Navigating the Jungle of Indicators

Isabelle Van der Beck

UN Environment-DHI Centre on Water and Environment

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Using indicators for improved IWRM

Setting the scene

Introduction

Interactive exercise

Part I

SNAP exercise

Part II

Identifying key indicators and key challenges

Part III

Discussion: SDG6 and its indicators

Developing new tools to support effective use of indicators for better Water Resource management

- Guidance document: Using indicators for improved water resources management
- Online tool: Water Indicator Builder
- Case studies compendium and input to the GEF IW:LEARN tool box for Project Managers: GEF TDA/SAP methodology, presented at Stockholm Water Week in workshops, etc.

Using indicators for improved water resources management

Guide for basin managers and practitioners

UN Environment-DHI Centre on Water and Environment · WWF · Conservation International · gef · University of Maryland Center for Environmental Science · Luc Hoffmann Institute

- ✓ Creating the conceptual and indicator framework
- ✓ Criteria for indicator selection and assessment
- ✓ Linking with national, regional and global reporting
- ✓ Involving stakeholders
- ✓ Communicating results

+ Interview-based case studies

- ❑ Orange-Senqu Basin
- ❑ Monterrey Water Fund
- ❑ Nile Basin
- ❑ Mekong River
- ❑ Orinoco River Basin
- ❑ Volta Basin
- ❑ Amazon River Basin

Chapter 7 - Facilitating transboundary management through indicators

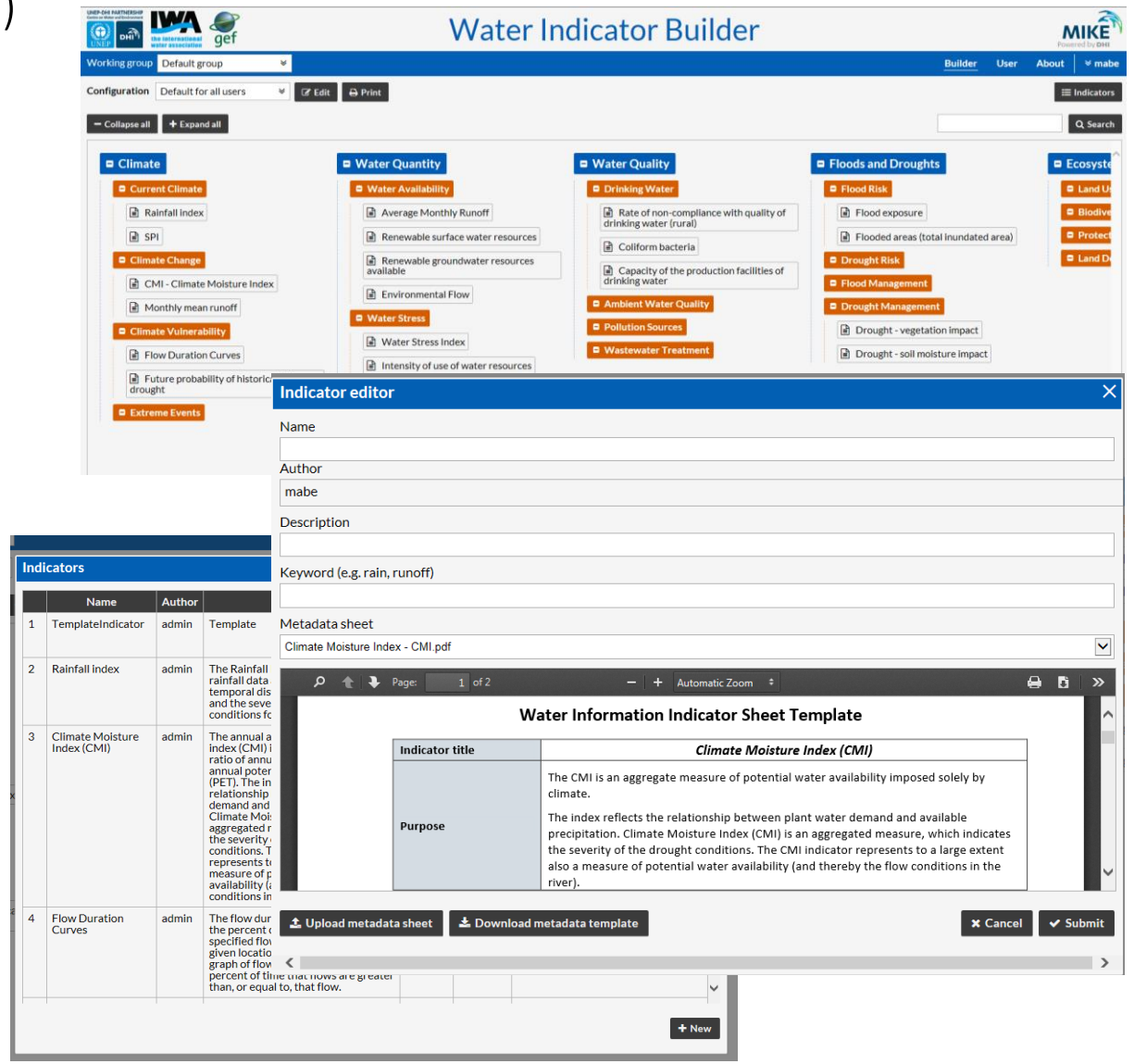
- Establishing a common vision and goals for resource development amongst riparian countries
- Improving the understanding of environmental issues to be addressed and their root causes
- Identifying future risks and risk distribution across the basin, along with priority areas for intervention
- Informing prioritization of infrastructure investments and their siting, in view of maximizing benefits
- Avoiding unintended consequences due to poor resource development projects
- Providing an opportunity for a changing discourse in the basin – from competition over limited resources to a dialogue that leads to cooperation and shared benefits
- Increasing efficiency of climate change adaptation strategies (for both floods and droughts) through coordinated action such as transboundary flood early warning systems

