country-reports>

ND = No data



## Annex 2.3 6.5.1 IWRM regional and subregional scores and progress table

SDG REGION <sup>21</sup>	SDG 6.5.1 SCORE			PROGRESS <sup>22</sup>	SDG SUBREGION	SDG 6.5.1 SCORE			PROGRESS
	2017	2020	2023			2017-2023	2017	2020	
Latin America and the Caribbean	35	37	39	Limited	Central America	31	31	39	Some
					Caribbean	37	39	40	Limited
					South America	35	39	38	Limited
Oceania	39	43	42	Limited	Melanesia	30	38	37	Some
					Micronesia	36	43	37	Limited
					Polynesia	49	52	53	Some
Sub-Saharan Africa	40	46	49	Some	Middle Africa	29	37	42	Some
					Western Africa	42	44	48	Some
					Eastern Africa	43	51	50	Some
					Southern Africa	50	55	57	Some
Central and Southern Asia	37	43	55	Good	Southern Asia	37	41	56	Good
					Central Asia	38	47	53	Fair
Northern Africa and Western Asia	55	60	64	Some	Northern Africa	49	56	57	Some
					Western Asia	57	62	66	Some
Eastern and South-Eastern Asia	52	62	66	Fair	South-Eastern Asia	46	57	62	Fair
					Eastern Asia	64	72	79	Close to target
Europe and Northern America	67	72	75	Close to target	Southern Europe	58	64	66	Some
					Eastern Europe	58	66	74	Close to target
					Northern Europe	73	77	79	Close to target
					Western Europe	87	88	89	Close to target
					Northern America	ND	77	75	Close to target
Australia and New Zealand	72	77	74	Close to target	Australia and New Zealand	72	77	74	Close to target
World	49	54	57	Some					

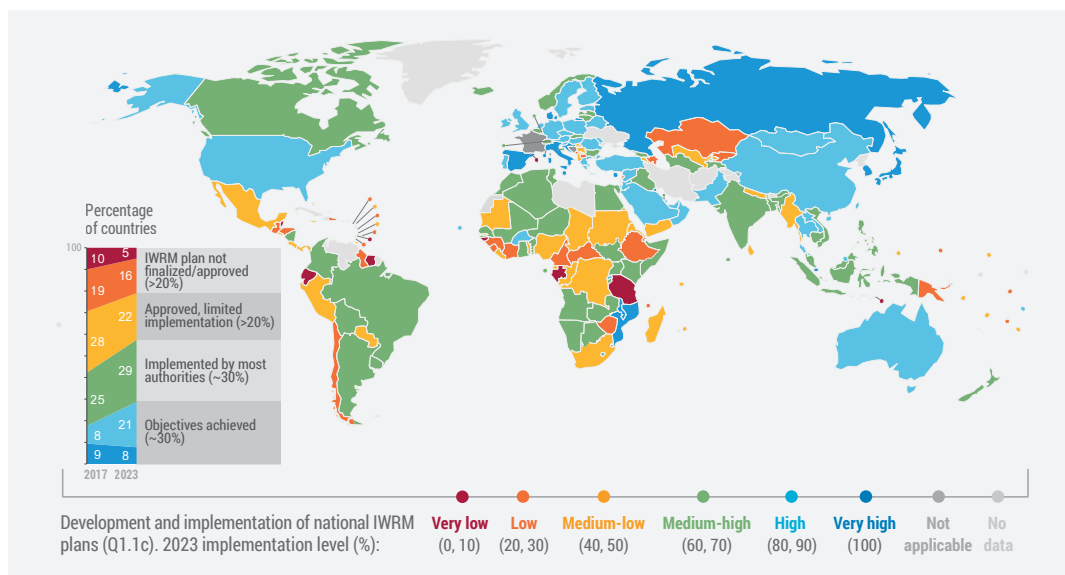
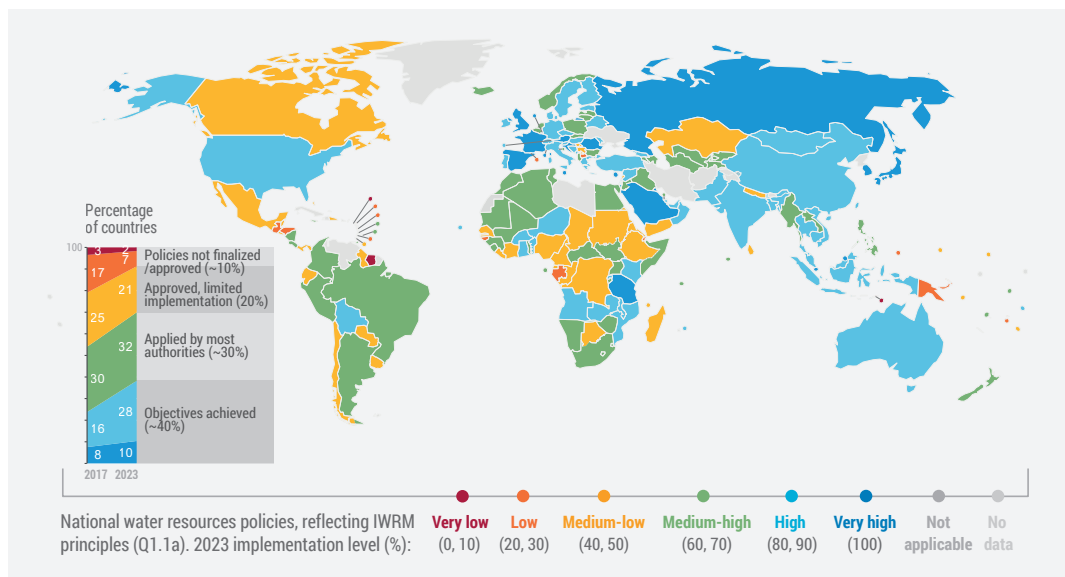
**Limited** = marginal/limited progress. **Some** = some progress but significant acceleration needed; **Fair** = fair progress, but moderate acceleration needed; **Good** = likely to be on track to meet the global target; **Close to target** = close to target, or target met, but need to sustain efforts, since achieving and maintaining the objectives of sustainable water management is an ongoing process (651 scores  $\geq 71$ ).

