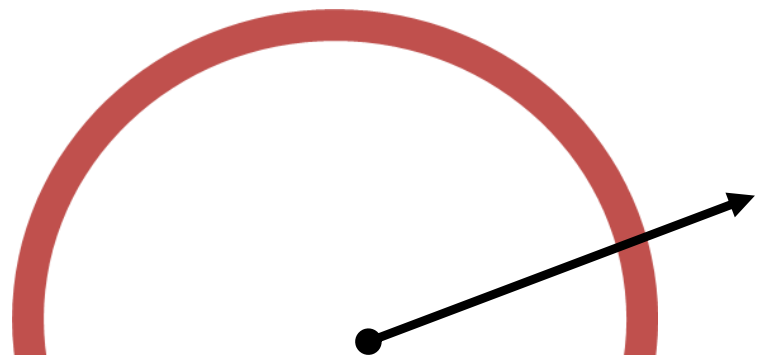# OECD Water Governance Initiative

OECD INVENTORY
Water Governance Indicators and Measurement Frameworks
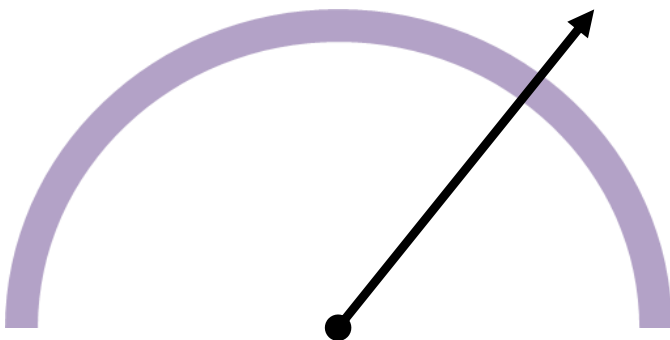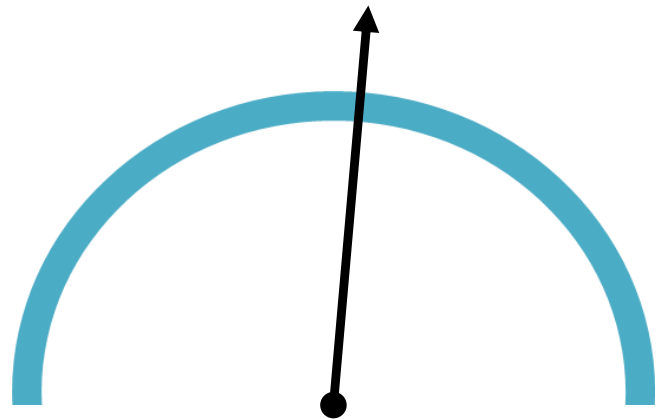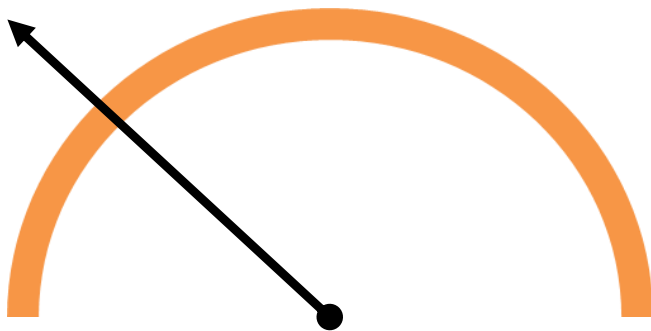
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INDICATORS A) WATER GOVERNANCE INDICATORS	Description	Variables	Geographical scope
UN-HABITAT Urban water and sanitation governance index Author: UN-HABITAT Year: Indicator under development and not yet tested Source:http://webworld.unesco.org/water/wwap/wwdr/indicators/pdf/C2_Urban_Water_and_Sanitation_Governance_Index.pdf	*It aims at accounting for the actions taken and processes enabled at the local level, within existing authorities' mandates that positively engage poor communities in their pursuit of adequate water and sanitation, and the impact that these actions should have on the provision and sustainability of adequate water and sanitation delivery.*	Underlying definitions and concepts: Process indicators ▪ Percentage of departments establishing programme monitoring ▪ Percentage of local governments using Citizen Score Cards ▪ Percentage of councils that have formed committees; the percentage of those committees that have held public hearings ▪ Percentage of departments that have citizen oversight committees established, percentage of committees that have held meetings with senior management ▪ Percentage of councils holding public hearings on pro-poor water and sanitation ▪ Percentage of local governments that publish and make available the annual budget, percentage of councils holding participatory public hearings on the budget ▪ Percentage of councils conducting public awareness campaigns on WDM, water quality, costs and revenues ▪ Percentage of councils that provide for external audit of the departments. Impact indicators ▪ Percentage of departments meeting water quality standards. ▪ Percentage of departments meeting sewage treatment standards ▪ Percentage of departments meeting solid waste collection standards.	Urban areas in low- and middle-income nations

			▪ Percentage of departments with % of unaccounted for water less than target. ▪ Percentage of departments where the number of technical and administrative workers per cubic meter of accounted for water is higher than the standard. ▪ Cost per cubic meter of accounted for water (national distribution of departments) ▪ Revenue per cubic meter of accounted for water (national distribution of departments) ▪ Percentage of households with metered water connections ▪ Number of regulated versus unregulated small scale water vendors ▪ Percentage of departments with improved Citizen Score Card results
FAO, UNESCO, GEF, World Bank, IAH, Groundwater Governance Indicators "Global Framework for Action" of the Groundwater Governance Project Author: FAO, UNESCO, GEF, World Bank, IAH Year: 2015 Source: **http://www.groundwatergovernance.org/fileadmin/user_upload/groundwatergovernance/docs/general/GWG_FRAMEWORK.pdf** and http://www.groundwatergovernance.org/	*The Groundwater Governance project aims to influence political decisions thanks to better awareness of the paramount importance of groundwater resources and their sustainable management in averting the impending water crisis.*		Institutional indicators: • Government Agency as 'Groundwater Resource Guardian' • Permanent stakeholder engagement mechanisms • Coordination with Agricultural developments • Coordination with Urban/ industrial development Legal & fiscal • Water well drilling permits & groundwater use rights • Instruments to constraint/ Water well construction Use • Sanctions for illegal Water well Operation • Groundwater Abstraction & Use Charging • Land use controls to reduce diffuse source pollution • Constraints on ground discharge of waste (waters) • Users of Sub-surface Space registered &

regulated

Technical

- Groundwater body/ Aquifer delineation
- Groundwater Piezometric Monitoring network
- Availability of Aquifer Numerical Management Models
- Groundwater pollution Hazard Assessment
- Groundwater quality Monitoring network

Composite index for regulatory governance in the Water and Wastewater Sector

TÉCNICO LISBOA | Portuguese Water Partnership

Author: Rui Marquez, Instituto Superior Técnico – University of Lisbon, Portuguese Water Partnership

Year: 2015

Source: presentation at the 7th World Water Forum, 12- 17 April 2015, Daegu & Gyeongbuk.
http://eng.worldwaterforum7.org/program/print.asp?program_seq=338

The index allows to operationalize the concept of regulatory governance and to measure it quantitatively through multi-criteria modelling.

Inner factors:

- Transparency: Publication of suitable information in accordance with where and when it is published
- Predictability: Provision of reasonable certainty/predictability regarding regulatory procedures and ease of changing them.
- Consistency: Regulatory activity should be developed uniformly both regarding the targets of its application and the period undertaken.
- Proportionality: Intervene only when required. Remedies should be appropriate to the risk posed, and costs identified and minimized. Exceptions apply in case of obligation due to water and wastewater services general interest nature.

