SDG 6 (Water and Sanitation)

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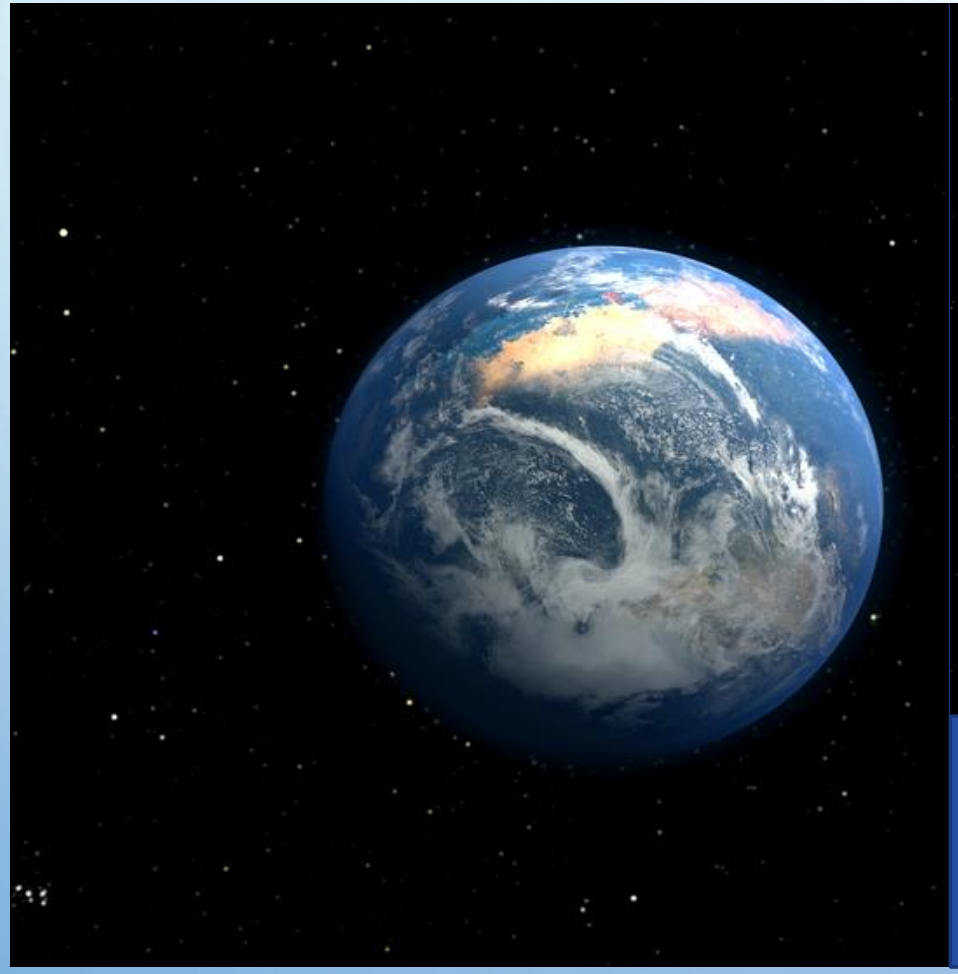
Institute for Climate Change Action

Executive Training Course for Policymakers on the 2030 Agenda and the Sustainable Development Goals (SDGs) Incheon, 23-27 April 2018

Contents

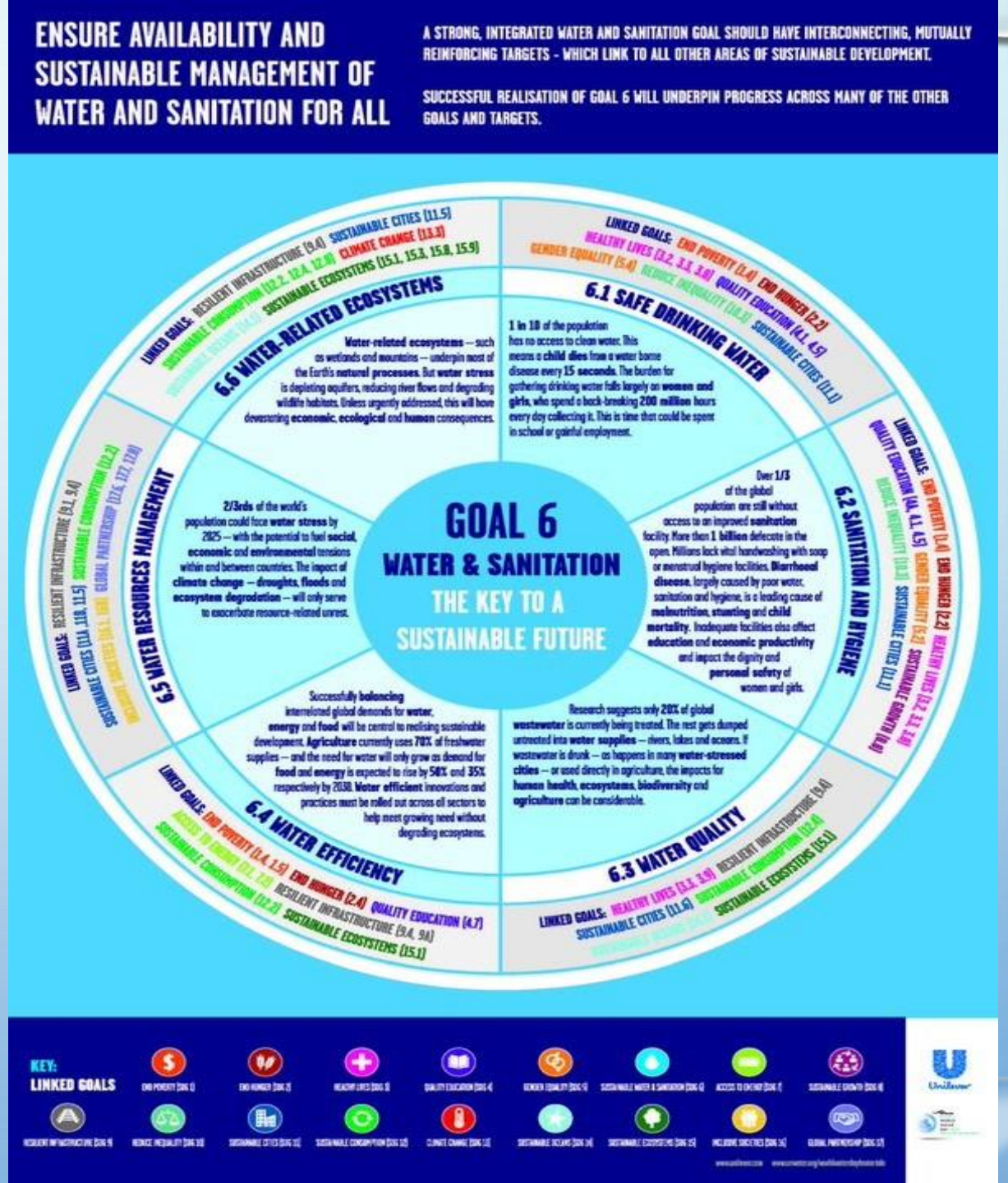
- **WHY** is water important in the context of sustainable development?
- **WHAT** is water for us?
  should we know about water?
- **HOW** has the water-related SDG been implemented?
  should the water-related SDG be implemented?
- **WHO** have critical roles in achieving the SDG6?