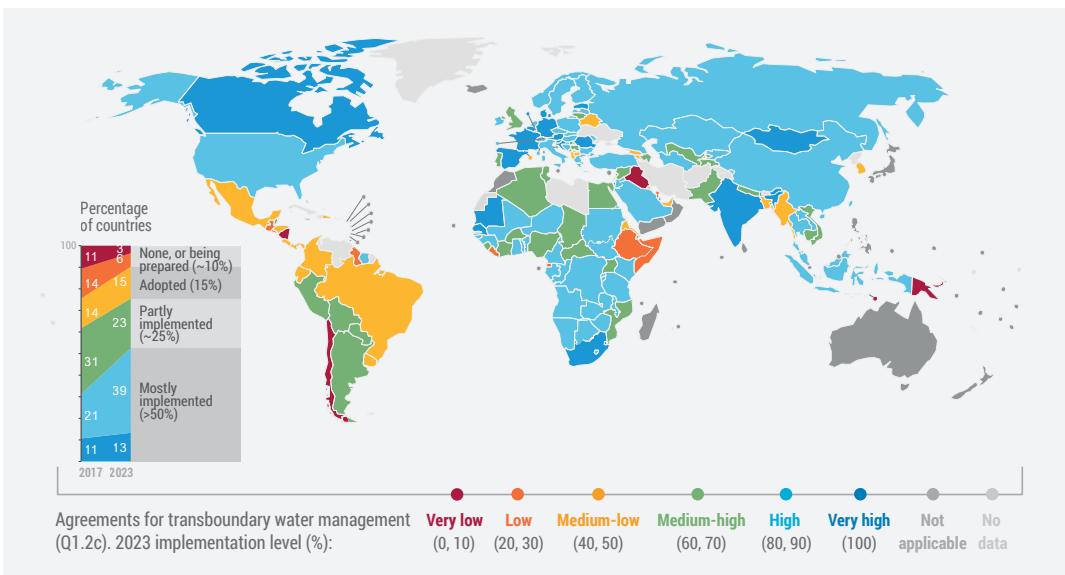
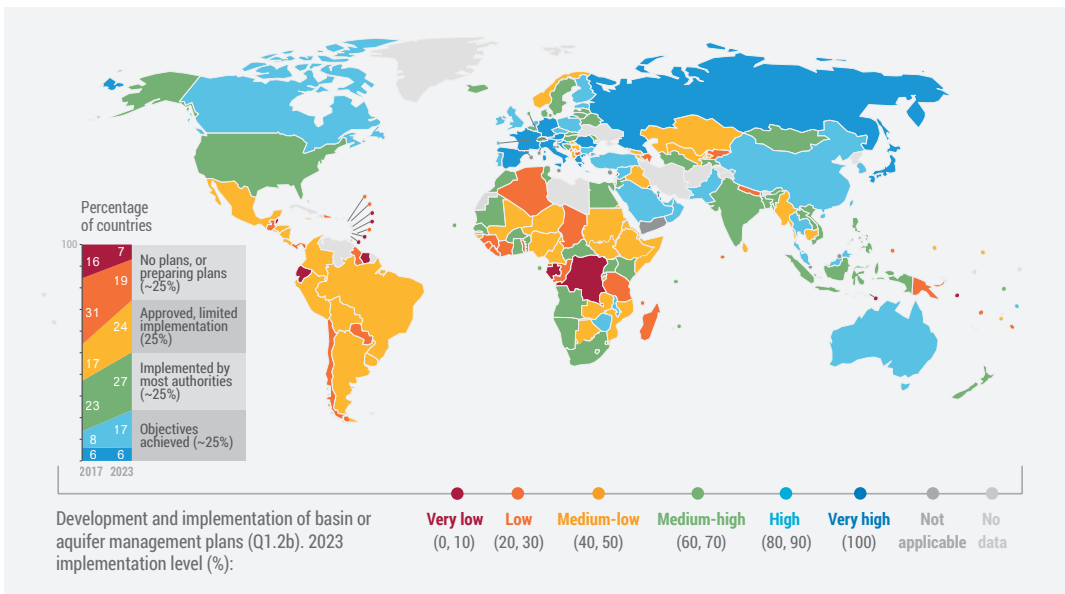
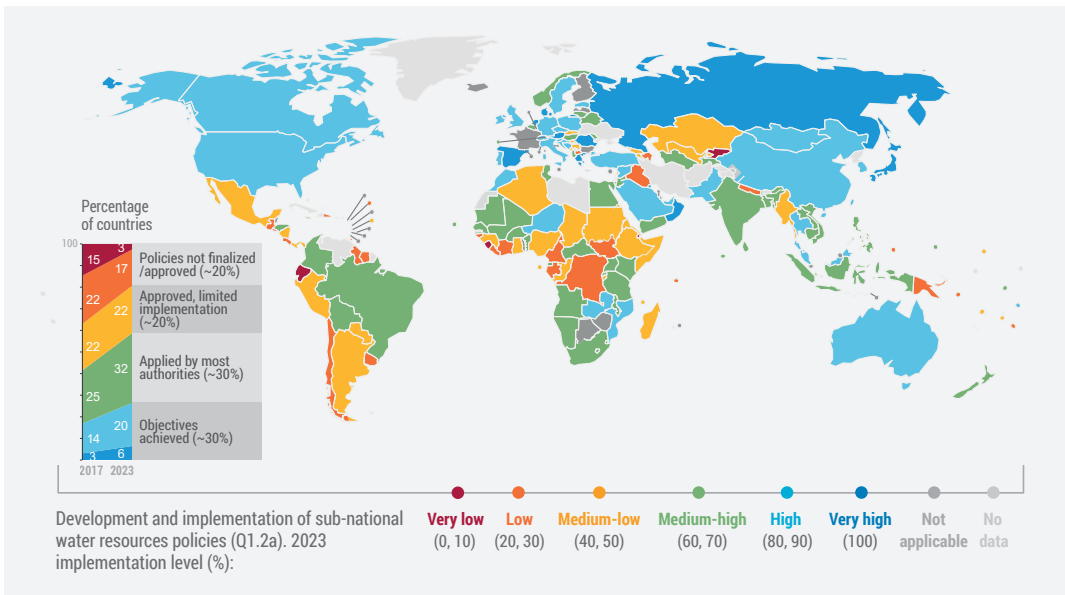
21 There are eight standard "SDG" regions, and 22 subregions, as defined by the UNSD (<https://unstats.un.org/sdgs/indicators/regional-groups>). Note that these definitions may differ from those of members of regional bodies, which may lead to differences in average scores between this table and those produced through external regional analyses.

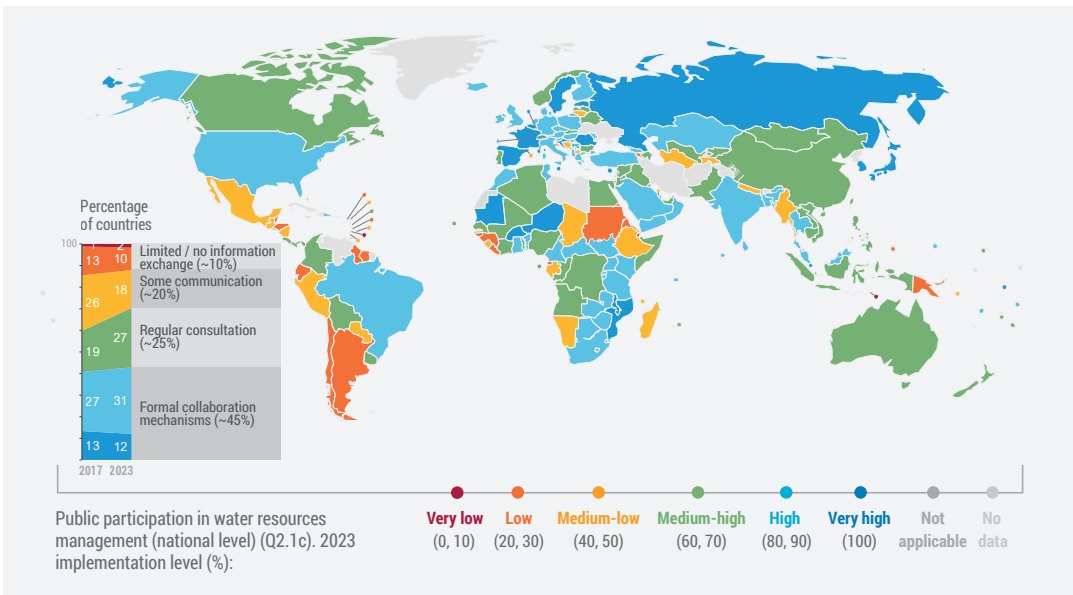
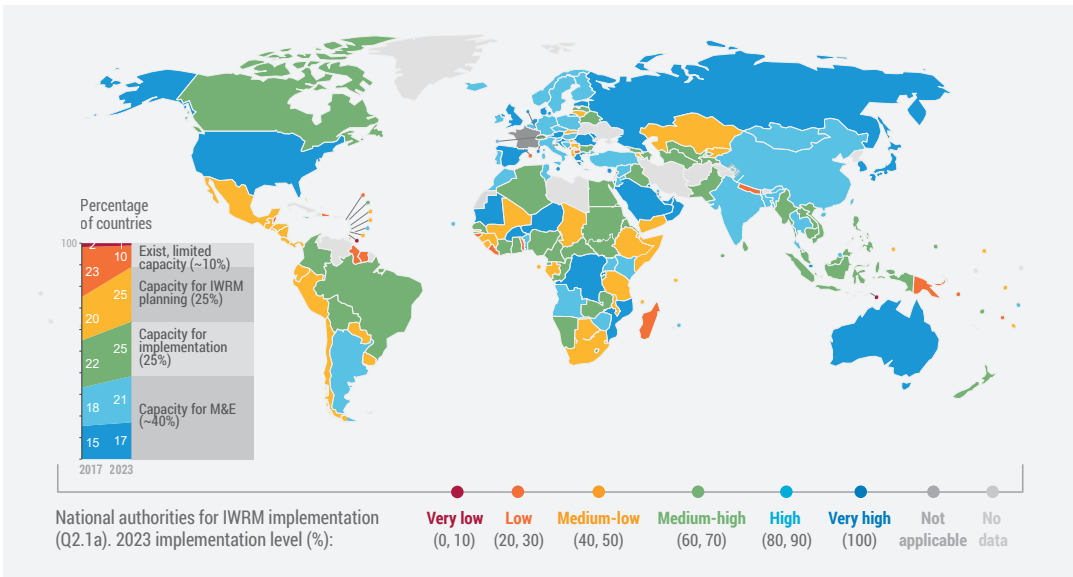
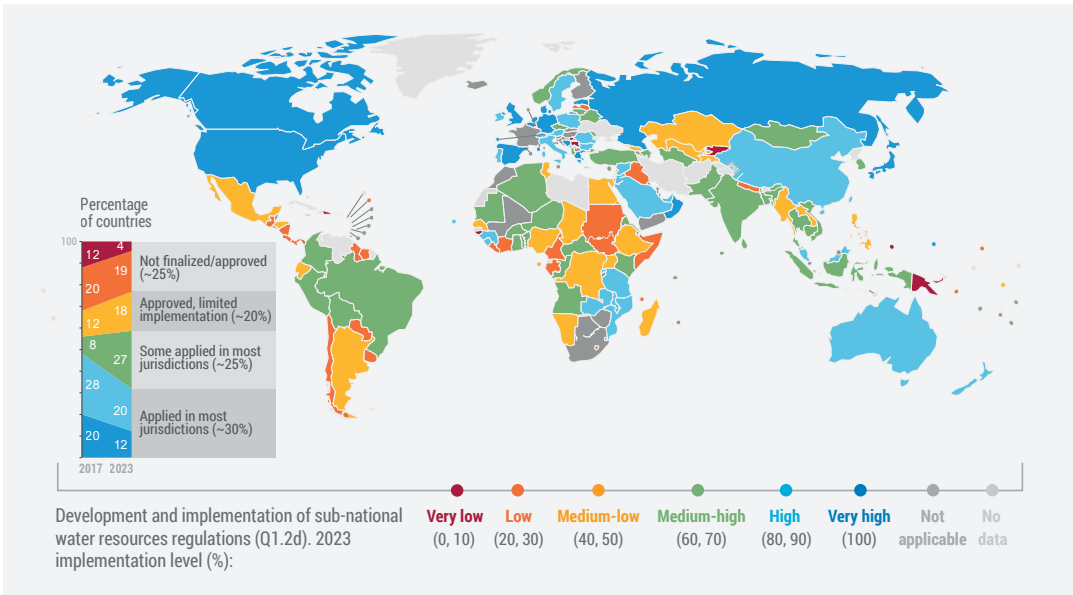
22 Methods to calculate progress are based on UNSD methodology, based on a ratio of "actual growth rate" vs "required growth" rate to meet the target (see methodological note <https://iwrmdataportal.unepdhi.org/>).