Outer factors:

- Clarity of Rules: Clarity of rules that hold the regulatory process related to, e.g., principles, objectives, guidelines, responsibilities and consequences of misbehaviour.
- Regulatory Coordination: Clarity in the role of the regulator in order to avoid duplication of functions, conflicts between regulators and sending misleading signs to the stakeholders.
- Requisite Powers: Powers required to perform

		its mission. Relational factors: • Financial Independence • Managerial Independence • Operational Independence • Public Participation • Accountability	
Transparency International, Water Management Transparency Index TRANSPARENCY INTERNATIONAL ESPAÑA Author: Transparency International Year: 2013 Source:http://webantigua.transparencia.org.es/intrag/intrag_2013/metodologia_intrag_2013.pdf	*The Index assesses the extent to which a water agency makes relevant information available on the website.*	• Information about the River Basin Authority • Relationships with the public and stakeholders • Transparency in the planning process • Transparency on water use and management • Economic and financial transparency • Transparency in contracts and tenders	9 River Basin Authorities and 5 Regional Water Agencies, Spain
Equity index in water and sanitation Author: Jeanne Luh, Rachel Baum, Jamie Bartram Year: 2013 Source: , International Journal of Hygiene and Environmental Health, Volume 216, Issue 6, November 2013, Pages 662–671 http://ac.els-cdn.com/S1438463912001435/1-s2.0-S1438463912001435-main.pdf?_tid=094d557a-5c50-11e5-a6a7-00000aacb35f&acdnat=1442393632_a174545fe2bd5d5056dce1845a805b58	*The Equity Index (EI) provides a single value between −1 and 1 which evaluates a State's progress in realizing substantive equality for the right to water. The index itself is the uniformly-weighted average of three components: Structural Index, Process Index, and Outcome Index.*	• Existing laws that recognize the need for disadvantaged groups to be treated differently • Estimated percentage of the drinking water budget dedicated for the poor • Progress made towards achieving equitable access to improved water between rural and urban regions • Rate of decrease of the proportion of the population using an unimproved water source compared to the rate of decrease of the proportion of the population using a non-piped improved source	56 countries
Sustainable Water Governance Index Author: Iribarnegaray M.A., Seghezzo L. Year: 2012	*The index provides with the connections between the concept of governance and sustainability and their roles in water and sanitation management systems.*	• Access: Economic accessibility to water and sanitation services Quantity and quality of freely accessible information	City of Salta, Argentina

Source: Governance, Sustainability and Decision Making in Water and Sanitation Management Systems, Sustainability 2012, 4, 2922-2945 http://www.mdpi.com/2071-1050/4/11/2922		concerning the water and sanitation system Indicates whether everybody has access to the minimum amount of water needed to cover basic needs ▪ Planning Funds availability, assessment of the regulation process, and degree of public participation in the formulation of specific water projects Assessment of the number, type and potential impact of the projects under execution in institutions related to water management in the city Degree of training of water managers, satisfaction in water-related institutions, and transparency in contracting processes ▪ Participation Attitudes as behaviors and other observable expressions of values and worldviews that might affect the natural and social environment Worldviews are the temporal and ultimately normative projections emanating from the other two indicators within this descriptor Personal values as drivers for more conscious environmental behavior and more active social involvement	

Asia Water Governance Index
 	
Lee Kuan Yew School of Public Policy
 	
Author: Araral E. and Yu D.
 	
Year: 2010
 	
Source **http://lkyspp.nus.edu.sg/iwp/wp-content/uploads/sites/3/2013/04/AWGI-brochure-IWP-LKYSPP9** 10.pdf
	The index compares water governance in Asia using 20 governance indicators representing "best practices" in water governance, in terms of water laws, policies and administration.	▪ Legal dimension
		  o Legal distinction of different water sources
		  o Format of surface water rights
		  o Legal accountability of water sector officials
		  o Centralization/decentralization tendency within water law
		  o Legal scope for private and user participation
		  o Legal framework for integrated treatment of water sources
		▪ Policy dimension
		  o Project selection criteria
			20 countries/ states in Asia Pacific

- o Finance available for water investments
- o Pricing policy
- o Linkage between water law and water policy
- o Linkages with other policies
- o Attention to poverty and water
- o Private sector participation
- o User participation
- Administrative dimension
  - o Existence of independent water pricing policy
  - o Organizational basis
  - o Functional capacity and balance
  - o Accountability and regulatory mechanisms
  - o Validity of water data for planning
  - o Science and technology application

Canadian Water Sustainability Index

Government of Canada — Gouvernement du Canada
Policy Research Initiative — Projet de recherche sur les politiques

Author: Policy Research Initiative

Year: 2007

Source: http://publications.gc.ca/collections/Collection/PH2-1-14-2007E.pdf

The index provides a holistic profile of a community's key water issues, allowing for intra-community and inter-community comparison and analysis.

Resource:

- Availability
  - o The amount of renewable fresh water available per person.
- Supply
  - o The vulnerability of the supply caused by seasonal variations and/or depleting ground water resources.
- Demand
  - o The level of demand for water use based on water license allocations.

Ecosystem Health:

- Stress
  - o The amount of water removed from the ecosystem.
- Quality
  - o The Water Quality Index score for the protection of aquatic life.
- Fish
  - o Population trends for economically and culturally significant fish species.

Infrastructure:

- Demand

District of Chetwynd, British Columbia

Town of Three Hills, Alberta

Tsuu T'ina First Nation, Alberta

Pelican Lake First Nation, Saskatchewan

Rural Municipality of Gimli, Manitoba

Moose Cree Nation, Ontario

- o How long before the capacity of water and waste water services will be exceeded due to population growth.
- Condition
  - o The physical condition of water mains and sewers as reflected by system losses.
- Treatment
  - o The level of waste water treatment.

Human Health:

- Access
  - o The amount of potable water accessible per person.
- Reliability
  - o The number of service disruption days per person.
- Impact
  - o The number of waterborne illness incidences

Capacity:

- Financial:
  - o The financial capacity of the community to manage water resources and respond to local challenges.
- Education
  - o The human capacity of the community to manage water resources and address local water issues
- Training
  - o The level of training that water and waste water operators have received.

B) WATER INDICATORS WITH GOVERNANCE VARIABLES	Description	Variables	Geographical scope
USAID-Rotary International, WASH Sustainability Index Tool	*The WASH Sustainability Index Tool can be used to assess the likely sustainability of WASH interventions using a range of qualitative and quantitative indicators.*	The Tool is used to analyze specific WASH interventions and provides a set of generic indicators under each of the five factor areas: - institutional	Burkina Faso, Dominican Republic, Ethiopia, Ghana, Kenya, Liberia, Niger,

washplus Supportive Environments for Healthy Communities **Authors:** Jonathan Annis, Tetra Tech, Leslie Moreland **Year:** latest access September 2015 **Source: http://www.washplus.org/rotary-usaid**		▪ management ▪ financial ▪ technical ▪ environmental These indicators are based on global best practice and the Tool pilot testing experiences.	Philippines, and Tanzania
Turin Index TURIN SCHOOL OF LOCAL REGULATION Author: Turin School of Local Regulation Year: 2013 Source: http://turinschool.eu/turin-index	*The Index is an application of the Longitudinal Poverty Index to the case of arrearage. It is a synthetic measure, a range between 0 and 1, which can be used by local operators to identify groups of users who face a higher risk of delaying payments.*	▪ Percentages of bills paid with a delay of more than 30 days	City of Turin
ADB Water Security Index ADB Author: ADB and Asia-Pacific water forum Year: 2013 Source: Asian water development outlook 2013. Measuring Water Security in Asia and the Pacific. http://adb.org/sites/default/files/pub/2013/asian-water-development-outlook-2013.pdf	*It is composed by five dimension indexes of water security. The national security water index scores from 1 to 5, to which a certain level of 'National water security stage "correspond. This indicates how the legislative and regulatory framework is more or less effective in favouring water security.*	Five dimensions: ▪ Household Water Security ▪ Economic Water Security ▪ Urban Water Security ▪ Environmental Water Security ▪ Resilience to Water-Related Disasters	Asia
Index to assess the sustainability of water	*The index assesses the sustainability of water and sanitation through the management systems, accounting for indicators such as*	▪ Place: water availability, water quality, changes in aquifer levels, water wastage, and water pollution,	City of Salta, Argentina

and sanitation management systems Author: Iribarnegaray, M.A.et al. Year: 2012 Source: A comprehensive index to assess the sustainability of water and sanitation management systems. J. Water Sanitat. Hyg. Dev. 2012, 2, 205–222. http://www.iwaponline.com/washdev/002/washdev0020205.htm	*planning and participations.*	among others. ▪ Permanence: local capacity to solve problems, improve the management system, and ensure the coverage of basic human needs. Planning ability and institutional aspects. ▪ Persons: scarcity and unequal access to water and sanitation services.	
Index of drinking water adequacy (IDWA) Lee Kuan Yew School of Public Policy National University of Singapore Author: Lee Kuan Yew School Of Public Policy National University of Singapore Year: 2010 Source: Index of Drinking Water Adequacy (IWDA): International and Intra-national Exploration by Seetharam and Rao (Eds), National University of Singapore Press 2010 , http://lkyspp.nus.edu.sg/iwp/wp-content/uploads/sites/3/2013/04/IDWA_Mega_Flyer.pdf	*IDWA allows cross-country comparisons and helps in ascertaining which of the 5 components of access to drinking water is weak and requires priority attention.*	5 components of access: ▪ Resource ▪ Access ▪ Use ▪ Capacity ▪ Quality	144 countries

