Country Survey Instrument for SDG Indicator 6.5.1

Degree of integrated water resources management implementation (0 – 100)

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| **Submission Form** | |
| **Country** | **BHUTAN** |
| Date this document was submitted | **This report has been pre-filled by the SDG 6.5.1 Help Desk, using 2017 scores and text responses to each question. It was shared for ‘no objection’ approval with colleagues from the National Environment Commission Secretariat**. |
| **National SDG 6.5.1 Focal Point information** | |
| Name | TENZIN KHORLO |
| Organisation | NATIONAL ENVIRONMENT COMMISSION SECRETARIAT |
| Title | CHIEF ENVIRONMENT OFFICER |
| Are you the national Focal Point for any other SDG indicator (apart from 6.5.1)? **If yes, please insert ‘X’ for all that apply:** \_\_6.1.1 \_\_6.2.1 \_\_6.3.1 \_\_6.3.2 \_\_6.4.1 \_\_6.4.2 \_\_6.5.2 \_\_6.6.1 \_\_6.a.1 \_\_6.b.1 \_\_Other SDG indicator(s) (please specify here): | |
| **SDG 6.5.1 in-country data collection and reporting process overview** *(Please provide further details on the consultation process in Annex E)* | |
| Were other institutions/stakeholders involved and consulted in the reporting process for this indicator? \_\_Yes \_\_No | |
| If yes, please indicate the mode(s) of consultation (please provide further details in Annex E): \_\_Phone calls \_\_Email exchanges \_\_In-person meetings \_\_Dedicated stakeholder workshop(s) \_\_Other (please specify): | |
| **Contact person regarding further questions/clarifications relating to this submission** | |
| \_\_SDG 6.5.1 Focal Point listed above \_\_Other (please specify contact details here): | |

## Part 1 – Introduction

This is the official survey instrument for country reporting on Sustainable Development Goal (SDG) indicator 6.5.1: “Degree of integrated water resources management implementation (0 – 100)”. The indicator measures progress towards target 6.5: “By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate”. The target supports the equitable and efficient use of water resources, which is essential for social and economic development, as well as environmental sustainability. The actions to achieve target 6.5 directly underpin the other water-related targets within SDG-6: “Ensure availability and sustainable management of water and sanitation for all”. Further guidance on completing this survey instrument is provided in the SDG indicator 6.5.1 [monitoring guide](http://iwrmdataportal.unepdhi.org/). Both this survey instrument and the monitoring guide are available from UN Environment in six UN languages (Arabic, Chinese, English, French, Russian and Spanish), and Portuguese through the Help Desk by emailing [iwrmsdg651@un.org](mailto:iwrmsdg651@un.org).

### About the indicator:

Indicator 6.5.1 represents the degree of integrated water resources management (IWRM) implementation, on a scale of 0 – 100. It is calculated based on scores from approximately 30 questions covering different aspects of IWRM.

### About the survey instrument

The primary purpose of the survey instrument is global monitoring and reporting on indicator 6.5.1. It has been designed to also be useful as a simple diagnostic tool for countries to identify strengths and weaknesses of different aspects of IWRM implementation. It measures implementation in incremental steps, which allows countries to identify barriers and enablers to furthering IWRM. The completed survey instrument can be used as an input to planning and working towards target 6.5.

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

**1. Enabling environment:** Policies, laws and plans to support IWRM implementation.

**2. Institutions and participation:** The range and roles of political, social, economic and administrative institutions and other stakeholder groups that help to support implementation.

**3. Management instruments:** The tools and activities that enable decision-makers and users to make rational and informed choices between alternative actions.

**4. Financing:** Budgeting and financing made available and used for water resources development and management (apart from drinking water supply and sanitation) from various sources.

Each section has two sub-sections covering the “National” and “Other” levels, to address the target 6.5 wording “… at all levels.” “Other” levels include sub-national, basin, local and transboundary (see Annex A - Glossary). Questions relate to these levels depending on their relevance to the particular aspect of IWRM. For most “other level” questions, the score should reflect the situation in most of the basins/aquifers/jurisdictions, unless specified otherwise. For the transboundary level questions, the score should reflect the situation in most of the ‘most important’ transboundary basins / aquifers, which should be listed in the table in Annex B. Filling out that table: increases the transparency of the transboundary questions; makes the information more useful for dialogue with neighbouring countries; and enhances coordination with [SDG indicator 6.5.2](http://www.sdg6monitoring.org/indicators/target-65/indicators652/) on arrangements for transboundary cooperation. It is recognised that water resources management in federal countries may be more complex due to responsibilities at different administrative levels. You may further explain any specific circumstances relating to the level of decentralization of water resources management and responsibility in your country (e.g. federal countries and other large countries) in Annex C.

### How to complete the survey

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

The thresholds for each question are defined sequentially. This means that the criteria for all lower levels of implementation must be met in order for a country to respond that it has reached a specific level of implementation for each question. Furthermore, if an aspect of IWRM is specified in a lower threshold, it is implicit that this aspect is also addressed in the higher thresholds for that question. **Bold** text in the thresholds helps the reader differentiate between thresholds.

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

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

**Narrative responses:** for each question, there are two free-text fields: “Status description” and “Way forward”. General guidance on the type of information that countries may find useful to include in each field is as follows:

**Status description:** e.g. refer to relevant activities/initiatives/laws/policies/plans/strategies or similar; comment on the degree of implementation as it relates to the threshold descriptions; barriers/enablers; and reflect on progress since the first round of reporting on SDG indicator 6.5.1 (baseline in 2017/18). Where possible, provide a brief explanation of why the score is different to the baseline. If reporting was not submitted for the SDG baseline, reflect on recent rates of implementation of relevant activities.

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

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

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

### Progress and differences since baseline reporting

172 countries established a baseline for indicator 6.5.1 in 2017/18. This is the second round of data collection. Where available, countries should refer to the baseline survey responses, available here: <http://iwrmdataportal.unepdhi.org/>. Countries are encouraged to consider progress, or lack of progress, since the baseline, in the ‘Status description’ fields, and give reasoning for differences in scores.

The current survey version is highly comparable, though not completely identical, to the baseline survey. Some minor amendments have been made following a review process, and noteworthy changes to the baseline are described in footnotes for relevant questions. A summary of changes is provided in the SDG indicator 6.5.1 [monitoring guide](http://iwrmdataportal.unepdhi.org/).

### Data collection and submission

A broad stakeholder engagement process is encouraged to complete the survey instrument. This helps to increase stakeholder participation and ownership of water management and decision-making processes, and makes the completed survey instrument a more robust and useful diagnostic tool for further discussions and planning. Country Focal Points are asked to fill in the Reporting Process Form in Annex E to increase transparency and increase stakeholder confidence in the results at all levels. The extent and mode of stakeholder engagement is up to each country, and further guidance is provided in the monitoring guide. Coordination with Focal Points for other SDG indicators is encouraged where feasible and relevant.[[1]](#footnote-2)

The national IWRM Focal Point is responsible for the Quality Assurance and formal submission of the completed survey instrument to UN Environment. The survey instrument should be emailed to the IWRM Help Desk at UN Environment: [iwrmsdg651@un.org](mailto:iwrmsdg651@un.org).

Upon request, the Help Desk will provide support to the national IWRM focal points on matters such as interpretation of questions and thresholds, the appropriate level of stakeholder engagement in countries, and support to submitting the final indicator scores.

# Part 2 – The survey

# Enabling environment

This section covers the enabling environment, which is about creating the conditions that help to support the implementation of IWRM. It includes the most typical policy, legal and planning tools for IWRM[[2]](#footnote-3). Please refer to the glossary for any terms that may require further explanation. **Please take note of all footnotes as they contain important information and clarification of terms used in the questions and thresholds**.