Early Mars vs. Mars Today



Our Earth Today!

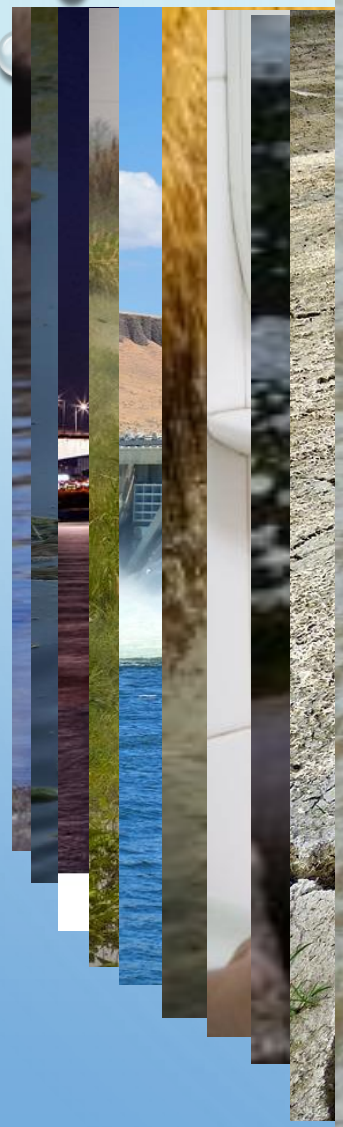
Water & Sanitation are the Key to a Sustainable Future



(SOURCE: UN WATER http://www.unwater.org/app/uploads/2017/05/SDG6-Interlinkages-1and2.pdf)

Water is ~ life!

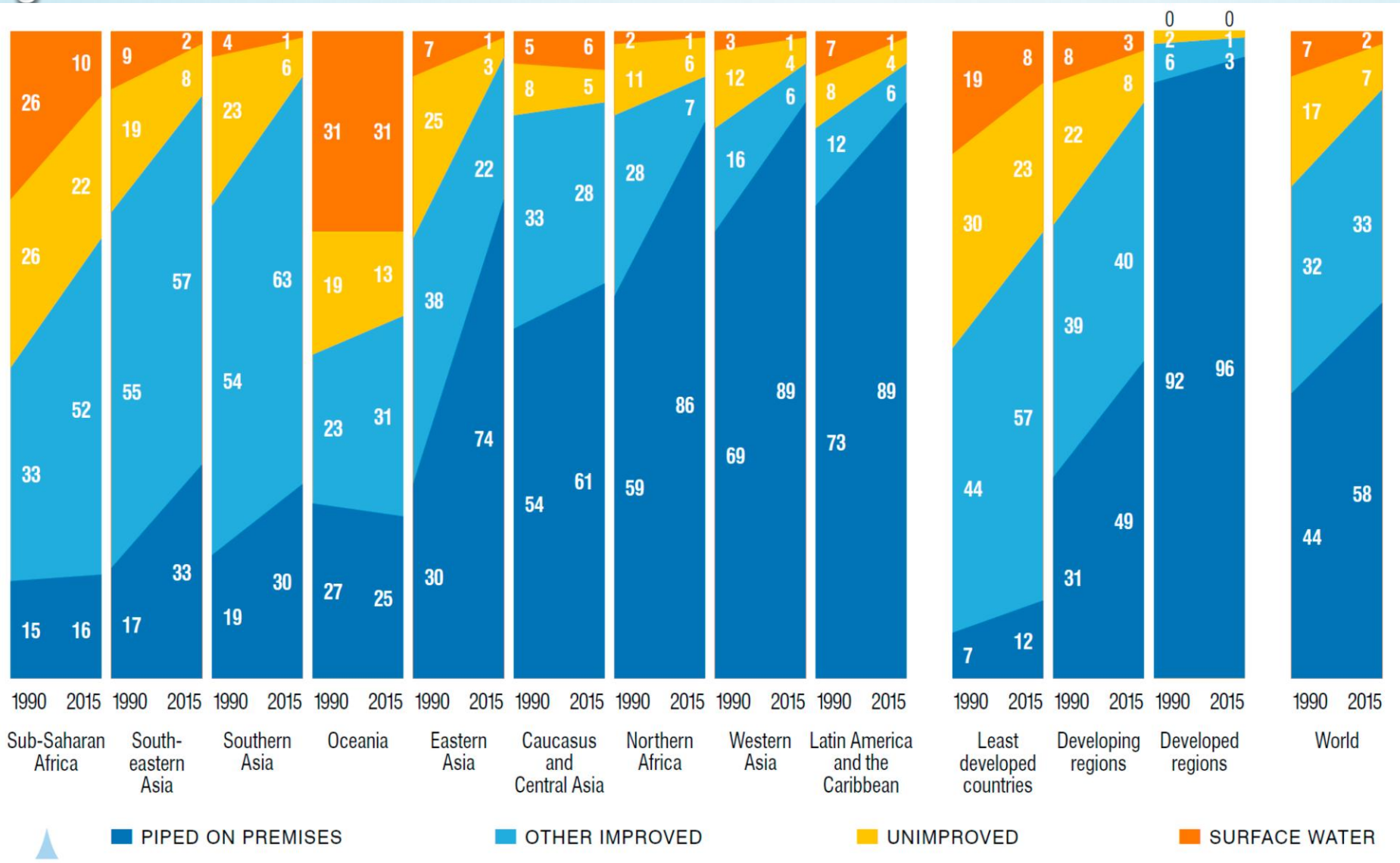
everyone's concerns!