IWRM implementation indicators in South Africa
 	
WATER RESEARCH COMMISSION
 	
Author: Braid S; Görgens A, (report 1839/1/10 to the Water
	Indicators for assessing how IWRM will impact on the lives of women and the poor.	Good governance criteria and sub-criteria:
		
		▪ Transparency:
		  o information freely accessible (Reports and documents available in local libraries, internet, and/or easily obtainable from the Directorate for Water Affairs DWA, institutions, organisations or consultants)
		  o information accessible (Reports and documents available in applicable languages, non-technical, etc.)
			Case study: the town of Clanwilliam and the compulsory licensing project of the Jan Dissels River Catchment

Research Commission)
 	
 <u>Year</u>: 2010
 	
 <u>Source</u>: http://www.wrc.org.za/Pages/DisplayItem.aspx?ItemID=9027&FromURL=%2FPages%2FDefault.aspx%3F
	▪ Voice :
	    o opportunities for the public to express their views (Existence of civil society organisations (WUA, CF, Farmers Unions, etc.), meetings being held and attended)
	    o accessibility of opportunities (Specific efforts made such as transport to/from meetings, location of meetings, timing of meetings etc.)
	    o opportunities for women to express their views (Meaningful opportunities and contributions by women at civil society organisations (WUA, CF, Farmers Unions, etc.), meetings.)
	    o opportunities for the poor to express their views (Meaningful opportunities and contributions by poor at civil society organisations (WUA, CF, Farmers Unions, etc.), meetings.
	 ▪ Authority
	    o equal distribution of knowledge, insights and confidence amongst all stakeholders (Stakeholders adequately capacitated to express their views and opinions)
	    o equal distribution of knowledge, insights and confidence amongst women (Women stakeholders adequately capacitated to express their views and opinions.)
	    o equal distribution of knowledge, insights and confidence amongst the poor (Poor adequately capacitated to express their views and opinions.)
	
	 ▪ Accountability :
	    o promotion and awareness of rules and regulations (Rules and regulations promoted, interpreted and highlighted)
	    o enforcement of rules and regulations (Active

<table>
<tr><td></td><td></td><td>and visible enforcement of rules and regulations.)

■ Agency :
  o power to influence decision (Examples of where stakeholders have managed to get a decision changed.)
■ Commitment :
  o on-going engagement (Opportunity after formal public participation process to provide input, comment, raise concerns and awareness raising)</td></tr>
</table>

| **UN-Water, Monitoring progress in the water sector: A selected set of indicators**

Author: UN-Water

Year: 2009

Source:http://webworld.unesco.org/water/wwap/wwdr/indicators/taskforce.shtml | *The Task Force report proposed a set of 15 quantitative 'key indicators' to provide a snapshot of the water sector.* | Four categories of indicators can be used to better understand the water sector:

■ Context
■ Functioning
■ Governance
■ Performance. | Global |
| **Cap-Net, UNDP, Integrated Water Resources Management for River Basin Organizations: Training Manual**

Module 3: Using Indicators to Measure Progress and Performance | *Indicators are based on the implementation of the integrated approach to the sustainable management of water resources. Cap-Net assists river basin organisations (RBOs) at national and sub-national levels to assist in their development as effective managers of water.* | Minimum Indicator Set for Water Resources Management:

■ Water allocation
  o Number of surface and groundwater users licensed according to the regulations.
  o Water allocation criteria include use efficiency, economic benefit and social goals. | RBOs |

- o % of time environmental and social reserve is maintained in major water courses.

- Pollution control

  - o % of surface water quality samples complying with water quality objectives.
  - o % of ground water quality samples complying with water quality objectives.
  - o Number of polluters licensed according to the regulations.

- Monitoring
  - o Proportion of water allocation permit holders complying with permit conditions.

  - o Proportion of water pollution permit holders complying with permit conditions.
  - o Number of water resource monitoring stations producing reliable data.
  - o Total water storage capacity.
  - o % groundwater monitoring stations with declining water levels

- Basin planning

  - o Water management activities driven by Basin plan.
  - o Stakeholder priorities reflected in the basin plan.

  - Economic and financial management

  - o Charges and fees for water allocation favour the poor and efficient water use.
  - o Pollution charges give incentive to reduce pollution.

- Information management

  - o Data base is established in formats compatible with other river basin organisations.

		o Water management information is available to managers and other stakeholders as required.	
		■ Stakeholder participation	
		o Number of meetings of Government agencies with water interests to consult and collaborate on water management.	
		o Formal stakeholder structures established with clear roles and responsibilities in water resources management.	
		o Basin stakeholders (male and female) represented in decision making bodies at all levels.	
UNESCO, Groundwater Resources Sustainability Indicators Author: Jaroslav Vrba and Annukka Lipponen Year: 2007 Source: http://unesdoc.unesco.org/images/0014/001497/149754e.pdf	*The set of groundwater indicators presented in the report is a short-list derived from over one hundred conceptual water related indicators.*	It includes socio-economic approach on indicators in addition to physical indicators.	Spain, Finland, Brazil, South Africa
Watershed Sustainability Index Author: Chaves, Henrique M. L., Susana ALIPAZ. Year: 2007 Source: "An Integrated Indicator based on Basin Hydrology, Environment, Life, and Policy: The Watershed Sustainability Index." Water Resources Management, Volume 21, Number 5, Mai 2007. Springer, pp. 883-895(13)	*The index assesses the evaluation of the sustainability in water resources management within a river basin.*	Four indicators:Hydrology, Life, Environment, and Policy:evaluated in three dimensions: Pressure, State and Response.	SF Verdadeiro, Southern Brazil

http://www.clw.csiro.au/division/perth/seminars/documents/WSI_paper.pdf			
WWF Water and Wetland Index Author: World Wide Fund for Nature Year: 2003 Source: http://assets.panda.org/downloads/wwireport.pdf	*WWF´s Water and Wetland Index (WWI) is a two-phase pan-European initiative aiming at stimulating debate on how to preserve and improve the state of freshwater ecosystems across Europe through the sustainable and integrated management of water.*	The index it is based on three WFD/IWRM principles: ▪ Public participation ▪ Integration of water policies ▪ Wetlands management It is also based on the application of measures tackling the most significant freshwater problems in each country (water quantity problems, water quality problems and river fragmentation).	20 European countries (23 regions)
C) ENVIRONMENTAL/GOVERNANCE INDICATORS WITH WATER VARIABLES	**Description**	**Variables**	**Geographical scope**
Environmental performance index Author: Yale Center for Environmental Law & Policy Year: 2000-2014 Source: http://epi.yale.edu/our-methods	*The Environmental Performance Index (EPI) is constructed through the calculation and aggregation of 20 indicators reflecting national-level environmental data.*	▪ Access to drinking water ▪ Access to sanitation ▪ Wastewater management	149 countries
UNSD, First list of proposed priority indicators and detailed inputs to be discussed by the IAEG-SDGs	*The UN Statistics Division consolidated inputs on indicators provided by agencies in a list of priority indicators for the effective monitoring of the SDG. The list will be revised during the next consultations.*	Proposed priority indicators for the Targets of Goal 6. *Ensure availability and sustainable management of water and sanitation for all*: ▪ Target 6.1.: Percentage of population using safely	

