DRAFT OECD WATER GOVERNANCE INDICATORS

Please send your written comments or suggestions to Oriana.Romano@oecd.org and Aziza.Akhmouch@oecd.org by **21 July 2017**, after which the indicator framework will be finalised and shared for comments and approval with the OECD Regional Development Policy Committee.

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Background

1. This document provides the rationale, scope and content of the indicator framework that has been developed by the OECD Secretariat through a multi-stakeholder and bottom-up consultation process within the OECD Water Governance Initiative (WGI) to support the implementation of the OECD Principles on Water Governance. This indicator framework is intended to be used through a voluntary approach in interested OECD member and non-member countries as a **self-assessment** tool for **multi-stakeholder dialogue** on how a water governance system is performing at a given scale (city, basin, country or other). The indicator framework intends to assess whether **framework conditions** are in place for each OECD Principle, if they are implemented and functioning properly, and to identify expected improvements over a three year period. At a later stage, specific attention will be dedicated to the appraisal of the **impact(s)** of governance on water and socio-economic outcomes at large given that good governance is herein conceived as a means to an end. As the measurement of impacts requires correlating institutions with policy results, it is proposed to consider further developments in this area during the 2018-2021 programme of work of the WGI.

2. The indicator framework is the result of a bottom-up process that started in April 2014 at the 3rd meeting of the OECD Water Governance Initiative (WGI) (see highlights). The process involved **multiple iterations** within the WGI Working Group on Indicators coordinated by the OECD, ASTEE, Transparency International and INBO/OIEAU, especially during dedicated Webinars, as well as discussions in the plenary meetings of the 4th, 5th, 6th, 7th and 8th meetings of the WGI. Intermediary milestones were also discussed with the broader water community at global events such as the 7th World Water Forum (Republic of Korea, April 2015) and the 26th World Water Week (Stockholm August 2016).

3. A preliminary step consisted in developing an Inventory to take stock of existing indicators and measurement frameworks on water governance, prior to formulating the OECD framework. A first indicator framework was discussed at the 6th OECD WGI meeting (November 2015, Paris) and revised for the 7th WGI meeting (June 2016, The Hague). Between July and December 2016, several members of the OECD WGI responded to a **call for proposals** of indicators launched by the Secretariat and coordinators. A total of 67 suggestions of indicators were received and processed. A zero draft OECD Water Governance Indicators was then discussed at a webinar in November 2016 (see summary here). Feedback and comments received from WGI members were included in a revised version, which was discussed in at the 8th WGI meeting (Rabat, January 2017).

4. Following the discussion in Rabat, the Secretariat clarified the objectives of the work and drastically streamlined the proposal reducing the number of indicators (from initially 320+ "prescriptors" to 36 indicators). The Secretariat also launched a **call for pilot-testing** the proposed indicator framework in terms of its robustness and relevance, amongst others. The revised framework was shared with the 12 pilot-testers in May 2017 to support the discussions in their multi-stakeholder workshops. Lessons learned from these pilot-tests were discussed at a Webinar on 15 June (see highlights) and the framework was revised afterwards to include comments and suggestions received, as appropriate. The current version is proposed for discussion at the 9th WGI meeting to be held in Paris on 3-4 July 2017, and shared for written comments by 21 July 2017 after which it will be finalised for approval by relevant OECD bodies. Ultimately, an OECD *Water Governance at a Glance* publication, featuring the first results from data collection in interested cities, basins, regions and countries, will be released at the 8th World Water Forum (March 2018).

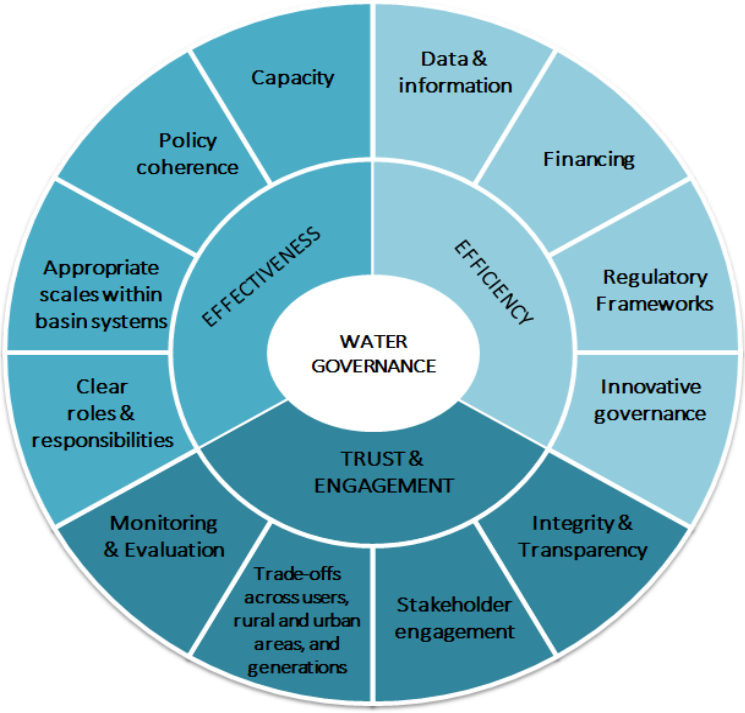
Setting the scene

OECD Principles on Water Governance

5. After two years of a bottom-up and multi-stakeholder process within the Water Governance Initiative, the OECD Regional Development Policy Committee (RDPC) approved as set of *Principles on Water Governance* that set standards for governments to reap the economic, social and

environmental benefits of good[1] water governance through effective, efficient and inclusive design and implementation of water policies (Figure 1). The Principles were then endorsed by the 34 OECD Ministers at the 3-4 June 2015 Ministerial Council Meeting, which gives them a strong political impetus.

Figure 1. OECD Principles on Water Governance



Source: http://www.oecd.org/gov/regional-policy/OECD-Principles-on-Water-Governance-brochure.pdf

6. The Principles provide a framework to understand whether water governance systems are performing optimally and help to adjust them where necessary. They consider water governance as the range of political, institutional and administrative rules, practices and processes (formal and informal) through which decisions are taken and implemented, stakeholders can articulate their interests and have their concerns considered, and decision-makers are held accountable for water management (OECD, 2015). The 12 Principles apply to all levels of government, all water management functions, all water uses, and regardless of ownership models. They are clustered around three main dimensions.

- *Effectiveness* of water governance relates to the contribution of governance to define clear sustainable water policy goals and targets at different levels of government, to implement those policy goals, and to meet expected objectives or targets.

- *Efficiency* of water governance relates to the contribution of governance to maximise the benefits of sustainable water management and welfare at the least cost to society.

- *Trust and Engagement* in water governance relate to the contribution of governance to building public confidence and ensuring inclusiveness of stakeholders through democratic legitimacy and fairness for society at large.

1. The OECD Principles on Water Governance consider that governance is *good* if it can help to solve key water challenges, using a combination of bottom-up and top-down processes while fostering constructive state-society relations. It is *bad* if it generates undue transaction costs and does not respond to place-based needs (OECD, 2015).

A range of options for using the OECD Principles

7. The Principles seek to catalyse efforts for making good practices more visible, learning from international experience, and setting reform processes into motion at all levels of government to facilitate change where and when needed. There are several ways to support the implementation of OECD Principles on Water Governance, including: sharing best practices; understanding failures; supporting reform processes; carrying out National Policy Dialogues; assessing water governance.

- The Principles can be used as a **tool for policy dialogue** at local, basin and national levels and build consensus across a range of public authorities and stakeholders on the strengths and weaknesses of water governance systems, and the ways forward in particular to better manage too much, too little and too polluted water now and in the future.
- The Principles can be a **vehicle for greater transparency** on the performance of water-related institutions, while enhancing the availability of data and accountability of governments and stakeholders on how they deliver intended outcomes, while shedding light on whether institutional and regulatory arrangements are fit-for-purpose and fit for the future.
- The Principles can be used as a **mechanism for inclusiveness** whereby stakeholders, including at operational level, can discuss and agree on the role they can play to contribute to positive spillovers on water governance, alongside policymakers. This can be achieved through in-depth consultations across public, private and non-profit institutions on the *who* can do *what* to improve water governance as a shared responsibility.
- The 12 Principles provide a reading template to **foster bench-learning and scale-up best practices** across public, private and non-profit institutions, different levels of government, developed and developing countries, and across stakeholder groups. The Water Governance Initiative will develop and host a database/clearing house where such experience can be shared and disseminated for cross-fertilisation and replication where appropriate. There is a strong relationship between *assessing* practices and *learning* about them, as there is between capacity *assessment* and capacity *building*. The Principles provide a framework to identify what works well at local, basin and national level, and also to learn from less successful experiences.
- The Principles can provide a **baseline for measuring** whether we are "fixing the institutions" that ultimately help "fix the pipes" while encouraging the evaluation of water governance against the overall sector's performance given that they advocate for place-based policies and consider that water governance systems (more or less formal, complex, and costly) should be designed according to the challenges they are required to address.

8. The proposed development of water governance indicators intends to contribute to all above-listed objectives and is conceived as one element of the package needed to implement the 12 Principles. Indeed, while the indicators can be helpful in tracking and measuring relevant water governance variables, OECD experience in assessing water governance systems suggests that only in-depth and comprehensive analyses at local, basin and/or national levels can really provide a compelling evaluation and tailored policy recommendations. Therefore, the ultimate objective is to **support collective learning** from lessons learnt by cities, basins and countries that face similar types of challenges and want to learn from successful examples, taking account of the diversity of situations across and within countries. Such indicators would be applicable to countries and stakeholders on a voluntary basis, while keeping reporting burden low and at least cost for the recipients.

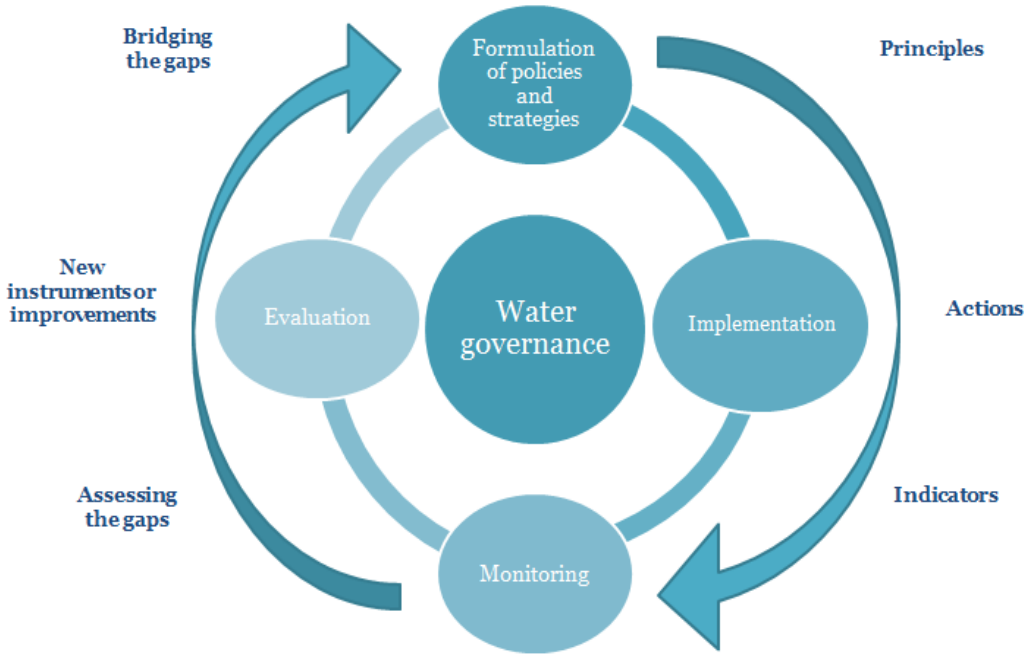
Rationale for the indicator framework

9. Indicators are means to an end. They provide evidence to governments of interested OECD member and non-member countries and key stakeholders to identify challenges and tackle them, through a self-assessment framework, which is not intended to just "measure" water governance dimensions, but build consensus on what work, does not work and what can be improved. To this

purpose, while it is important to keep the indicator system simple, keeping it right is just as important. While the indicators can be helpful in tracking and measuring relevant water governance dimensions, they are not sufficient per se to achieve good governance. This is why this proposal to develop a water governance indicator framework is conceived as a contribution to a **broader menu of options** that can support the implementation of the OECD Principles, which may also include in-depth and comprehensive analyses at different levels of governance to provide a compelling evaluation and tailored policy recommendations.