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

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| **1. Enabling Environment** | | | | | | | |
|  | | Degree of implementation (0 – 100) | | | | | |
|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **1.1 What is the status of policies, laws and plans to support Integrated Water Resources Management (IWRM) at the national level?** | | | | | | | |
| **a.** National water resources **policy,** or similar. | | Development **not started** or not progressing. | **Exists**, but not based on IWRM. | Based on IWRM, **approved** by government and starting to be used by authorities to guide work. | Being **used** by the majority of relevant authorities to guide work. | Policy objectives consistently **achieved.** | Objectives consistently achieved, and periodically **reviewed** and revised. |
| Score | 60 |
| **Status description**: Bhutan Water Vision & Policy, 2008. It was used for formulation of the Water Act of Bhutan, 2011 and its Regulations, 2014. | | | | | | | |
| **Way forward:** | | | | | | | |
| **b.** National water resources **law(s)**. | | Development **not started** or not progressing**.** | **Exists**, but not based on IWRM. | Based on IWRM, **approved** by governmentand starting to be applied by authorities. | **Being applied** by the majority of relevant authorities**.** | Alllaws are being **applied** across the country. | Alllaws are **enforced** across the country, andall people and organizations are held accountable. |
| Score | 60 |
| **Status description:** The Water Act of Bhutan, 2011 ensures that the water resources are protected, conserved and/or managed in an economically efficient, socially equitable and environmentally sustainable manner. Based on the Act, prepared Water Regulations in 2014. | | | | | | | |
| **Way forward:** | | | | | | | |

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|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) | |
| **c.** National integrated water resources management (IWRM) **plans**, or similar. | | Development **not started** ornot progressing**.** | **Being prepared**, but not approved by government. | **Approved** by government and starting to be implemented by authorities. | Being **implemented** by the majority of relevant authorities. | Plan objectives consistently **achieved**. | Objectives consistently achieved, and periodically **reviewed** and revised. | |
| Score | 40 |
| **Status description:** National Integrated Water Resources Management Plan (NIWRMP) approved by the government in 2016 and implementation arrangements are under way. | | | | | | | | |
| **Way forward:** | | | | | | | | |
| **1.2 What is the status of policies, laws and plans to support IWRM at other levels?** | | | | | | | |
| **a. Sub-national**[[3]](#footnote-4)water resources **policies** or similar. | | Development **not started** or delayed in most sub-national jurisdictions. | **Exist** in most jurisdictions, but not necessarily based on IWRM. | Based on IWRM, **approved** by the majority of authorities and starting to be used to guide work. | Being **used** by the majority of relevantauthorities to guide work. | Policy objectives consistently **achieved** by a majority of authorities. | Objectives consistently achieved by all authorities, and periodically **reviewed** and revised. |
| Score | N/A |
| **Status description:** Bhutan does not have policies at the sub-national level. | | | | | | | |
| **Way forward:** | | | | | | | |
| **b**. **Basin/aquifer management plans**[[4]](#footnote-5) or similar, based on IWRM. | | Development **not started** or delayed in most basins/aquifers of national importance. | **Being prepared** for most basins/aquifers. | **Approved** in the majority of basins/aquifers and starting to be used by authorities. | Being **implemented** in the majority of basins/aquifers. | Plan objectives consistently **achieved** in majority of basins/aquifers. | Objectives consistently achieved in all basins/aquifers, and periodically **reviewed** and revised. |
| Score | 20 |
| **Status description:** Bhutan has Five river basins and one river basin management plan (Wangchhu River Basin Management plan) has been completed in 2016. Implementation of the plan is yet to start. In the past there has been many watershed management plans that have been developed and implemented successfully. Currently, Baychhu watershed management plan, 2015 and Kholongchhu sub-basin management plan, 2017 has been completed and yet to be implemented. 7 watershed management plans across all five river basin is being developed by the Watershed Management Division. | | | | | | | |
| **Way forward:** | | | | | | | |

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|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **c**. **Arrangements for transboundary water management.**[[5]](#footnote-6) | | Development **not started** or not progressing. | **Being prepared** or negotiated. | Arrangementsare **adopted**. | Arrangements’provisions are **partly** **implemented**. | Arrangements’provisions are **mostly** **implemented**. | The arrangements’ provisions are **fully implemented**. |
| Score | 0 |
| **Status description:** No arrangements for transboundary water management. | | | | | | | |
| **Way forward:** | | | | | | | |
| **d.** **Sub-national** water resources **regulations**[[6]](#footnote-7)(laws, decrees, ordinances or similar).[[7]](#footnote-8) | | Development **not started** or delayedin most sub-national jurisdictions. | **Exist** in most jurisdictions, but not necessarily based on IWRM**.** | Based on IWRM, **approved** in most jurisdictions and starting to be applied by authorities in some jurisdictions. | **Some** regulations **being applied** in the majority of jurisdictions. | **All** regulations **being** **applied** in the majority of jurisdictions. | All regulations being applied and **enforced** in all jurisdictions, and all people and organizations are held accountable. |
| Score |  |
| **Status description: Question has been revised in 2020 reporting round to cover all subnational levels. No data available from country from 2017.** | | | | | | | |
| **Way forward:** | | | | | | | |

# Institutions and participation

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

The burdens of water-related work carried out predominantly by women have been acknowledged for decades,[[8]](#footnote-9) which has led to a focus on women’s practical needs around water, especially in relation to carrying water and managing it within the home. In the context of water resources management, there has been growing recognition that, a strategic and practical focus on increasing women’s voice and influence, at all levels of decision-making, must become a priority. Furthermore, mainstreaming gender in the water sector supports a range of targets in the SDGs, including under Goal 5 on achieving gender equality and empowering all women and girls.[[9]](#footnote-10) Including a gender-related question in this survey (q.2.2d) also addresses the call for gender disaggregated data in the 2030 Agenda.[[10]](#footnote-11)

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

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

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| **2. Institutions and Participation** | | | | | | | | |
|  | | Degree of implementation (0 – 100) | | | | | | |
|  | | Very low (0) | Low (20) | Medium-low (40) | | Medium-high (60) | High (80) | Very high (100) |
| **2.1 What is the status of institutions for IWRM implementation at the national level?** | | | | | | | | |
| **a.** National **government authorities**[[11]](#footnote-12) for leading IWRM implementation. | | **No** dedicated government authoritiesfor water resources management. | Authorities **exist**, with clear mandate to lead water resources management. | Authorities have clear mandate to lead IWRM implementation, and the capacity[[12]](#footnote-13) to effectively lead IWRM plan **formulation**. | | Authorities have the capacity to effectively lead IWRM plan **implementation**. | Authorities have the capacity to effectively lead periodic monitoring and **evaluation** of the IWRM plan(s). | Authorities have the capacity to effectively lead periodic IWRM plan **revision**. |
| Score | 20 |
| **Status description:** The National Environment Commission is the lead agency to coordinate, develop and implement the NIWRM plan. The NIWRM plan, 2016 was prepared with technical support from the Asian Development Bank (ADB) due to lack of technical and financial resources. | | | | | | | | |
| **Way forward:** | | | | | | | | |
| **b. Coordination between** nationalgovernment authorities representing **different sectors**[[13]](#footnote-14) on water resources, policy, planning and management. | | **No information** sharedbetween different government sectors on policy, planning and management. | **Information** on water resources, policy, planning and management is made available between different sectors. | | **Communication:** Information, experiences and opinions are **shared between** different sectors. | **Consultation:** Opportunities for different sectors to **take part** in policy, planning and management processes. | **Collaboration:** Formal **arrangements** between different government sectors with the objective of agreeing on collective decisions on important issues and activities. | **Co-decisions and co- production:**  Shared power between different sectors on joint policy, planning and management activities. |
| Score | 40 |
| **Status description:** The NIWRM plan, 2016 was developed with guidance from the multi stakeholder technical advisory committee and this plan is yet to implemented. National Water Symposium held annually. | | | | | | | | |
| **Way forward:** | | | | | | | | |