  Author: UN Statistics Division Year: May 2015 Source: http://unstats.un.org/sdgs/2015/05/29/first-proposed-priority-indicator-list/ https://docs.google.com/file/d/0B8n3WhOaTbGVZ3JIbUQ4QlFWYjQ/view		managed drinking water services ▪ Target 6.2.: Percentage of population using safely managed sanitation services ▪ Target 6.3.: Percentage of wastewater safely treated , disaggregated by economic activity ▪ Target 6.4.:Percentage change in water use efficiency over time ▪ Target 6.5.: Degree of integrated water resources. management (IWRM) implementation (0-100) ▪ Target 6.6.: Percentage of change in wetlands extent over time ▪ Target 6.a.: ODA for water and sanitation related activities and programmes	
The World Bank Institutional Profiles Database Author: World Bank Year: 2012 Source: https://www.agidata.org/site/SourceProfile.aspx?id=21	*The nine institutional functions assessed are: 1. Political institutions; 2. Safety, Law and Order, Control of violence; 3. Functioning of Public administrations; 4. Free Operation of Markets; 5. Coordination of actors, Strategic vision, Innovation; 6. Security of transactions and contracts; 7. Market regulations, Social dialogue; 8. Openness to the outside world; 9. Social cohesion and mobility*	▪ Territorial coverage: drinking water and sanitation networks ▪ Proportion of public sector: water and sanitation	123 countries

River Basins Performance Indicators

INBO Performance Indicators for African Basin Organizations Author: INBO Year: 2010 Source: http://www.oieau.fr/iowater/our-projects-news-and-update/article/performance-indicators-for-african?lang=en	*Self-evaluation of organizations on basin organisation's operation and achievement of their missions.*	▪ 20 indicators on governance and operation of organizations responsible for integrated management implementation in transboundary basins: ▪ 15 indicators on river basin, describing its conditions, pressures and responses.	10 pilot basins: Congo (CICOS), Gambia (OMVG), Lake Chad (CBLT), Lake Victoria (LVBC), Niger (NBA), Nile (NBI), Okavango (OKACOM), Orange-Senqu (ORASECOM), Senegal (OMVS),

			Volta (VBA)
Key Performance Indicators of River Basin Organizations Author: Hooper B. Year: 2006 Source: "Key Performance Indicators of River Basin Organizations." To appear as a technical note. US Army Corps of Engineers. http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/2006-VSP-01.pdf	*115 Indicators assessing the performance of river basin organisations grouped in 10 categories.*	▪ Coordinated decision-making ▪ Responsive decision-making ▪ Goals, goal shift and goal completion ▪ Financial sustainability ▪ Organizational design ▪ Role of law ▪ Training and capacity building ▪ Information and research ▪ Accountability and monitoring ▪ Governments & citizens	Selected US river basins
NARBO Performance indicators of River Basin Organisations Author: NARBO Year: since 2005 Source:http://www.narbo.jp/event/ev_annc_Performance_Benchmarking.html	*The benchmarking system includes 14 performance indicators that reflect common processes in core business areas considered essential for effective basin management within the IWRM framework.*	Five critical performance areas: ▪ Mission ▪ Stakeholders ▪ Learning and growth ▪ Internal business processes ▪ Financing	South East Asia

Service Providers Performance Indicators

EBC, Benchmarking Water Services	*EBC's benchmarking programme provides framework of indicators for water and wastewater services*	EBC aims to present a balanced view on the performance of utilities. For this, five performance areas are analysed: ▪ water quality;	Water services at European level

European Benchmarking Co-operation **Author:** European Benchmarking Co-operation **Year:** latest access October 2015 **Source:** https://www.waterbenchmark.org/		▪ reliability; ▪ service; ▪ sustainability; ▪ finance & efficiency.	
ONEMA, Performance Indicators ONEMA Office national de l'eau et des milieux aquatiques **Author:** ONEMAA **Year:** latest access October 2015 **Source:**http://www.services.eaufrance.fr/observatoire/indicateurs	*ONEMA has created a list of performance indicators for water and sanitation services. Those indicators are obligatory to mention in the annual Water service report. The list is available by the following link :* *The advantage of this process is to have a very clear definition of every indicator, the way to aggregate data*	Descriptive and Performance indicators on water services (drinking water and sanitation)	Service providers in France
ERSAR, Annual Report on Water and Waste Services in Portugal ERSAR Author: ERSAR Year: latest access October 2015 Source: http://www.ersar.pt/website_en/ViewContent.aspx?SubFolderPath=%5CRoot%5CContents%5CSiteEN%5CMenu_Main%5CSector%5CServiceQuality&FolderPath=%5CRoot%5CContents%5CSit	*Annually, ERSAR evaluates the quality of service provided to users and the control of drinking water quality.*	The indicators are divided in three groups: • Protection of users' interests: how users' interests are protected, mainly the degree of access and the quality of the service provided; • Operator's sustainability: the degree of technical and economic sustainability of the operator and their legitimate interests, concerning economic and financial, infrastructural, operational and human resources; • Environmental sustainability: set of indicators used to assess the protection level of environmental issues related with operators' activities.	Portugal

FNCCR, Comparative analyses of public services for drinking water and sanitation Author: FNCCR Year: 2012 Source: http://www.fnccr.asso.fr/article-105-rapports_publics_de_l_analyse_comparative_des_spea_donnees_2012.html	*FNCCR organizes every year a benchmark process about water and sanitation services performance. There are some info useful for water governance.*	Regulatory indicators; economic and financial indicators.	35 water services in France
IWA performance indicators projects Author: IWA Year: 2011 Source: IWA Manual of Best Practice, Benchmarking Water Services, guiding water utilities to excellence	*They allow performance assessment and benchmarking of water services.*	▪ Performance indicators for water supply services: Water resources indicators ▪ Performance indicators for sanitation services: Environmental quality indicators ▪ For both: Staff indicators, Equipment indicators, Operation indicators, Service quality indicators, Financial indicators	Utilities
DATABASES	**Description**	**Variables**	**Geographical scope**
UNEP-DHI IWRM Data Portal	*The IWRM Data Portal provides tools to visualize data on water resources management*	The 14 dimensions are :	Worldwide

22

Author: UNEP-DHI

Year: latest access September 2015

Source: http://iwrmdataportal.unepdhi.org/index.html

based on country responses to global surveys (2007 and 2011) across 14 different dimensions of IWRM (selected based on the 2011 survey questionnaire), and track country progress across these axis.

- Main national instruments
- Subnational instruments
- Other instruments
- International agreements
- Governance systems
- Stakeholder participation
- Capacity building
- Management instruments
- IWRM programs
- Monitoring
- Knowledge sharing
- Financing
- Investment plans
- Mobilizing financing

FAO Water Lex

Food and Agriculture Organization of the United Nations

Author: Fao

Year: latest access May 2015

Source: http://faolex.fao.org/waterlex/index.htm

WATERLEX carries the analyses of the legal framework governing water resources in selected countries.

Features of a country's legal framework on water resources by reference to four major subjects:

- Legal basis
- Administration
- Water management
- Pollution control.

Worldwide

OECD Database on instruments used for environmental policy

OECD

Author: OECD

Year: latest updates March 2014

Source: http://www2.oecd.org/ecoinst/queries

The database includes economic instruments for water pollution.

The database does not include tariffs, but it compiles abstraction and pollution charges reported by member countries.

OECD countries

WaterLex Legal Database

The WaterLex Legal Database Project (WLDP) provides direct access to legal and political sources on the human right to water and

- Legal Document Types (International Law Convention, National Law, National Policy, National Strategy, Political Declaration)

Worldwide

WaterLex
 	
Author: WaterLex
 	
Year: last update July 2014
 	
Source: http://www.waterlex.org/waterlex-legal-database/
	sanitation.	▪ Human Rights Standards & Principles
		  o Acceptability
		  o Access to information
		  o Accessibility
		  o Accountability
		  o Affordability
		  o Availability
		  o Coordination
		  o International Cooperation
		  o Non-discrimination & Positive measures for vulnerable and marginalized groups
		  o Participation
		  o Quality
		  o Recognition of the Human Right to water and sanitation & General Obligations
		  o Sustainability	

National Open data ▪ The Netherlands: http://www.waterschapsspiegel.nl/open-data/ ▪ Australia: https://publications.qld.gov.au/storage/f/2013-05-07T035344/DEWS-Open-Data-Strategy.pdf ▪ United Kingdom: http://www.iatiregistry.org/publisher/aauk ▪ United States: http://acwi.gov/ ▪ France: http://www.data.eaufrance.fr/ ▪ Italy: http://www.acqua.gov.it/ ▪ Canada: www.open.canada.ca	*Open data on different aspects of water management and water governance.*	Institutions, legal framework, governance instruments, service providers, etc.	National level
FAO, AQUASTAT Author: Food and Agriculture Organization of the United Nation Year: 1994- on-going	*It is a global water information system providing data, metadata, reports, country profiles, river basin profiles, regional analyses, maps, tables, spatial data, guidelines, and other tool.*	▪ Water resources: internal, transboundary, total ▪ Water uses: by sector, by source, wastewater ▪ Irrigation: location, area, typology, technology, crops ▪ Dams: location, height, capacity, surface area ▪ Water-related institutions, policies and legislation	Global