10. To support the implementation of the OECD Principles adopted in 2015, the OECD Water Governance Initiative engaged in a process to develop indicators that can be used as a **voluntary self-assessment framework** for a multi-stakeholder dialogue on how water governance systems are performing at a given moment (static) or expected to perform over time (dynamic) The indicator framework is therefore conceived primarily as a **tool for dialogue** to build consensus on what works well at national, subnational, basin and local level, to identify gaps and to learn from less successful experiences, rather than as a benchmarking instrument. Primary targets/beneficiaries of such a framework include governments of interested OECD and non OECD countries at different levels, river basin organisations, service providers, donor agencies, Non-Governmental Organisations (NGOs), regulators, and civil society at large.

Figure 2. The role of Indicators in the Water Governance Cycle



11. The desk research that led to the OECD Inventory on Water Governance Indicators and Measurement Frameworks[2] suggests that while there have been efforts to measure specific parts of water governance (e.g. integrity, river basin management, stakeholder engagement), there is currently **no systemic and "universal" framework** to assess the performance of the overall water governance cycle from the allocation of roles and responsibilities, to the monitoring and evaluation to adjust when and where need be (Figure 2). There is therefore a rationale and added-value to this undertaking, which seeks to bridge this gap while providing a **common frame of reference that can be tailored to local contexts** in order to assess whether water governance systems are performing optimally in terms of managing water-related risks now and in the future. This also requires discussing the role of authorities across levels of government as well as stakeholders (alongside policymakers) in building and using such indicators. To a certain extent, the OECD Principles have contributed to partly

2. http://www.oecd.org/gov/regional-policy/Inventory_Indicators.pdf

bridging this gap while providing a common frame of reference endorsed by all OECD countries, some non-OECD countries, and 140+ stakeholders[3]. These standards can and should be tailored to local contexts in terms of who does what, at which scale and how when it comes to designing and implementing water policies.

12. Even when standardized metrics exist, there are a number of factors making the measurement of governance dimensions hard to achieve (Figure 2).

Figure 3. Challenges of Measuring "Governance"

- **Technical issues related to indicators' construction**: as highlighted by the literature (see Arndt C., Oman C., 2006; Kaufmann and Kraay 2008), the construction of indicators is not an easy task and several issues might limit their employment in the decision-making process. Examples include measurement errors, coherence of measurements, biases in expert assessments.
- **Complexity of water governance**: the definition of water governance encompasses multiple dimensions (institutional, political, social, environmental and economic ones) and involves a multitude of actors at different levels of government, in the public and in the private sector. Being a complex concept, its measurement is not straightforward.
- **Uncertainty of the context:** policy makers have limited control on factors that might affect the effectiveness of water governance (e.g. fiscal crisis, climate change conditions, etc.). The uncertainty of the context might require a certain degree of adaptability, affecting choices and capacity of policy makers and planners to implement proper policies and strategies for efficient water governance at different scales.
- **Continuity**: the scarce availability of data can hinder measurement of progress year after year;
- **Completeness**: when focused on specific aspects, indicators fail to capture the whole picture of the water governance system. However data availability represents a great challenge, leading to scarce range of choices when it comes to "what" to measure. Moreover "poor governance produces poor data" and vice-versa: generating data, even when not yet available, might favour good governance, as indicators can spot problems, create incentives for changes and trigger changes.
- **Comparability**: even when indicators on several aspects of water governance are available, comparisons across countries are not always feasible. Indicators are not necessarily standardized measures applicable to all contexts unconditionally, since the concept of governance itself may vary from country to country.

[3] https://www.oecd.org/gov/regional-policy/Global-Coalition-Good-Water-Governance-Flyer.pdf

- **Difficulty in establishing causality**: understanding the causal linkages between policies and results is critical in the water sector. However, an established indicator system might not be able to assess whether benefits are the results of certain actions implemented to achieve "effective" water governance. This is specially the case when indicators are not only used as a *tick boxes exercise*, but as a tool to evaluate linkages between inputs and outputs.

13. With the adoption of the Sustainable Development Goals in September 2015, there is a unique momentum to move forward the **measurement agenda**, especially given the prominence of water-related goals and governance-related targets in the overall SDG framework. Whenever possible, synergies with the SDGs will be emphasised to support countries in the implementation of the Goals, typically Goal 6.a, for which the OECD is a co-custodian agency and 6.b where OECD's work on stakeholder engagement can inform good practices on local participation[4].

Ten questions to build water governance indicators

14. An earlier scoping discussed at the 6th meeting of the WGI (2-3 November 2015) raised **10 critical questions** on the scope, scale, content, process, replicability, uses, producers, beneficiaries, monitoring and disclosure (Table 1). It was agreed that such indicators should be based both on factual data and subjective views[5]. It was also acknowledged that given the place-based nature of water management and the high degree of decentralisation, indicators should reflect the multi-scale dynamics of water governance, which may imply collecting data and information at different levels.

Table 1. 10 key questions for water governance indicators

Questions	Proposals
What to measure?	Static and dynamic assessment
Which **type** of indicators?	Input, process, output indicators
Whose **views**?	Factual data and experts views
At which **scale**?	Reflect the multi-scale dynamics of water governance
Which **process**?	Technical discussions, policy processes and experience-sharing between experts and practitioners
Who are the **beneficiaries**?	Governments, river basin organisations, service providers, donor agencies, NGOs, civil society, emerging actors
How the indicators will be **used**?	As a self-assessment tool to improve the water policy cycle
Who will **collect** and **produce** data?	Voluntary approach in interested cities, basins and countries
How to ensure **replicability**?	Pilot-tests at different levels and in different contexts, to provide "reality-checks" on data applicability, availability and replicability
How to **disclose the results**?	OECD Report "Water Governance at a Glance" to be launched at the 8th World Water Forum, Brasilia, March 2018.

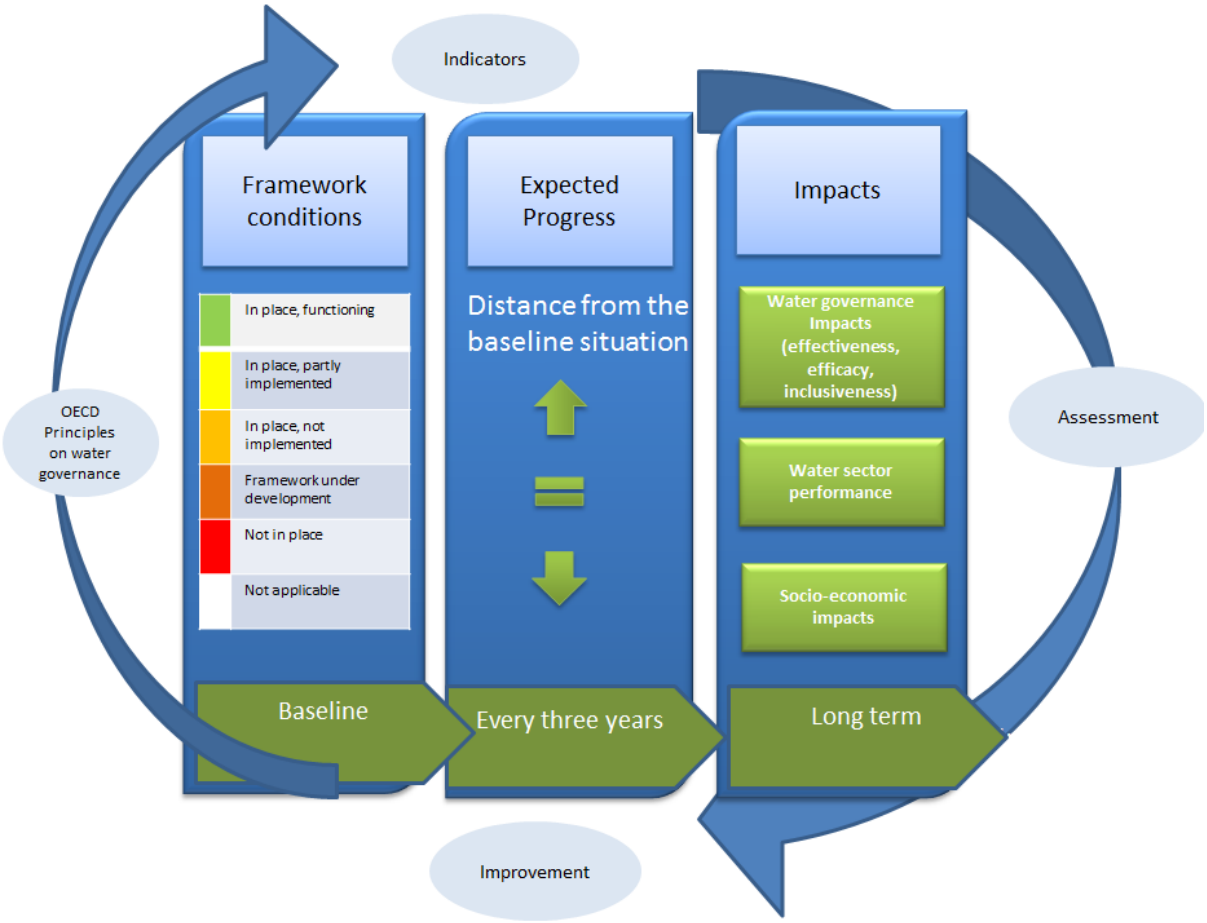
[4] WHO (2016), Methodological note: Proposed indicators and monitoring framework for Means of Implementation (MoI) targets for Sustainable Development Goal 6, November 2016.

[5] There are several types of indicators according to their objectives: **Input indicators**, measure the presence of legislation and policy instruments or track human/financial resources (e.g. resources for water functions); **Process indicators** monitor actions contributing to the achievement of outcomes (e.g. public consultation in planning and budgeting); **Output indicators** monitor results in terms of quality or quantity of tangible assets (e.g. number of wastewater treatment plants built, volume of water produced, indicators on water quality and water risks); **Outcome indicators** measure short-medium term results out of such outputs (e.g. % of people with access to water services); **Impact indicators** measure usually long-term results (e.g. improved health).

Indicators to measure what?

15. Indicators can follow a *static* and/or *dynamic* approach depending whether the aim is to assess water governance conditions in place or progress over time. The difference between static and dynamic is mainly due to the time at which the assessment is carried out. A "static assessment" of framework conditions in place would provide a picture of the baseline situation not only in terms of whether given policy frameworks, institutions or instruments exist but also as to whether they are functioning properly or not. On the other hand, a dynamic assessment would allow reflecting the expected progress over a period of 3 years, which corresponds to the proposed timeline for editions of the OECD "Water Governance at a Glance", the first of which will be released in 2018. In the long term, impacts of the water governance system on the overall sector could be evaluated (i.e. if "governance" objectives have been achieved, and if "management" objectives have been achieved and what is the link with governance). A visual exemplification of the measurement of framework conditions, progress and impacts can be found below (Figure 4).