Water is complex

INCLUDE ALL USES AND USERS: INTEGRATED APPROACH

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



DRINKING-WATER COVERAGE TRENDS BY DEVELOPING REGIONS AND THE WORLD, USING THE JMP IMPROVED WATER DEFINITION, 1990–2015.

SOURCE: WHO/UNICEF (2015)

HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/303597267_THE_KNOWLEDGE_BASE_FOR_ACHIEVING_THE_SUSTAINABLE_DEVELOPMENT_GOAL_TARGETS_ON_WATER_SUPPLY_SANITATION_AND_HYGIENE

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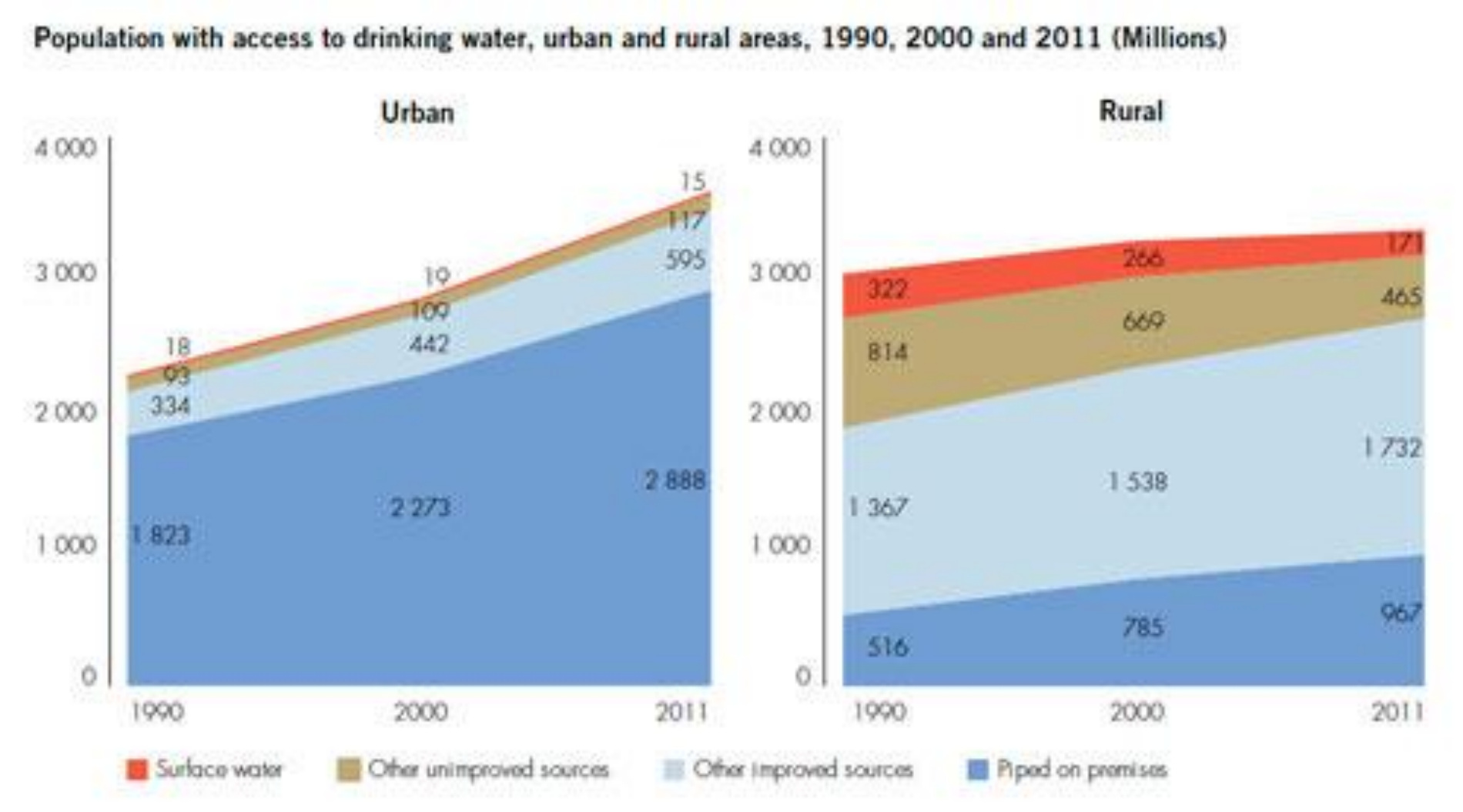