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|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **c.** **Public participation**[[14]](#footnote-15) inwater resources, policy, planning and management at national level. | | **No information** sharedbetween government and the public on policy, planning and management. | **Information** on water resources, policy, planning and management is made available to the public. | **Communication:**  Government authorities **request** information, experiences and opinions of the public**.** | **Consultation:**  Government authoritiesregularly **use** information, experiences and opinions of the public. | **Collaboration:**  **Mechanisms**[[15]](#footnote-16) established, and regularly used, for the public to take partin relevantpolicy, planning and management processes. | **Representation:** Formal representation ofthe public in government processes contributing to decision making on important issues and activities, as appropriate. |
| Score | 60 |
| **Status description:** The NIWRM plan and Wangchhu Basin management plan, 2016 is yet to be implemented. However, during the development of the plan, all relevant stakeholders were involved and high level of public consultation was carried out. WASH cluster meeting held annually. All watershed management plans are developed through community and sectoral consultations. All agriculture infrastructures are planed through community participations. | | | | | | | |
| **Way forward:** | | | | | | | |
| **d.** **Private sector**[[16]](#footnote-17) **participation** inwater resources development, management and use. | | **No information** sharedbetween government and private sector about water resources development, management and use. | **Information** made available between government and private sector about water resources development, management and use. | **Communication** between government and private sector about water resources development, management and use. | **Consultation:** Government authorities regularly involve the private sector in water resources development, management and use activities. | **Collaboration: Mechanisms**[[17]](#footnote-18) established, and regularly used, for private sector involvement and partnership. | **Representation:** Effective private sector involvement established for water resources development, management and use activities. |
| Score | 20 |
| **Status description:** The Bhutan Chamber of Commerce and Industries (BCCI) was involved as member of the technical advisory committee who represented the business community. | | | | | | | |
| **Way forward:** | | | | | | | |

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|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) | |
| **e. Developing IWRM capacity**.[[18]](#footnote-19) | | **No** capacity development specific to water resources management. | **Occasional** capacity development, generally limited to **short-term** / ad-hoc activities. | **Some long-term** capacity development initiatives are being implemented, but geographic and stakeholder coverage is **limited**. | **Long-term** capacity development initiatives are being implemented, and geographic and stakeholder coverage is **adequate**. | Long-term capacity development initiatives are being implemented, with **effective** outcomes, and geographic and stakeholder coverage is **very good**. | Long-term capacity development initiatives are being implemented with **highly effective** outcomes, and geographic and stakeholder coverage is **excellent.** | |
| Score | 20 |
| **Status description:** Some experience has been gained through the preparation of the NIWRM plan, 2016 however, there is lack of technical capacity and financial resources.  **The score corresponds to 2.1f question from the 2017 survey.** | | | | | | | | |
| **Way forward:** | | | | | | | | |
| **2.2 What is the status of institutions for IWRM implementation at other levels?** | | | | | | | | |
| **a.** **Basin/aquifer level**[[19]](#footnote-20) **organizations**[[20]](#footnote-21) for leading implementation of IWRM. | | **No** dedicated basin authorities for water resources management. | Authorities **exist**, with clear mandate to lead water resources management. | Authorities have clear mandate to lead IWRM implementation, and the capacity[[21]](#footnote-22) to effectively lead IWRM plan **formulation**. | Authorities have the capacity to effectively lead IWRM plan **implementation**. | Authorities have the capacity to effectively lead periodic monitoring and **evaluation** of the IWRM plan(s). | | Authorities have the capacity to effectively lead periodic IWRM plan **revision**. |
| Score | 20 |
| **Status description:** Wangchhu River Basin Committee was formed in 2016 with clear mandates as per the Water Act of Bhutan, 2011. | | | | | | | | |
| **Way forward:** | | | | | | | | |

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|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) | |
| **b.** **Public participation**[[22]](#footnote-23) inwater resources, policy, planning and managementat the **local** **level.**[[23]](#footnote-24) | | **No information** sharedbetween government and the public on policy, planning and management. | **Information** on water resources, policy, planning and management is made availabletothe public**.** | **Communication:**  Government authorities **request** information, experiences and opinions of the public**.** | **Consultation:**  Government authoritiesregularly **use** local level information, experiences and opinions of the public. | **Collaboration:**  **Mechanisms**[[24]](#footnote-25) established, and regularly used, for the public to take partin relevantpolicy, planning and management processes. | **Representation:** Formal representation of the public in local authority processes contributing to decision making on important issues and activities, as appropriate. | |
| Score | 40 |
| **Status description:** Basin Committee members are from local government, elected members of the local community and officials from environment sector. They meet on quarterly basis. | | | | | | | | |
| **Way forward:** | | | | | | | | |
| **c.** **Participation of** **vulnerable groups** in water resources planning and management.[[25]](#footnote-26) | | Participation of vulnerable groups **not explicitly addressed** in laws, policies, or plans. | Vulnerable groups **partially addressed,** butno explicit proceduresin place.[[26]](#footnote-27) | **Some procedures in place**, but limited budget and human capacity for implementation. | Procedures in place, with **moderate participation** of vulnerable groups (moderate budget and human capacity). | **Regular participation** of vulnerable groups (sufficient budget and human capacity, and participation is monitored). | | **Meaningful[[27]](#footnote-28) and regular participation** of vulnerable groups, as appropriate. |
| Score |  |
| **Status description: New question added in 2020 reporting round. No data available from 2017.** | | | | | | | | |
| **Way forward:** | | | | | | | | |

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|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **d.** **Gender included in laws/plans or similar** within water resources management.**[[28]](#footnote-29)** | | Gender considerations **not explicitly included** in national/ subnational laws/plans or similar. | Gender considerations **partially included** in laws/plans or similar. | Gender considerations **included** (but limited implementation, budget or monitoring)**.** | Gender **objectives[[29]](#footnote-30) partly achieved** (activities partially monitored and funded). | Gender objectives **mostly achieved** (activitiesadequately monitored and funded). | Gender objectives **consistently achieved** and effectively address gender issues (activities and outcomesreviewed and revised). |
| Score | 20 |
| **Status description**: There are no specific provisions on gender in National water policy and legislation however, gender issues are addressed by other policies and laws. Education policy and guidelines for Five Year Plans (FYP) requires gender mainstreaming in all development plans and programmes. National Commission for Women & Children (NCWC) established to spear head gender mainstreaming into policies & plans. All National policies & plans are applicable to sub-national levels.  **This question is a combination of the old 2017 2.1e and 2.2c gender-questions at national and sub-national level.** | | | | | | | |
| **Way forward:** | | | | | | | |
| **e**. **Organizational framework for transboundary water management**.[[30]](#footnote-31) | | **No** organizational framework(s). | Organizational framework(s) **being developed**. | Organizational framework(s) **established**. | Organizational framework(s)’ mandate is **partly fulfilled**. | Organizational framework(s)’ mandate is **mostly fulfilled**. | Organizational framework(s)’ mandate is **fully fulfilled**. |
| Score | 0 |
| **Status description:** No arrangements. | | | | | | | |
| **Way forward:** | | | | | | | |

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|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **f.** **Sub-national**[[31]](#footnote-32) **authorities** for leading IWRM implementation.[[32]](#footnote-33) | | **No** dedicated sub-national authoritiesfor water resources management. | Authorities **exist**, with clear mandateto lead water resources management. | Authorities have clear mandate to lead IWRM implementation, and the capacity[[33]](#footnote-34)to effectively leadIWRM plan **formulation**. | Authorities have the capacity to effectively lead IWRM plan **implementation**. | Authorities have the capacity to effectively lead periodic monitoring and **evaluation** of the IWRM plan(s). | Sub-national authorities have the capacity to effectively lead periodic IWRM plan **revision**. |
| Score |  |
| **Status description: Question has been revised in 2020 reporting round to cover all subnational levels. No data available from country from 2017.** | | | | | | | |
| **Way forward:** | | | | | | | |