World Bank, Private Participation in Infrastructure Project Database THE WORLD BANK IBRD · IDA Author: World Bank Year: from 1985 to 2014 (depending on the availability of data) Source: http://data.worldbank.org/indicator/IE.PPI.WATR.CD	*Data on Investment in water and sanitation with private participation.*	• Infrastructure projects in water and sanitation that have reached financial closure and directly or indirectly serve the public • Operations and management contracts, operations and management contracts with major capital expenditure, greenfield projects and divestitures. • Investment commitments • Investments in facilities • Investments in government assets	Data available for selected countries
IGRAC, Global Groundwater Information System (GGIS) igrac **Author: IGRAC** **Year: latest access October 2015** **Source: https://ggis.un-igrac.org/ggis-viewer/**	*The IGRAC Global Groundwater Information System, is an interactive, web-based portal to groundwater-related information and knowledge.*	IGRAC makes its data available using OGC Open GIS Web services. Available information is on socioeconomic, institutional/legal aspects	Worldwide
WB, IBNET WORLD BANK GROUP Author: IBINET, The Word Bank Year: latest access October 2015 Source: http://www.ib-net.org/; http://database.ib-net.org/Default.aspx	*The International Benchmarking Network for Water and Sanitation Utilities is the world largest database for water and sanitation utilities performance data*	Among the indicators, there are: • Water Utility Apgar Score: represents utilities' health, stage of development, and performance status • Water Utility Vulnerability Index: estimates probability that a water utility will experience a performance problem. 　• Five variables included in the WUVI: 　　• "Water Coverage," as the percentage of	Utilities

The IBNET Water Supply and Sanitation Blue Book 2014: The International Benchmarking Network for Water and Sanitation Utilities Databook, 2014 (latest edition)http://elibrary.worldbank.org/doi/abs/10.1596/978-1-4648-0276-8_ch2 Examples of regional mirrors are: www.danubis.org http://pwwa2.ib-net.org/DefaultPwwa.aspx		households in the utility's service area receiving water service from the utility; ▪ "Sewer Coverage," as the percentage of households in the utility's service area receiving sewer service from the utility; ▪ "Nonrevenue Water," as cubic meters per kilometer per day of water in the utility's service area for which the utility does not receive compensation; ▪ "Affordability," as the utility's revenue as percentage of per capita gross national income ▪ "Collection Period," as the number of days required for the utility to collect payment for water and/or sewer services provided.	

GUIDELINES	Description	Variables	Geographical scope
UNESCO-IHP,IWRM Guidelines at River Basin Level **Author: UNESCO-IHP** **Year: latest access September 2015** **Source: http://www.hydrology.nl/ihppublications/169-iwrm-guidelines-at-river-basin-level.html**	*The guidelines aim to raise awareness and to facilitate the practical implementation of Integrated Water Resources Management (IWRM) at the river basin level*	The Guidelines consist of two parts: 1. Overarching Principles of IWRM at River Basin Level for policy-makers 2. Practical keys for success and good examples intended for practitioners of IWRM at River Basin Level	River Basins
UNDP, Water Governance Facility, SIWI, WIN, User' s Guide on Assessing Water Governance	*Guide structured around three overarching questions: why, what and how to assess water governance.*	The guide uses the TAP approach to analyse institutions and stakeholders relations within a governance assessment: ▪ Transparency	

Author: UNDP, Water Governance Facility, SIWI, WIN

Year: 2013

Source: : http://watergovernance.org/resources/users-guide-on-assessing-water-governance/

		▪ Accountability ▪ Participation	
ABCG, Freshwater Conservation and Water, Sanitation, and Hygiene Integration Guidelines: A Framework for Implementation in sub-Saharan Africa Author: Edmond, J., Sorto, C., Davidson, S., Sauer, J., Warner, D., Dettman, M. and Platt, J. Year: 2013 Source: Freshwater Conservation and WASH Integration Guidelines: A Framework for Implementation in sub-Saharan Africa. Washington, D.C., USA: Africa Biodiversity Collaborative Group, Conservation International, and The Nature Conservancy. http://www.nature.org/ourinitiatives/habitats/riverslakes/abcg-integration-guidelines.pdf	*The purpose is to provide guidance to professionals in sub-Saharan Africa on how to plan, coordinate, develop and achieve mutually supported WASH and freshwater conservation outcomes.*	The guide is structured around 7 core guiding principles to ensure integrated WASH and freshwater conservation interventions meet both health and conservation goals.	Sub-Saharan Africa
OECD Multi-level Water Governance Framework Author: Organisation for Economic co-operation and Development	*The OECD Multi-level Governance Framework is a strategic tool in diagnosis multi-level governance challenges. It is organised around seven "gaps", which are interrelated and can exacerbate each other.*	Seven Governance gaps: ▪ Administrative gap ▪ Policy gap ▪ Objective gap ▪ Capacity gap ▪ Information gap ▪ Funding gap ▪ Accountability gap	Several OECD countries

Year: 2011			
Source: OECD (2011), Water Governance in OECD countries, OECD publishing, Paris			
WHO, Guidelines for drinking-water quality (4th ed.) World Health Organization Author: World Health Organization Year: 2011 Source:http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/	*The Guidelines provide the recommendations for managing the risk from hazards that may compromise the safety of drinking-water.*	The preventive risk management approach for ensuring drinking-water quality includes the roles of stakeholders in ensuring drinking-water safety.	Worldwide
WIN, WSP, Promoting Transparency, Integrity and Accountability in the Water and Sanitation Sector in Uganda WIN Water Integrity Network Fighting corruption in water worldwide WSP water and sanitation program Author: Jacobson, Maria, Sam Mutono, Erik Nielsen, Donal O'Leary and Rosemary Rop Year: 2010 Source: https://www.wsp.org/sites/wsp.org/files/publications/WIN_WSP_Uganda_report.pdf	*The note describes the key ingredients to putting in place a nationwide good governance action plan in Uganda's water sector, the challenges to be overcome and lessons learned to date.*	▪ Institutional overview ▪ Risk/Opportunity Mapping Study	Uganda
Transparency International, Global Corruption Report: climate change	*It reports on measuring transparency in multiple sectors, including water supply and sanitation.*	▪ Additional or self-imposed control ▪ Corporate ethics ▪ Corporate governance	Colombia

4.5.1 Colombia: Measuring Transparency Policies ad Mechanisms in Public Utilities TRANSPARENCY INTERNATIONAL the global coalition against corruption Author: Alma Rocio Balcazar, Marta Elena Badel and Lorena Roa Barrera Year: 2010 Source: Transparency international http://www.transparency.ch/de/PDF_files/GCR/2011_GCR_Climate_Change_English.pdf.1304142094.wfb	▪ Customer service systems ▪ Information to partners, shareholders and investors ▪ Information to customers ▪ Information to suppliers ▪ Information to society

MAPS	**Description**	**Variables**	**Geographical scope**
WRI, Environmental Democracy Index WORLD RESOURCES INSTITUTE Author: WRI Year: to be launched in May 2015 Source:http://www.wri.org/sites/default/files/Environmental_Democracy_Index_0.pdf	*The Environmental Democracy Index (EDI) is an online platform for tracking progress on national laws promoting transparency, access to justice, and citizen engagement in environmental decision making.* It is base don 75 legal indicators and 24 limited practice indicators	Environmental information on drinking water quality	70 countries
Yale EPI, Wastewater Treatment Performance Map Author: Yale Center for Environmental Law & Policy Year: 2015	*The interactive map visualises the 2014 indicator on national-level wastewater treatment of the Environmental Performance Index; the percentage of population connected and the percentage of wastewater treated.*	The map also provides with a visualisation of countries' data concern, in order to improve the availability and updating of data at national level.	Worldwide

WWF, Water Risk Filter
 	
Author: WWF
 	
Year: latest access May 2015
 	
Source: http://waterriskfilter.panda.org/
	The Water Risk Filter aims to cover all relevant aspects of water risks. s.	▪ Regulatory risk:
		  o Water strategy of local, national and upstream governments, including drought and flood management plans where appropriate
		  o Sophistication and clarity of water related legal framework
		  o Enforcement of water related legal framework
		  o Official forum or platform in which stakeholders come together to discuss water -related issues of the basin
			Global