Water Indicator Builder

UN Environment-DHI Centre on Water and Environment

- Review of 1600+ WRM indicators (very few duplicates!)
- Identification of key thematic groups and sub-groups monitored through WRM indicators
- Development of an online tool to:
  - Enable experience sharing
  - Assist stakeholders in indicator selection
  - Reduce duplicate work
  - Collect and make available most commonly used indicators (including metadata sheets)
- Comprehensive indicator framework that can be customized and expanded
- Growing indicator library (70+ indicator metadata and growing)

FUTURE: space for sharing experiences amongst users



BETA

Water Indicator Builder

Builder Indicators About Contact Re

Welcome to Water Indicator Builder!

The Water Indicator Builder is an online tool that enables users to explore and create indicator frameworks to support management and decision-making for improved water resources management.

It offers a comprehensive, built-in indicator framework that users can modify and build on, as well as a growing library of indicators for creation of new, customized indicator frameworks.

Start building!

BUILD
your indicator framework

Customize and build on the comprehensive, default indicator framework stored in the Water Indicator Builder system, or build your own framework making use of

SELECT
the right indicators

Explore and make use of the online indicator library with accompanying metadata sheets, and add new indicators to the system for your own cutomized indicator

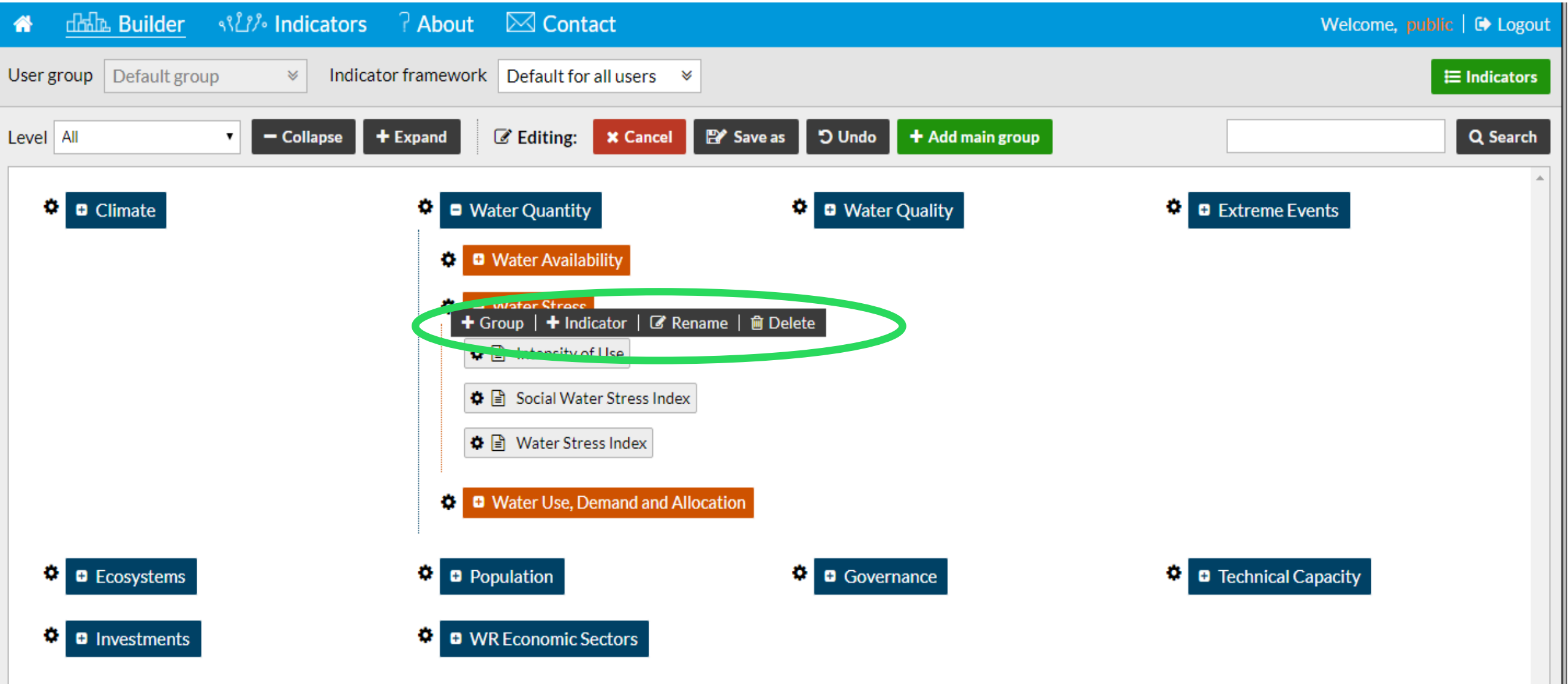
CONNECT
and learn from others

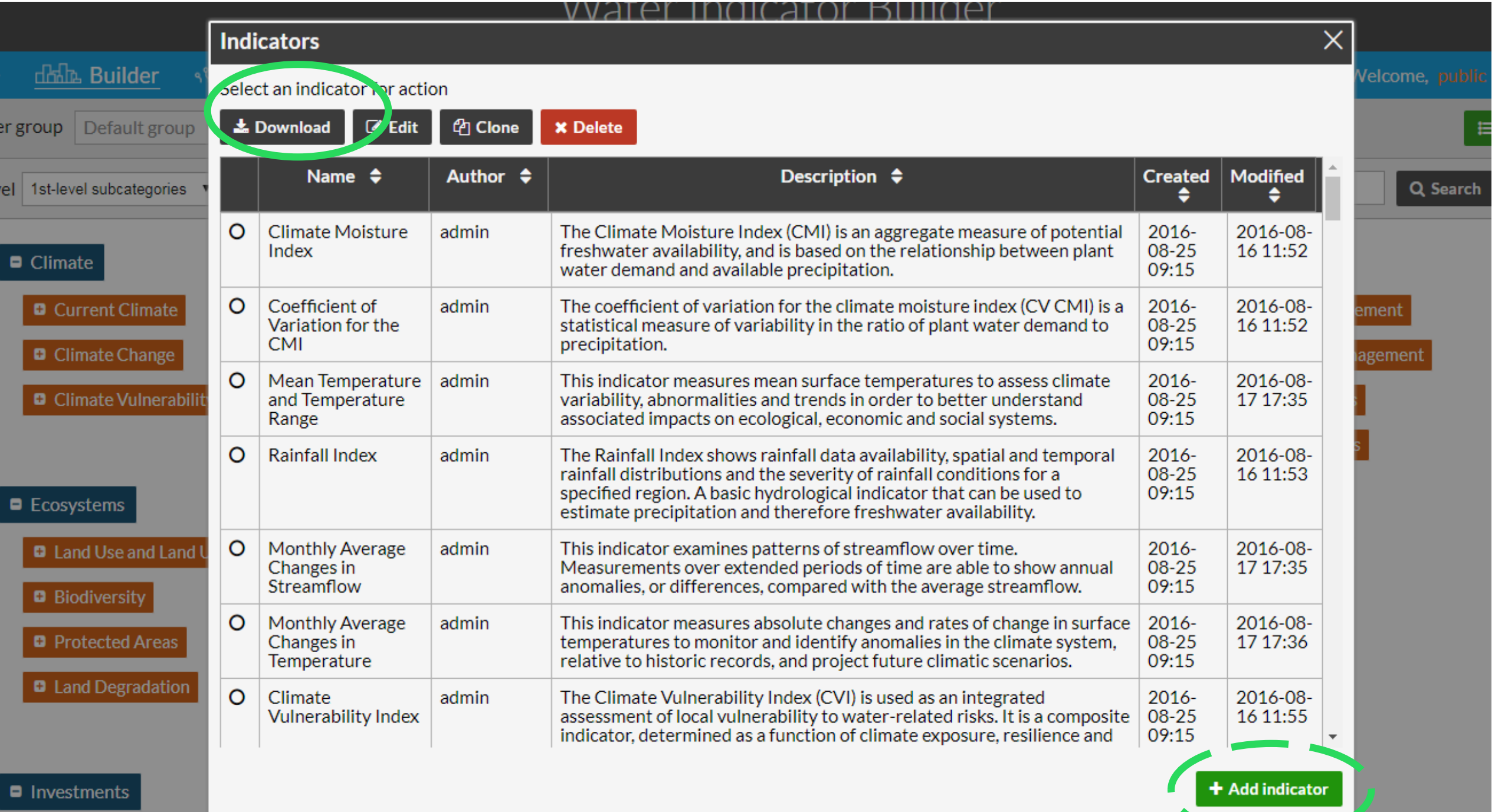
Create and join targeted user groups to learn from others focusing on the same issues – basin managers, utilities or other targeted indicator uses.

User group: Default group | Indicator framework: Default for all users | Indicators

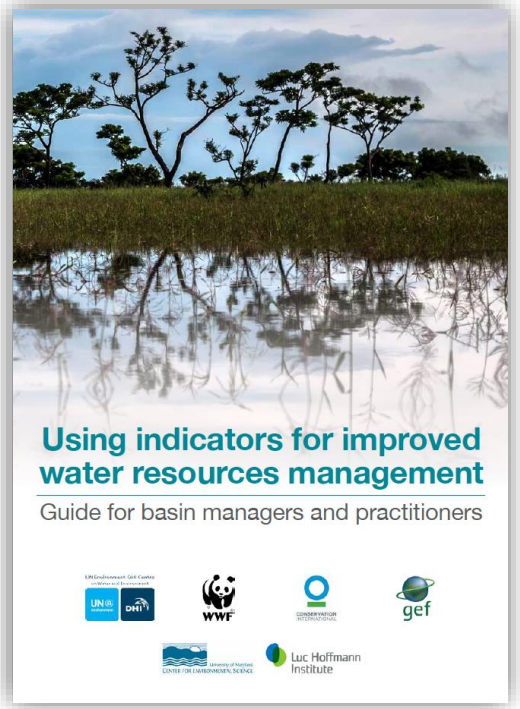
Level: All | Collapse | Expand | Edit | Search | Print