# Management instruments

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

**Terminology used in the questions:**

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

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

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

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3. Management Instruments** | | | | | | | | |
|  | | Degree of implementation (0 – 100) | | | | | | |
|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | | High (80) | Very high (100) |
| **3.1 What is the status of management instruments to support IWRM implementation at the national level?** | | | | | | | | |
| **a.** **National monitoring of** **water availability**[[34]](#footnote-35) (includes surface and/or groundwater, as relevant to the country). | | **No** national monitoring systems in place. | Monitoring systems established for a **limited** number of **short-term** / ad-hoc projects or similar. | **Long-term** national monitoring is carried out but with **limited** coverage and limited useby stakeholders. | **Long-term** national monitoring is carried out with **adequate** coverage but limited useby stakeholders. | | Long-term national monitoring is carried outwith **very good** coverage and adequate useby stakeholders. | Long-term national monitoring is carried out with **excellent** coverage and excellent useby stakeholders. |
| Score | 40 |
| **Status description:** Hydrological observation network covering all major river basins are established and operational 1990. Bhutan has more than 26 years of time series surface hydrological data (water level and flow data) archived in the national hydrological database. There are limited hydrological stations operation on small tributaries and stream. Data are provided to all the users based on request. Currently surface hydrological data are provided free of charges. Ground water are yet to assessed. | | | | | | | | |
| **Way forward:** | | | | | | | | |
| b. **Sustainable and efficient water use** **management[[35]](#footnote-36)** from the national level, (includes surface and/or groundwater, as relevant to the country). | | **No** management instruments being implemented. | Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar. | **Some** management instruments implemented on a more **long-term** basis, but with **limited** coverageacross different water users and the country. | Management instruments are implemented on a **long-term** basis, with **adequate** coverage across different water users and the country. | Management instruments are implemented on a long-term basis, with **very good** coverage across different water users and the country, and are **effective**. | | Management instruments are implemented on a long-term basis, with **excellent** coverage across different water users and the country, and are **highly effective**. |
| Score | 30 |
| **Status description:** Payment for Environmental Services (PES) schemes are piloted in some areas. Awareness raised on drinking water safety and management through water safety plans in urban and rural areas. Irrigation water conveyance system for efficient use of water in irrigation are used. Rain water harvesting projects piloted in selected areas. | | | | | | | | |
| **Way forward:** | | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **c.** **Pollution control**[[36]](#footnote-37)from the national level. | | **No** management instruments being implemented. | Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar. | **Some** management instruments implemented on a more **long-term** basis, but with **limited** coverageacross sectors and the country. | Management instruments are implemented on a **long-term** basis, with **adequate** coverage across sectors and the country. | Management instruments are implemented on a long-term basis, with **very good** coverage across sectors and the country, and are **effective**. | Management instruments are implemented on a long-term basis, with **excellent** coverage across sectors and the country, and are **highly effective**. |
| Score | 40 |
| **Status description:** Regulations and water quality standards are in place. Wastewater treatment facilities available in urban towns but with limited coverage. | | | | | | | |
| **Way forward:** | | | | | | | |
| **d.** **Management of water-related ecosystems**[[37]](#footnote-38)from the national level. | | **No** management instruments being implemented. | Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar. | **Some** management instruments implemented on a more **long-term** basis, but with **limited** coverageacross different ecosystem types and the country. | Management instruments are implemented on a **long-term** basis, with **adequate** coverage across different ecosystem types and the country. Environmental Water Requirements (EWR) analysed in some cases. | Management instruments are implemented on a long-term basis, with **very good** coverage across different ecosystem types and the country, and are **effective**. EWR analysed for most of country. | Management instruments are implemented on a long-term basis, with **excellent** coverage across different ecosystem types and the country, and are **highly effective**. EWR analysed for whole country. |
| Score | 40 |
| **Status description:** Forest coverage, protected areas and wetland conservation. The Constitution of Bhutan requires maintaining a minimum of 60% forest coverage at all times to come. The new Forest and Nature Conservation Rules 2017 prohibits the destruction of wetlands and puts in place a requirement of a clearance process. | | | | | | | |
| **Way forward:** | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | Very low (0) | | | Low (20) | | | Medium-low (40) | | | Medium-high (60) | | High (80) | | Very high (100) |
| **e.** **Management instruments to reduce impacts of water-related disasters[[38]](#footnote-39)** from the national level. | | | **No** management instruments being implemented. | | | Use of management instruments is **limited** and only through **short-term** / ad-hoc projects or similar. | | | **Some** management instruments implemented on a more **long-term** basis, but with **limited** coverageof at-risk areas. | | | Management instruments are implemented on a **long-term** basis, with **adequate** coverage of at-risk areas. | | Management instruments are implemented on a long-term basis, with **very good** coverage of at-risk areas, and are **effective**. | | Management instruments are implemented on a long-term basis, with **excellent** coverage of at-risk areas, and are **highly effective**. |
| Score | **40** | |
| **Status description:** Bhutan is highly prone to hydro-meteorological hazards due to young fragile mountain geology and high intensity recurrence monsoon. Being a mountainous country more than 70% settlements and infrastructure development are established along the river valley. In order to reduce impacts of water-related disasters, through the donor supported projects flood/GLOF hazards mapping were done for Mangdechhu, Chamkharchhu valley, Punatsangchhu basin and other settlement areas. GLOF/Flood early warning system were installed and operational on Punakha-Wangdi valley, Mangdechhu basin, Chamkharchhu basin. Lowering of potentially dangerous lakes were carried out in the Luanan area to reduce the risk through short term projects. Vulnerability mapping and assessment are being initiated. Community Based Disasters Risks Management (CBDRM) education and awareness activities were carried out in all the Dzongkhags and schools including the contingency planning.  More importantly Bhutan has legal instrument- Disaster Management Act of Bhutan (2013) and Disaster Management Rules and Regulations (2014) that provide the legal framework for the disaster risks reduction in Bhutan. In Bhutan, disasters is mainstreamed into development plans and programs. | | | | | | | | | | | | | | | | |
| **Way forward:** | | | | | | | | | | | | | | | | |
| **3.2 What is the status of management instruments to support IWRM implementation at other levels?** | | | | | | | | | | | | | | | | |
| **a.** **Basin management instruments**.[[39]](#footnote-40) | | | | **No** basin level management instruments being implemented. | | Use of basin level management instruments is **limited** and only through **short-term** / ad-hoc projects. | | **Some** basin level management instruments implemented on a more **long-term** basis, but with **limited** geographic and stakeholder coverage. | | | Basin level management instruments implemented on a more **long-term** basis, with **adequate** geographic and stakeholder coverage. | | | Basin level management instruments implemented on a more long-termbasis, with **effective** outcomesand **very good** geographic and stakeholder coverage. | | Basin level management instruments implemented on a more long-termbasis, with **highly effective** outcomesand **excellent** geographic and stakeholder coverage. |
| Score | **20** | | |
| **Status description:** Wangchhu basin management plan to promote cooperation among the Four districts and carry out assessments to understand water issues within the basin. | | | | | | | | | | | | | | | | |
| **Way forward:** | | | | | | | | | | | | | | | | |
|  | | Very low (0) | | | Low (20) | | Medium-low (40) | | | Medium-high (60) | | | High (80) | | Very high (100) | |
| **b.** **Aquifer** **management instruments**.[[40]](#footnote-41) | | **No** aquifer level management instruments being implemented. | | | Use of aquifer level management instruments is **limited** and only through **short-term** / ad-hoc projects. | | **Some** aquifer level management instruments implemented on a more **long-term** basis, but with **limited** geographic and stakeholder coverage. | | | Aquifer level management instruments implemented on a more **long-term** basis, with **adequate** geographic and stakeholder coverage. | | | Aquifer level management instruments implemented on a more **long-term** basis, with **effective** outcomesand **very good** geographic and stakeholder coverage. | | Aquifer level management instruments implemented on a more **long-term** basis, with **highly effective** outcomesand **excellent** geographic and stakeholder coverage. | |
| Score | 10 |
| **Status description:** No study on aquifers. Abstraction is subject to Environmental Clearance as per Water Act & regulations. | | | | | | | | | | | | | | | | |
| **Way forward:** | | | | | | | | | | | | | | | | |
| **c.** **Data and information sharing within countries** at all levels.**[[41]](#footnote-42)** | | **No** data and information sharing. | | | **Limited** data and information sharingon an **ad-hoc** basis. | | Data and information sharingarrangements **exist** on a more **long-term** basis between major data providers and users. | | | Data and information sharingarrangements **implemented** on a more **long-term** basis**,** with **adequate** coverageacross sectors and the country. | | | Data and information sharingarrangementsimplementedon a more **long-term** basis**,** with **very good** coverageacross sectors and the country. | | All relevant data and information are online and freely accessible to all. | |
| Score | 60 |
| **Status description:** Data and information are shared as and when required. | | | | | | | | | | | | | | | | |
| **Way forward:** | | | | | | | | | | | | | | | | |
| **d.** **Transboundary data and information sharing between countries.** | | **No** data and information sharing. | | | **Limited** data and information sharingon an **ad-hoc** or informal basis. | | Data and information sharingarrangements **exist**, but sharing is **limited.** | | | Data and information sharingarrangements **implemented adequately.** | | | Data and information sharingarrangements **implemented effectively.[[42]](#footnote-43)** | | All relevant data and information are online and accessible between countries. | |
| Score | 60 |
| **Status description:** Bhutan as an upper riparian country and all the rivers flow to India, flood data/information from Bhutan are shared with Indian States of Assam and West Bengal of India on sub-daily basis for flood forecasting and warning based on the bilateral cooperation. However, sharing of data/information in only one directional i.e. from upstream from downstream only. | | | | | | | | | | | | | | | | |
| **Way forward:** | | | | | | | | | | | | | | | | |

# Financing

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

Finance for investment and recurrent costs can come from many sources, the most common being central government budget allocations to relevant ministries and other authorities. Finance from [Official Development Assistance (ODA)](https://www.oecd.org/dac/stats/officialdevelopmentassistancedefinitionandcoverage.htm) specifically for water resources should be considered part of the government budget. Note that the level of coordination between ODA and national budgets is tracked by the ‘means of implementation’ SDG indicator 6.a.1: “Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan”, as part of reporting on Target 6.a: “By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies”.