Figure 4. The evaluation framework and timeline

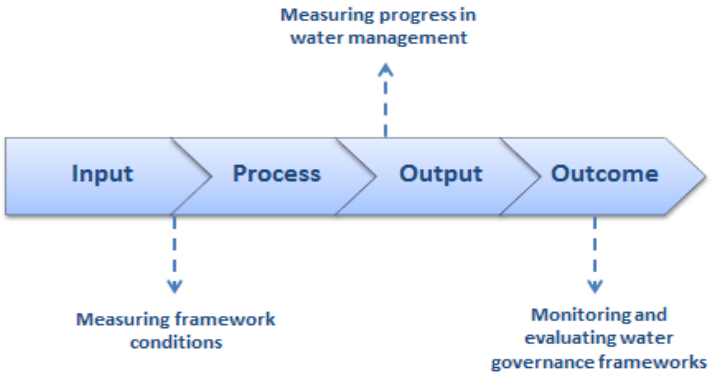


Which type of indicators?

16. Depending on what they measure and when, indicators can be distinguished in *input* and *process* indicators to measure "how" water governance is implemented; and *output, outcome* and *impact* indicators when looking at the results in the short, medium and long term. Input (governance) indicators can measure for instance the existence of legislation and policy instruments or track

human/financial resources; Process indicators monitor actions contributing to the achievement of outcomes (e.g. public consultation in planning and budgeting); Output indicators monitor results in terms of quality or quantity of tangible assets (e.g. number of wastewater treatment plants built, volume of water produced, etc.); Outcome indicators measure short-medium term results out of such outputs (e.g. % of people with access to water services); Impact indicators measure usually long-term results (e.g. improved health) (Figure 5).

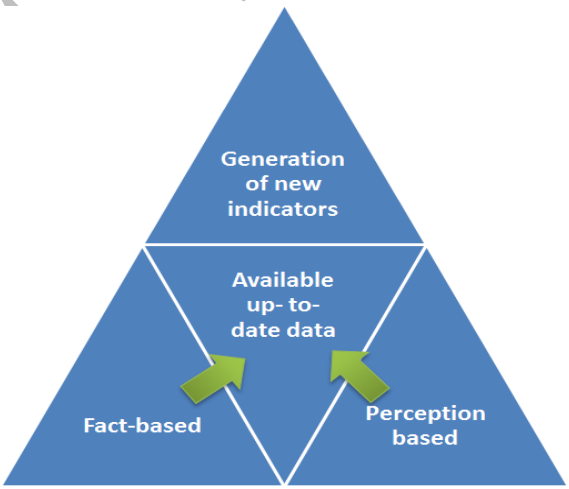
Figure 5. Types of indicators



Whose views?

17. Depending on the source of information, indicators are perception-based, when based on the view of experts or various types of stakeholders, or fact-based, when built on available/objective data. Perceptions and fact-based indicators can be either quantitative and/or qualitative and can be collected through questionnaires, interviews and meetings. Sound quality control for data in different countries is ultimately necessary for both factual and perception-based indicators. For water governance indicators both approaches should be taken into account. The challenge is to build consensus over subjective judgments within multi-stakeholder settings (Figure 6).

Figure 6. Factual and perception based indicators



At which scale?

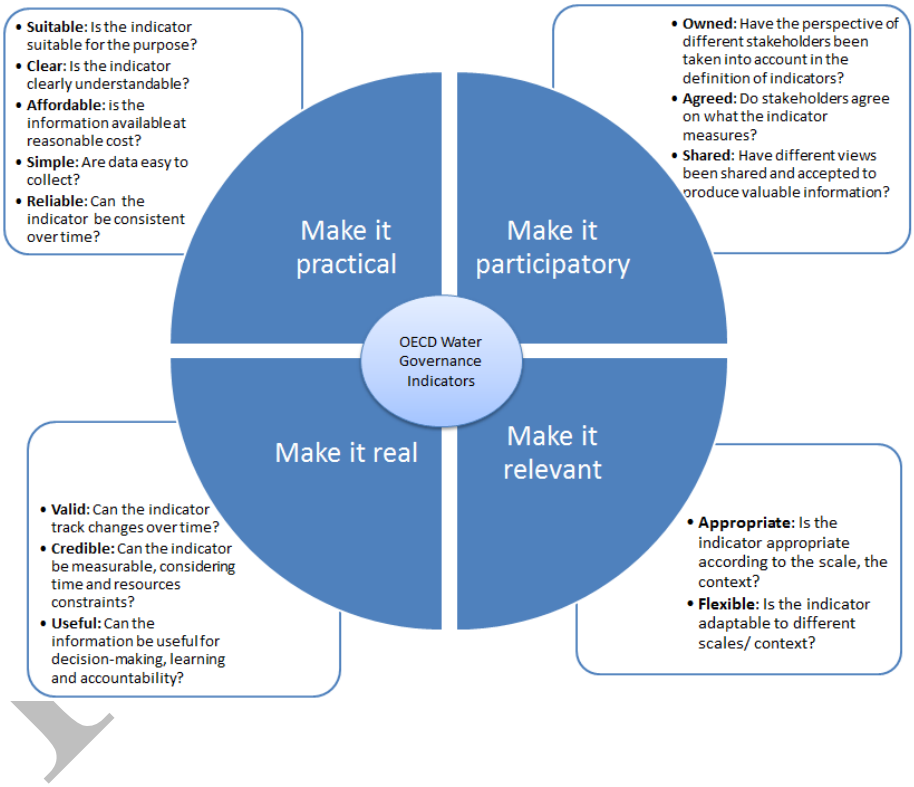
18. Water is managed at multiple scales and coordination among these scales is essential. As in most countries, water is essentially managed locally, sub-national data is essential to reveal regional disparities in access, quality and performance. In decentralised contexts and federal countries data can

be available at sub-national level and be also more relevant than the central level; river basin organisations in certain countries possess information relevant both at national and sub-national level. It is important to take into account the applicability of the proposed indicator system at different scales, namely: national, regional, basin and local levels.

Which process?

19. OECD best practice suggest that indicators should be developed and discussed in a collaborative effort across levels of government, and in consultation with the broad range of stakeholders to build consensus. The development of indicators for supporting the implementation of the OECD Water Governance Principles is a complex task, requiring time and major efforts in streamlining effective measurements, while reducing the burden of countries in collecting and providing data. This is why such indicators are expected to have certain characteristics (Figure 7): be practical (in the production and collection), relevant (according to the purpose of the measurement) and real (considering resources and time constraints). A dedicated working group within the OECD Water Governance Initiative (WGI) is providing technical knowledge and practical experience in water governance to build up robust indicators. During May and June 2017, the proposed indicator framework was pilot tested for a reality check on its feasibility and usefulness (see below).

Figure 7. Expected characteristics of indicators[6]

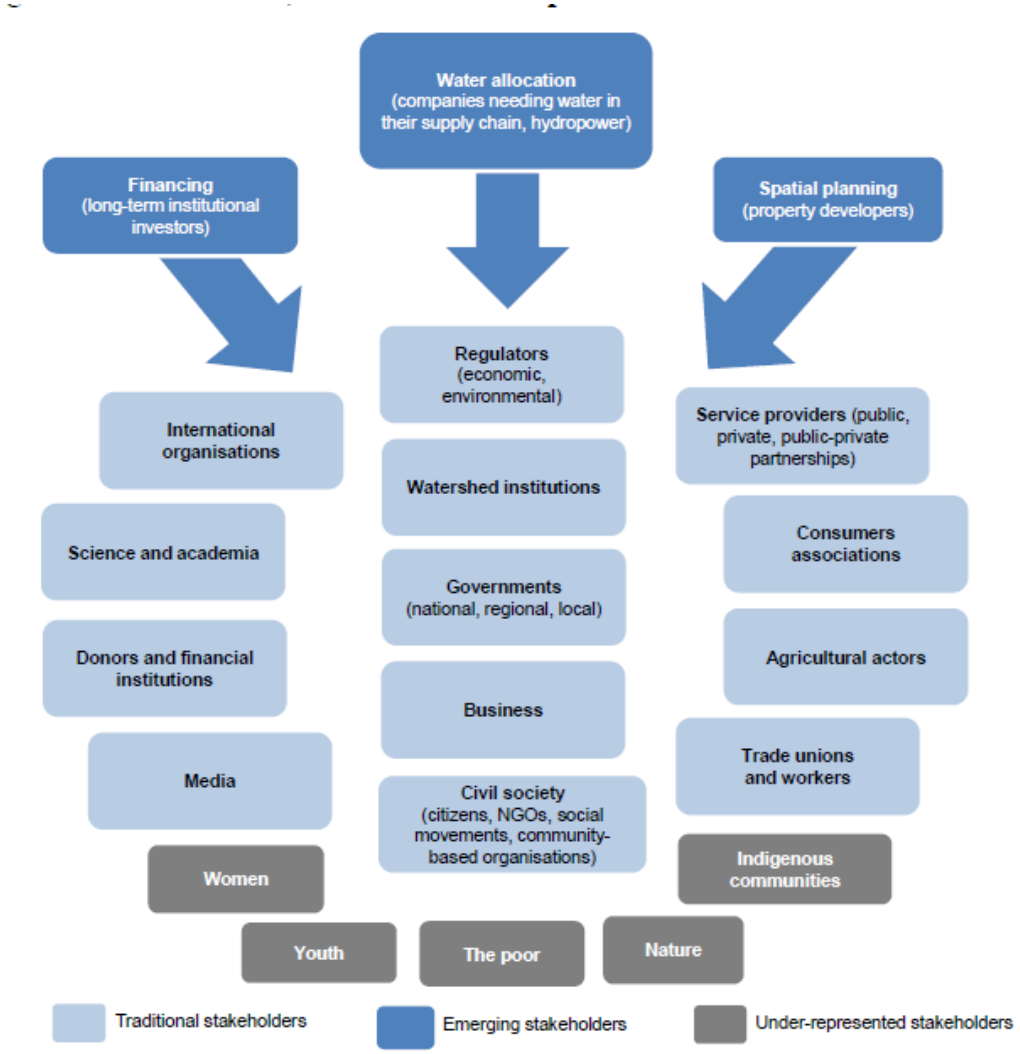


Who are the beneficiaries?

20. The OECD Principles acknowledge that water governance is a shared responsibility across levels of government and the broader range of stakeholders from public, private and non-profit sectors who have a role to play alongside policymakers. Therefore, the water governance indicators should help all stakeholders, especially interested governments, river basin organisations, service providers, donor agencies, Non-Governmental Organisations (NGOs), civil society (Figure 8) mainstream good governance into their daily practices and individually and collectively contribute to better governance.

6. Based on the set of criteria for the selection of indicators identified in: SMART (Specific, Measurable, Achievable, Relevant and Time-bound) and RACER (Relevant, Accepted, Credible, Easy, Robust).

Figure 8. Ultimate beneficiaries of indicators



Source: OECD (2015), Stakeholder Engagement for Inclusive Water Governance, OECD Publishing Paris.

How will indicators be used?