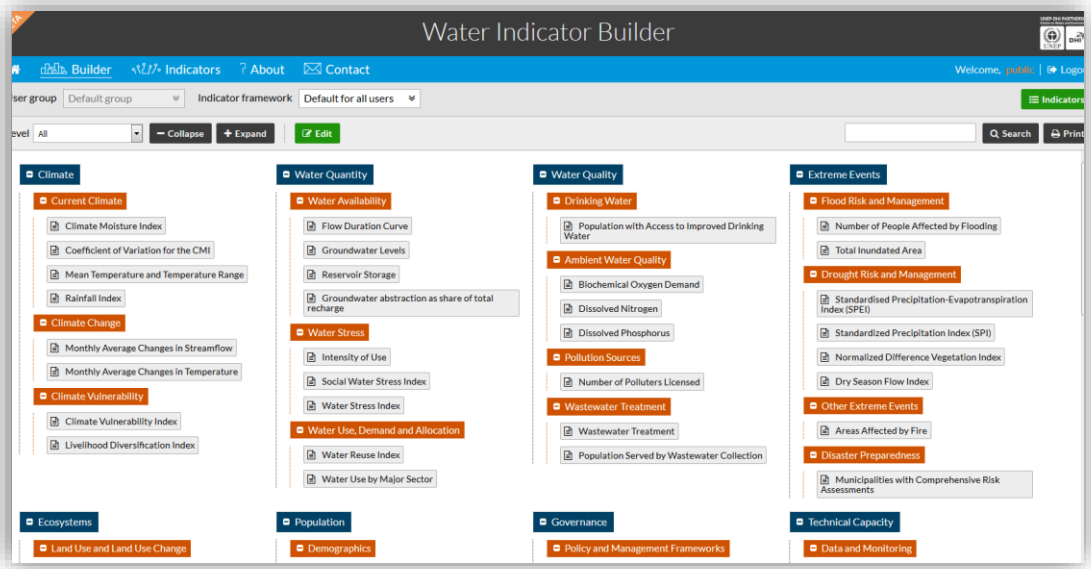
- Climate
  - Current Climate
    - Climate Moisture Index
    - Coefficient of Variation for the CMI
    - Mean Temperature and Temperature Range
    - Rainfall Index
  - Climate Change
    - Monthly Average Changes in Streamflow
    - Monthly Average Changes in Temperature
  - Climate Vulnerability
    - Climate Vulnerability Index
    - Livelihood Diversification Index
- Water Quantity
  - Water Availability
    - Flow Duration Curve
    - Groundwater Levels
    - Reservoir Storage
    - Groundwater abstraction as share of total recharge
  - Water Stress
    - Intensity of Use
    - Social Water Stress Index
    - Water Stress Index
  - Water Use, Demand and Allocation
    - Water Reuse Index
    - Water Use by Major Sector
- Water Quality
  - Drinking Water
    - Population with Access to Improved Drinking Water
  - Ambient Water Quality
    - Biochemical Oxygen Demand
    - Dissolved Nitrogen
    - Dissolved Phosphorus
  - Pollution Sources
    - Number of Polluters Licensed
  - Wastewater Treatment
    - Wastewater Treatment
    - Population Served by Wastewater Collection
- Extreme Events
  - Flood Risk and Management
    - Number of People Affected by Flooding
    - Total Inundated Area
  - Drought Risk and Management
    - Standardised Precipitation-Evapotranspiration Index (SPEI)
    - Standardized Precipitation Index (SPI)
    - Normalized Difference Vegetation Index
    - Dry Season Flow Index
  - Other Extreme Events
    - Areas Affected by Fire
  - Disaster Preparedness
    - Municipalities with Comprehensive


Builder
Indicators
About
Contact
Welcome, public | Logout
User group
Default group
Indicator framework
Default for all users
Indicators
Level
All
Collapse
Expand
Editing:
Cancel
Save as
Undo
Add main group
Search
Climate
Water Quantity
Water Quality
Extreme Events
Water Availability
Group | Indicator | Rename | Delete
Social Water Stress Index
Water Stress Index
Water Use, Demand and Allocation
Ecosystems
Population
Governance
Technical Capacity
Investments
WR Economic Sectors