“Various sources” include fees and tariffs levied on water users, polluter fees or grants from philanthropic or similar organisations. In-kind support should not be included as it is not easily measurable but can be mentioned in the ‘Status description’ field.

**Investments should cover all aspects of water resources development and management but exclude any related to drinking water supply, sanitation and hygiene services** as they are covered in other monitoring processes.

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

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **4. Financing** | | | | | | | |
|  | | Degree of implementation (0 – 100) | | | | | |
|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **4.1 What is the status of financing for water resources development and management at the national level?** | | | | | | | |
| **a.** **National budget**[[43]](#footnote-44) for water resources **infrastructure**[[44]](#footnote-45)(investment and recurrent costs). | | **No budget** allocated in national investment plans. | **Some budget** allocated but only partly covers planned investments. | **Sufficient budget** allocated for planned investments but insufficient funds disbursed or made available**.** | Sufficient budget allocated and **funds disbursed for** **most** planned programmes or projects. | Sufficientfunds disbursed for investment and recurrent costs,and **being utilised in all** planned projects. | Budget **fully utilised** for investment and recurrent costs, post-project evaluation carried out, budgets reviewed and revised. |
| Score | 60 |
| **Status description:** As part of the Five Year Plans (FYP) agencies propose annual budget to construct water infrastructures. Investment made for hydropower dams, irrigations canals, drainage, flood control, river training works. The budget allocation is integrated with other related activities of the agencies. | | | | | | | |
| **Way forward:** | | | | | | | |
| **b.** **National budget** for **IWRM elements**[[45]](#footnote-46) (investments and recurrent costs). | | **No budget** allocations made for investments and recurrent costs of the IWRM elements. | **Allocations** made for **some** of the elements and implementation at an early stage. | Allocations made for **at least half** of the elements but insufficient for others. | Allocations for **most** of the elements and some implementation under way. | Allocations include **all** elements and implementation regularly carried out (investments and recurrent costs). | Planned budget allocations for all elements of the IWRM approach **fully utilised**, budgets reviewed and revised. |
| Score | 40 |
| **Status description:** All government agencies responsible for water related management propose annual budget and accordingly funds are disbursed on a priority basis. It is also highly dependent on the budget available. | | | | | | | |
| **Way forward:** | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **4.2 What is the status of financing for water resources development and management at other levels?** | | | | | | | |
| **a.** **Sub-national or basin budgets** for water resources **infrastructure[[46]](#footnote-47)** (investment and recurrent costs). | | **No budget** allocated in sub-national or basin investment plans. | **Some budget** allocated but only partly covers planned investments. | **Sufficient budget** allocated for planned investments but insufficient funds disbursed or made available. | Sufficient budget allocated and **funds disbursed for most** planned programmes or projects. | Sufficient funds disbursed**,** for investment and recurrent costs,and **being utilised in all** planned projects. | Budget **fully utilised**, for investment and recurrent costs, post-project evaluation carried out, budgets reviewed and revised. |
| Score | 40 |
| **Status description:** The local government propose annual budget and is allocated based on priority/urgency of the activity/plan as proposed by the local government. The budget is also subject to availability of donor funding. | | | | | | | |
| **Way forward:** | | | | | | | |
| **b.** **Revenues** raised for IWRM elements.[[47]](#footnote-48) | | **No revenues** raised for IWRM elements. | **Processes in place** to raise revenue but **not yet implemented**. | **Some revenue raised,** but generally not used for IWRM activities. | Revenues raised cover **some** IWRM activities. | Revenues raised cover **most** IWRM activities. | Revenues raised **fully cover** costs of IWRM activities. |
| Score | 20 |
| **Status description:** Payment for Environmental Schemes piloted in some areas, Environmental clearance charges levied, water service charges. | | | | | | | |
| **Way forward:** | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Very low (0) | Low (20) | Medium-low (40) | Medium-high (60) | High (80) | Very high (100) |
| **c.** **Financing for transboundary cooperation.**[[48]](#footnote-49) | | **No specific funding** allocated from the Member State (MS) budgets nor from other regular sources. | MS **agreement** on country share of contributions **in place** and in-kind support for the cooperation organisation/arrangement. | **Funding less than 50%** of that expected as contributions and by regulation. | Funding **less than 75%** of that expected as contributions and by regulation. | Funding **more than 75%** of that expected as contributions and by regulation. | **Full funding** of that expected as contributions and by regulation. |
| Score | 0 |
| **Status description:** No financing for transboundary cooperation. | | | | | | | |
| **Way forward:** | | | | | | | |
| **d.** **Sub-national or basin budgets** for **IWRM elements**[[49]](#footnote-50) (investment and recurrent costs). | | **No budget** allocations at sub-national or basin level for investments and recurrent costs of IWRM elements. | **Allocations** made for **some** of the elements and implementation at an early stage. | Allocations made for **at least half** of the elements but insufficient for others. | Allocations for **most** of the elements and some implementation under way. | Allocations include **all** elements and implementation regularly carried out (investments and recurrent costs). | Planned budget allocations for all elements of the IWRM approach **fully utilised**, budgets reviewed and revised. |
| Score |  |
| **Status description: New question added in 2020 reporting round. No data available from 2017.** | | | | | | | |
| **Way forward:** | | | | | | | |

# Indicator 6.5.1 score

### How to calculate the indicator 6.5.1 score

Please complete the table below as follows:

1. Calculate the average score of each of the four sections by averaging all question scores in each section, rounded to the nearest whole number.

*Example: Section average of 41.5 should be rounded to 42. Section average of 70.2 should be rounded to 70.* If ‘not applicable’ is selected for any question, this should not be included in the indicator calculations, and therefore will not affect the average score. However, questions with a score of ‘0’ (zero) should be included.

1. Calculate the average of the four section scores (whole numbers) to give the overall score for indicator 6.5.1, rounded to the nearest whole number.

*Example: Calculating final IWRM score from four section scores: (81+ 63 + 47 + 58)/4 = 62.25. Final 6.5.1 score (rounded to a whole number) = 62.*

|  |  |
| --- | --- |
| **Section** | **Average Scores** (all values rounded to nearest whole number) |
| Section 1 Enabling environment | 36 |
| Section 2 Institutions and participation | 27 |
| Section 3 Management instruments | 38 |
| Section 4 Financing | 32 |
| **Indicator 6.5.1 score**  **= Degree of IWRM implementation (0-100)\*** | **33** |

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

**Interpretation of the score**

The score indicates the ‘degree of implementation of integrated water resources management’, on a scale of 0 to 100, with 0 signifying ‘very low’ implementation, and 100 signifying ‘very high’ implementation. However, the true value of the survey to countries lies within the scores, ‘status description’ and ‘way forward’ for each question, as this helps to identify which actions need to be taken to move towards a greater degree of implementation of IWRM. See the monitoring guide for further information on interpretation of scores and target setting.