21. Indicators should primarily be used to foster a multi-stakeholder dialogue on how the water governance system is performing at a given scale, namely a city, a region, a basin or a country. The process itself and the results should inform the state of play of interested cities, basins and countries regarding the implementation of OECD Principles on Water Governance, and favour information sharing, collective learning and capacity building following a voluntary approach. Indicators on water governance can be used to meet a wide range of objectives, and a range of options can help doing so (Figure 9):

- **Raise awareness** and protect from current and future water-related risks, indicating whether governance systems are properly equipped to deal with them;

- Build the case for greater attention to water governance in of the **overall strategic agenda** (e.g. shedding light on poor or good performance to set policy priorities) and link water to broader economic, social and environmental priorities;

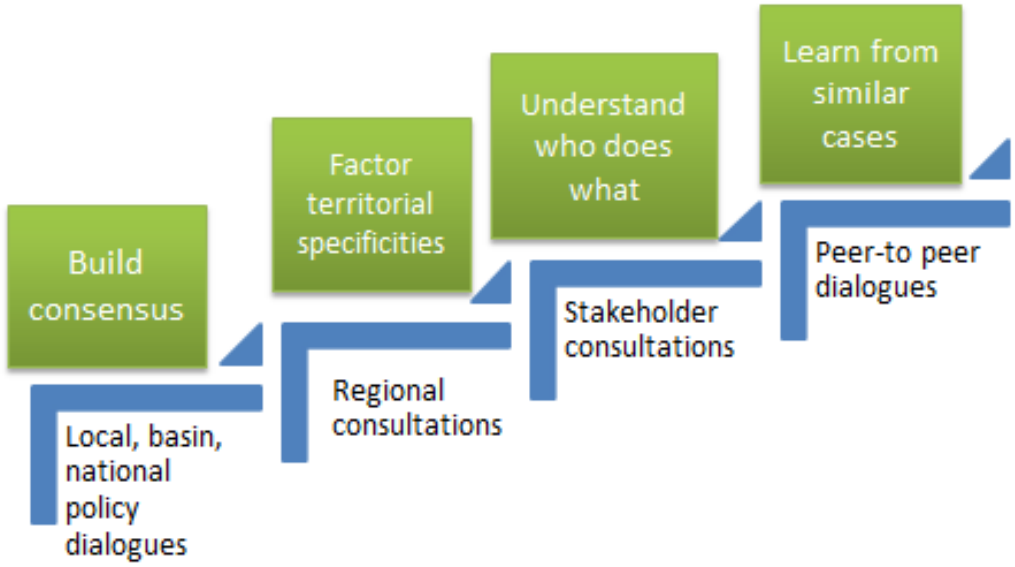
- Foster **better spending** (e.g. provide trustable information to donors for targeted investments) and help foster value for money through more efficient governance;

- Enhance **cost-saving** (e.g. improving governance can generate economic benefits, reduce bureaucratic burdens and result in efficiency gains.);

- Support **financial sustainability** (e.g. more predictable and stable environment to mobilise/disperse needed resources) while helping catalyse needed investments and disperse funding with parsimony and transparency; and

- Enhance **inclusiveness** through building consensus on actions needed to bridge gaps in water governance.

Figure 9.The use of indicators and outcomes



Who will collect and produce the data?

22. There is a range of options for collecting and producing data in a way that is cost-effective, place-based, and outcome-oriented. The OECD contribution will consist in collecting data following a voluntary approach and publish them every 3 years (see below section on how results will be disclosed). However, it is expected that a much broader range of stakeholders would use the indicator framework for their own dialogue, whether the resulting data is published or not.

How to ensure replicability?

23. When aiming at capturing the evolution in time of specific variables, indicators should be monitored throughout the years. However, variables originally measured cannot always be replicable in *time*, as they might not be relevant or useful in tracking governance dimensions. Another concern is the replicability in *space*. Usually, replicating indicators originally developed for certain context and scales requires some adaptation. Amongst other, a core objective of the pilot test was to signal the possible adaptability and replicability of indicators in time and space.

How to disclose results?

24. The OECD (through its Regional Development Policy Committee and its Water Governance Initiative multi-stakeholder network) will display results from the voluntary use of indicators every

three years in a "Water Governance at a Glance" flagship publication. The first edition, which will contain the indicator framework as well as results from pilot-tests, will be released at the 8th World Water Forum (Brasilia, March 2018).

Proposed Indicator Framework

25. Assessing the effectiveness, efficiency and inclusiveness of water governance systems against the OECD Principles requires understanding i) if **framework conditions** are in place for each Principle; ii) if there is **progress over time** against a predefined baseline; and ultimately iii) if governance frameworks, institutions and instruments have an **impact** on water management outcomes and well-being at large. A primary objective is to provide a static photograph (or baseline) of how existing policy frameworks, institutions and instruments perform and their expected improvements over the next three years. In complement, it is proposed to gather a set of key data to create country, region, basin or city "profiles", supported by data visualisation and infographics.

26. The Indicator Framework proposed for the pilot-test includes **three components**.

- A **Traffic Light System** composed of 36 indicators seeking to measure whether conditions are in place and function properly in terms of :
  - ✓ **Policy frameworks**: it captures the "what", meaning the existence of legal and institutional frameworks that represent the basis for the allocation of roles and responsibilities, the development of water policies and the implementation of water governance instruments.
  - ✓ **Institutions**: it captures the "who", meaning the existence of institutions developing and implementing water policy, projects and programmes at different levels.
  - ✓ **Instruments**: it captures the "how" dimension, meaning the range of tools and mechanisms through which water policies are implemented.

27. A five-scale assessment allows to identify the existence and the level of implementation of each water governance dimension. A consensus on definitions and specifications under each level of the traffic light would need to be reached among stakeholders involved in the pilot-test, keeping in mind that realistically the majority of situations might be located in the middle categories (yellow, orange) and might not reach a consensus. Further thoughts should be devoted to the final graphic visualisation of the results from the traffic light, but two suggestions are provided below for consideration.

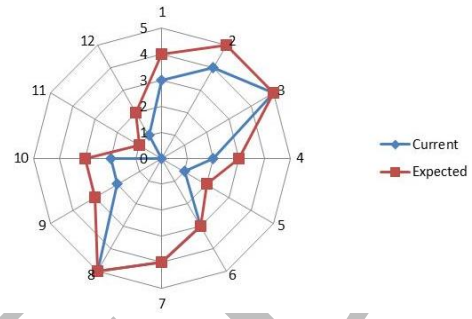
- A **checklist with 100+** complementary questions to the traffic light system seeks to facilitate a more comprehensive and systemic discussion on governance framework conditions underlying each of the 12 Principles. It is intended to be used by end users as a guiding framework to share views on how a water governance system is performing at a given scale. Responses should be "yes" or "no" and related background, facts, data should be provided.

- **28 quantitative indicators** will provide data visualisation in dedicated country/ basin/ region/ city water governance profiles of the OECD "Water Governance at a Glance" report (2018).

Figure 9. Possible visualisation of results of the traffic light system

Example of visualisation of the static assessment per governance dimension

Current status and expected improvement over time in a 1-5 scale (3 years)



28. The indicator framework is expected and intended to be relevant across governance **scales** (city, basin, national or other) and across **water management functions** (water resources, water services, water disasters.). Moreover it builds on either **existing metrics or new ones** as the task of measuring water governance is conceived as an evolving and challenging process. The discussion on the SDGs emphasised that ambitious political targets should be set first to push the statistical / data frontier afterwards in terms of data and information needed to track progress. Indicators should be able to provide incentives to build new information where need be.

Objectives and outcomes of the Pilot-test

29. The objective of the pilot-test is to ensure the robustness of indicators including its replicability and relevance across spatial and temporal scales through providing "**reality-checks**" on data applicability and availability. Such pilot tests built on lessons learned from equivalent initiatives (e.g. piloting SDG 6; GLAAS initiative, etc.). The pilot-test aimed to:

- Tracking redundancy, incompleteness and inconsistency of the proposed indicator framework;
- Identifying the framework conditions to use the indicators and collect related data, such as for instance the needed financial and human resources, the responsible or relevant authorities to be involved (also outside the water box), the reasonable timeframe for compiling, checking and disclosing data, depending on the information infrastructure of the country;
- Testing the (local) usability of indicators to tailor the framework to the needs of a city, basin or country including through selecting the most relevant indicators for their place-based needs;
- Building consensus on definitions and terminology used in the indicator framework in order to adjust them as need be and develop the needed guidance / methodological note for end users;
- Identifying the most easy-to-measure indicators and the open data sources from which it is possible to benefit during the data collection phase.

30. For the pilot-testers, this exercise was meant to:

- Trigger a dialogue with stakeholders in selected cities, regions, basins and countries on how to assess water governance system. Pilot-testing is not intended as a tick the box exercise but

as a tool for policy dialogue and consensus-building on whether existing governance frameworks, institutions and instruments are performing well or not, and where adjustments are needed.

- Reveal the shared responsibility across public, private and non-profit constituencies in getting water governance right. Pilot-testing provides an opportunity for stakeholders to discuss and agree on the role they can play to contribute to positive spillovers on water governance, alongside policymakers. Discussing indicators and evaluation frameworks can shed better light on "who can do what" to improve water governance as a shared responsibility.
- Enhance the creative system thinking towards innovative solutions and more inclusiveness in designing and implementing water policies. Using a neutral framework to self-assess how a given system is performing is an incentive to step back, agree on strengths and weaknesses of current arrangements, draw lessons, and consider ways forward.
- Enhance accountability towards better management of too much, too little and too polluted waters for well-being at large. Pilot-testing should shed light on the capacity of governments and stakeholders to deliver intended outcomes and build trust on the collection actions that can be designed for that purpose.
- Foster collective learning from other communities of practice to share knowledge and experience. Pilot-testing will also allow connecting volunteers from different countries, basins, regions and cities carrying out the same exercise. The WGI meetings will provide a forum where such experience can be shared for cross-fertilisation and replication as appropriate.

31. After the call for applications to pilot-test the proposed indicator framework launched in April 2017, a total of 12 pilot testers were selected and invited to carry out the exercise through multi-stakeholders workshops. Pilot test workshops have been conducted in May/ June 2017 by 11 pilot-testers at different scales (Table 3)[7]. A Webinar was held on 15 June 2017 to discuss the results with the members of the Working Group on Indicators.

Table 2. Pilot testers of the OECD Water Governance Indicator Framework

Authority	Scale	Pilot name	Country	Workshop dates
Selangor Water Authority	Basin	Selangor	Malaysia	25 May 2017
Sebou River Basin Agency	Basin	Sebou	Morocco	18 May 2017
WWF Colombia	Basin	Rio Nare in Antioquia	Colombia	30 May 2017
National Water Authority	National	Peru	Peru	30 May 2017
International Secretariat for Water	Basin	Rimac	Peru	10 & 17 May 2017
Association of Water Utilities	Basin	Segura	Spain	7 June 2017
Jucar Hydrographic confederation	Basin	Jucar	Spain	1 June 2017
Scottish Government	Regional	Scotland	Scotland	25 May 2017
National Water Authority	National	Cabo Verde	Cabo Verde	26 May 2017
Association for Water & Gas	National	Austria	Austria	23 May 2017
Global Water Partnership	Local	Kinshasa	Democratic Republic of Congo	29 June 2017
Deltares	Province	Eindhoven & Helmond	Netherlands	24 May 2017

32. Results from the pilot-test show a unanimous consensus with regards to the **Traffic Light System** as a useful methodology to reflect the existence and the level of implementation of water governance dimensions (Figure 10). The tool has been considered easy to understand, helpful in

[7] The remaining pilot-test to be carried out in Kinshasa (DRC) will be carried out on 29 June 2017, with the support of GWP, and the outcomes will be reported at the 9th WGI meeting.

prioritising actions and organising stakeholders' inputs. A total of 80% of pilot-testers agreed on the 5 of the traffic light system for assessing policy frameworks, institutions and instruments (Figure 11). While a total of 73% of pilot-testers considered that the indicators proposed in the traffic light system are relevant to all scales (e.g. national, basin, regional, local), some pilot testers pointed out that the framework seems to be more valid at national level and that further adaptation would be needed to apply it at local scale (Figure 12). A total of 90% of the pilot-testers claimed that the indicators were relevant to all water management functions (e.g. water services, water resources, water disasters). A total of 70% of pilot testers agreed that the traffic light should not only provide a static picture of the current performance but also an indication of the expected trends over the coming 3 years. An alternative proposal would consist in evaluating changes every 5 years (short-term) and/or 10 years (long-term).