## Annex 2.4 Global status and progress maps for additional 6.5.1 survey questions

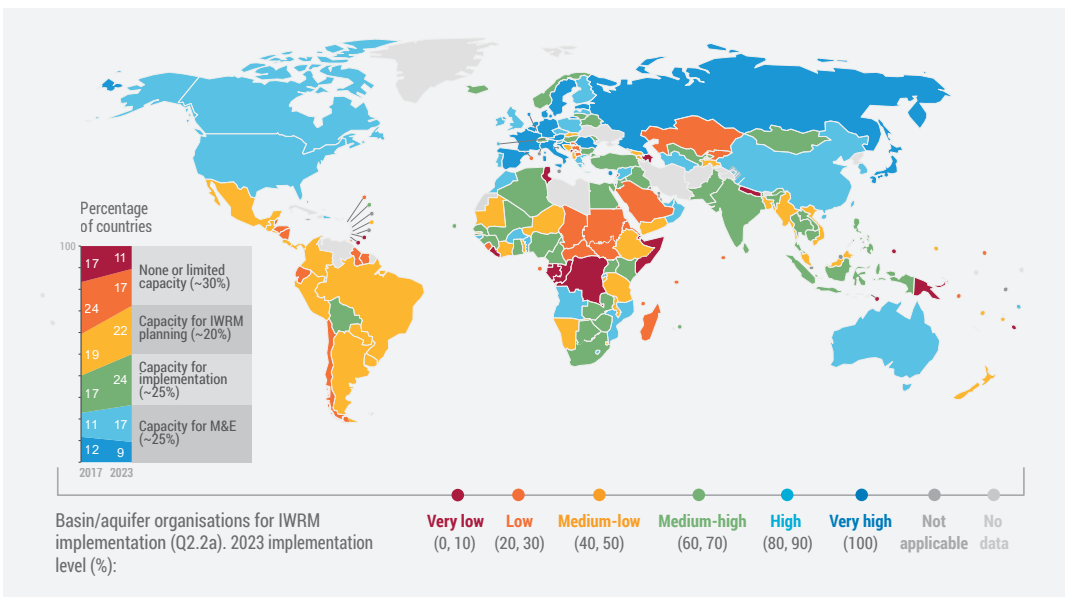
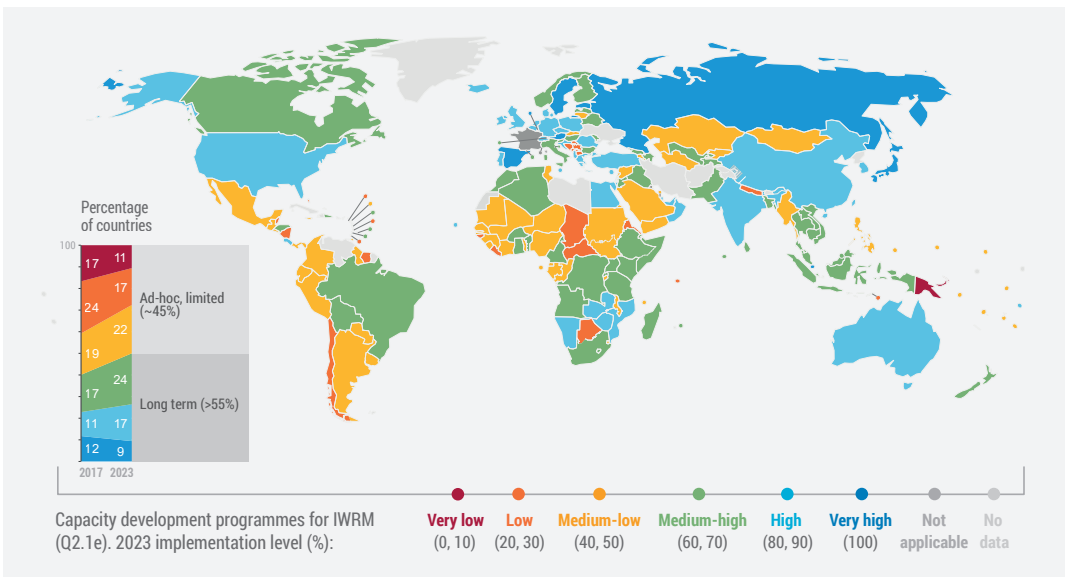
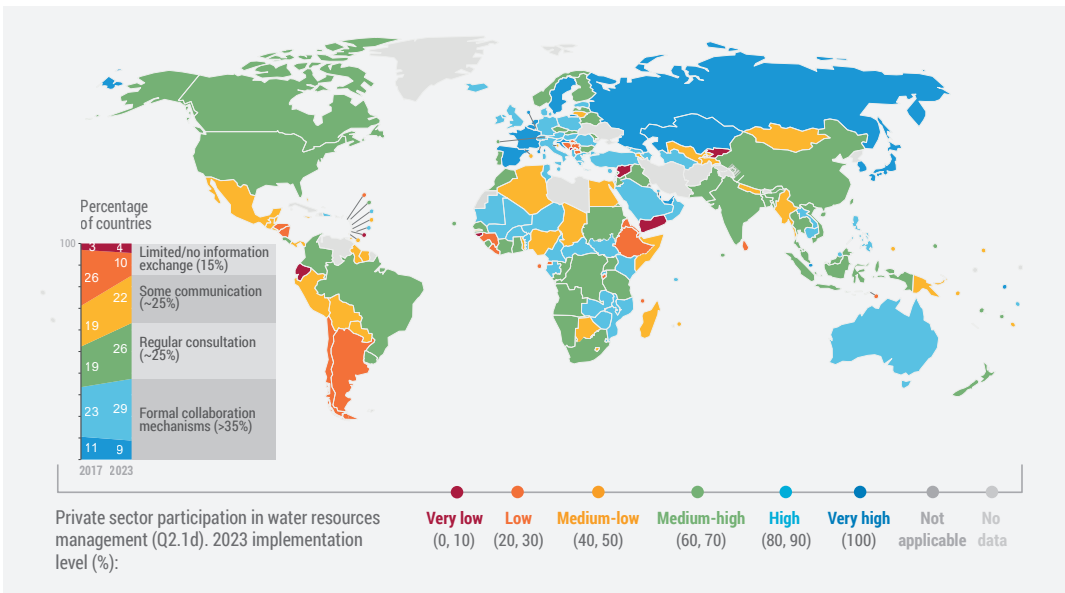
This annex contains global status maps for SDG 6.5.1 survey questions that are not included in the main body of this report. The full dataset can be downloaded from <https://iwrmdataportal.unepdhi.org/country-reports>