# Annexes:

## Annex A: Glossary

* **Authorities:** could beministry or ministries, or other organizations/institutions/departments/agencies/bodies with a mandate and funding from government.
* **Basins:** Includes rivers, lakes and aquifers, unless otherwise specified. For surface water, the term is interchangeable with ‘catchments’ and ‘watersheds’.
* **Federal countries:** Refers to countries made up of federated states, provinces, territories or similar terms.
* **IWRM:** Integrated Water Resources Management (IWRM) is a process that promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. IWRM is not an end in itself but a means of achieving three key strategic objectives:
  + efficiency to use water resources in the best way possible;
  + equity in the allocation of water across social and economic groups;
  + environmental sustainability, to protect the water resource base, as well as associated ecosystems.
* **National (level):** Refers to the highest level of administration in a country.
* **Sub-national / state (level):** refers to levels of administration other than national. For federal countries, these are likely to be provinces or states. Non-federal countries may still have sub-national jurisdictions with some responsibility for water resources management, e.g. regions, counties, departments.
* **Programs:** Nation-wide plans of action with long-term objectives, for example to strengthen monitoring, knowledge sharing and capacity development, with details on what work is to be done, by whom, when, and what means or resources will be used**.**
* **Transboundary:** Refers to surface and groundwater basins that cross one or more national borders (see Annex B).
* **Stakeholders:** In this survey, stakeholders are the main groups important for water resources management, development and use.Examples of stakeholders in each group are given in footnotes as they appear in the survey.
* **Water Resources Management** is the activity of planning, developing, distributing and managing the optimum use of water resources. Ideally, water resource management planning considers all the competing demands for water and seeks to allocate water on an equitable basis to satisfy all uses and demands. An integrated approach (see IWRM) is needed to ensure water resources management is not isolated within sector silos resulting to inefficiencies, conflicts and unsustainable resource use.

## Annex B: Transboundary level

The transboundary questions for indicator 6.5.1 focus on the degree of implementation of IWRM at the transboundary level, as relevant to implementation of IWRM ‘at all levels’, as specified in target 6.5. Countries sharing basins of transboundary waters (rivers, lakes or aquifers) should answer the questions on transboundary issues. This information is complemented by indicator 6.5.2 ‘Proportion of transboundary basin area with an operational arrangement for water cooperation’.

To enable tracking of progress over time and for transparency, in the table below please list the transboundary (or ‘international’) basins or aquifers that are included in this survey. The 6.5.1 baseline reporting may be used as a starting point. Only the most important transboundary basins or aquifers that are regarded as significant, in terms of economic, social or environmental value to the country (or neighbouring countries), need to be included in this survey. It is up to countries to decide which ones these are. Where feasible, basins/aquifers listed in this table, and the scores given, should be cross-referenced with tables and scores in the 6.5.2 reporting template ([www.sdg6monitoring.org/indicators/target-65/indicators652/](http://www.sdg6monitoring.org/indicators/target-65/indicators652/)), and the focal point for 6.5.2 should be consulted in this process. In the absence of 6.5.2 data or national databases, global databases on transboundary river basins (<http://twap-rivers.org/indicators/>), and transboundary aquifers (<https://www.un-igrac.org/ggis/explore-all-transboundary-groundwaters>), may be referred to. If you include a national (sub-basin) as part of a larger transboundary basin, please ensure to also include the name of the larger basin. When answering transboundary questions, the majority of the basins below must meet the criteria described in each threshold to achieve the score for that threshold.

The columns on the right of the table are optional though recommended. Filling them out would: provide countries with valuable information and a quick diagnostic tool for the status in each basin/aquifer; increase the transparency of the transboundary level responses in this survey for stakeholders both within and between countries; help countries reach consensus on scores for the transboundary questions; and provide a valuable cross-reference for indicator 6.5.2. For each basin/aquifer, a score should be given for each of the four transboundary questions in the survey, following the guidance and thresholds in the survey questions. To supplement this data, you are encouraged to provide a summary of the situation for the transboundary basins/aquifers in the ‘Status description’ and ‘Way forward’ fields to transboundary questions within Part 2 of this survey, to the extent feasible.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **No data available from country from 2017 reporting.** | **OPTIONAL THOUGH RECOMMENDED\*** | | | |
|  | **Important transboundary basins** | **Arrangements (1.2c)** | **Institutions (2.2e)** | **Data sharing (3.2d)** | **Financing (4.2c)** |
| 1. | [Name] |  |  |  |  |
| 2. |  |  |  |  |  |
| 3. |  |  |  |  |  |
|  | Please add/delete rows as needed |  |  |  |  |
|  | **Important transboundary aquifers** |  |  |  |  |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |
| 3. |  |  |  |  |  |
|  | Please add/delete rows as needed |  |  |  |  |

\* These columns may be useful to countries in determining the approximate status for each transboundary basin/aquifer, and thereby be useful in discussions on the respective question scores in Part 2 of this survey instrument.

## Annex C: Barriers, enablers and next steps for furthering IWRM implementation

**New annex added in 2020. No data available from country from 2017 reporting.**

This section is not used in calculating indicator 6.5.1, but is designed to be useful for countries to identify the main challenges and next steps to further IWRM implementation. It builds on the free text fields for each question – “Status description” and “Way forward” – to identify the key issues.

The third question below aims to improve transparency by documenting the main differences in opinion between stakeholders. You may amend the structure to make it more useful to the planning process in the national context. For each question, you may consider aspects under each of the four IWRM dimensions in the survey, or you may identify aspects/issues that cut-across questions and IWRM dimensions. Some issues not addressed by the questions may also be brought up here.

1. What are the main challenges/barriers to progress of IWRM implementation in the country?
2. What are the main next steps to overcome challenges and further IWRM implementation?
3. What were the main points of difference in stakeholder opinion in answering the survey questions?
4. Additional comments

## Annex D: Priority water resource challenges

Please indicate the challenge level for each of the water resource issues below. This information will not affect the overall indicator score.

This checklist may be useful to countries in stakeholder discussions and planning. Over time, it can also help countries to evaluate whether the implementation of IWRM can help to reduce the challenge level relating to different water resources issues. The information will also help to develop regional and global oversight of key water resources challenges, and track progress of how challenge levels may change over time.

Note that ‘challenge level’ in this case refers to the level of difficulty associated with addressing each issue. For example, if effective and financed systems are in place for providing water for domestic use, then this may be assigned a ‘low’ challenge level, even though this issue would likely be classified as high priority / importance in most countries. ‘Low’, ‘Medium’ and ‘High’ are intentionally broad and intuitive categories.

Comments (optional): **New annex added in 2020. No data available from country from 2017 reporting.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Water resource challenges** | **Level of difficulty associated with addressing the challenge** | | | |
| **Low** | **Medium** | **High** | **Not relevant** |
| **Water uses** | | | | |
| Water for agriculture |  |  |  |  |
| Water for domestic use |  |  |  |  |
| Water for industry |  |  |  |  |
| Water for energy |  |  |  |  |
| Water for ecosystems/environment |  |  |  |  |
| Water for growing cities |  |  |  |  |
| **Threats to the resource** | | | | |
| Water scarcity / over-abstraction (surface) |  |  |  |  |
| Water scarcity / over-abstraction (groundwater) |  |  |  |  |
| Water quality / pollution (surface) |  |  |  |  |
| Water quality / pollution (groundwater) |  |  |  |  |
| Water-related ecosystem degradation |  |  |  |  |
| Water-related ecosystem loss |  |  |  |  |
| **Threats to people and economic activity** | | | | |
| Floods |  |  |  |  |
| Droughts |  |  |  |  |
| Coastal vulnerability |  |  |  |  |
| Conflicts over water resources |  |  |  |  |

## Annex E: 6.5.1 country reporting process form

A common query received after the baseline data collection period was on the reporting process and which stakeholders were involved in reporting.