ANA, Water Management Map Author: ANA Year: 2013 Source: http://www2.ana.gov.br/Paginas/pactonacional.aspx	*The Brazilian National Water Agency has developed a methodology to determine the degree of complexity of water management. The 4 typologies of complexity (from A to D- the most complex one) correspond to 4 institutional frameworks for managing water (from basic to advanced).*	Indicators for the institutional framework are: ▪ Presence/mission of River Basin Organisations ▪ Presence of Water Agencies ▪ Presence of State Councils of water ▪ Typology of water management bodies ▪ Technical staff ▪ Minimum requirements for staff ▪ Legal basis	Brazil
WRI, Aqueduct Water Risk Framework Author: WRI Year: 2013 Source: Reig, P., T. Shiao and F. Gassert. 2013. "Aqueduct Water Risk Framework." Working Paper. Washington, DC: World Resources Institute. http://www.wri.org/sites/default/files/pdf/aqueduct_metadata_global.pdf	*It provides a set of indicators that capture a wide range of variables, and aggregates them into comprehensive scores using the Water Risk Framework, which includes 12 indicators grouped into three categories of water risk.*	Reputational and Regulatory Risks: ▪ Media coverage (used as a proxy of public awareness about water issues) : o It measures the percentage of all media articles in an area on water-related issues. Higher values indicate areas with higher public awareness about water issues, and consequently higher reputational risks to those not sustainably managing water.	Global

ASSESSMENT TOOLS	Description	Variables	Geographical scope
WB, IAWD, Water and Wastewater Services in the Danube Region. A state of the sector Author: Michaud, David; Hommann, Kirsten; Shegay, Anastasia; Gabric, Stjepan; Heider, Angelika Maria Year: 2015 Source: Michaud, David; Hommann, Kirsten; Shegay, Anastasia; Gabric, Stjepan; Heider, Angelika Maria. 2015. Water and wastewater services in the Danube region: a state of the sector. Washington, D.C. World Bank Group. sos.danubis.org	*Based on public data sources, the report assesses the progress made in delivering sustainable water and wastewater services.*	The report is based on 6 sections for evaluation: ▪ Context for services (including administrative organisation) ▪ Organisation of services (including regulation and sector monitoring and benchmarking) ▪ Access to services ▪ Performance to services ▪ Financing of services The report uses the Water Utility Performance Index and the Water Services Sustainability Assessment (see IBNET database above)	16 countries in the Danube watershed
DROP Governance Assessment Tool (GAT) Author: Hans Bressers (editor), Nanny Bressers (editor), Alison Browne, Carina Furusho, Isabelle Lajeunesse, Corinne Larrue, Gül Özerol, Maria-Helena Ramos, Ulf Stein, Jenny Tröltzsch, and Rodrigo Vidaurre. Year: 2015 Source: Benefit of Governance in Drought Adaptation – Governance Assessment Guide, INTERREG IVb North West Europe Programme, Waterschap Vechtstromen, www.dropproject.eu.	*It assesses the governance context in a specific domain concerning a specific issue, like drought.*	5 dimensions of governance are taken into account: ▪ Levels and scales ▪ Actors and Networks ▪ Perceptions and goals ▪ Strategies and instruments ▪ Responsibilities and resources Dimensions are described by 4 criteria: extent, coherence, flexibility and intensity. For each dimensions and criteria, key descriptive questions are formulated to help the diagnosis.	Six regions: Twente and Salland in the Netherlands, Eifel-Rur in Germany, Brittany in France, Somerset in the United Kingdom and Flanders in Belgium
UN WWAP UNESCO, Project for Gender	*This project will produce a comprehensive*	WWAP is developing a priority set of gender-sensitive	

Sensitive Water Monitoring Assessment and Reporting UNESCO United Nations Educational, Scientific and Cultural Organization Author: UN WWAP UNESCO Year: 2014-2016 Source:http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/water-and-gender/	*methodology for gender-disaggregated data gathering and will yield the first-ever set of gender-disaggregated data on topics such as women's water empowerment and participation in water-decision making.*	indicators and a gender-disaggregated data methodology that will then be tested in the field by Member States in different regions.	
WWF Basin Report Cards WWF Author: WWF Year: 2015 -ongoing Source: https://www.worldwildlife.org/projects/developing-a-scalable-river-basin-report-card	*In partnership with the University of Maryland's Integration and Application Network and WWF-Colombia, the pilot test in the Colombian headwaters of the Orinoco River Basin will aim at revealing the status and trends of basin health, but also catalysing improvements in policy, management and behaviour.*	- Economic variables - Social variables - Governance variables	Basins
UNDP Global water solidarity, Certificate for Decentralized Water Solidarity	*GWS has developed a certification tool for the recognition, promotion and motivation of existing and future decentralized water solidarities. The Certificate is issued to national platforms for decentralized solidarity in water and sanitation sector or specific international initiatives based*	Principles are: - Universality - Subsidiarity - Harmonization	

Author: UNDP Year: latest access May 2015 Source: globalwatersolidarity.org	*on the fulfilment of the principles of decentralized cooperation and of the territorial approach to development.*	• Mutual Accountability • Leverage • Environmental Sustainability • Financial Sustainability • Technical Sustainability	

ABCG, Freshwater Conservation and WASH: Monitoring and Evaluation Framework and Indicators
 	
AFRICA BIODIVERSITY COLLABORATIVE GROUP
 	
Author: Conservation International, African Wildlife Foundation, The Nature Conservancy
 	
Year: 2013
 	
Source:
 	
http://www.abcg.org/document_details?document_id=639
	Set of indicators that provide a monitoring and evaluation framework for projects that integrate WASH and freshwater conservation.	Indicators are intended to measure changes over time to achieve the following objectives:
		
		• Increase first time and improved access to sustainable water supply
		• Increase adoption of key hygiene behaviors
		• Increase first time and improved access to sanitation
		• Improved governance of water resources (5 aspects evaluated)
		   o Gender
		   o Governance and policy
		   o Community capacity
		   o Peace + Protection
		   o Youth
		• Improved freshwater ecosystem functionality, including water quality and natural flow regime
		• Enhanced integrity of terrestrial and freshwater biodiversity
			Sub-Saharan Africa

UN- CEPAL, Best practices in regulating State-owned and municipal water utilities NACIONES UNIDAS CEPAL Author: Sanford V. Berg. Corporate author: France, Ministère des	*This study identifies best practice in regulatory governance and corporate governance of state-owned and municipal utilities.*	5 principles of a sound regulatory system design determine sustainable sector outcome: • Coherence • Creativity • Communication • Collaboration • Consultation • Credibility	Case studies: Uganda, Cambodia, Scotland

Affaires Etrangères, UN an CEPAL.

Year: 2013

Source: http://www.cepal.org/en/publications/4079-best-practices-regulating-state-owned-and-municipal-water-utilities

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UNEP, The Transboundary Water Assessment programme

Author: UNEP and partners

Year: 2013-2014

Source: http://www.geftwap.org/water-systems

The TWAP drop is divided into five different sections, representing the five interlinked transboundary water systems: ▪ *groundwater* ▪ *lake/reservoir basins* ▪ *river basins* ▪ *large marine ecosystems* ▪ *open ocean.*	Five indicators were selected based on issues that affect both human wellbeing and ecosystems and have been classified into five thematic groups: water quantity; water quality; ecosystems; governance; socioeconomics. The TWAP governance indicator contains of the assessment of three levels of governance, legal frameworks, hydro-political tensions and enabling environment: ▪ The "Legal Framework" indicator maps the presence of key international legal principles in transboundary treaties, thus providing a first overview of the set of principles underlying transboundary relationships across the globe. ▪ The "Hydropolitical Tensions" indicator narrows down the analysis to the formal provisions that exist in transboundary basins to moderate tensions rising from the construction of water infrastructure – a common source of dispute among riparians. ▪ The "Enabling Environment" indicator considers the 'enabling environment' for water resources management in each riparian country, with the country scores then weighted to provide basin scores. This is based on a broad spectrum of issues including the policy, planning and legal framework, governance and institutional frameworks, and management instruments"	The majority of the world's transboundary river basins (286)

IDB, IWA, AquaRating

Rating system that assesses the performance of	▪ Access to Service ▪ Quality of Service	13utilities in nine European and Latin