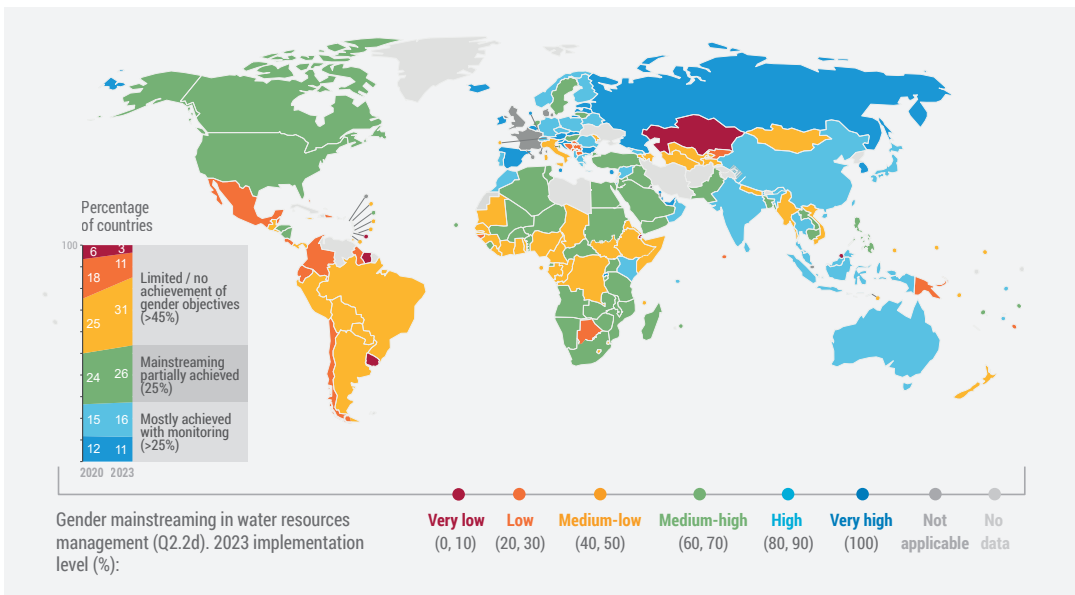
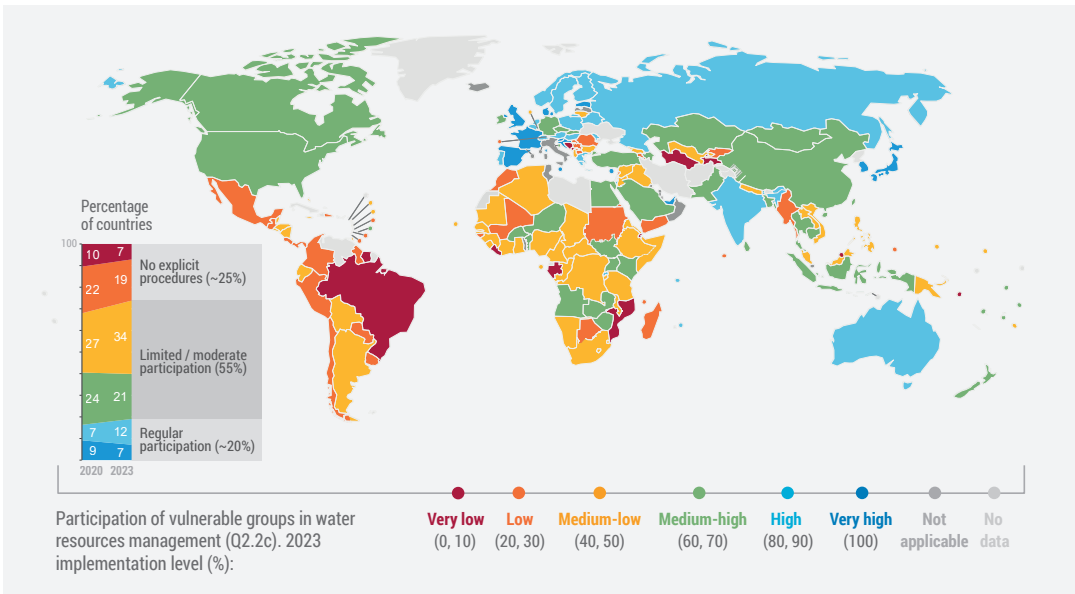
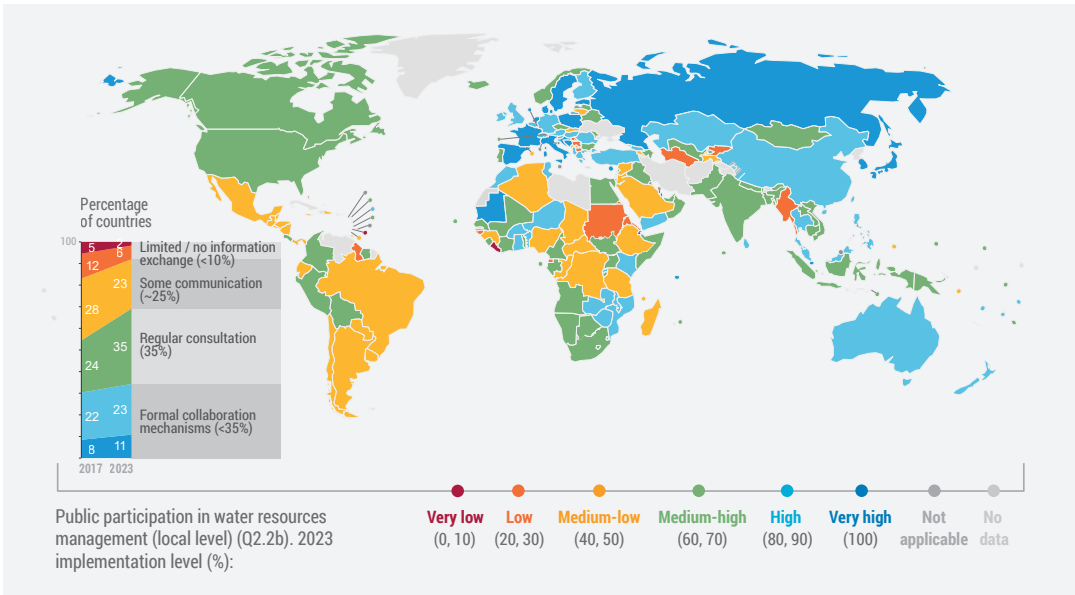