Figure 10. Overall consensus on the traffic light

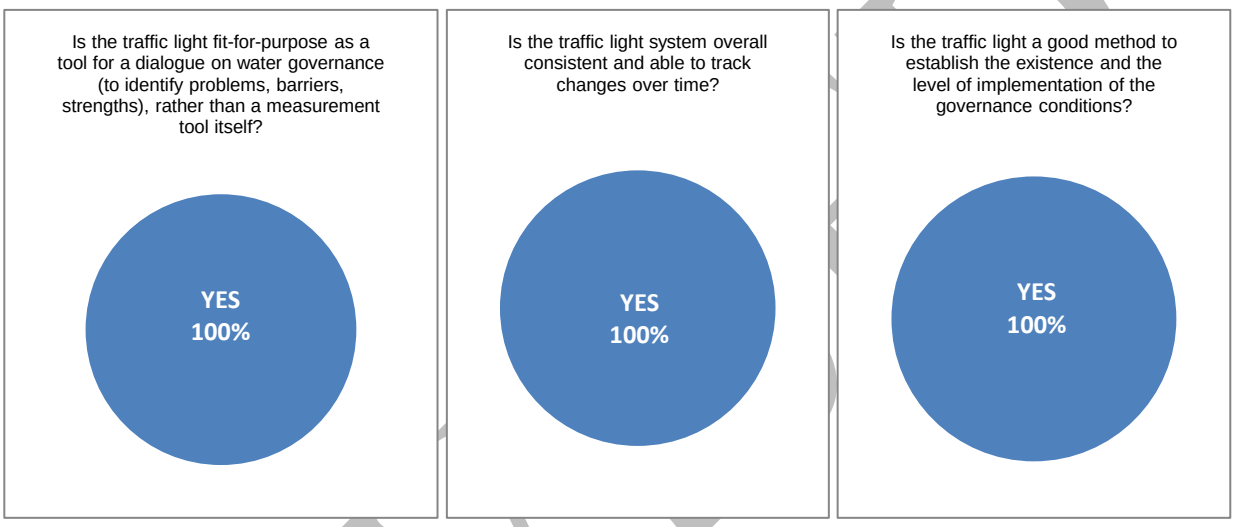


Figure 11. The 5 options of the traffic light

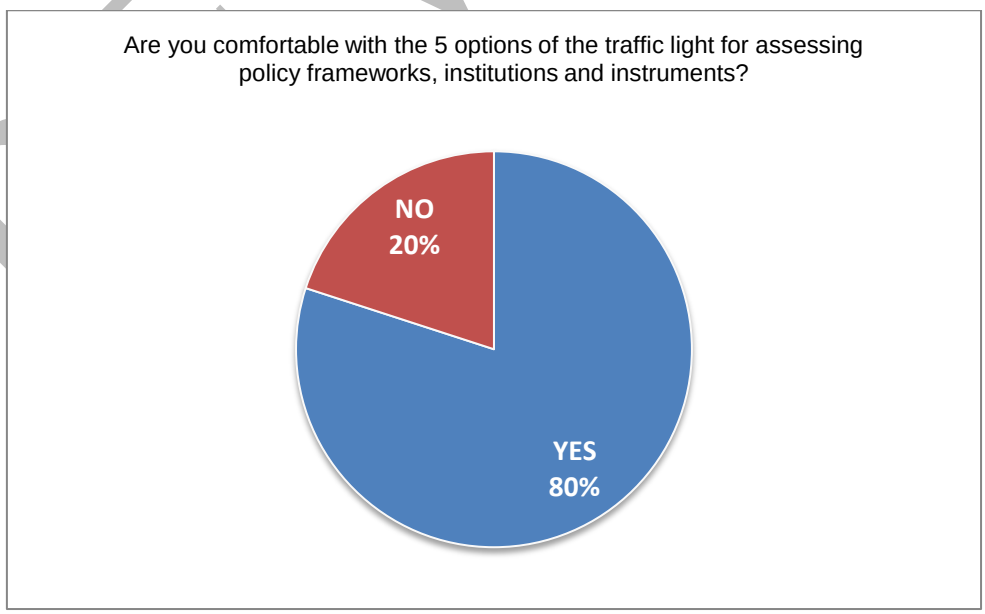
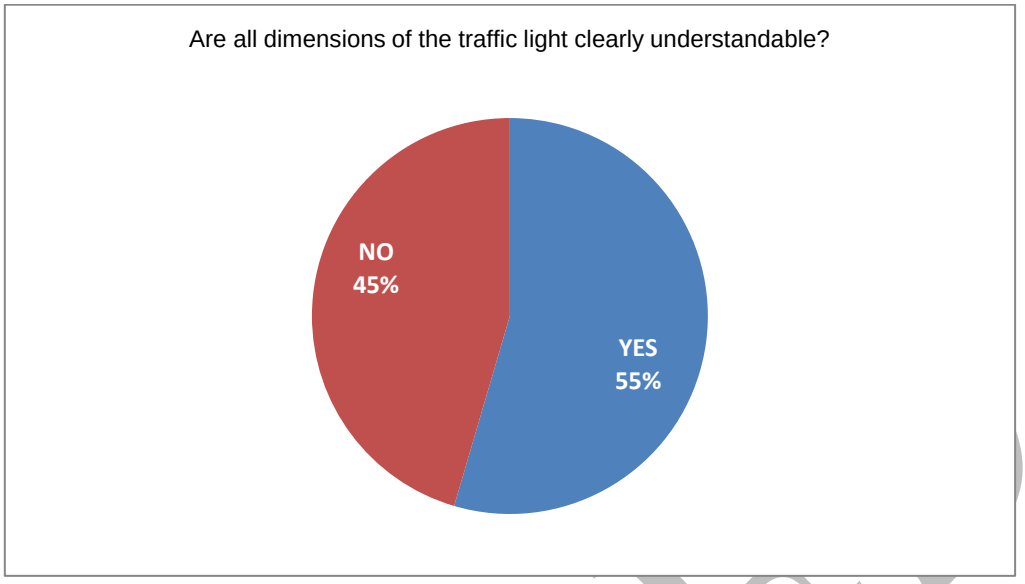


Figure 12. Clarity of indicators

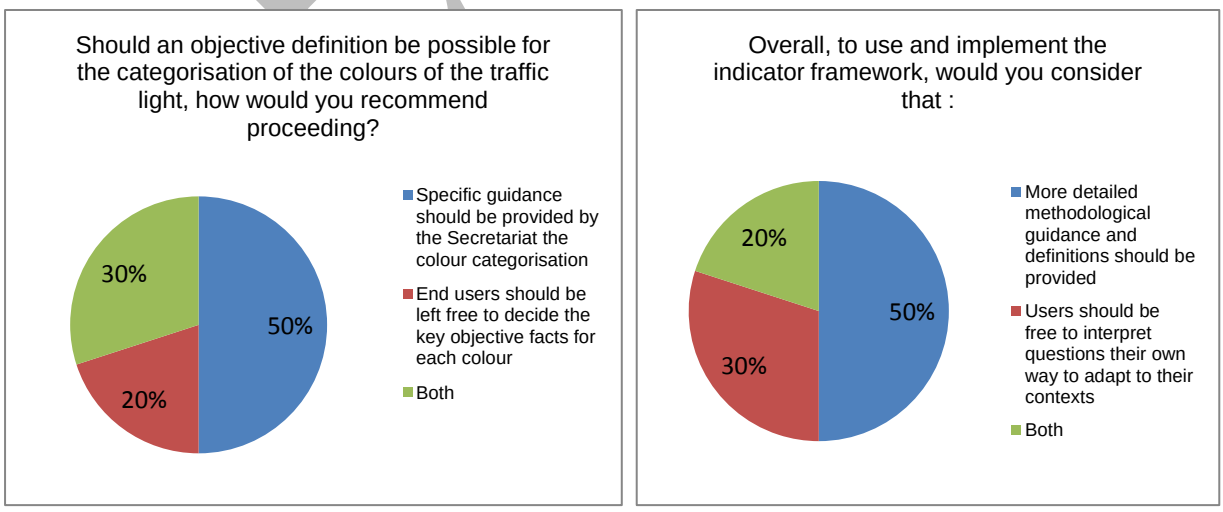


33. Some challenges identified by stakeholders during pilot tests include:

- Finding a **consensus** amongst stakeholders on the level of implementation of given governance dimensions. The large number of nuances per indicator was signalled as the main impediment to agree on just one colour of the traffic light. Pilot-testers pointed out that there is a tendency towards the yellow option due to the intrinsic characteristics of water governance (i.e. no dimension of governance is perfectly designed and implemented).

- Finding a **balance** between how prescriptive the framework should be and how open for interpretation. A total of 50% of pilot testers agreed on the need of more guidance on the colour categorisation, as well as on the use and implementation of the indicator framework. Others claimed that self-assessment and free interpretation of some aspects of the indicator framework provide more flexibility for dialogue, but also less comparability (Figure 12).

Figure 13. Guidance on the evaluation and the indicator framework



- Correctly interpreting the **objective** of the indicators: it was highlighted that some dimensions leave too much room for interpretation, are too complex, or that there is no clear cut between the categories *institutions* and *instruments.*

34. The **checklist** was considered by 78% of pilot-testers a useful complementary tool to the traffic light system. Some issues raised with regards to the checklist are: its length, some duplication with the traffic light, and the need to establish a clear link between the indicators of the traffic light and the questions of the checklist. The list of **key data** was considered relevant to provide for data visualisation in a given city, basin, region, or country by 80% of the pilot-testers. Pilot-testers stressed that for these indicators to be useful they have to be clear and meaningful. They should avoid overwhelming countries with data collection by building on existing databases, such as the SDGs monitoring programme, World Bank, etc. Pilot-testers also warned that depending on the country, data might only be available at certain scales.

35. With regards to the process, pilot-testers reported that the available **human resources** were sufficient to carry out the pilot-test, however additional finacial resources would have helped the overall organisation of the workshops. Mostly, workshops were half-day long. This time was not enough to cover the entire exercise given the complexity of the discussions. Pilot testers signaleed the absence of some categories of stakholders in the discussion, such as the private sector, including hydropower. The pilot-testers then identified key challenges to successfully carry out the process. Among these, the existence of **asymmetries of information and knowledge among stakeholder groups** was highlighted as one of the most prominent. The latter hindered the active involvement of some stakeholder groups in the discussions.

36. In conclusion, most pilot-testers claimed that pilot-testing the indicator framework was a **useful exercise to self-assess the water governance system** (82%), and it also helped to **find ways forward for improvements** (73%) by stimulating dialogue. Pilot testers provided suggestions for the traffic light, checklist and key data. Moreover, they agreed that the self-assessment should take into account all the Principles in once (rather that carrying out separated analysis on selected Principles only); and that a glossary with definitions would be needed.

ANNEX I: TRAFFIC LIGHT PROPOSAL

The **Traffic Light Proposal** seek to measure whether conditions are in place in terms of **policy framework**, **institutions** and **instruments** for each Principle and to assess their current state of play through a multi-stakeholder dialogue and consensus building exercise.

- **The section "Policy framework"** captures the "what", meaning the existence of legal and institutional frameworks that represent the basis for the allocation of roles and responsibilities, the development of water policies and the implementation of water governance instruments.