SOURCE: THE MILLENNIUM DEVELOPMENT GOALS REPORT 2013

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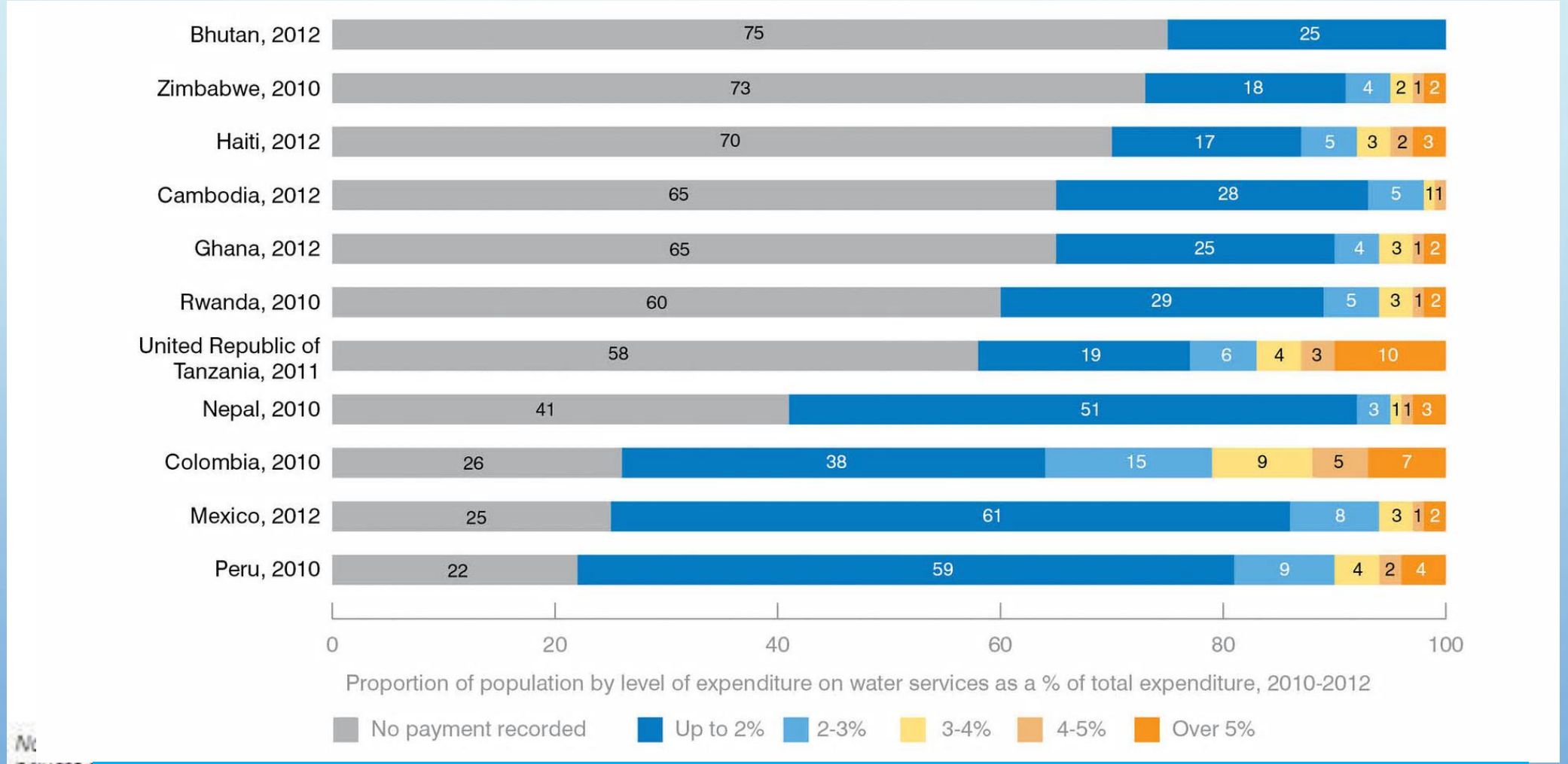

WHO/Unicef Joint Monitoring Programme)

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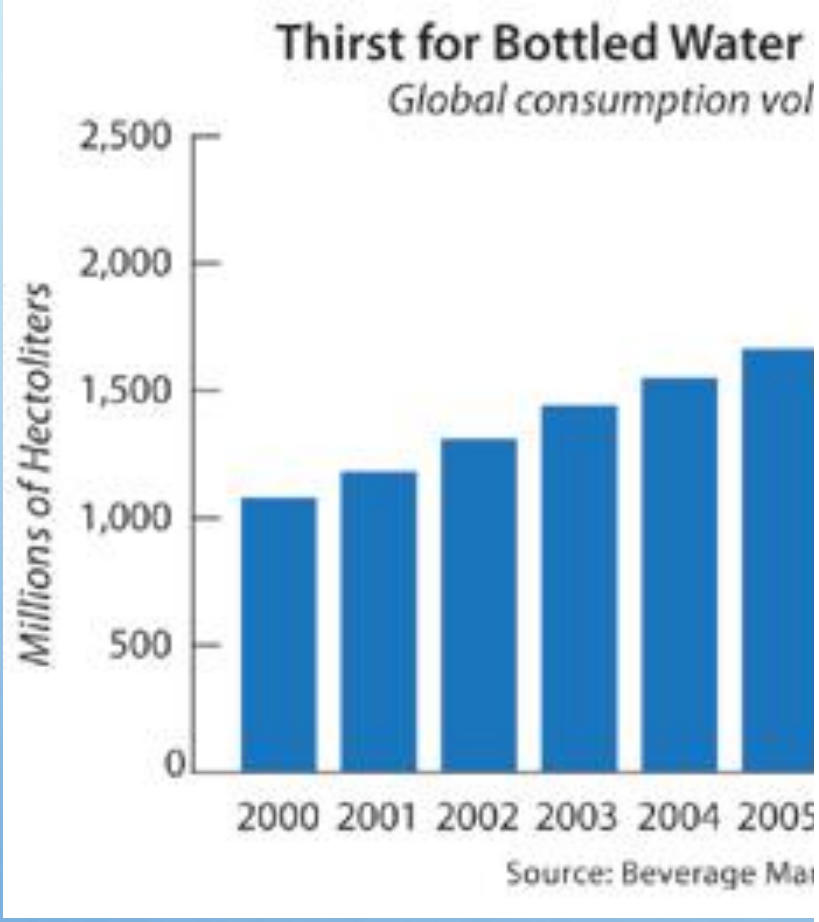