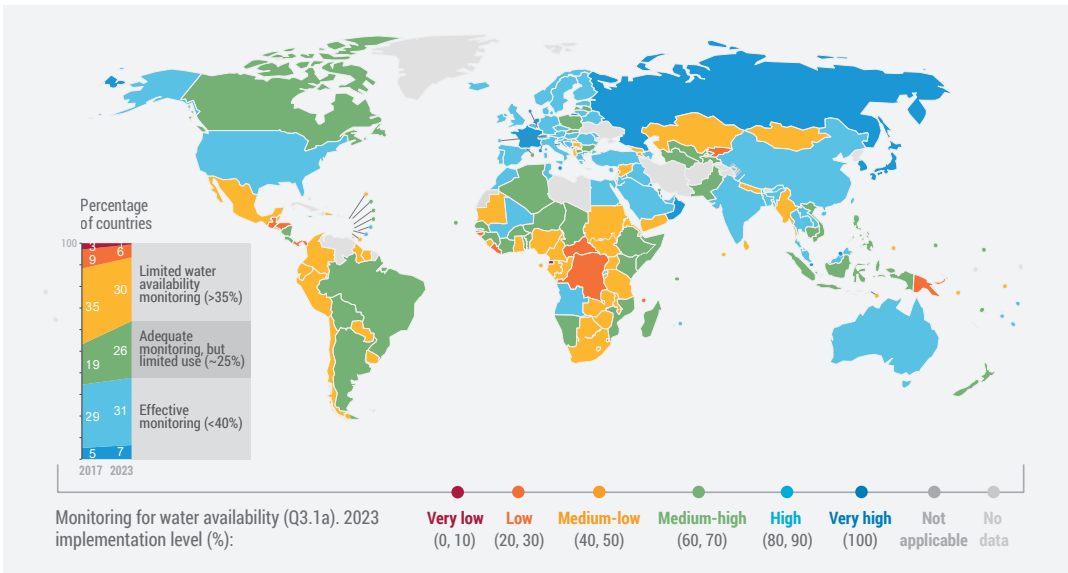
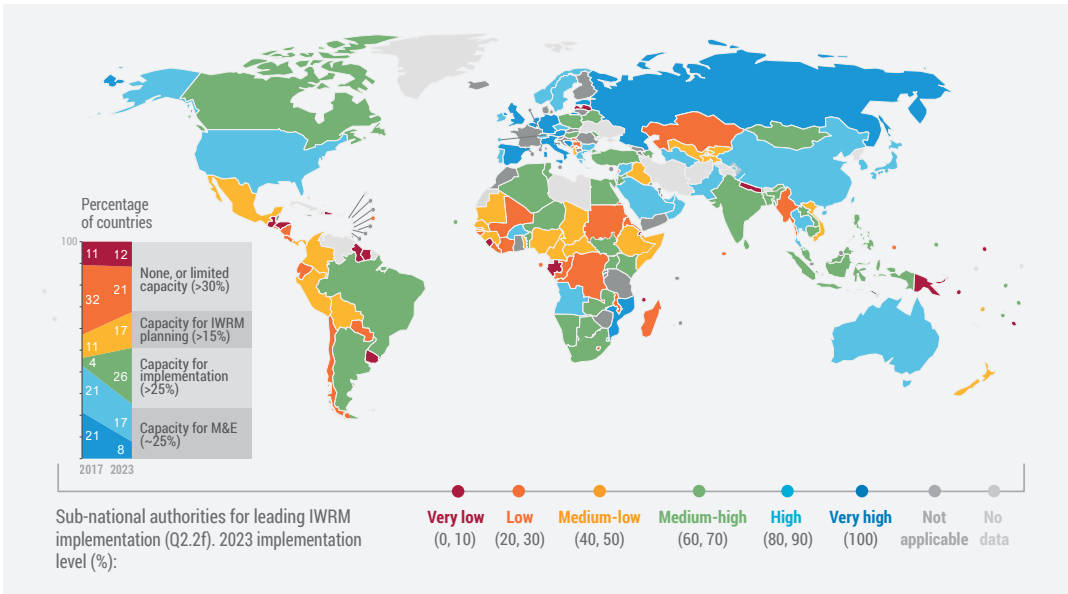
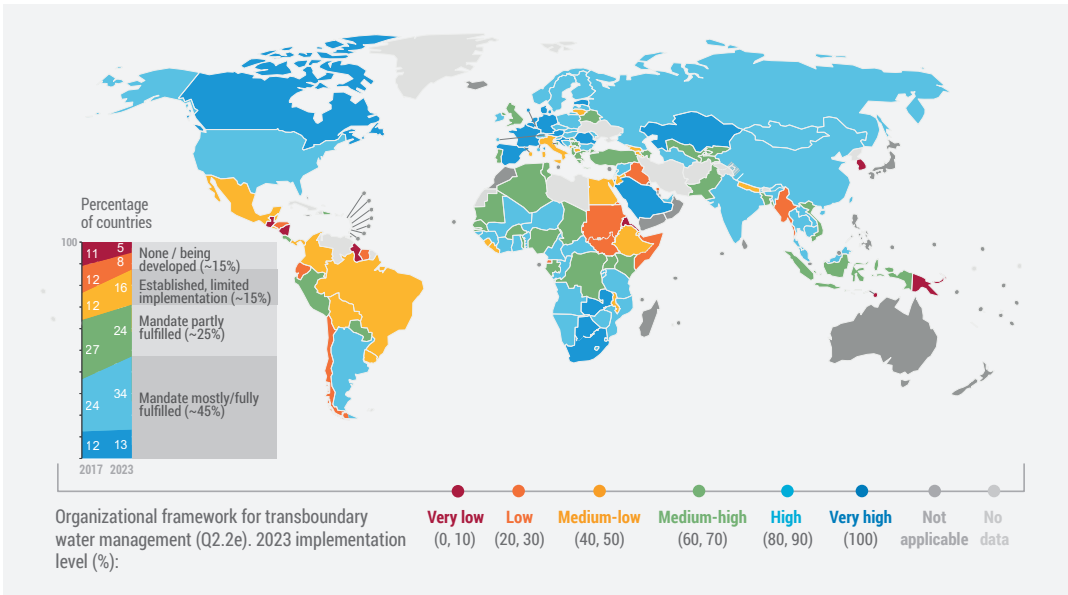


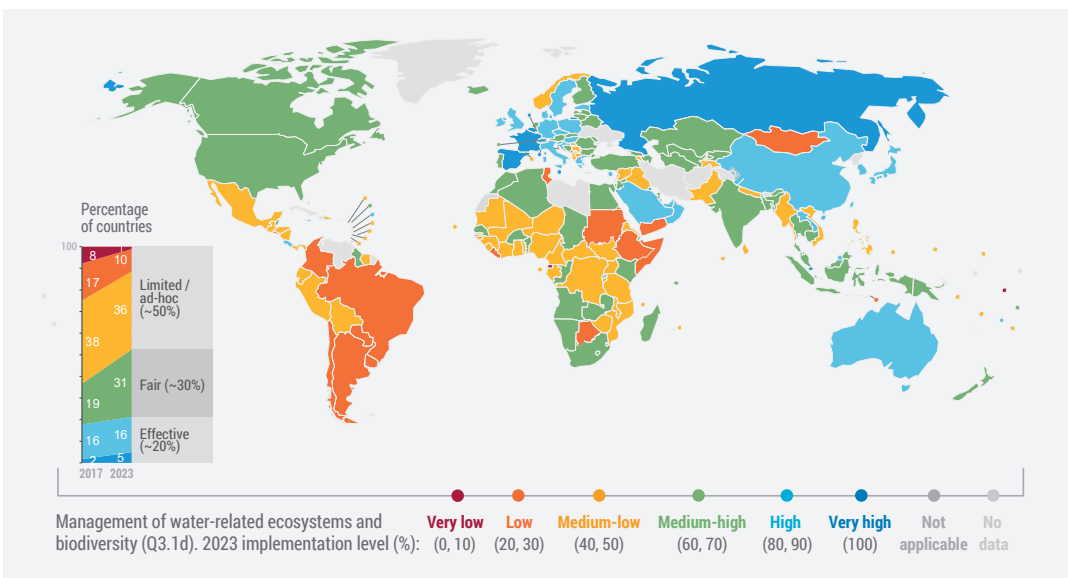
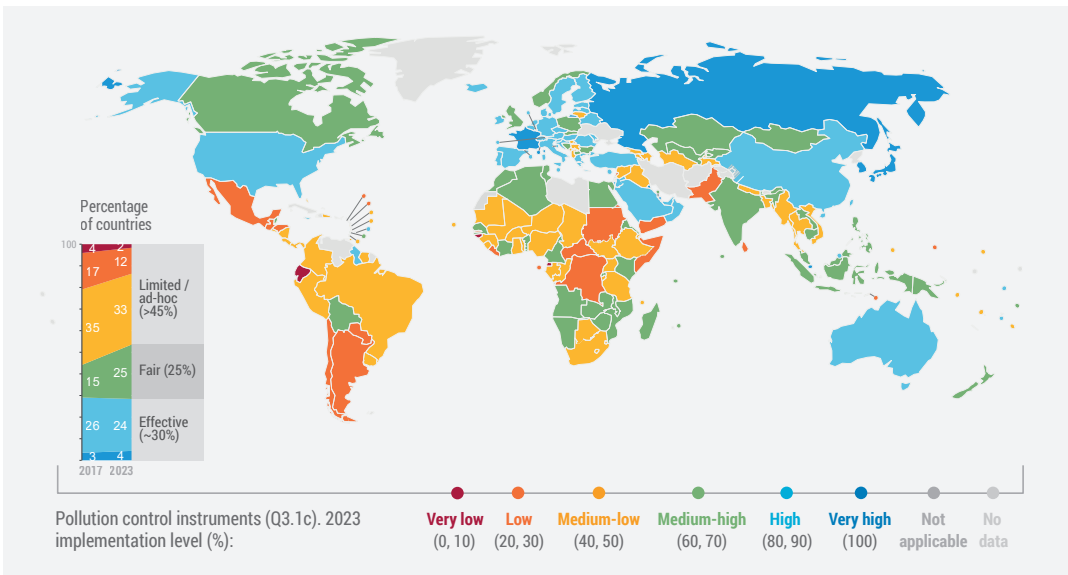
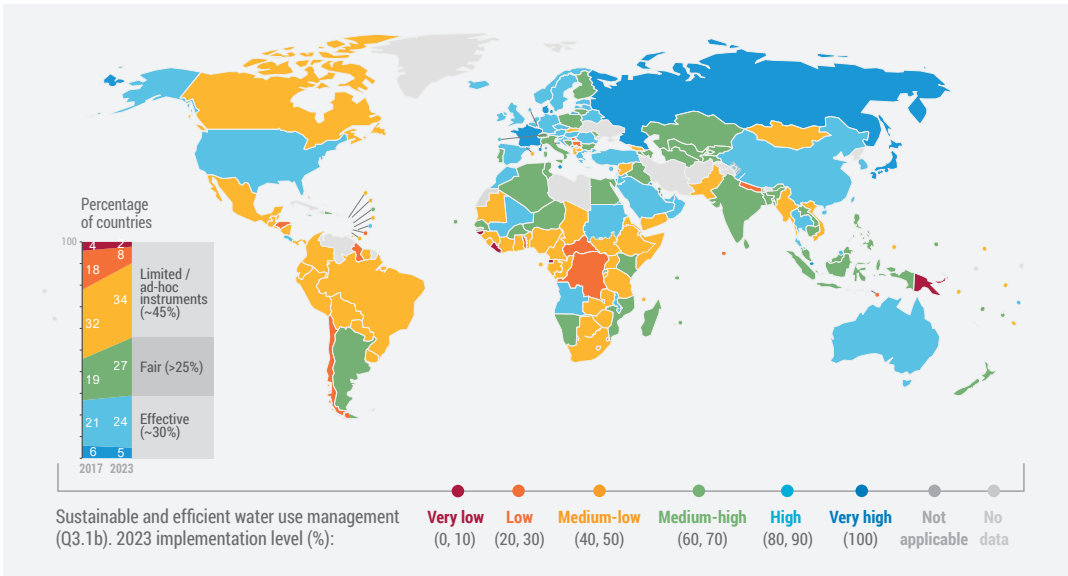