- **The section "Institutions"** captures the "who", meaning the existence of institutions developing and implementing water policy, projects and programmes at different levels.

- **The section "Instruments"** captures the "how" dimension, meaning the range of tools and mechanisms through which water policies are implemented.

The traffic light system is composed of 36 indicators (3 indicators per principle). It is worth recognising that the effort to streamline the traffic light system may over-simplify the governance systems which by definition are inherently complex. Each indicator is measured based on a five-scale assessment of the existence and the level of implementation of each water governance dimension. Respondents are required to indicate the colour corresponding to the level of implementation at the moment when the assessment is carried out (static assessment) and to indicate what the expected improvements are in three year time (dynamic assessment), using the arrows in the table below. Given that each dimension may not reach a unanimous consensus amongst several stakeholders, respondents are also asked to provide information on the level of consensus reached during the consultation, using the smiling/ sad faces below in the table, indicating strong, acceptable and weak consensus.

Requested information from users to fill in the traffic light system	• Put a cross in the relevant color for today's situation:  For each indicator: • Use an arrow to show the expected trend over the coming 3 years : ↗ → ↘ • Choose the relevant smiley to reflect the nature of the consensus between stakeholder on the colour and trend:  [strong]  [acceptable]  [weak]

Principle 1. Clearly allocate and distinguish *roles and responsibilities* for water policy-making, policy implementation, operational management and regulation, and foster co-ordination across these responsible authorities.							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of a **Water Law**	This indicator seeks to appraise the existence and level of implementation of a water law, which can be at national level or sub-national level depending on the scale of the self-assessment and the institutional feature of the country (unitary or federal). The Law should clearly assign and distinguish water-related roles and responsibilities for policy-making (especially priority setting and strategic planning)						
Existence and functioning of **ministry, line ministry, central agency** with core water-related responsibilities for policy-making	This indicator seeks to appraise the existence and functioning of institutions in charge of setting water-related policy goals and strategies and delivering them; these can be at national or sub-national level depending on the scale of the self-						

	assessment and the institutional feature of the country (unitary, federal)						
Existence and implementation of **mechanisms to review roles and responsibilities,** to diagnose gaps and adjust when need be	This indicator seeks to appraise the existence and level of implementation of mechanisms that can help identify areas of water management where there is no clarity on who does what; areas with incoherent and/or contradictory objectives; areas with deficient implementation and/or limited enforcement; and/or areas with overlaps/ duplication of responsibilities.						
Principle 2. Manage water at the *appropriate scale(s)* within integrated basin governance systems to reflect local conditions, and foster co-ordination between the different scales							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of **integrated water resources management policies** and strategies	This indicator seeks to appraise the existence and level of implementation of integrated policies and strategies from sub-basin to transboundary levels to capture and distribute freshwater and to release wastewater and return flows, with a circular						

	economy perspective; to manage water from sources to sea; and to foster conjunctive use and management of surface, groundwater and coastal water(s)						
Existence and functioning of **institutions** managing water at the hydrographic scale	This indicator seeks to appraise the existence of a basin approach to water management following hydrographic boundaries rather than (only) administrative frontiers. Depending on countries' institutional organisations, such institutions can be decentralised or deconcentrated bodies, catchment-based or catchment-oriented. Besides their existence, the indicator should also appraise the extent to which they carry out their functions related to monitoring, collecting water revenues, co-ordination, regulation, data collection, pollution prevention, issuing water abstraction permits and effluent discharges licences, allocation of uses, planning, operation and management, capacity development, public awareness,						

	conflict resolution, and stakeholder engagement. Their activities should be based on basin management plans consistent with national policies and local conditions, defined according to international best practices (for EU member countries, the provisions of the WFD could be used as screening criteria)						
Existence and level of implementation of vertical **co-ordination mechanisms** across water-related users and levels of government from local tobasin, regional, national and upper scales	This indicator seeks to appraise the existence and level of implementation of mechanisms to foster co-operation across users, stakeholders and levels of government for the management of water resource. Examples of such mechanisms could include shared data and information system, joint programmes of measure, joint projects or contracts, co-financing, or forms of multi-level dialogue.						
Principle 3. Encourage *policy coherence* through effective cross-sectoral co-ordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning and land use							
Indicators	**Description**	In place, functioning (complete and relevant in all	In place, partly implemented (parts are	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under	Not in place	Not applicable

		aspects, no major concerns are noted)	explicitly lacking to make the framework complete)		development		
Existence and level of implementation of **cross-sectoral policies, strategies and plans** promoting policy coherence between water and key related areas, in particular environment, energy, agriculture, land use and spatial planning.	This indicator seeks to appraise the existence of integrated and coherent water-related policies, which set incentives for synergies, complementarities and minimise contradictory objectives and negative impacts.						
Existence and functioning of an **inter-ministerial body or institutions** for horizontal co-ordination across water-related policies	This indicator seeks to appraise the existence and functioning of inter-ministerial bodies or institutions to discuss synergies and manage trade-offs across water, environment; health; energy; agriculture; industry; planning; land use; risk management; and other relevant areas such as mining or forestry.						
Existence and level of implementation of **mechanisms to review barriers** to policy coherence and/or	This indicator seeks to appraise the existence and level of implementation of mechanisms to identify contradictory policies, governance gaps or split						

areas where water and related practices, policies or regulations are misaligned.	incentives that hinder the coherent management of water and key related domains. These could include outdated legislation; distortive subsidies, conflicting interests, competition between ministries, overlapping roles and responsibilities, lack of integrated planning, or poor enforcement. Examples of such mechanisms include (multi) sectoral reviews, regulatory impact assessment, inter-ministerial platforms or integrated legislation, amongst others.						
Principle 4. Adapt the level of *capacity* of responsible authorities to the complexity of water challenges to be met, and to the set of competencies required to carry out their duties							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence of a **merit-based and transparent professional and recruitment system** of water professionals independent from political cycles	This indicator seeks to appraise the framework condition s(not necessarily water-specific) are in place to assure the presence of competent staff able to deal with technical and non-technical water-related issues across						

	agencies, responsible ministries and water management bodies.						
Existence and functioning of **mechanisms to identify and address capacity gaps in water policy design and implementation**	This indicator seeks to appraise the existence and functioning of mechanisms to diagnose and address capacity gaps to design and implement integrated water resources management, notably for planning, rule-making, project management, finance, budgeting, data collection and monitoring, risk management and evaluation.. Such mechanisms could consist of ex ante evaluation of capacity needs; studies examining capacities at various levels; skills forecast and projections to anticipate future capacity needs.						
Existence and level of implementation of **educational and capacity building programmes f**or water professionals	This indicator seeks to appraise the existence and level of implementation of capacity-related programmes (e.g. educational curricula, executive training, technical assistance, etc.) to strengthen the capacity of water institutions as well as stakeholders at						

	large in critical areas such as planning, financing and monitoring.						

Principle 5. Produce, update, and share timely, consistent, comparable and policy-relevant water and *water-related data and information*, and use it to guide, assess and improve water policy

Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and functioning of an updated, timely shared, consistent and comparable **water information system** containing high quality water and related data to guide public action	This indicator seeks to appraise the existence and functioning of a water information system that can guide decisions and policies related to water. Data could encompass water services (coverage, costs, assets, quality, and revenues), water resources (status, permits, withdrawals, pollution sources, charges collected, and subsidies) and risk management (recurrence/track record of extreme events, meteorology, vulnerability,						

	projections/scenarios).						
Existence and functioning of public **institutions or accredited bodies** in charge of producing, coordinating and disclosing standardised, harmonised and official water-related statistics	This indicator seeks to appraise the existence and functioning of institutions producing independent data and official water-related statistics at national or sub-national level. Selected criteria include whether they are endowed with sufficient resources, if the information is reliable, credible and free from political interference..						
Existence and level of implementation of **mechanisms to identify and review** data gaps, overlaps and unnecessary overload.	This indicator seeks to appraise the existence and level of implementation of mechanisms to review data collection, use, sharing and dissemination to identify overlaps and synergies and to track unnecessary data overload.						

Principle 6. Ensure that governance arrangements help mobilise *water finance* and allocate *financial resources* in an efficient, transparent and timely manner							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of **policy frameworks** incentivising the collection of necessary revenues to discharge water-related responsibilities and to drive behaviours and rational use of water, including the use of key principles such as the user-pays, the polluter-pays and the interest-pay-say to collect and disburse water charges.	This indicator seeks to appraise the existence and level of implementation of key principles such as the polluter-pays, the user-pays and the Interest-pay-say principles and key related economic policy instruments such as abstraction charges, pollution charges, tariffs for water services, payment for ecosystem services. In the absence of water charges, enforcement / command and control mechanisms used to discourage pollution and signal scarcity should be considered						
Existence and functioning of **dedicated institutions** in charge of collecting water revenues and disbursing them at the	This indicator seeks to appraise the extent to which water management institutions (e.g.						

appropriate scale	utilities, regulators, basin organisations) exist and are effective in collecting water revenues (taxes and tariffs) and disbursing them in a transparent, accountable and efficient manner.						
Existence and level of implementation of mechanisms to assess **short, medium and long term investment and operational needs** and ensure the availability and sustainability of such finance	This indicator seeks to appraise the existence of mechanisms to identify funding gaps and investment needs in terms of physical infrastructure and governance functions to manage too much, too little, too polluted waters and to sustain/achieve universal coverage of water services. Examples include ex ante and ex post evaluation (e.g. related to the use of economic instruments), sectoral reviews, economic and affordability studies (e.g. to assess users' capacity or						

	willingness to pay), forecasts and projections, and multi-annual budgeting or planning.						
Principle 7. Ensure that sound water management *regulatory frameworks* are effectively implemented and enforced in pursuit of the public interest							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of a **sound water management regulatory framework** to foster enforcement and compliance, achieve regulatory objectives in a cost-effective way, and protect the public interest	This indicator seeks to appraise the existence and functioning of regulatory frameworks,, in terms of their clarity, comprehensiveness, coherence and predictability						
Existence and functioning of **dedicated public institutions** responsible for ensuring key regulatory functions for water services and resources management	This indicator seeks to appraise the extent to which i) key regulatory functions are entrusted to and discharged by responsible authorities, in particular tariff setting and affordability; standard setting; licensing, monitoring and						

	supervision; control and audit; conflict management and ii) how such institutions perform in carrying out their responsibilities. The indicator deliberately encompasses the entire water cycle (services and resources) and may require trade-offs when building consensus across stakeholders as some institutions may perform better than others depending on the water management function.						
Existence and level of implementation of **regulatory tools to foster the quality of regulatory processes** for water management at all levels	This indicator seeks to appraise the existence, level of implementation and disclosure of regulatory tools - such as evaluation and consultation mechanisms - to ensure that rules, institutions and processes are fit-for-purpose, well-coordinated, cost-effective, transparent, non-						

	discriminatory, participative, easy to understand and to enforce.						
Principle 8. Promote the adoption and implementation of *innovative water governance practices* across responsible authorities, levels of government and relevant stakeholders							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of **policy frameworks and incentives fostering innovation** in water management practices and processes	This indicator seeks to appraise the existence and level of implementation of policy and regulatory incentives that foster water-related innovation in terms of products, institutional and contractual design and governance processes. Examples include frameworks that can incentivise experimentation or pilots to draw lessons and share experience prior to generalising a given reform or process at a larger scale; incentives for innovative financing, incentives for the use of alternative water						