Exhibit 1.8

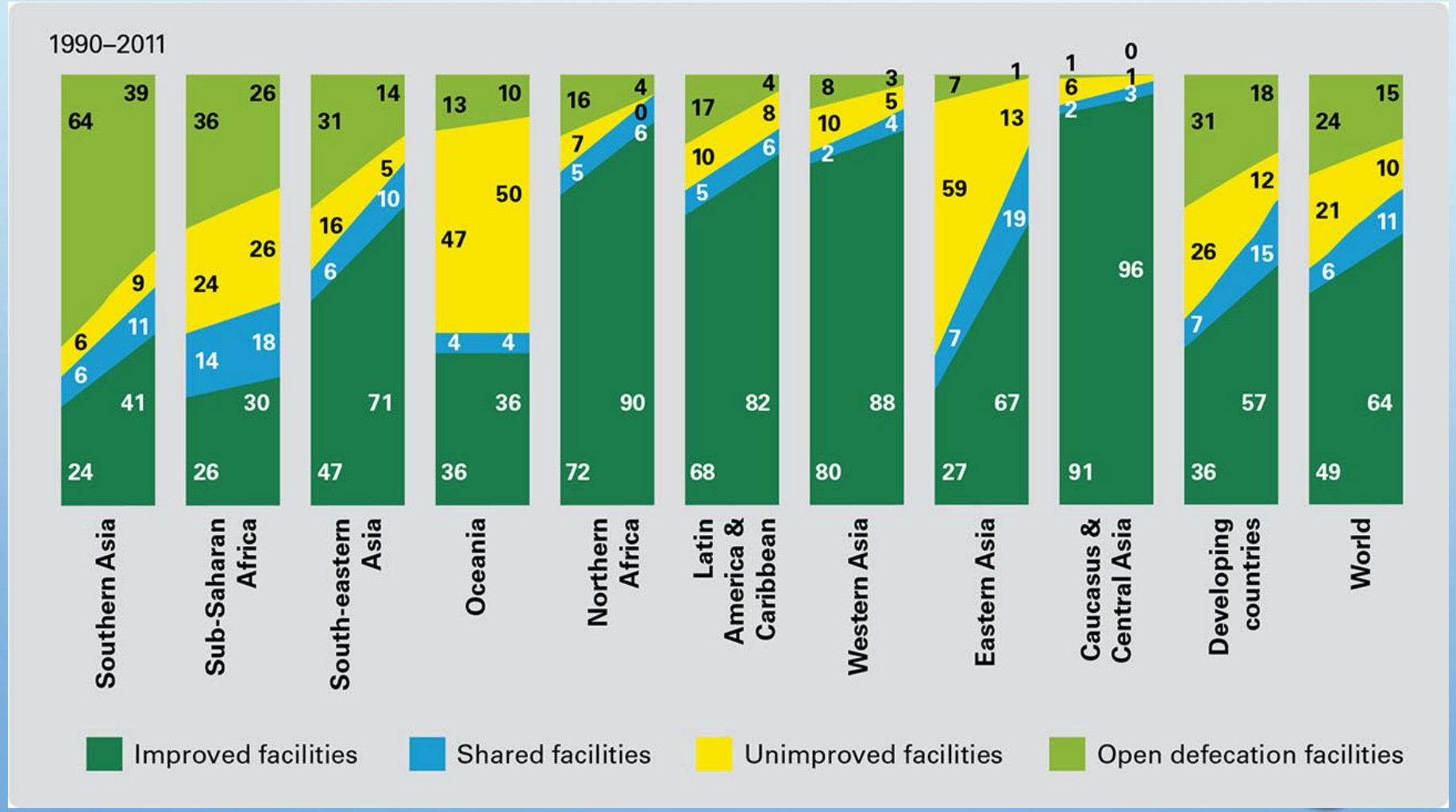
GLOBAL BOTTLED WATER MARKET
SHARE OF CONSUMPTION BY REGION
2005 – 2010(P)

Regions	2005	2006	2007	2008	2009	2010(P)
North America	30.2%	30.7%	31.2%	30.8%	30.3%	29.8%
Asia	22.9%	23.6%	24.9%	26.3%	27.1%	28.5%
Europe	34.3%	33.5%	31.3%	30.1%	28.9%	28.1%
South America	9.1%	8.8%	9.2%	9.4%	10.2%	10.1%
Africa/Mideast/ Oceania	3.5%	3.4%	3.4%	3.5%	3.5%	3.5%
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

(P) Preliminary

Source: Beverage Marketing Corporation

Target 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”



SOURCE: PROGRESS ON DRINKING WATER AND SANITATION: 2013 UPDATE.

