

United Nations • World Water Educational, Scientific and • Assessment Cultural Organization • Programme

**SDG 6 on Water and Sanitation** to achieve the 2030 Agenda for **Sustainable Development** - State of Affairs and Knowledge Gaps

The critical role of

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GRoW – Water as a Global Resource, Mid-term Conference, 20-21 Feb 2019, Frankfurt am Main, Germany

#### Agenda 2030 for Sustainable Development with 17 SDG



#### **Capturing 360 Feedback from Leaders Priorities:** *What do leaders consider development priorities*?

| Sustainable Development Goal                     |       |
|--|-------|
| Goal 04 - Quality Education                      | 65    |
| Goal 16 - Peace and Justice                      | 61.6% |
| Goal 08 - Decent Work and Economic Growth        | 60.0% |
| Goal 03 - Good Health and Well-Being             | 42.7% |
| Goal 09 - Industry Innovation and Infrastructure | 42.0% |
| Goal 01 - No Powert,                             | 31.9% |
| Goal 06 - Clean Water and Sanitation             | 30.7% |
| Goal 10 - Reduced mequaines                      | 30.0% |
| Goal 05 - Gender Equality                        | 29.1% |
| Goal 07 - Affordable and Clean Energy            | 27.2% |
| Goal 11 - Sustainable Cities and Communities     | 26.7% |
| Goal 15 - Life on Land                           | 22.0% |
| Goal 02 - Zero Hunger                            | 21.8% |
| Goal 13 - Climate Action                         | 21.5% |
| Goal 12 - Responsible Consumption and Production | 15.0% |
| Goal 14 - Life Delow Wate.                       | J.4%  |

#### PRIORITIES

Government

#### STRONG CONVERGENCE IN THE TOP PRIORITIES ACROSS ALL STAKEHOLDER GROUPS: GOALS 4, 8, 16 AND 9 (I.E., PRIVATE SECTOR)

| Goal 04 | 63.9% |
|---------|-------|
| Goal 08 | 58.4% |
| Goal 16 | 58.2% |
| Goal 09 | 45.6% |
| Goal 03 | 43.9% |
| Goal 06 | 32.2% |
| Goal 01 | 31.2% |
| Goal 11 | 27.7% |
| Goal 07 | 27.7% |
| Goal 10 | 27.5% |
| Goal 05 | 25.4% |
| Goal 02 | 22.1% |
| Goal 13 | 21.8% |
| Goal 15 | 21.2% |
| Goal 12 | 16.4% |
| Goal 14 | 6.2%  |
|         |       |

| ľ       | Development Farther |
|---------|---------------------|
| Goal 04 | 64.7%               |
| Goal 08 | 64.0%               |
| Goal 16 | 62.1%               |
| Goal 10 | 40.3%               |
| Goal 03 | 38.3%               |
| Goal 09 | 34.5%               |
| Goal 01 | 32.7%               |
| Goal 06 | 32.6%               |
| Goal 05 | 32.3%               |
| Goal 11 | 29.0%               |
| Goal 07 | 25.5%               |
| Goal 15 | 23.1%               |
| Goal 13 | 22.2%               |
| Goal 02 | 19.5%               |
| Goal 12 | 12.4%               |
| Goal 14 | 4.5%                |

Development Partner

| Goal 16 | 67.5% |
|---------|-------|
| Goal 04 | 64.1% |
| Goal 08 | 53.9% |
| Goal 03 | 42.9% |
| Goal 05 | 36.3% |
| Goal 01 | 33.8% |
| Goal 09 | 31.1% |
| Goal 10 | 28.8% |
| Goal 11 | 24.3% |
| Goal 06 | 24.2% |
| Goal 07 | 23.2% |
| Goal 15 | 23.0% |
| Goal 13 | 22.3% |
| Goal 02 | 21.6% |
| Goal 12 | 13.8% |
| Goal 14 | 4.1%  |

CSO/NGO



#### Source: World Bank, Listening to Leaders Survey, in preparation

# Agenda 2030 for Sustainable Development with 17 SDG



Illustration: Azote Images for Stockholm Resilience Center

https://www.stockholmresilience.org/research/research-news/2016-06-14-how-food-connects-all-the-sdgs.html







#### ENSURE AVAILABILITY AND SUSTAINABLE MAN, MENT OF WATER AND SAN

ACCESS TO SAFE WATER AND SANITATION AND SOUND MANAGEMENT OF FRESHWATER ECOSYSTEMS ARE ESSENTIAL TO HUMAN HEALTH AND TO ENVIRONMENTAL SUSTAINABILITY AND ECONOMIC PROSPERITY