Water Indicator Builder
Builder
Welcome, public
er group
Default group
el
1st-level subcategories
Search
Climate
Current Climate
Climate Change
Climate Vulnerabilit
Ecosystems
Land Use and Land U
Biodiversity
Protected Areas
Land Degradation
Investments
Indicators
Select an indicator for action
Download
Edit
Clone
Delete
Name
Author
Description
Created
Modified
Climate Moisture Index
admin
The Climate Moisture Index (CMI) is an aggregate measure of potential freshwater availability, and is based on the relationship between plant water demand and available precipitation.
2016-08-25 09:15
2016-08-16 11:52
Coefficient of Variation for the CMI
admin
The coefficient of variation for the climate moisture index (CV CMI) is a statistical measure of variability in the ratio of plant water demand to precipitation.
2016-08-25 09:15
2016-08-16 11:52
Mean Temperature and Temperature Range
admin
This indicator measures mean surface temperatures to assess climate variability, abnormalities and trends in order to better understand associated impacts on ecological, economic and social systems.
2016-08-25 09:15
2016-08-17 17:35
Rainfall Index
admin
The Rainfall Index shows rainfall data availability, spatial and temporal rainfall distributions and the severity of rainfall conditions for a specified region. A basic hydrological indicator that can be used to estimate precipitation and therefore freshwater availability.
2016-08-25 09:15
2016-08-16 11:53
Monthly Average Changes in Streamflow
admin
This indicator examines patterns of streamflow over time. Measurements over extended periods of time are able to show annual anomalies, or differences, compared with the average streamflow.
2016-08-25 09:15
2016-08-17 17:35
Monthly Average Changes in Temperature
admin
This indicator measures absolute changes and rates of change in surface temperatures to monitor and identify anomalies in the climate system, relative to historic records, and project future climatic scenarios.
2016-08-25 09:15
2016-08-17 17:36
Climate Vulnerability Index
admin
The Climate Vulnerability Index (CVI) is used as an integrated assessment of local vulnerability to water-related risks. It is a composite indicator, determined as a function of climate exposure, resilience and
2016-08-25 09:15
2016-08-16 11:55
+ Add indicator