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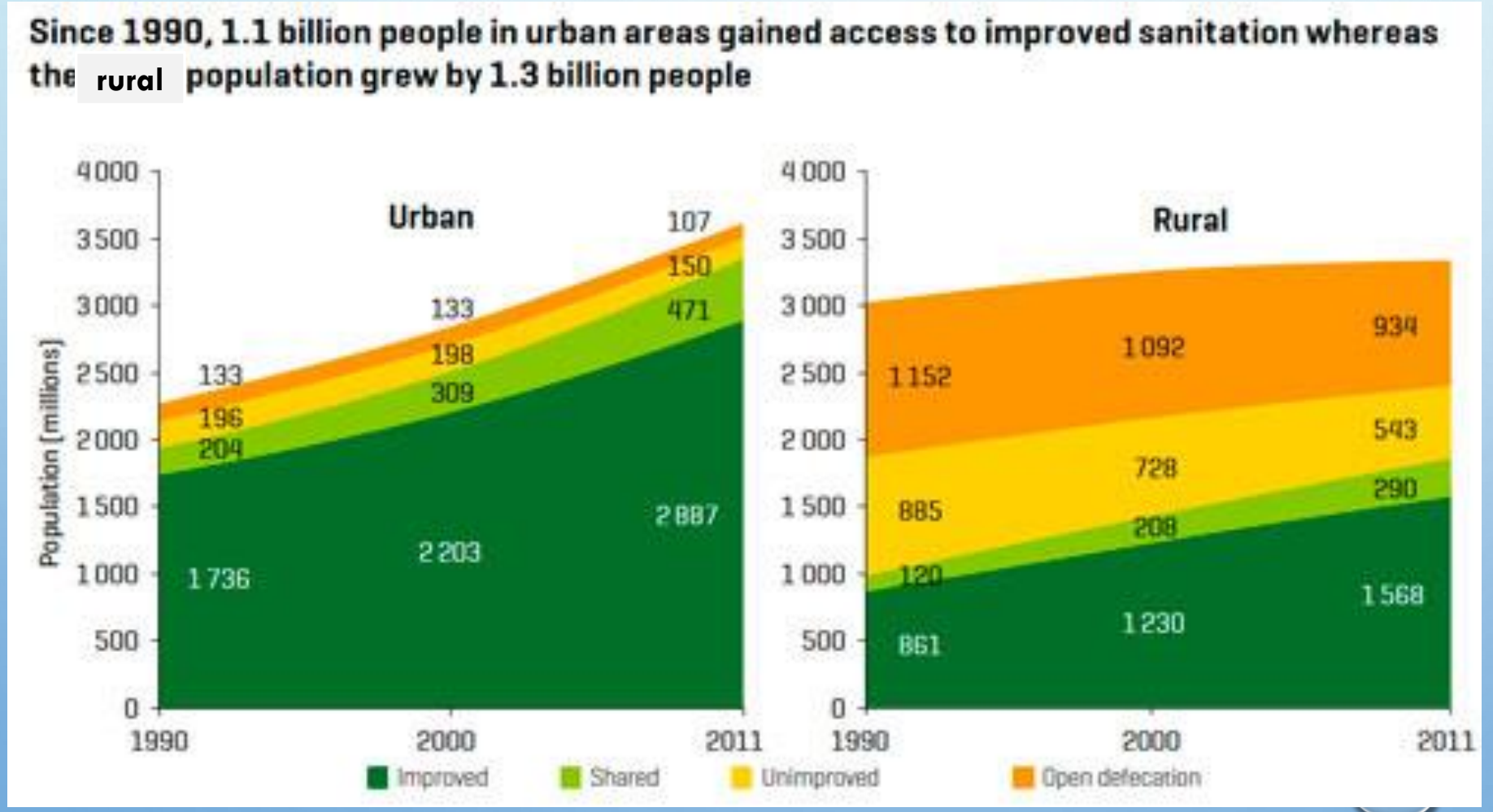

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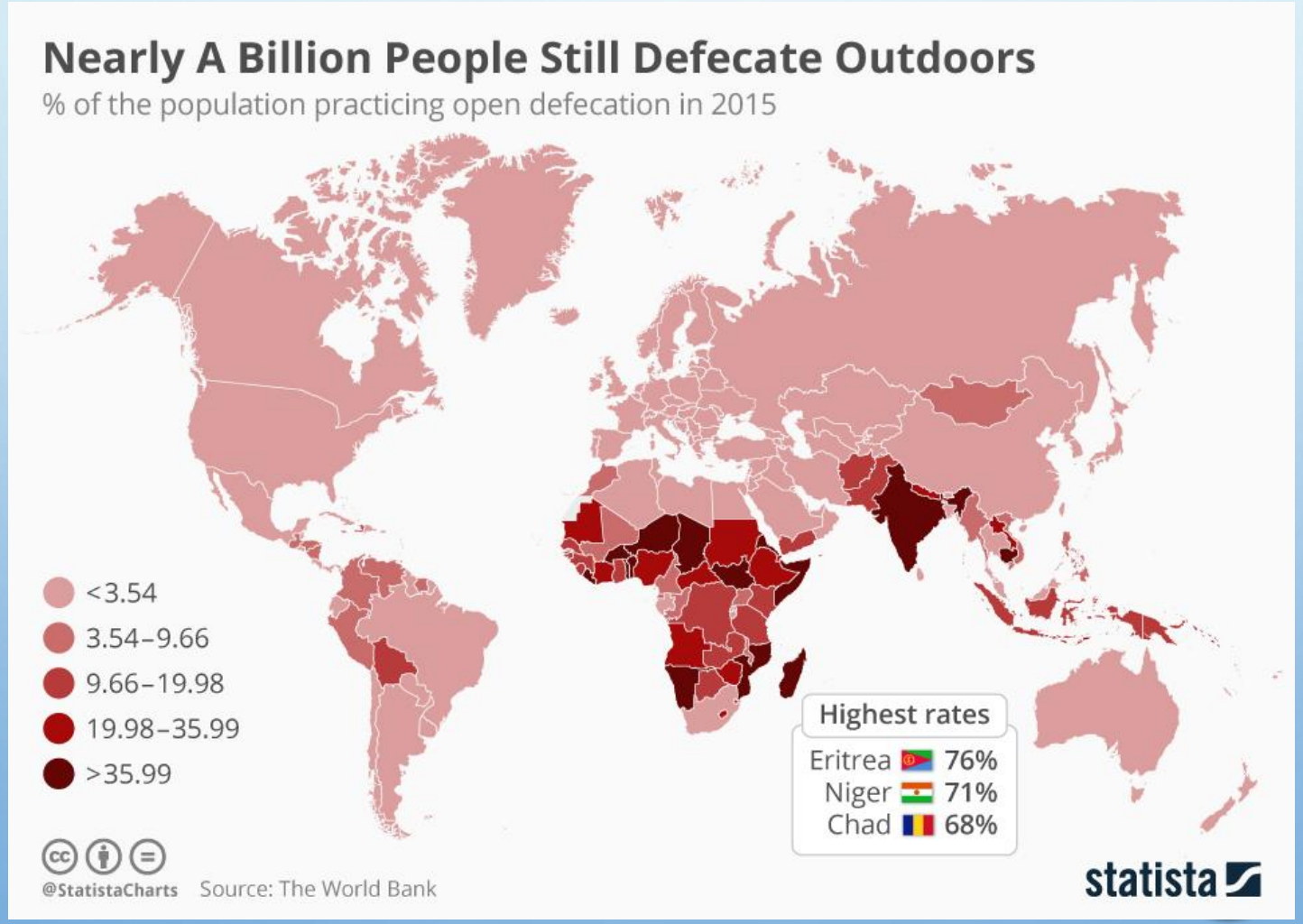