### WATER and SANITATION Focus during the MDGs phase (2000-2015)



#### **SDG 6** "Ensure availability and sustainable management of water and sanitation for all" (2016-2030)

6.4 Water use and scarcity

### Game changer!

<u>6.3</u> Wastewater and water quality management <u>6.a and 6.b</u> Cooperation and participation

<u>6.5</u>

Water

<u>6.2</u> Sanitation and hygiene <u>6.6</u> Ecosystems

6.1 Drinking water

Source: UN-Water, 2016

CLEAN WATER AND SANITATION

# HIGHLIGHTS

The Sustainable Development Goal 6 Synthesis Report 2018 on Water and Sanitation reviews the global progress made towards achieving Sustainable Development Goal 6 (SDG 6) of the 2030 Agenda for Sustainable Development. It builds on the latest data available for the 11 SDG 6 global indicators and will inform the High-level Political Forum for Sustainable Development during its in-depth review of SDG 6 in July 2018. The report represents a joint position from the United Nations family.

# The world is not on track

 Billions of people still lack safe water, sanitation and handwashing facilities: 844 million lack basic water ser Could be part of a water-saving solution: The agriculture

Force and ce include:

ATER

Spanish

pment Goal 6

eport 2018 on and Sanitation

**1MARY** 

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ATION



CEO Water Mandate, FAO, ILO, UNDP, UNECE, UNEP, UNESCO (WWAP, coordinator), UN-HABITAT, UNICEF, UNU, UN-Water TAU, WHO, WMO and World Bank

#### Main Message 1

#### Achieving SDG 6 is essential for progress on all other SDGs, and vice versa

creates is a powerful tool for cooperation. Some 28% of global forest ecosystems, covering 4,800 million km<sup>2</sup>, purify and supply 60-80% of the freshwater needs of more than half of the world's population, including 1.7 billion people living in a third of the world's largest cities.

Equitable sharing of water and the benefits it

Around the world, 400 so-called "dead zones" in coastal waters exist, where excess nutrients lead to areas of low to no oxygen that can kill fish and other marine life.

> About one-third of produced food is lost or wasted, commodities with a significant water footprint.

By 2030, building sustainable cities and communities , will require US\$7.5 trillion investment in water infrastructure to meet existing deficiencies and cope with future demand.

> In 2015, 159 million people (mainly women and girls) still collected drinking water from distant surface water sources and 892 million people still defecate in the open, with the majority residing in rural communities.

286 transboundary rivers and lakes, and 592 transboundary aquifers are shared by 153 countries; water stress in many region is increasing. 844 milli

17 PARTNERSHIPS

8

GOALS

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15 UPE ON LAND

14 LIFE BELOW

13 CLIMATE

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

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11 SUSTAINABL AND COMMU

> 10 REDUCED INEQUALITIES

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1 NO POVERTY

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8 DECENT WORK AND ECONOMIC GROWTH

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844 million people still lacked even basic drinking water services that exacerbate poverty. / Globall

ZERO

3 GOOD HEALTH

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6 CLEAN WATER

0

4 QUALITY EDUCATION

5 GENDER EQUALITY

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Globally, 70% of all water withdrawals are used for agriculture; more than 80% in Africa and Asia.

> In low- and middle-income countries, 20% of healthcare facilities lack basic sanitation and 33% lack access to safe drinking-water, as well as water and soap for handwashing.

In 2013, although 71% of the world's primary schools had adequate access to water supplies and 69% had adequate sanitation, in the 49 LDCs the figures were only 52% and 51%, respectively.

Across 61 countries, women and girls are responsible for water collection in 8 out of 10 households, preventing women and girls to engaging in other activities (e.g., attending school).

Estimates suggest that if the natural environment continues to be degraded and unsustainable pressures put on global water resources, by 2050 this will put at risk 45 per cent of the global gross domestic product (GDP), 52 per cent of the world's population and 40 per cent of global grain production.

In 2014, about 10% of all water withdrawals were used for energy generation that requires water to cool thermal power plants, grow biofuels, extract primary fossil fuels and provide hydropower.

Water is fundamental to Globally, 1.4 billion livelihoods industry, and both quality are directly water-dependent. and quantity matter. In This includes jobs in the food and 2017, 81% of companies beverage industry, energy as well surveyed consider as in the water industry. In many sufficient amounts of good developing countries, millions of quality freshwater to be small-holder farmers rely on water 'important' or 'vital' for for irrigation and livestock farming their operations. for their livelihoods.