AquaRating Author: IDB, in cooperation with IWA Year: 2014-2015 Source: www.aquarating.org	*water and sanitation (WS) service providers.*	▪ Operating Efficiency ▪ Planning and Investment ▪ Execution Efficiency ▪ Business Management ▪ Efficiency ▪ Financial Sustainability ▪ Environmental Sustainability ▪ Corporate Governance	American and Caribbean countries. A worldwide market introduction of AquaRating is planned for 2015.
Ten building blocks for sustainable water governance Author: Marleen van Rijswick, Jurian Edelenbos, Petra Hellegers, Matthijs Kok & StefanKuks Year: 2014 Source: Marleen van Rijswick, Jurian Edelenbos, Petra Hellegers, Matthijs Kok & Stefan Kuks (2014) Ten building blocks for sustainable water governance: an integrated method to assess the governance of water, Water International, 39:5, 725-742. http://doc.utwente.nl/91683/	*This is a three-step interdisciplinary method to assess approaches to water shortage, water quality and flood risks. It is based on water system analysis, economics, law and public administration.*	The proposed interdisciplinary method consists of 10 building blocks: 1. Water system knowledge 2. Values, principles, policy discourses 3. Stakeholders involvement 4. Trade-offs between social objectives 5. Responsibility, authority and means 6. Regulation and agreements 7. Financial arrangements 8. Engineering and monitoring 9. Enforcement 10. Conflict prevention and resolution	
Assessing Stability and Dynamics in Flood Risk Governance Author: Dries L. T. Hegger & Peter P. J. Driessen & Carel Dieperink & Mark Wiering & G. T. Tom Raadgever & Helena F. M. W. van Rijswick Year: 2014 Source: Water Resources Management (2014) 28:4127–4142 http://download.springer.com/static/pdf/282/art%253A10.1007%252Fs11269-014-0732-x.pdf?originUrl=http%3A%2F%2Flink.springer.com%2Farticle%2F10.1007%2Fs11269-014-0732-x&token2=exp=1442414007~acl=%2Fstatic%2Fpdf%2F282%2Fart%25253A10.1007%25252Fs11269-014-0732-	*The paper analyses stability and dynamics in Flood Risk Governance Arrangements, by using the Policy Arrangements Approach.*	▪ Actors (e.g. private, public, coalitions and oppositions) ▪ Discourses (e.g. relevant scientific paradigms and uncertainties; Policy programmes, policy objectives and policy concepts; historical metaphors/ narratives; policy and legal values and principles) ▪ Rules (e.g. Legislation, constitutional, procedural norms, legal instruments, legal traditions, informal rules) ▪ Power & Resources (Legal authority; Financial power; Knowledge; Interaction skills)	Dordrecht in the Rijnmond Drechtsteden Area

The AWS International Water Stewardship Standard ALLIANCE FOR **WATER STEWARDSHIP** <u>Author:</u> Alliance for Water Stewardship <u>Year:</u> 2014 <u>Source:</u> http://www.allianceforwaterstewardship.org/	*It provides a framework regarding how water should be stewarded at a site and catchment level in a way that is environmentally, socially, and economically beneficial.*	AWS standards are based on 6 steps: commit; gather & understand; plan; implement; evaluate, communicate & disclosure water stewardship actions. Each step is described by criteria and indicators. Examples of governance indicators are: ▪ List of relevant aspects of catchment plan(s), significant publicly led initiatives and/or relevant water related public policy goals for the site ▪ List, and description of relevance, of all applicable water-related legal and regulatory requirements, including legally defined and customary water rights and water-use rights ▪ Copies of existing water stewardship and incident response plans ▪ Documented description of system, including the processes to evaluate compliance and the names of those responsible and accountable for legal compliance ▪ Consult stakeholders on water-related performance: Commentary by the identified stakeholders	The AWS Standard can be implemented by any site, in any sector, in any catchment around the world
UN-Water Country Briefs Project UN WATER <u>Author</u>: UN Water <u>Year</u>: 2013 <u>Source</u>:http://www.unwater.org/activities/multi-agency-featured-projects/country-briefs/en/	*It provides a comprehensive data-rich water national snapshot.*	▪ Investment data collected through national consultants, according to the following eight categories, which have been established by the OECD Creditor Reporting System: water resources policy and administrative management ▪ water resources protection ▪ water supply and sanitation in large systems ▪ basic drinking water supply and basic sanitation ▪ river development ▪ hydroelectric power plants ▪ agricultural water resources	Chile, The Gambia, Bangladesh, Guyana, Ghana, Kyrgyzstan, Mexico, United Republic of Tanzania, Mongolia, Zambia, Oman, Philippines, Viet Nam

		▪ disaster prevention and preparedness/flood protection and control Status, trends and assessment: tracking water governance (source data UN water 2012 and WHO, 2012)	
TASU, Analysis of the Auditor General's Annual Report 2011/12 Uganda <u>Author</u>: Joint Budget Support Framework, Technical and Administrative Support Unit (TASU) <u>Year</u>: 2013	*TASU assesses the level and quality of accountability for public funds and the performance of public financial management systems in sectors of interest to JBSF development partners, including the water sector.*	▪ Evidence of corruption and misuse of public funds; ▪ Mischarging expenditure against budget; ▪ Quality of IT management / policies; ▪ Internal audit and internal controls; ▪ Human resource management (Watch out for nepotism); ▪ Dormant accounts; ▪ Impact of late releases on accountability; ▪ Domestic arrears; ▪ Management and monitoring of Non-Tax Revenue (NTR); ▪ Weaknesses in contract management; ▪ Financial management systems – data security and internal controls; ▪ Tax payments to the Uganda Revenue Authority; ▪ Provision of tax Incentives to the private sector; Government of Uganda investment in the private sector	Uganda
UN-WATER, The UN-Water Status Report on the Application of Integrated Approaches to Water Resources Management <u>Author</u>: UNEP <u>Year</u>: 2012 <u>Source</u>: http://www.unwater.org/publications/status-report-on-	*The report includes lessons learned and recommendations, as well as focus areas for action for integrated water resources management*	▪ Policy, Strategic Planning and Legal Framework o Enabling environment for the development, management and use of water resources (national, federal instruments, agreements) ▪ Governance and Institutional Frameworks o Governance systems for the development, management and use of water resources (institutional framework, Stakeholder Participation, Capacity building) ▪ Management instruments o Management instruments for the development, management and use of water	UN member states

integrated-water-resources-management/en/ http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/UNW_status_report_Rio2012.pdf		resources (Programmes, Monitoring and information, Knowledge sharing, Financing of water resource management) - Infrastructure Development and Financing - Infrastructure development for the development, management and use of water resources (Investment plans and programmes, mobilizing financing for water resources infrastructure) - Sources of financing - Outcomes and impacts: improved water resource management - Priority challenges - Indicator water resources governance: - Progress towards planning and implementing integrated water resources management – national scale and sub-national scale (Respondent are asked to choose among: not used, used irregularly, used regularly)	
European Water Stewardship Standards Author: European Water Stewardship (EWS) Year: 2012 Source: http://www.ewp.eu/wp-content/uploads/2012/04/EWS+European-Water-Stewardship-Standard-v4.8-Dec-2012-Doc.pdf	*The EWS Standard aims to map, grade and evaluate water management based on redesign, reuse, recycle and re-allocate measures. 49 Indicators are classified as major indicator (▪▪), minor indicator (▪) or as recommendation.*	Examples of water governance indicators are: - All sources used for water abstraction are documented (documentation regularly updated). - The water volume abstracted from each source is quantified, monitored and reported - The impact* of abstraction and discharge is described (by source). - Action is taken to mitigate actual and potential impacts* caused by water abstraction and discharge - There is a complete and up-to-date inventory of all applied substances, indicating the frequency - and amount/volume applied. - The (quantitative) relation of water and energy use is identified and optimized. - The (quantitative) relation of water and other resources than energy is identified and optimized.	Water users and industries

		▪ A strategy is in place and described to achieve optimized water efficiency ▪ A person or department is identified who participates and reports on River Basin Committee activities. ▪ Internal transparency: Sustainable water management is disseminated within the operation. ▪ External transparency: The water management is publically available for customers, the public and authorities, e.g. by a water report. ▪ Campaigns or partnerships to inform stakeholders on water topics are described and implemented. ▪ Management of incidents: 1) Procedures are established, implemented and monitored to respond to accidents, security incidents, emergency situations, disasters and the like. 2) The impacts of such an occurrence to the environments, employees, the regional population and communities are described or estimated. ▪ Best Management Practices* (BMPs*) are in place and integrated in a water resource management strategy. ▪ The implementation procedures and the evaluation of BMPs (or alike) are described	
Svendsen, M. et al., Regional Water Governance Benchmarking Project USAID FROM THE AMERICAN PEOPLE Author: Svendsen M., Wolf A., Giordano M., De Stefano L., Lautze J, and Tropp H. Year: 2010	*The project benchmarks water governance in Middle Eastern countries, building several different assessment methodologies: one for policy and legal documents, one for organizational coverage, and one for actual water governance performance.*	The conceptual framework distinguishes between governance capacity and governance performance. ● Indicators for governance capacity: i.e. the policy, legal, and organizational framework; ● Indices for governance performance: results from the decisions taken within the above framework. The project identified five features of effective decision-making: *participation*, *transparency*, *integrity and accountability*, *rule of law* and *responsiveness*. The final assessment took into account the first three	Six MENA region countries (Egypt, Jordan, Morocco, Oman, Turkey, Yemen)

		features.	