To improve transparency and increase confidence in results, you are invited to provide a brief overview of the reporting process. e.g. main actors involved; meetings/workshops held; other means of gathering inputs from stakeholders; and finalisation/approval processes. Also note the main challenges/strengths of the process. Use as much space as needed.

|  |  |
| --- | --- |
| Focal Point affiliation | NATIONAL ENVIRONMENT COMMISSION SECRETARIAT |
| Brief process overview: **This report has been pre-filled by the SDG 6.5.1 Help Desk, using 2017 scores and text responses to each question. It was shared for ‘no objection’ approval with colleagues from the National Environment Commission Secretariat**. | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder groups** | **Level of engagement** (mark with ‘X’) | | | **Additional information** (e.g. which stakeholder organisations were involved) |
| **Low** (given opportunity to contribute) | **Medium** (some input) | **High** (discussion/ negotiation) |
| National water agencies |  |  |  |  |
| Other public sector agencies |  |  |  |  |
| Sub-national water agencies |  |  |  |  |
| Basin/Aquifer agencies |  |  |  |  |
| Water User Associations |  |  |  |  |
| Civil society |  |  |  |  |
| Private sector |  |  |  |  |
| Vulnerable groups |  |  |  |  |
| Gender expertise |  |  |  |  |
| Research/academia |  |  |  |  |
| Transboundary expertise |  |  |  |  |
| Other SDG focal points |  |  |  | *(e.g. FPs from other indicators)* |
| *Please add rows if required* |  |  |  |  |