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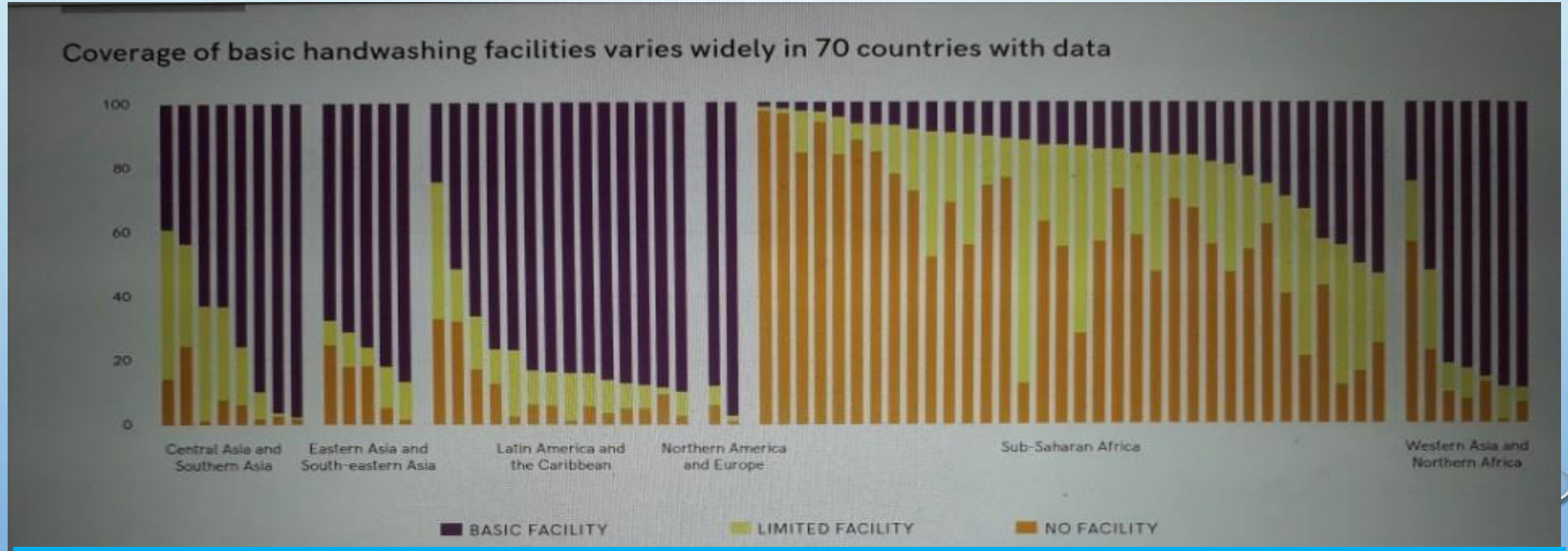
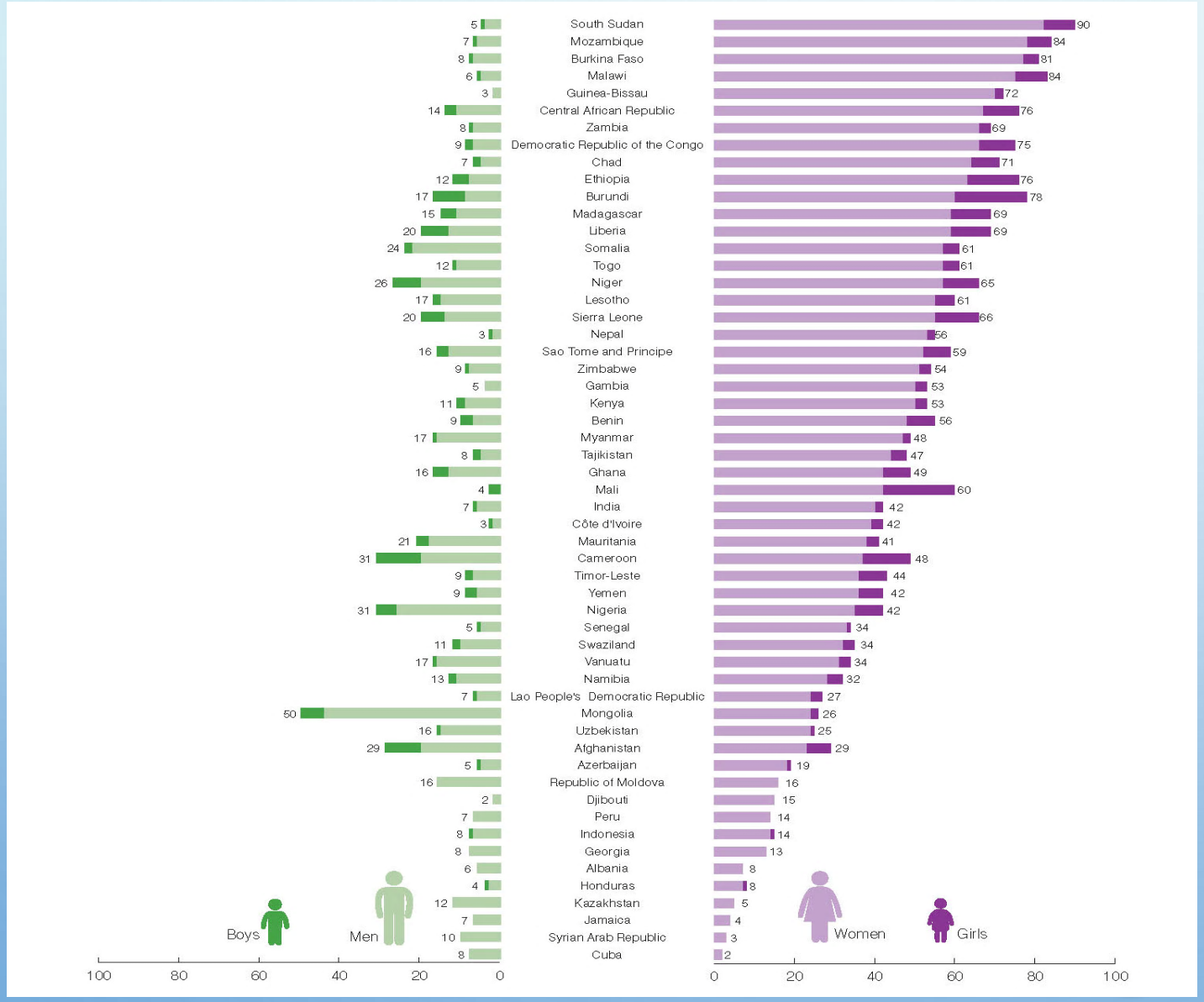