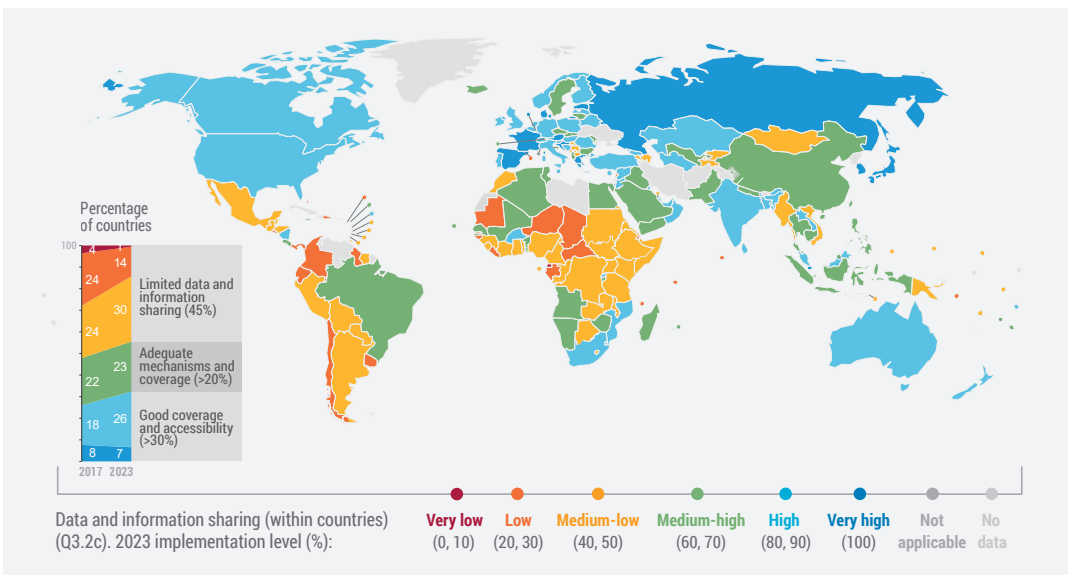
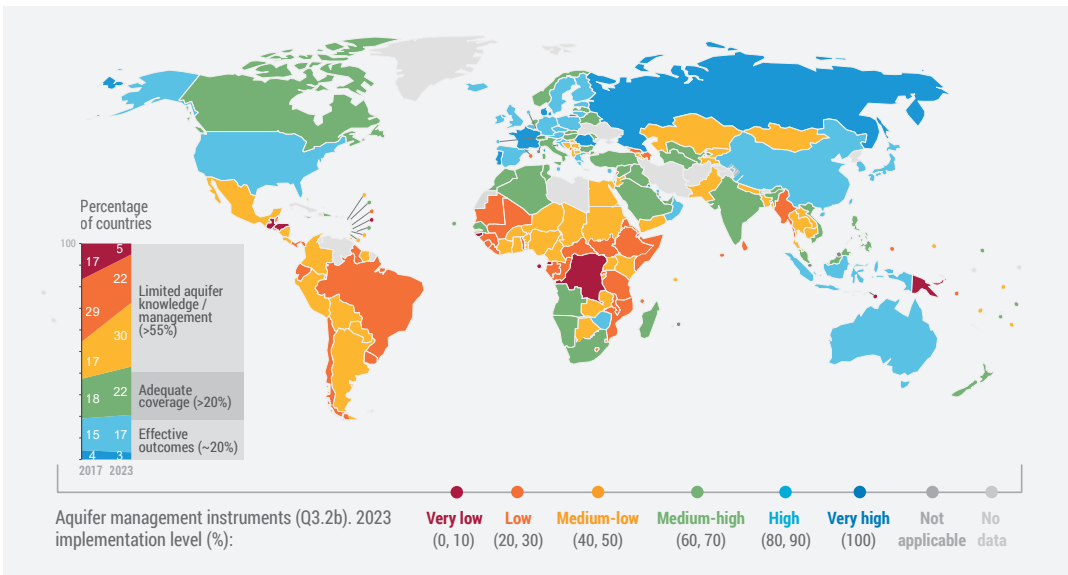
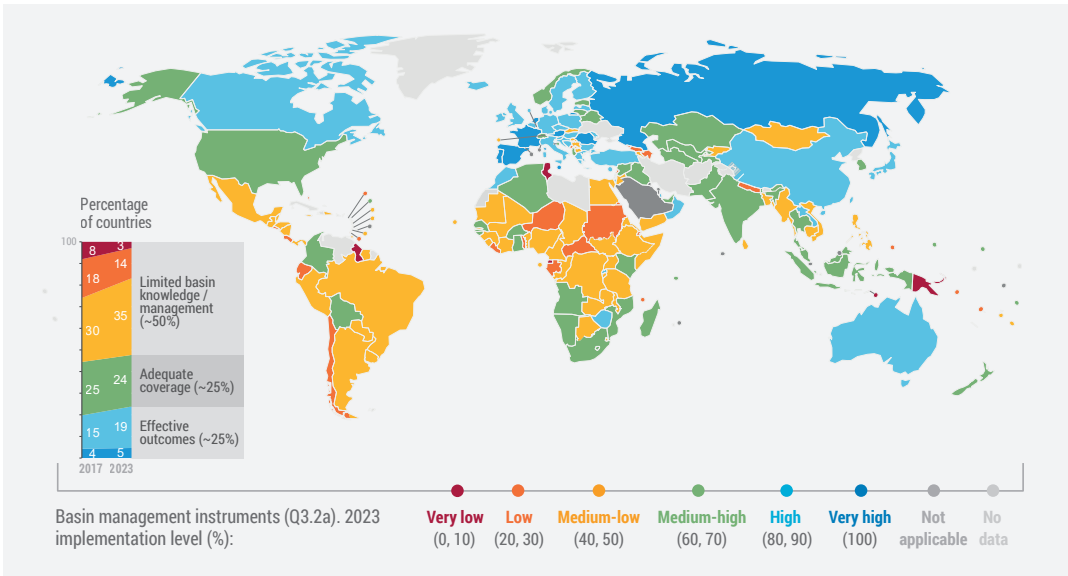