1. Monitoring of 6.5.1 is being done as part of the UN-Water initiative on integrated monitoring of SDG 6. Support is provided in collaboration with UN-Water members and partners. For a list of questions that relate to other SDG indicators (mainly in section 3), please see the monitoring guide. [↑](#footnote-ref-2)
2. For examples of good practices of policies, laws and plans, please see case studies under ‘enabling environment’ in the Global Water Partnership (GWP) [IWRM ToolBox](https://www.gwp.org/en/learn/iwrm-toolbox/About_IWRM_ToolBox/). [↑](#footnote-ref-3)
3. Sub-national includes jurisdictions not at national level, such as: states, provinces, prefectures, counties, councils, regions, or departments. In cases where there are no explicit sub-national policies, please answer this question by considering how national policies are being implemented at sub-national levels. Responses should consider the highest, non-national level(s) as appropriate to the country. In the status description, please explain which level(s) are included in the response. [↑](#footnote-ref-4)
4. At the basin/aquifer level, please include only the most important river basins, lake basins and aquifers for water supply or other reasons. This question only refers to these basins/aquifers. These basins/aquifers are likely to cross administrative borders, including state/provincial borders for federal countries. The basins may also cross national borders, but this question refers to management of the portions of basins within each country. Question 1.2c refers specifically to transboundary arrangements for basins/aquifers shared by countries. [↑](#footnote-ref-5)
5. For ‘transboundary’ definition and guidance on how to fill out all transboundary level questions, see Annexes A and B. All transboundary level questions should reflect the situation in most of the ‘most important’ transboundary basins/aquifers, as listed in Annex B. An ‘arrangement’ should be a formal commitment, and may be referred to as a bilateral or multilateral agreement, treaty, convention, protocol, joint declaration, memorandum of understanding, or other arrangement between riparian countries on the management of a transboundary basin/aquifer. Refers to international basins/aquifers only. Arrangements may be interstate, intergovernmental, inter-ministerial, interagency or between regional authorities. They may also be entered into by sub-national entities. [↑](#footnote-ref-6)
6. Sub-national includes jurisdictions not at national level, such as: states, provinces, prefectures, counties, councils, regions, or departments. In cases where there are no explicit sub-national regulations, please answer this question by considering how national regulations are being implemented at sub-national levels. Responses should consider the highest, non-national level(s) as appropriate to the country. In the status description, please explain which level(s) are included in the response. [↑](#footnote-ref-7)
7. This question has replaced question 1.2d from the baseline survey instrument, which was for federal countries only. [↑](#footnote-ref-8)
8. E.g. Dublin Principle Nr. 3 (1992): “Women play a central part in the provision, management and safeguarding of water”. “[the] role of women … has seldom been reflected in institutional arrangements for the … management of water resources. Acceptance and implementation of this principle requires positive policies to address women’s specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation, in ways defined by them.” [↑](#footnote-ref-9)
9. E.g. SDG target 5.5 “Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.” [↑](#footnote-ref-10)
10. E.g. SDG target 17.18 “By 2020, … increase … the availability of … data disaggregated by … gender, … and other characteristics relevant in national contexts.” [↑](#footnote-ref-11)
11. ‘Government authorities’ could be a ministry or ministries, or other organizations/institutions/agencies/bodies with a mandate and funding from government. [↑](#footnote-ref-12)
12. ‘Capacity’ in this context is that the responsible authorities should be adapted to the complexity of water challenges to be met and have the required knowledge and technical skills, including planning, rule-making, project management, finance, budgeting, data collection and monitoring, risk/conflict management and evaluation. Beyond having the technical capacity, authorities should also have the financial capacity to actually be leading the implementation of these activities. [↑](#footnote-ref-13)
13. Relates to coordination between the government authorities responsible for water management and those responsible for other sectors (such as agriculture, energy, climate, environment etc.) that are dependent on water, or impact on water. Coordination between groundwater and surface water development/management should also be optimised. The relevant sectors should be considered according to their importance for the country. [↑](#footnote-ref-14)
14. ‘The public’ includes all interested parties who may be affected by any water resources issue or intervention. They include organizations, institutions, academia, civil society and individuals. They do not include government organizations. The private sector is addressed separately in the next question. [↑](#footnote-ref-15)
15. Mechanisms can include policies, laws, strategies, plans, or other formal operational procedures for public participation. [↑](#footnote-ref-16)
16. Private sector includes for-profit businesses and groups. It does not include government or civil society. While this question is mainly focused at the national level, please respond at the level that is most relevant in the country context. Please explain this, including differences between implementation at different levels, in the ‘Status description’ field. [↑](#footnote-ref-17)
17. Mechanisms can include policies, laws, strategies, plans, or other formal operational procedures for private sector participation. [↑](#footnote-ref-18)
18. IWRM capacity development: refers to the enhancement of skills, instruments, resources and incentives for people and institutions at all levels, to improve IWRM implementation. Capacity needs assessments are essential for effective and cost-effective capacity development. Capacity development programs should consider gender balance and disadvantaged/minority groups in terms of participation and awareness. Capacity development is relevant for many groups, including: local and central government, water professionals in all areas - both public and private water organisations, civil society, and in regulatory organisations. In this instance, capacity development may also include primary, secondary and tertiary education, and academic research concerning IWRM. [↑](#footnote-ref-19)
19. At the basin/aquifer level, please include only the most important river basins, lake basins and aquifers for water supply or for other reasons. This question only refers to these basins/aquifers. These basins/aquifers likely cross-administrative borders, including state/provincial borders for federal countries. The basins may also cross national borders, but this question refers to management of the portions of basins within each country. Question 2.2e refers specifically to transboundary management of basins/aquifers shared by countries. [↑](#footnote-ref-20)
20. Could be organization, committee, inter-ministerial mechanism or other means of collaboration for managing water resources at the basin level. [↑](#footnote-ref-21)
21. For the definition of ‘capacity’ in this context, see footnote 12. Beyond having the capacity, authorities must also actually be leading the implementation of these activities. [↑](#footnote-ref-22)
22. ‘The public’ includes all interested parties who may be affected by any water resources issue or intervention. They include organizations, institutions, academia, civil society and individuals. They do not include government organizations. The private sector is dealt with separately in question 2.1d. [↑](#footnote-ref-23)
23. Examples of ‘local level’ include municipal level (e.g. cities, towns and villages), community level, basin/tributary/aquifer/delta level, and water user associations. [↑](#footnote-ref-24)
24. Mechanisms can include policies, laws, strategies, plans, or other formal operational procedures for public participation. [↑](#footnote-ref-25)
25. Vulnerable groups: groups of people that face economic, political, or social exclusion or marginalisation. They can include, but are not limited to: indigenous groups, ethnic minorities, migrants (refugees, internally displaced people, asylum seekers), remote communities, subsistence farmers, people living in poverty, people living in slums and informal settlements. Also referred to as ‘marginalised’ or ‘disadvantaged’ groups. While women are often included in definitions of ‘vulnerable groups’, in this survey gender issues are addressed separately in question 2.2d. The score given for this question should reflect the situation for the majority of the vulnerable groups. This question has been added since the baseline to capture an element of stakeholder participation which is important in the context of ‘leave no-one behind’ – one of the key principles of Agenda 2030. [↑](#footnote-ref-26)
26. ‘Procedures’ can include operational processes to, for example, raise awareness, reduce language barriers, and facilitate interaction with specific vulnerable groups. [↑](#footnote-ref-27)
27. ’Meaningful’ implies voices of vulnerable groups are heard, contribute to decision-making, and influence outcomes. It follows the UN Statement of Common Understanding on Human Rights-Based Approaches to Development Cooperation which provides for “Participation and Inclusion: … all peoples are entitled to active, free and meaningful participation in, contribution to, and enjoyment of civil, economic, social, cultural and political development in which human rights and fundamental freedoms can be realized.” [↑](#footnote-ref-28)
28. See gender discussion at beginning of section 2. Gender-responsive mechanisms can include laws, policies, plans, strategies or other frameworks or procedures aimed at achieving gender objectives related to women’s participation, voice and influence. Gender-responsive mechanisms may originate within the water sector or at a higher level, but if they are primarily addressed at a higher level, then there should be evidence of gender mainstreaming within the water sector to achieve scores in this question. In the baseline survey, national, sub-national, and transboundary levels were addressed in three separate questions. These questions have been merged into a single question, allowing countries to answer the question at the level which is most relevant in the national context. The situation at different levels can be explained in the ‘Status description’ cell, as appropriate. [↑](#footnote-ref-29)
29. Gender objectives ultimately refer to equal participation and influence in water resources management at all levels. Ways of monitoring this include (please identify any of these or similar in the ‘Status description’ field): 1) Presence of Gender Focal Point responsible for gender policy and gender concerns in authorities that deal with water resources; 2) Gender parity in decision-making processes at all levels (e.g. in meetings or board members/committee members); 3) Presence of gender-specific objectives and commitments in strategies, plans and laws related water policy; 4) Presence and role of local women’s groups/organizations receiving technical and/or financial support from government/non-government organizations involved in water resources management activities; 5) Budget allocation, and procedures for collection and analysis of sex-disaggregated data of local populations, when planning for water-related programmes / projects, including infrastructure; 6) Presence of measures for improving gender parity and equity in human resources (HR) policies of authorities. Source: adapted from [UNESCO WWAP Toolkit on Sex-disaggregated Water Data, 2019](http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/display-single-news/news/the_2019_water_gender_toolkit_has_been_launched/). [↑](#footnote-ref-30)
30. An organizational framework can include a joint body, mechanism, authority, committee, commission or other institutional arrangement. Refers to international basins/aquifers. [↑](#footnote-ref-31)
31. Sub-national can include, but not limited to: provincial, state, county, local government areas, council. In this case, sub-national should not include basin/aquifer levels as this is dealt with in question 2.2a. Answer this question for the highest sub-national level(s) that are relevant in the country, and specify what these are. [↑](#footnote-ref-32)
32. This question has replaced question 2.2f from the baseline survey, which was for federal countries only. This is in recognition of the fact that many countries have sub-national authorities for water resources management, even if they are not federal countries. [↑](#footnote-ref-33)
33. For the definition of ‘capacity’ in this context, see footnote 12. Beyond having the capacity, authorities must also actually be leading the implementation of these activities. [↑](#footnote-ref-34)
34. See definition of monitoring in Terminology. [↑](#footnote-ref-35)
35. Management instruments include demand management measures (e.g. technical measures, financial incentives, education and awareness raising to reduce water use and/or improve water-use efficiency, conservation, recycling and re-use), monitoring water use (including the ability to disaggregate by sector), mechanisms for allocating water between sectors (including environmental considerations). [↑](#footnote-ref-36)
36. Includes regulations, water quality guidelines, water quality monitoring, economic tools (e.g. taxes and fees), water quality trading programs, education, consideration of point and non-point (e.g. agricultural) pollution sources, construction and operation of wastewater treatment plants, watershed management. [↑](#footnote-ref-37)
37. Water-related ecosystems include rivers, lakes and aquifers, as well as wetlands, forests and mountains. Management of these systems includes tools such as management plans, the assessment of Environmental Water Requirements (EWR), and protection of areas and species. Monitoring includes measuring extent and quality of the ecosystems over time. [↑](#footnote-ref-38)
38. ‘Management instruments’ can cover: understanding disaster risk; strengthening disaster risk governance; investing in disaster risk reduction; and enhancing disaster preparedness. ‘Impacts’ include social impacts (such as deaths, missing persons, and number of people affected) and economic impacts (such as economic losses in relation to GDP). ‘Water-related disasters’ include disasters that can be classified under the following: Hydrological (flood, landslide, wave action); Meteorological (convective storm, extratropical storm, extreme temperature, fog, tropical cyclone); and Climatological (drought, glacial lake outburst, wildfire). [↑](#footnote-ref-39)
39. Basin and aquifer management: involves managing water at the appropriate hydrological scale, using the surface water basin or aquifer as the unit of management. This may involve basin and aquifer development, use and protection plans. It should also promote multi-level cooperation, and address potential conflict among users, stakeholders and levels of government. To achieve ‘Very high (100)’ basin and aquifer management scores, surface and groundwater management should be integrated. [↑](#footnote-ref-40)
40. See previous footnote on basin management instruments, which also applies to aquifers. [↑](#footnote-ref-41)
41. Includes more formal data and information sharing arrangements between users, as well as accessibility for the general public, where appropriate. [↑](#footnote-ref-42)
42. E.g. institutional and technical mechanisms in place that allow for exchanging data as agreed upon in agreements between riparians (e.g. regional database or information exchange platform with a river basin organization including technical requirements for data submission, institutionalized mechanisms for QA and for analysing the data, etc.). [↑](#footnote-ref-43)
43. Allocations of funding for water resources may be included in several budget categories or in different investment documents. Respondents are thus encouraged to examine different sources for this information. When assessing the allocations respondents should take account of funds from government budgets and any co-funding (loans or grants) from other sources such as banks or donors. [↑](#footnote-ref-44)
44. Infrastructure includes ‘hard’ structures such as dams, canals, pumping stations, flood control, treatment works etc., as well as ‘soft’ infrastructure and environmental measures such as catchment management, sustainable drainage systems etc. **For this survey do not include infrastructure for drinking water supply or sanitation services.** Budgets should cover initial investments and recurrent costs of operation and maintenance. [↑](#footnote-ref-45)
45. ‘IWRM elements’ refers to all the activities described in sections 1, 2 and 3 of this survey that require funding, e.g. policy, law making and planning, institutional strengthening, coordination, stakeholder participation, capacity building, and management instruments such as research and studies, gender and environmental assessments, data collection, monitoring etc. [↑](#footnote-ref-46)
46. Infrastructure includes ‘hard’ structures such as dams, canals, pumping stations, flood control, treatment works etc., as well as ‘soft’ infrastructure and environmental measures such as catchment management, sustainable drainage systems etc. **For this survey do not include infrastructure for drinking water supply or sanitation services.** Budgets should cover initial investments and recurrent costs of operation and maintenance. [↑](#footnote-ref-47)
47. For ‘IWRM elements’, see above footnote. **Level**: revenues are likely to be raised from users at the local, basin, or aquifer levels, though may also be raised at other sub-national or national levels (please indicate which level(s) in the status description). **Revenue raising** can occur through public authorities or private sector, e.g. through fees, charges, levies, taxes and ‘blended financing’ approaches. E.g. dedicated charges/levies on water users (including household level *if* revenues are spent on IWRM elements); abstraction & bulk water charges; discharge fees; environmental fees such as pollution charges, Payment for Ecosystem Services (PES) schemes; and the sale of secondary products and services. [↑](#footnote-ref-48)
48. In this question “Member States (MS)” refers to riparian countries that are parties to the arrangement. “Contributions” refers to the annual share of funds agreed from MS national budgets to support the agreed TB cooperation arrangement. Regular funds obtained from for example, water user fees (e.g. hydropower charges) and polluter-pays fees based on existing regulation are also considered as sustainable funding. As variable and unsustainable, donor support should not be considered in the scoring, but may be referred to in the ‘Status description’ and ‘Way forward’ fields. [↑](#footnote-ref-49)
49. ‘IWRM elements’ refers to all the activities described in sections 1, 2 and 3 of this survey that require funding, e.g. policy, law making and planning, institutional strengthening, coordination, stakeholder participation, capacity building, and management instruments such as research and studies, gender and environmental assessments, data collection, monitoring etc. This question has been added since the baseline survey, acknowledging the importance of funding being available at more ‘operational’ levels. [↑](#footnote-ref-50)