UN-Water, WHO, GLAAS Global Analysis and Assessment of Sanitation and Drinking-Water
 	
glaas | UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water
 	
Author: WHO, UN Water
 	
Year: 2008; 2009/2010; 2011/2012; 2013/2014
 	
Source: http://www.who.int/water_sanitation_health/glaas/en/
	It offers a comprehensive analysis of strengths and challenges in water, sanitation and hygiene (WASH) within and across countries.	Examples of indicators in the drinking-water and sanitation sections, include:
		
		▪ Current access
		▪ Policies and institutions
		  o Are targets included in Poverty Reduction Strategy Paper o National Development Plan?
		  o Is there a policy agreed by stakeholders and approved and gazetted?
		  o Is there a government agency lead (sanitation) or are institutional roles clearly defined (drinking-water)?
		  o To what degree has decentralization of service been carried out?
		▪ Planning, monitoring and evaluation
		  o Is there a national information system used?
		  o Is there an investment programme agreed and published?
		  o Is there an annual or biennial review to monitor sector?
		  o Year last national assessment done?
		▪ Budgeting and expenditure
		▪ Participation and Equity
		  o Procedures for informing, consulting and supporting participation by individuals/community?
		  o Are there agreed criteria used to distribute funding equitably to communities, and are they applied?
		  o Do national strategies include specific provision for slum and informal settlements?
		  o Has the impact of equity policies been measured?
			94 countries
			
			(GLASS 2014)

40

		• Outputs	
		• Sustainability	
		• Human resources	

GEF, The Pacific IWRM Project	*Regional indicator framework for monitoring progress towards Integrated Water Resources Management (IWRM) wastewater management and Water Use Efficiency (WUE).*	The indicator system are specific to country needs to drive the changes needed to facilitate mainstreaming of IWRM and Water Use Efficiency in Pacific Island Countries.	14 Pacific Island Countries
Author: Global Environment Facility (GEF), Pacific Islands Applied Geoscience Commission (SOPAC) Year: 2008-2013 Source: http://www.pacific-iwrm.org/			
UN DESA, Status of implementation of CSD-13 Policy Actions on Water and Sanitation Author: UN DESA Year: 2007, 2008 Source: http://sustainabledevelopment.un.org/content/documents/UN_DESA_CSD13_Monitoring_report_on_Water_and_Sanitation.pdf	*The report is an attempt to further the implementation agenda in the domain of water and sanitation. The survey covers a large spectrum of sectors (Water Supply, IWRM, and Sanitation) and policy areas.*	The level of implementation of each policy action was assessed according to the analysis of 5 attributes: • Existence of policy measures • Quality of the measure in place (clear objectives) • Range of target area • Scale of implementation • Sustainability	35 countries in 4 geographical sub-regions of the world
Japan Water Forum, Survey of progress towards IWRM	*The aim of the survey is to evaluate progress towards IWRM implementation, based on a questionnaire at the government level.*	The Overall IWRM Evaluation considers: 1) Quantitative evaluation based on the results of clarifying the state of water resources management: • Water resources management organizations • Water resources management measures • Basic data 2) Quantitative evaluation based on indicator evaluation survey:	82 countries

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<td>
Author: Japan Water Forum

Year: 2006

Source: http://www.waterforum.jp/eng/4th_output/doc/IWRM-Report-E.pdf
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- Population with sustainable access to improved sanitation
- Population with sustainable access to an improved water
- State of provision of legal frameworks
- Plan prepared/not prepared
- State of government investment
- Basin level efforts undertaken/not undertaken
- System to implement environmental conservation efforts established/not established
- System for participation of stakeholders established/not established
- Systems to support citizens' groups established/not established
- Systems for personnel development, training/education established/not established
- State of provision of data related to each category of water use (Topographical map, geological map, vegetation map, land-use map, precipitation data, river level data, river discharge, water table data, water intake volume, drainage volume, meteorological and hydrological predictions)
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WB, Saleth, Dinar, The institutional Economics of Water. A cross-country analysis of institutions and performance

THE WORLD BANK

Author: Saleth R.M., Dinar A.,

Year: 2004

Source: Saleth R.M., Dinar A., (2004), The institutional Economics of Water. A cross-country analysis of institutions and performance, Edward Elgar, Cheltenham, UK , Northampton, MA,
</td>
<td>
The study aims at evaluating water sector features, institutional arrangements, and institutional initiatives of sample countries within a comparative context. It draws from the results of a perception-based international survey of water experts.
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<td>
The sections of the survey are:
- Water law
- Water Policy
- Water Administration
- Water sector & water institution: overall performance
</td>
<td>
Worldwide: 127 water experts responded to the survey from a sample countries and regions
</td>
</tr>
</table>

USA. Co-publication with the World Bank

http://wwwwds.worldbank.org/servlet/WDSContentServer/WDSP/
IB/2004/08/19/000160016_20040819103146/Rendered/PDF/297
940PAPER000182131565619.pdf

| UN World Water Development Report. Water: A Shared Responsibility

Author: UN

Year: 2003-2015

Source:http://webworld.unesco.org/water/wwap/wwdr/indicators/wwdr_indicators.shtml | *The triennial UN World Water Development Report is a joint undertaking of 24 UN agencies comprising UN-Water in partnership with governments and other stakeholders, and coordinated by WWAP.* | Examples of indicators:
1. Access to information, participation and justice:
   o Public participation rights in constitutional legal framework:
     ▪ Constitutional guarantees to public participation
     ▪ Comprehensiveness of notice and comment in different types of decision-making processes
     ▪ Public notice and comment requirements for environmental impact assessment
(Each indicator is described according to criteria correspondent to strong, intermediate or weak access to information, participation and justice).

   o Quality and accessibility of water data
(Systems score weak when only a few parameters on quality of water are collected)

2. Assessing progress towards achieving IWRM target
(Categorization of countries into three groups, those that have made good progress and are on the roadmap towards meeting the target; those that have made only some progress; and those that have hardly made any progress, based on ten specific criteria) | Africa, Asia and the Pacific, Latin America and the Caribbean, Europe |
| **UNECE Protocol on Water and Health** | *The Protocol on Water and Health, obliges each Party to establish and publish its national targets, target dates and indicators to measure* | Examples of governance indicators are:

▪ Adoption of management plans for River Basins | 39 parties |

  Author: UNECE Year: 1999- reporting mechanisms available for 2013 Source: http://www.unece.org/?id=2975	*the progress. There is also a self-assessment tool for states to monitor the implementation of the equitable access to water and sanitation.*	▪ Publication of National Report on drinking water quality ▪ Availability of a summary report on progress implementing the Protocol ▪ Meetings, conferences, seminars to raise awareness on issues related to the Protocol
WRI, Access Initiative WORLD RESOURCES INSTITUTE Author: WRI Year: since 1999 (revised in 2005) Source:http://www.accessinitiative.org/sites/default/files/NEW12-12_revised_indicators_ne_1.pdf	*The Access initiative is the world's largest civil society network promoting transparency, citizen engagement and accountability on environmental issues. Each TAI assessment is based on 148 research questions, or indicators, which NGO coalitions use to assess their governments' performance in ensuring adequate access.*	Indicators are divided into four categories: ▪ Access to Information ▪ Public Participation ▪ Access to Justice ▪ Capacity Building	55 countries