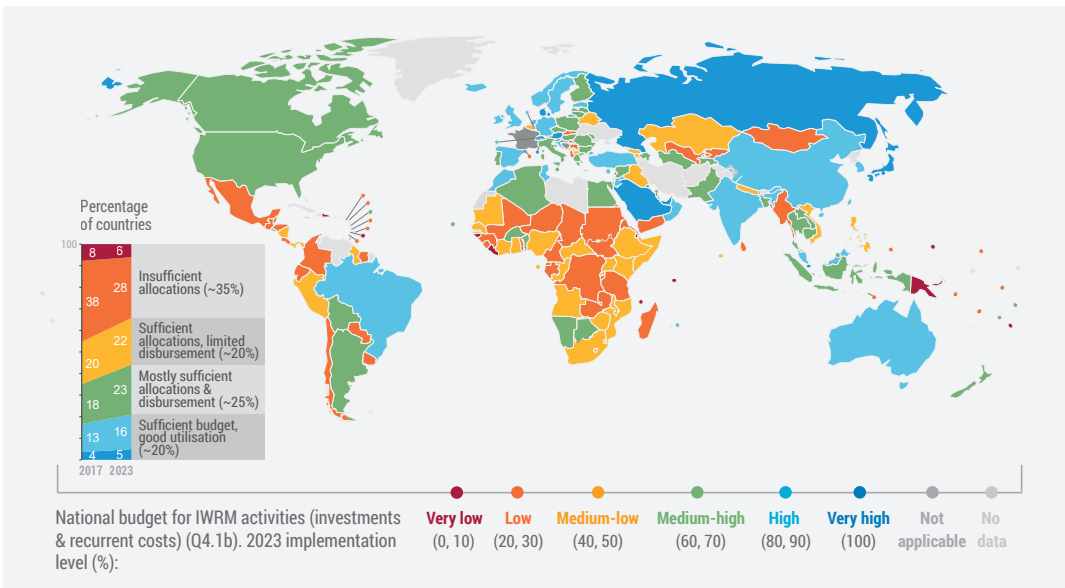
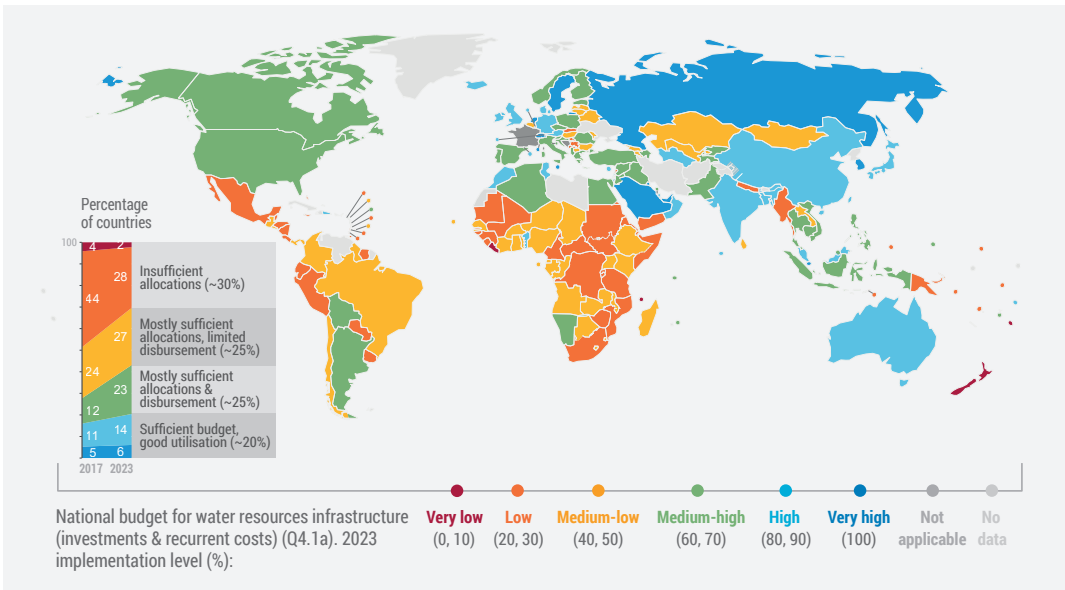
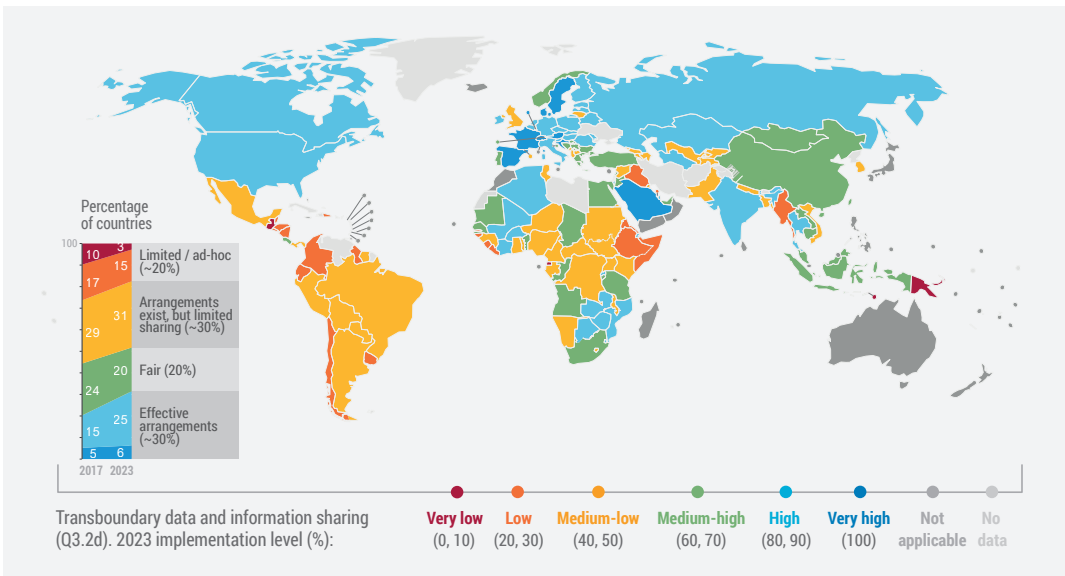


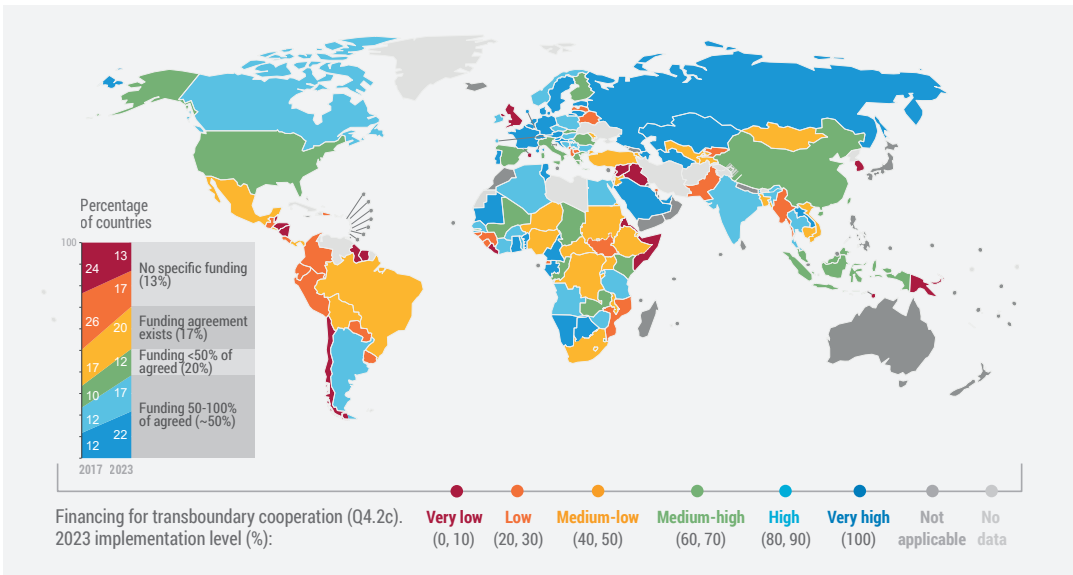
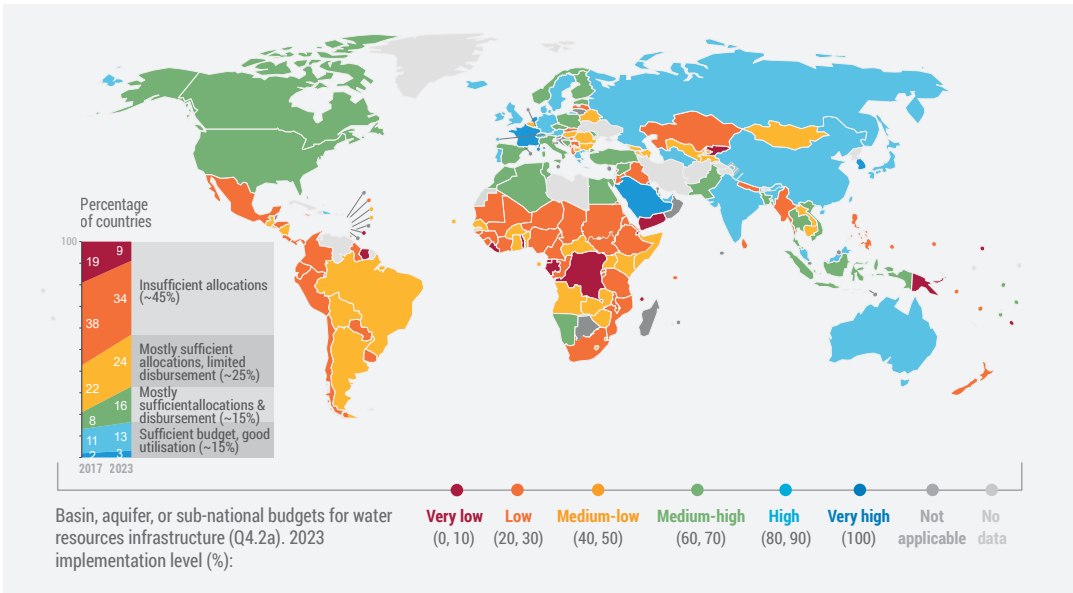














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# Learn more about progress towards SDG 6

Sustainable Development Goal (SDG) 6 expands the Millennium Development Goal (MDG) focus on drinking water and basic sanitation to include the more holistic management of water, wastewater and ecosystem resources, acknowledging the importance of an enabling environment. Bringing these aspects together is an initial step towards addressing sector fragmentation and enabling coherent and sustainable management. It is also a major step towards a sustainable water future.