http://www.unepdhi.org/publications





http://www.waterindicatorbuilder.com

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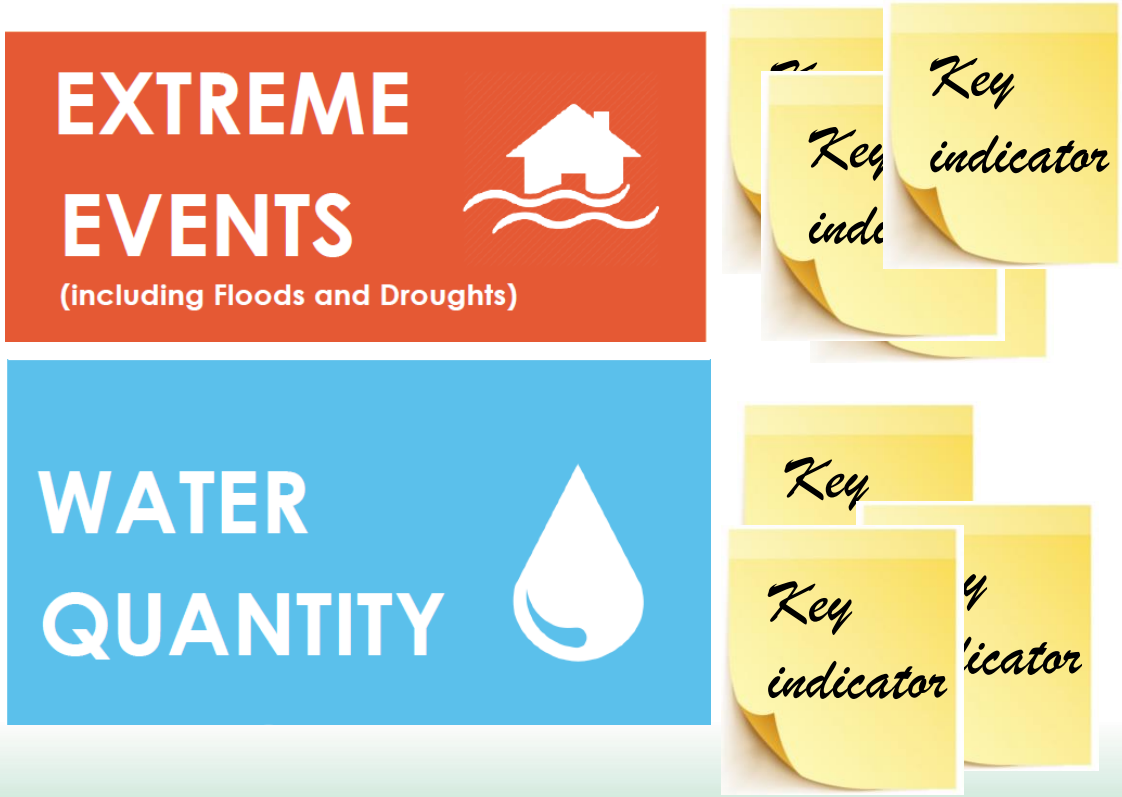
Climate	Water Quantity	Water Quality	Extreme Events	Ecosystems	Populations	Governance	Technical Capacity	Investments	WR Economic Sectors
Current Climate	Water Availability	Drinking Water	Flood Risk & Management	Land Use & Land Use Change	Demo-graphics	Management & Cooperation Frameworks	Data & Monitoring	Infrastructure & Development	Agriculture / Irrigation
Climate Change	Water Stress	Ambient Water Quality	Drought Risk & Management	Biodiversity	Health	Stakeholder Engagement	Human Capacity	Capacity Investments	Hydropower
Climate Vulnerability	Water use, Demand and Allocation	Pollution Sources	Other Extreme Events	Protected Areas	Employment	Conflict Management		Cost Recovery	Industry
		Wastewater Treatment	Disaster Preparedness	Land Degradation		Equity & Gender		Funding Sources & Mechanisms	Municipal Sector
						Awareness & Access to Information			Tourism
									Economic Benefits & Losses

Part I: SNAP!

- **Write down** key indicators of relevance in your work/project/basin on a post-it
- Maximum **5**
- **1** post it = **1** indicator
- **SNAP!**



Categories

Climate

Water Quantity

Ecosystems

WR Economic Sectors

Water Quality

Extreme Events

Population

Technical Capacity

Investments

Governance

(Reporting from the groups)

Part 2: Key indicators and key challenges

(Indicator framework from: guidance document **Using indicators for improved water resources management**

(Reporting from the groups)

SUSTAINABLE DEVELOPMENT GOAL 6

Ensure availability and sustainable management of water and sanitation for all

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

- 6.1.1 Proportion of population using safely managed drinking water services

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

- 6.2.1 Proportion of population using safely managed sanitation services, including a handwashing facility with soap and water

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

- 6.3.1 Proportion of wastewater safely treated
- 6.3.2 Proportion of bodies of water with good ambient water quality

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

- 6.4.1 Change in water use efficiency over time
- 6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

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

- 6.5.1 Degree of integrated water resources management implementation (0-100)
- 6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

- 6.6.1 Change in the extent of water-related ecosystems over time

Part 3: SDG 6 indicators

- How can SDG6 indicators be useful in your existing monitoring and reporting work;
- How can SDG6 data be best made use of;
- Are there any existing tools, approaches, etc. that can help to make best use of SDG6 data and indicators? (SOCAR)

Going Forward – Get Engaged

- Testing the builder tool with stakeholders (remote and in workshops)
- Making the indicator guidance available via www.waterindicatorbuilder.com
- Continued expansion of the indicator database
- Expanding the functionalities - collecting and sharing knowledge – what indicators are your neighbours using?

Thank you

UN environment

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