## WATER, ENERGY and SOCIAL EQUITY





## WATER and ENERGY





Electricity consumption in the water sector increases by 80% over the next 25 years

\* Supply includes groundwater and surface water treatment.

Sources: Luck, et al. (2015); Bijl, et al. (2016); Wada, et al. (2016); IEA analysis.



# Virtual water' trade in Latin America and Caribbean (LAC)



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Equitable sharing of water and the benefits it

Around the world, 400 so-called "dead zones" in coastal waters exist, where excess nutrients lead to areas of low to no oxygen that can kill fish and other marine life.

Between 1990 and 2015, water-related hazards accounted for 62% of the deaths, 96% of the people affected and 75% of total damage costs amounting to US\$2.5 trillion – numbers likely to increase in a changing climate.

About one-third of produced food is

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17 PARTNERSHIPS

**&** 

GOALS

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1.++

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withdrawals were equires water to iofuels, extract dropower.

What does that mean for implementing SDG 6, and the whole 2030 Agenda?

- How to value water right?
- Revenue feedback for further investments (create a 'virtuous circle')?

#### Main Message 2 Eliminating inequalities is essential:

Effective policies, strategies and subsidies must be developed to ensure no one is left behind.







### Example: SDG 6.1 Safely managed drinking

#### water

Global drinking water coverage (%) in 2015

100

80

60 -

40

20

n

2.1 billion lacked safely managed drinking water
844 million still lacked a basic service
263 million used a limited service
159 million used surface water sources



Over 5 billion people (7 out of 10) used safely managed drinking water in 2015

Proportion of population using safely managed drinking water services in 2015

Data sources: WHO/UNICEF JMP, 2017

#### SERVICE LEVEL DEFINITION Drinking water from an improved water source that is SAFELY MANAGED located on premises, available when needed and free from faecal and priority chemical contamination Drinking water from an improved source, provided BASIC collection time is not more than 30 minutes for a round trip, including queuing Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip. LIMITED including queuing Drinking water from an unprotected dug well or unprotected spring UNIMPROVED Drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal SURFACE WATER

Note: Improved sources include: piped water, boreholes or tubewells, protected dug wells, protected springs, and packaged or delivered water.

# WATER and INEQUALITY (GENDER)

In most countries, the burden of water collection falls mainly on women



FIGURE 20

100

Note: Restricted to countries where at least 1 in 10 households have water off premises

#### WaSH and INFOLIALITY

4.5 billion people lacked safely managed sanitation services New disaggregs 2.3 billion people still lacked even a basic sanitation service 892 million people still practised open defecation



#### Normal



Typical brain cells Extensive branching

#### Stunted





Impaired brain cells Limited branching Abnormal, shorter branches

16

iource: Cordero E et al, 1993







#### Main Messages 3: The time to act on SDG 6 is <u>now</u>



Example: Basic Water Supply



#### Main Messages 3: The time to act on SDG 6 is <u>now</u>

Between 2000 and 2015, the global population using at least a basic drinking water service increased from 81% to 89%. <u>Only</u> <u>one in five countries</u> with less than 95% coverage of basic service in 2015 is <u>on track</u> to achieve universal basic water services by 2030.



### WATER and URBANISATION







## GLOBAL WATER WITHDRAWALS OVER TIME











### WATER USES for AGRICULTURE and INDUSTRIES



#### Water withdrawal ratios by continent





Data sources: AQUASTAT 2018

## **SDG 6.4.1** Change in water-use efficiency over time

Water-use efficiency is defined as the gross value added per unit of water used, expressed in US\$/m3.



Countries at a different level of general development have comparable values of water-use efficiency.

Increasing water-use efficiency means using less water while carrying out society's economic activities.

This can be done by increasing agricultural water productivity and reducing water losses, such as tackling leakage in municipal distribution networks.

#### MORE EFFICIENT WATER USE **SDG 6.4.2 Level of water stress**: freshwater withdrawals

as a proportion of available freebulator recourses



Le Area equipped for irrigation as a percentage of cultivated area

Sub-Saharan Africa, has a low level of the stress of evel, and the mass in

between the wetter north and drier south and the degree of water resources development.

Data source: FAO, 2018

#### Main Message 4 Developing capacity and using effective smart technologies for managing water wisely The case of AGRICULTURE



# Effective water management needs more and better data

#### 'You cannot manage, what you do not measure'

- Reliable (good quality), consistent and disaggregated
- Increase transparency and accountability
- Available and accessible (sharing)
- Less than 50% of Member States have comparable data
- Future: use latest technology (EO, citizen sciences etc.)
- Increase resource and develop capacity!