	sources, etc.						
Existence and functioning of **institutions encouraging experimentation (including pilot-testing) on water governance.**	This indicator seeks to appraise the existence and functioning of institutions encouraging water governance innovation. Example include multi-stakeholder platforms or entities sharing knowledge and experience, fostering the science-policy interface and/or enabling crowdsourcing to catalyse innovative ideas and practices that could be replicable across scales and contexts.						
Existence and level of implementation of **knowledge and experience-sharing mechanisms** to bridge the divide between science, policy and practice	This indicator seeks to appraise the existence and level of implementation of knowledge and experience sharing instruments to foster the science-policy interface, such as multi-stakeholder co-creation process and tools supporting decision-making processes based on scientific evidence,						

	communicated for example through interactive maps, simulation models, etc.						
Principle 9. Mainstream *integrity and transparency* practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision-making							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence of and level of implementation of legal and **institutional frameworks** (not necessarily water-specific)on integrity and transparency which also apply to water management at large	This indicator seeks to appraise the existence and level of implementation of legal and institutional frameworks that hold decision-makers and stakeholder accountable, and whereby the public interest can be safeguarded, malpractices can be identified and sanctioned, and effective remedies can be claimed. Examples include the right to information, public procurement and the effective transposition of applicable international						

	conventions.						
Existence and functioning of **independent Courts** (not necessarily water-specific) **and Supreme Audit Institutions t**hat can investigate water-related infringements and safeguard the public interest.	This indicator seeks to appraise the existence and functioning of independent authorities and audit institutions (be they water-specific or not) to investigate water-related infractions through inspections and controls, enact sanctions in case of violation. Selected criteria for assessment include the effectiveness, capacity, independence and accessibility of such institutions.						
Existence and level of implementation of **mechanisms** (not necessarily water-specific) **to identify potential drivers of corruption** and risks in all water-related institutions at different level**,** as well as other water **integrity and transparency gaps**	This indicator seeks to appraise the existence and the level of implementation of mechanisms that can diagnose, discourage and/or prevent poor transparency and integrity practices at different levels. Examples include integrity scans, multi-stakeholders approaches, social						

	witnesses, social monitoring (e.g. to track consumer perceptions and petty corruption in water management), auditable anticorruption plans, risk analysis, and risk maps.						
Principle 10. Promote *stakeholder engagement* for informed and outcome-oriented contributions to water policy design and implementation							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of **legal frameworks to engage stakeholders** in water-related decisions, policies' and projects'. design and implementation, and projects	This indicator seeks to appraise the existence and level of implementation of frameworks to engage stakeholders in water-related decision making. In all cases, they should discourage consultation capture and consultation fatigue through balanced representativeness as well as clarity and accountability on the expected use of stakeholders' inputs.						
Existence and functioning of **organisational structures and**	This indicator seeks to appraise the existence and						

responsible authorities that are conducive to stakeholder engagement, taking account of local circumstances, needs and capacities	functioning of dedicated stakeholder engagement institutions or platforms such as catchment-based authorities, decentralised assemblies, governing boards, national or subnational water councils or committees, as well as more informal forms of community-based engagement. A list of such mechanisms / institutions is available in OECD 2015, Stakeholder Engagement for Inclusive Water Governance (chapter 5), and could be used as a basis.						
Existence and level of implementation of **mechanisms to diagnose and review stakeholder engagement** challenges, processes and outcomes	This indicator seeks to appraise the existence and level of implementation of mechanisms to diagnose prominent obstacles, challenges or risks such as consultation capture, consultation fatigue or lack of						

	resources (capacity and funding). Examples include satisfaction surveys, benchmarks, impact assessment, financial analysis, evaluation reports or multi-stakeholder workshops/meetings . Further details on such evaluation mechanisms can be found in chapter 7 of provided in OECD 2015, Stakeholder Engagement for Inclusive Water Governance .						
Principle 11. Encourage water governance frameworks that help manage *trade-offs* across water users, rural and urban areas, and generations							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of formal provisions or legal frameworks fostering **equity** across water users and across rural and urban areas	This indicator seeks to appraise the existence and functioning of provisions and frameworks fostering equity across users and across rural and urban areas. Equity can be understood in terms of outcomes (to ensure that costs						

	and benefits are distributed fairly) as well as in terms of processes (to ensure that uses and users are treated fairly). Such frameworks should incentivise non-discriminatory participation in decision-making, empower vulnerable groups, promote rural-urban linkages, and minimise social, financial and environmental liabilities on future generations. Examples of such frameworks include the effective transposition of international binding and non-binding regulations or soft law that the country may be subject to (e.g. human right to drinking water and sanitation, sustainable development goals, new urban agenda) as well as other forms of incentives						
Existence and functioning of an **Ombudsman or institution(s)** to protect	This indicator seeks to appraise the existence of an						

vulnerable groups	Ombudsman or dedicated institutions (not necessarily water-specific) protecting vulnerable groups, mediating disputes, addressing users complaints and managing trade-offs when need be.						
Existence and implementation of **mechanisms or platforms to manage trade-offs across users, territories, and/or over time in a / non-discriminatory , transparent and evidence-based manner**	This indicator seeks to appraise the existence and level of implementation of mechanisms or platforms to promote non-discriminatory, transparent and evidence-based decision-making on trade-offs needed across people, time and places .						
Principle 12. Promote regular *monitoring and evaluation* of water policy and governance where appropriate, share the results with the public and make adjustments when needed							
Indicators	**Description**	In place, functioning (complete and relevant in all aspects, no major concerns are noted)	In place, partly implemented (parts are explicitly lacking to make the framework complete)	In place, not implemented (absent or low activity)	Awareness of the gap, and framework under development	Not in place	Not applicable
Existence and level of implementation of reliable **monitoring and reporting mechanisms** to guide decision-making	This indicator seeks to appraise the existence and functioning of frameworks that can review water governance						

	effectiveness (how governance helps achieve policy objectives), efficiency (whether this is done at the least cost and inclusiveness (if the system engages all relevant stakeholders in a trustworthy manner), in order to guide decision – making.						
Existence and functioning of **monitoring and evaluation institutions** that can guide water-related decisions and policies	This indicator seeks to appraise the existence of monitoring institutions (not necessarily water-specific) that are endowed with sufficient capacity, resources, autonomy and legitimacy to produce evidence-based assessment on the performance of water management and governance and guide decision-making accordingly. Such institutions should be independent from political interference, at an arm's length from						

	water managers and accountable for the outcomes of their evaluation and monitoring.						
Existence and level of implementation of **mechanisms** to measure to what extent water policy fulfils the intended outcomes and water governance frameworks are fit for purpose	This indicator seeks to appraise the existence and implementation of mechanisms to measure assess to what extent water policy fulfils the intended outcomes and water governance frameworks are fit for purpose. Examples are ex post evaluations, as well as water governance reviews, national assessments, etc.						

ANNEX II: CHECKLIST

This checklist provides a list of complementary questions to the traffic light system with a view to facilitate a more comprehensive and systemic discussion on governance framework conditions underlying each of the 12 OECD Principles. It is intended to be used as a guiding framework to share views on how a water governance system is performing at a given scale. End users are welcome to add any additional suggestions or questions they deem relevant to inform their own dialogue and consensus building exercise. The respondents should respond by "yes" or "no" and provide related background, facts and data as need be.

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Principle 1. Clearly allocate and distinguish roles and responsibilities for water policymaking, policy implementation, operational management and regulation, and foster co-ordination across these responsible authorities.

- Is there a **water policy** in place at national level or sub-national level in case of federal countries)? If be so, does such a policy set clear and measurable goals, objectives in pre-determined schedules for water services, water resources and disaster risk management; does it identify clearly duties across responsible authorities; does it estimate financing and other (capacity, human) resources needs; and is it subject to regular monitoring and evaluation ?

- Have applicable binding and non-binding water-related **international or supranational frameworks and regulations** been transposed at national (or sub-national) level(s)?

- Are there **assessment frameworks** or processes in place to diagnose governance gaps in terms of who does what, at which scale and how for what regards water policy design and implementation? Typically issues of institutional and territorial fragmentation, mismatch between administrative and hydrological boundaries, asymmetries of information between central and subnational governments, adequacy of financial resources to carry out responsibilities, gaps in monitoring & evaluation frameworks, and/or contradiction between national organisation and supranational recommendations/directives.

- Are there **horizontal co-ordination mechanisms across subnational authorities** to manage interdependencies for water policy design and implementation, to pool resources and capacities at the appropriate scale, and to explore synergies? Such mechanisms could typically include different forms of inter-municipal or metropolitan collaboration as well as fiscal, financial or other incentives from central/regional governments, specific mechanisms for conflict resolution, joint financing, metropolitan or regional water districts, or informal co-operation around projects.

- When roles and responsibilities for water supply and sanitation service delivery, water resources management or disaster risk reduction are delegated to dedicated public or private entities, are there **contractual arrangements** between organising and executive bodies?

Principle 2. Manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions, and foster co-ordination between the different scales

- Are there **legal frameworks** assigning roles and responsibilities at the basin and sub-national levels for water management?

- Where they exist, do catchment-based organisations have the adequate level of **autonomy, staff and budget** to carry out their functions?

- Are there **assessment frameworks** and/or indicators to explore the room for economy of scales and scope, the level of skills and human resources capacity, adequacy of financial resources, conflicting agendas, priorities and interests?Are there **policy and economic instruments** in place to manage too much, too little and too polluted water at hydrographic scale? For example, river basin management plans, water information systems, water charges (for abstraction, pollution, environmental services, and water services) water entitlements, early warning systems for disasters, water funds, models and decision support tools.

- In case of **transboundary** rivers, lakes or aquifers, are there **mechanisms or incentives** to co-ordinate among riparian states? Examples include dedicated commissions, joint basin plans, joint information and/or monitoring systems, mutual assistance programs, joint research and innovation, early warning and alarm procedures, public participation fora, joint financing and/or cost recovery, dispute resolution mechanisms.

- Are there **co-ordination mechanisms to combine territorial and hydrographic scales** for water resources management, for instance in metropolitan areas? Examples include multi-sectoral metropolitan bodies, multi-sectoral or bundled utilities for water and related services, rural-urban partnerships, rivers or aquifer contracts, amongst others.

Principle 3. Encourage policy coherence through effective cross-sectoral co-ordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning and land use

- Is there a **high-level leadership** and attention to water in the broader political agenda at national and/or sub-national level considering water as a driver to sustainable growth?

- Are **data and projections** on water demand from agriculture, industry (including energy) and households available and guiding decisions about handling competing uses now and in the future?

- Is there an assessment of the **distributional impacts** on water management of decisions taken in other areas such as energy subsidies, spatial development, agriculture or environment?

- Are there mechanisms or platforms to **identify conflicts/synergies** between water-related policies?

- Are **costs** due to absent/poor water-related policy coherence evaluated and available to decision-makers? Such costs could be economic, social, environmental or financial, or relate to greater risks of human causalities, amongst others.

- Are **benefits** from policy coherence and policy complementarities evaluated and showcased to decision-makers and key stakeholders? Examples could include reduced information asymmetries, optimisation of financial resources use, reduction/ elimination of split incentives/conflicts, equity across users, better disaster preparedness, etc.

- Are there provisions, frameworks or instruments to ensure that decisions taken in other sectors are **water-wise?** An example would be the water tests whereby any spatial development projects need to feature water-related constraints.

- Are there **conflict mitigation and resolution** mechanisms to manage trade-offs across water-related policy areas? Examples include top-down or command and control mechanisms (water courts, laws, regulations) and bottom-up initiatives (public consultation, stakeholder groups facilitating collaborative solutions, users' associations)

Principle 4. Adapt the level of capacity of responsible authorities to the complexity of water challenges to be met, and to the set of competencies required to carry out their duties

- Are there **incentives** to create water careers perspectives in the public sector?
- Are there **guidelines or standards** for capacity building across authorities at all levels?
- Are educational and capacity building **programmes** in place for water managers?
- Are there academic **trainings** providing a skills base for the water industry?
- Are there **industry and on-the-job trainings**?
- Are there **peer-to-peer dialogue platforms** across rivers basin organisations?
- Are there **networks** of utilities and networks of basin organisations at national level?
- Are institutional strengthening and soft capacity included into **technical assistance** programmes?
- Are there **decentralised cooperation** mechanisms to foster north-south, south-south, and north-north experience learning, capacity building and knowledge transfer?
- Are there incentives for **collaboration** between public bodies and research institutions/academia?