Monitoring progress towards SDG 6 is key to achieving this SDG. High-quality data help policymakers and decision makers at all levels of government to identify challenges and opportunities, to set priorities for more effective and efficient implementation, to communicate progress and ensure accountability, and to generate political, public and private sector support for further investment.

The 2030 Agenda for Sustainable Development specifies that global follow-up and review shall primarily be based on national official data sources. The data are compiled and validated by the United Nations custodian agencies, who contact country focal points every two to three years with requests for new data, while also providing capacity-building support. The last global “data drive” took place in 2023, resulting in status updates on seven of the global indicators for SDG 6 (please see below). These reports provide a detailed analysis of current status, historical progress and acceleration needs regarding the SDG 6 targets.

To enable a comprehensive assessment and analysis of overall progress towards SDG 6, it is essential to bring together data on all the SDG 6 global indicators and other key social, economic and environmental parameters. This is exactly what the SDG 6 Data Portal does, enabling global, regional and national actors in various sectors to see the bigger picture, thus helping them make decisions that contribute to all SDGs. UN-Water also publishes synthesized reporting on overall progress towards SDG 6 on a regular basis.



## Summary Brief: Mid-term status of SDG 6 global indicators and acceleration needs

Based on latest available data on all SDG 6 global indicators.  
Published by UN-Water through the UN-Water Integrated Monitoring Initiative for SDG 6.



## Progress on household drinking water, sanitation and hygiene 2000–2022: special focus on gender

Based on latest available data on SDG indicators 6.1.1 and 6.2.1.  
Published by World Health Organization (WHO) and United Nations Children’s Fund (UNICEF).

<https://www.unwater.org/publications/who/unicef-joint-monitoring-program-update-report-2023>



**Progress on the proportion of domestic and industrial wastewater flows safely treated – Mid-term status of SDG Indicator 6.3.1 and acceleration needs, with a special focus on climate change, wastewater reuse and health**

Based on latest available data on SDG indicator 6.3.1. Published by WHO and United Nations Human Settlements Programme (UN-Habitat) on behalf of UN-Water.

<https://www.unwater.org/publications/progress-wastewater-treatment-2024-update>



**Progress on ambient water quality. Mid-term status of sdg indicator 6.3.2 and acceleration needs, with a special focus on health**

Based on latest available data on SDG indicator 6.3.2. Published by United Nations Environment Programme (UNEP) on behalf of UN-Water.



**Progress on change in water-use efficiency. Mid-term status of sdg indicator 6.4.1 and acceleration needs, with special focus on food security and climate change**

Based on latest available data on SDG indicator 6.4.1. Published by Food and Agriculture Organization of the United Nations (FAO) on behalf of UN-Water.



**Progress on the level of water stress. Mid-term status of the sdg indicator 6.4.2 and acceleration needs, with special focus on food security and climate change**

Based on latest available data on SDG indicator 6.4.2. Published by FAO and UN-Water.



**Progress on implementation of Integrated Water Resources Management. Mid-term status of SDG indicator 6.5.1 and acceleration needs, with a special focus on climate change**

Based on latest available data on SDG indicator 6.5.1. Published by UNEP and UN-Water.



**Progress on transboundary water cooperation. Mid-term status of SDG Indicator 6.5.2, with a special focus on climate change – 2024**

Based on latest available data on SDG indicator 6.5.2. Published by United Nations Economic Commission for Europe (UNECE) and United Nations Educational, Scientific and Cultural Organization (UNESCO) on behalf of UN-Water.



**Progress on water-related ecosystems. Mid-term status of sdg indicator 6.6.1 and acceleration needs, with a special focus on biodiversity**

Based on latest available data on SDG indicator 6.6.1. Published by UNEP on behalf of UN-Water.



**Strong systems and sound investments: evidence on and key insights into accelerating progress on sanitation, drinking-water and hygiene.**

The UN-Water global analysis and assessment of sanitation and drinking-water (GLAAS) 2022 report

<https://www.unwater.org/publications/un-water-glaas-2022-strong-systems-and-sound-investments-evidence-and-key-insights>



Based on latest available data on SDG indicators 6.a.1 and 6.b.1. Published by WHO through the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) on behalf of UN-Water.

## **UN-Water reports and other relevant publications**

UN-Water coordinates the efforts of United Nations entities and international organizations working on water and sanitation issues. UN-Water publications draw on the experience and expertise of UN-Water's Members and Partners.

### **United Nations System-Wide Strategy for Water and Sanitation**

The United Nations system-wide strategy for water provides a system-wide approach for the United Nations to work collaboratively on water and sanitation. In September 2023, Member States adopted General Assembly resolution 77/334, which requested the Secretary-General to present a United Nations system-wide water and sanitation strategy in consultation with Member States before the end of the seventy-eighth session. The strategy has been developed by UN-Water under the leadership of the UN-Water Chair, as requested by the Secretary-General, and will be launched in July 2024.

### **Blueprint for Acceleration: Sustainable Development Goal 6 Synthesis Report on Water and Sanitation 2023**

The report, written by the UN-Water family of Members and Partners, is a concise guide to delivering concrete results – offering actionable policy recommendations directed towards senior decision-makers in Member States, other stakeholders, and the United Nations System to get the world on track to achieve SDG 6 by 2030. It was released ahead of the discussions of Member States and relevant stakeholders at the 2023 High-level Political Forum on Sustainable Development (HLPF), which includes a Special Event focused on SDG 6 and the Water Action Agenda.

### **United Nations World Water Development Report**

The United Nations World Water Development Report is UN-Water's flagship report on water and sanitation issues, focusing on a different theme each year. The report is published by UNESCO on behalf of UN-Water, and its production is coordinated by the UNESCO World Water Assessment Programme.

### **SDG 6 Progress Update – 9 reports, by SDG 6 global indicator**

This series of reports provides an in-depth update and analysis of progress towards the different SDG 6 targets and identifies priority areas for acceleration. *Progress on household drinking water, sanitation and hygiene, Progress on wastewater treatment, Progress on ambient water quality, Progress on water-use efficiency, Progress on level of water stress, Progress on integrated water resources management, Progress on transboundary water cooperation, Progress on water-related ecosystems and Progress on international cooperation and local participation.* The reports, produced by the responsible custodian agencies, present the latest available country, region and global data on the SDG 6 global indicators, and are published every two to three years.

## **Progress reports of the WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP)**

The JMP is affiliated with UN-Water and is responsible for global monitoring of progress towards SDG 6 targets for universal access to safe and affordable drinking-water and adequate and equitable sanitation and hygiene services. Every 2 years, the JMP releases updated estimates and progress reports for WASH in households (as part of the progress reporting on SDG 6, see above), schools and health care facilities.

## **UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS)**

The GLAAS report is produced by WHO on behalf of UN-Water. It provides a global update on the policy frameworks, institutional arrangements, human resource base, and international and national finance streams in support of water and sanitation. It is a substantive input into the activities of Sanitation and Water for All as well as the progress reporting on SDG 6. The next report will be published in 2025.

## **UN-Water Country Acceleration Case Studies**

To accelerate the achievement of SDG 6 targets as part of the SDG 6 Global Acceleration Framework, UN-Water releases SDG 6 Country Acceleration Case Studies to explore countries' pathways to achieving accelerated progress on SDG 6 at the national level. Since 2022, six case studies have been released from Costa Rica, Pakistan, Senegal, Brazil, Ghana and Singapore. Three new are planned to be released in July 2024 from Cambodia, Czechia and Jordan.

## **Policy and Analytical Briefs**

UN-Water's Policy Briefs provide short and informative policy guidance on the most pressing freshwater-related issues that draw upon the combined expertise of the United Nations system. Analytical Briefs provide an analysis of emerging issues and may serve as basis for further research, discussion and future policy guidance.

## **UN-Water Planned Publications**

- UN-Water Policy Brief on Transboundary Waters Cooperation – update

More information: <https://www.unwater.org/unwater-publications/>

**How is the world doing on Sustainable Development Goal 6?**  
View, analyse and download global, regional and  
national water and sanitation data

<http://www.sdg6data.org/>