#### Main Message 5 Improving Governance and Public Participation



#### **Implement IWRM**

Integration across water and waterusing sectors and effective transboundary governance frameworks is essential to ensure that limited water resources are shared effectively among many competing demands.

# Public participation is critical to water management.

Community participation in decisionmaking can yield many benefits, but better means of measuring quality and effectiveness of such participation are needed.

# Good water governance is essential



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#### **SDG 6.5.1** Degree of implementation of IWRM

38% of countries reported at least medium-high IWRM implementation in 2017/18





# **SDG 6.5.2** Proportion of transboundary basin area with an operational arrangement for water cooperation



The world's 286 transboundary river and lake basins cover almost half of the Earth's surface area, over 150 countries have territory in a transboundary water basin and almost 600 transboundary groundwater aquifers (TBAs) have been identified.



# **SDG 6.5.2** Proportion of transboundary basin area with an operational

arrangement for water cooperation

**Regional breakdown** of the number of countries sharing basins and level of transboundary water cooperation (based on SDG6.5.2 indicator)



The average of the national percentage of transboundary rivers and lake basins covered by an operational arrangement is 64% and it is 47% for aquifers.

 Very high 90-100%
 High 70-90%

 Medium low 30-50%
 Low 10-30%

- Medium high 50-70%
- Very low 0-10%

Information provided needs to be clarified = Information not received



**SDG 6.b** Percentage of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management



Percentages of countries with defined procedures in law or policy for participation (number of countries = 110) Source: WHO and UN-Water (2017). Data source

Data sources: WHO and UN-Water (2017).

#### Main Messages 6: Global SDG 6 targets must be localized and adapted to the country context



## Some findings of the

CIIL/10/1

Figure 6. SDG 6 targets perceived as the biggest challenge by respondents



Figure 9. Main obstacles to the achievement of SDG 6 perceived by respondents

Lack of accountability, transparency ack of economic resources. Fragmentation of the water sector ack of governance instruments in place. Lack of technical capacity Others 40% 50%

Lack of accountability, transparency Lack of economic resources Fragmentation of the water sector Lack of stakeholder engagement Lack of institutional capacity Lack of governance instruments Lack of technical capacity Others

# Some findings of the survey

# Figure 10. Roles in the implementation of SDG 6



Are local governments supported sufficiently in the implementation of the SDG 6?

## **Some Reflections on Research Gaps**

- 1. Understanding interlinkages incl. quantification
- 2. Truly transdisciplinary projects (stakeholder involvement)
- 3. More and better data (incl. visualisation, modelling etc.)
  - Utilise latest technology, EO, big data, citizen science, private sector data etc.
  - Disaggregated, improve space-time resolution
  - Development of effective indicators to underpin governance and evidence-based decision making
- 4. Standardisation and harmonisation of monitoring (comparability, efficiency etc.)

### **Research into Policy and Practice**



Relative time allocation and funds for different stages along the research to utilization chain (Hatibu, 2006)

# Thank you!

This work is only possible due to the support from:

#### UN-Water Task Force SDG 6 Synthesis Report

#### **Main Partners**

CEO Water Mandate, FAO, ILO, UNDP, UNECE, UN-Environment, UN-Habitat, UNESCO WWAP (coordinator), UNICEF, UNU, UN-Water TAU, WHO, WMO and World Bank.

Contribution to data analysis by UNESCO–IHP, CDP, ....

Federal Ministry for Economic Cooperation and Development (BMZ), Germany Swiss Agency for Development and Cooperation (SDC), Switzerland

Ministry of Infrastructure and Environment, Netherlands Swedish Development Cooperation (SIDA), Sweden Ministry of Foreign Affairs, Italy



#### Main Message 7

# Create new ways to finance water and sanitation





INTERNATIONA

### WaSH services should be 'affordable'.

This implies that payment for services should not present a barrier to access or prevent people from meeting other basic needs

# Water and sanitation require a new financing paradigm

- Costs are increasing (ca. 500 bill/year); triple WASH investments to US\$114 bill./year (without O&M costs), additional water resources investments
- >80% of participating countries reported insufficient financing for national WaSH targets
- WaSH ca. 5% of total ODA disbursements; aid commitments have declined in SSA

## GLOBAL WATER WITHDRAWALS OVER TIME