Principle 5. Produce, update, and share timely, consistent, comparable and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy

- Are there **norms or requirements for cost-effective** and sustainable production and **methods for sharing** high-quality water and related data and information?
- Are key data on water services, water resources management and water risk management **publicly available** and communicated to stakeholders?
- Is the **water information system** harmonised, integrated, standardised and co-ordinated across relevant agencies and responsible authorities at across relevant governance scales?
- Are there **real-time data** and do they guide decision-making?
- Are **there bottom-up mechanisms** to produce and disclose water-related data and information in a shared responsibility across levels of government, public, private and non-profit stakeholders?
- Are **there platforms for dialogue** between data producers and users?
- Are there incentives or forms of **co-operation between primary and other data producers**?
- Do **online** platforms/ tools / agreements exist for experience and knowledge sharing?
- Do incentives exist to produce, disclose and use **water-related data and information**, through innovative ways? E.g. big/smart/mobile data, digital maps, real time sensors and monitoring

Principle 6. Ensure that governance arrangements help mobilise water finance and allocate financial resources in an efficient, transparent and timely manner

- Are there enough financial revenues (taxes, tariffs, transfers) to cover operational costs and long term assets renewal, to protect ecosystems services and to finance biodiversity programs?
- Are there **social tariffs or other measures** for vulnerable categories of water users?

- Is there a **standardised / harmonised guidance** at national or sub-national level for setting and governing economic instruments such as tariffs, abstraction or pollution charges, groundwater tax?
- Are **abstraction charges** in place to foster water use efficiency and collect revenues?
- Are **pollution charges** in place to foster water quality management and collect revenues?
- Are there schemes or incentives for **payment for environmental services**?
- Do flexible and **solidarity mechanisms** exist in case of water-related disasters?
- Are there **multi-annual strategic plans** to review short, medium and long term investment needs and support policy continuity?
- Are there **investment plans and programs** and do they guide decision-making**?**
- Are there **clear budget transparency principles and rules** applied at all levels of government?
- Are there measures to minimise unnecessary **administrative burdens** when collecting and disbursing water-related revenues?
- Are there **reporting mechanisms** and audits of financial administration for water-related expenditure?
- Are there mechanisms or incentives to foster the efficient and transparent **allocation of water-related public funds**? (e.g. social contracts, scorecards, cost-benefit analyses)

Principle 7. Ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest

- Are relevant water-related **international standards and regulations** transposed into the national and/or sub-national legal frameworks?
- Are there **dedicated regulatory agency(ies)** in charge of enforcement and compliance for water resources, water services and disaster risk management? When they exist are they subject to by-laws or internal regulations to guaranty objectivity and equity? Are they financially independent? And do they take decisions that are legally binding?
- Are evaluation **mechanisms in place** to identify gaps and overlaps in the regulatory framework? For instance areas with regulatory vacuum/gaps, incoherent and/or contradictory objectives, deficient implementation and/or limited enforcement, overlaps/ duplication of responsibilities, lack of consistency and continuity of regulation, etc.
- Does **Regulatory Impact Assessment** include water-related legislations?
- Are there **reviews** of the quality of regulatory agencies or bodies?
- Are there **inspectors** (e.g. a water "police") or other enforcement tools in place?
- Are there **co-ordination instruments** between the regulator and the relevant ministry/bodies?
- Are there **requirements to disclose information** and inputs used for regulatory decisions
- Can **procedures of appeal** be applied against decisions taken?
- Are there mechanisms to solve **water-related disputes** (be they water-specific or not)?
- Are there **self-regulation** mechanisms with appropriate audit (e.g. smart regulation)?

Principle 8. Promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders

- Do innovative **tools and processes** exist to build capacities, raise awareness, engage stakeholders, share information and engage within and across organisations?
- Are there any **public bodies or accredited bodies** fostering innovations (financing, sharing feedback, assessing, incentivising)?
- Are **ICTs** used to guide better public action in water management and how?
- Are **forecasting models** used to draw future scenarios about water costs and investment needs?
- Are there **reviews** to evaluate the state of play of and potential for technical and non-technical innovation, costs/benefits of innovation, as well as regulations and standards hindering innovation?
- Do **platforms** exist to draw lessons from failures in water policy and governance, and to catalyse and scale-up best practices and success stories?
- Are there innovative **mechanisms** to foster cooperation across levels of government, in particular metropolitan governance, inter-municipal cooperation, and rural-urban partnerships**?**

Principle 9. Mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision-making

- Are relevant **international conventions, resolutions or framework** related to transparency and integrity transposed into national legislation?
- Are there institutional **anticorruption plans**, **codes of conduct** or charters?
- Are executive, legislative and judiciary **powers** clearly **separated?**
- Are there provisions for **whistle-blower protection** in legal and institutional frameworks? Are **whistle-blower policies** internalised within all public water sector organizations?
- Are **corruption risks** and actual corruption in the water sector (e.g. manipulation of knowledge and information, bribery, extortion) diagnosed?
- Are there evaluation tools to track **budget transparency** in the water sector (e.g. Open Budget Index of the International Budget Partnership)?
- Are there **evaluation tools** to track reporting on nepotisms and graft, evasion of rules and regulations, political capture, fraud, unethical practices including those linked with petty corruption (e.g. illegal connections, fraudulent metering and billing etc.), manipulated accounting, bad corporate management?
- Are there mechanisms/tools to track **transparency, accountability and participation** in the water sector? (e.g. reviews of service providers' performance, water-related public expenditure reports, corporate reporting on anticorruption plans' implementation, etc.)
- Are there mechanisms to assess the **economic, social and environmental costs of water-related corruption?** (e.g. integrity scans, integrity risk assessment, independent investigation including by the media)
- Are there **processes and/or platforms** for dialogue on the **drivers** to corruption and malpractices?
- Are there **requirements in place for regular financial disclosure** of assets, income and interests?

- Are Anti-bribery Management Systems in place? (e.g. ISO 37001: 2016)

Principle 10. Promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation

- Are the **Arhus Convention** and/or other legal and institutional frameworks for stakeholder engagement adopted?
- Is a stakeholder **mapping** carried out to make sure that all those who have a stake in the outcome or that are likely to be affected are clearly identified, and their responsibility, core motivations and interactions understood?
- Are the ultimate **line of decision making**, the **objectives** of stakeholder engagement and the expected **use of inputs** clearly defined?
- Are financial and human **resources** properly allocated for stakeholder engagement?
- Are there adequate financial resources provided for capacity development of all stakeholders and particular civil society organisations (CSOs) and directly affected communities?
- Is needed **information** for result-oriented stakeholder engagement shared?
- Are process and outcomes of stakeholder engagement regularly **assessed** in order to learn, adjust and improve accordingly?
- Is the type and level of engagement **customised** and the process flexible to adjust to changing circumstances?
- Is there a national **multi-stakeholder co-ordination platform** including representatives from public, private and non-profit sectors and different categories of users?
- Are there mechanisms in place to engage **science in decision-making?**
- Do tailored **communication strategies** exist for relevant stakeholders, including the general public, regarding all aspects of water management?

Principle 11. Encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations

- Are there requirements/frameworks for **prioritisation among water uses in case of scarcity or emergency situations**?
- Are **rural-urban linkages** clearly identified and addressed in water management?
- Are the **capacity to pay** and **willingness to pay** of water users evaluated through solid economic analysis and dedicated surveys?
- Are analyses for **supporting decision making** carried out in case of conflicting objectives across users, or geographical/social disparities in accessing water resources and services? (e.g. multi-criteria decision analysis, cost-benefit analysis)
- Are there mechanisms to diagnose, discuss and manage trade-offs across people, places and policies? (e.g. co-ordination, public debate, stakeholder consultation, regulatory oversight, etc.)

Principle 12. Promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed

- Do **formal requirements** exist for **evaluation and monitoring**?
- Are there agreed-upon **key performance indicators?**
- Do monitoring and reporting **mechanisms** exist? (e.g. joint sector reviews, survey/poll, benchmarking, evaluation report, ex-post financial analysis, regulatory tools, national observatories, parliamentary consultations etc.).
- Are there provisions or incentives for civil society monitoring?
- Are there financial resources available to train CSOs in project monitoring?
- How are the **results** of the monitoring and evaluation process shared with the wider public?
- Does a **national coordination** platform or alike produce reports for parliamentarian discussion?

ANNEX III: KEY DATA

These quantitative indicators seek to provide for some data visualisation to complement the traffic light and checklist information of pilot-tested cities, basins and countries, which will feature in the "Profiles" of the "Water Governance at a Glance" report These indicators are not meant to convey any "appraisal" nor "evaluation" per se, nor to provide a basis for benchmarking across cities, basins or countries. They just seek to inform and document basic facts in numbers. Data mostly concern *governance* dimensions, however to provide also a broader picture of some basic characteristics on water management in interested countries, basin, regions and cities, some *management* indicators have been included. After discussion at the 9th WGI meeting, the indicators will be grouped under coherent headings, be they thematic or scale-driven.

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1. Share (%) of population with access to safe drinking water [if available please specify also the breakdown between urban and rural areas]
2. Share (%) of population with access to sanitation [if available please specify also the breakdown between urban and rural areas]
3. Water consumption per category of users (m3/ year)
4. Volume of water abstracted by type of origin (underground, surface, desalinated) (m3/year)
5. Share (%) of water illegally abstracted per year (estimated/actual)/ Share (%) of effluent illegally discharged per year (estimated/actual)
6. Number of ministries and public agencies with core roles and responsibilities on water at national level or subnational level in case of federal countries
7. Number of service providers supplying drinking water and sanitation
8. Number of employees per 1000 customers
9. Number of river basin organisations [where they exist]
10. Share (%) of catchment-based institutions that have a river basin plan
11. Number of educational campaigns for raising awareness on water during the last three years
12. Frequency of water data production and collection (daily, weekly, monthly, annually) [please provide the breakdown by water function (water services, water resources, water disasters)]
13. Number of local administrative units with operation policies and procedure for local participation/ total number of local administrative units in the country
14. Total amount of water-related public expenditure / GDP
15. Share (%) of public investment the water sector/ total public investment
16. Share (%) of taxes in total water services, resources or risk management revenues
17. Share (%) of transfer (ODA or EU funds- loans and grants) in total water services, resources or risk management revenues
18. Total amount collected through domestic user fees on a yearly basis
19. Total amount of abstraction charges collected on a yearly basis
20. Total amount of pollution charges collected on a yearly basis
21. Total amount of payment for ecosystem services collected on a yearly basis
22. Share (%) of contracts related to public procurement managed by water sector institutions made publicly available in the past three years
23. Number of cases of deterioration of water sources brought to justice (UNHR)
24. Share (%) of utilities that publish their audited accounts within 6 months of the end of the fiscal year with no reservations stated by the auditor
25. Share (%) of contracts awarded by water sector organisations where there was a single bidder, or a legally minimum number of bidders (National public procurement databases)
26. Share (%) of expenditures for which public procurement contracts are made publicly available
27. Number of investigations/prosecutions/sanctions for violations of integrity in the water sector
28. Share (%) of income lost by a service provider due to fraudulent metering and billing per year