Source: UNICEF and WHO, “Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines”

FIG 24. PROPORTION OF POPULATION USING BASIC AND LIMITED HANDWASHING FACILITIES IN 2015, BY COUNTRY AND SDG REGION (%)

Paying special attention to the needs of women and girls! They have primary responsibility for collecting water in rural areas (by gender and age)



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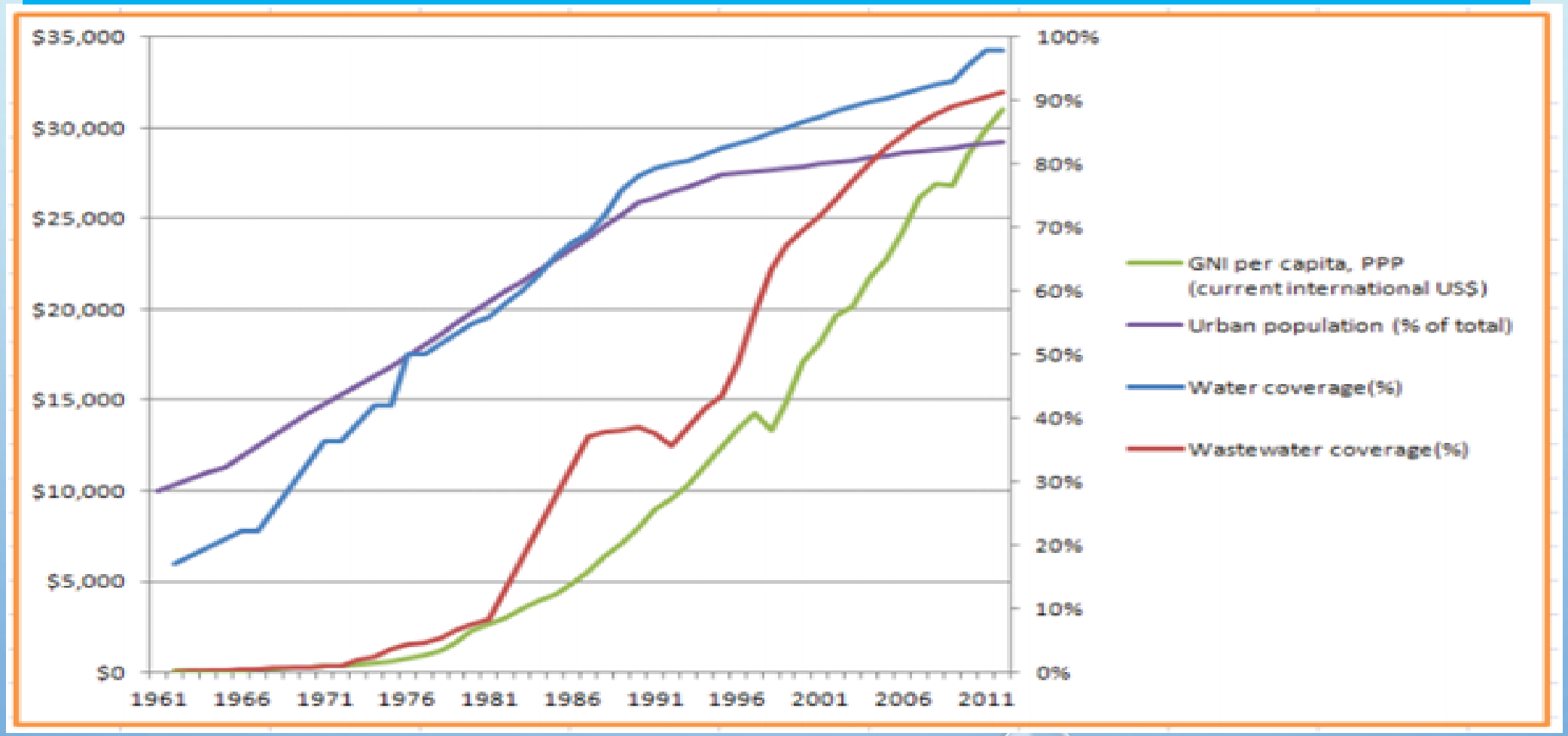
SOURCE: WHO/UNICEF JOINT MONITORING PROGRAMME

Key Drivers: Water & Sanitation Coverage

Water & Sanitation Coverage in Korea: Overview for the last 50 years



SOURCE: "REPUBLIC OF KOREA: TRANSFORMATION OF THE WATER SECTOR (1960-2012)", KWWA, 2016, PAGE 11, (ORIGINAL SOURCE: "REVISION OF A STUDY ON THE VISION 2050 OF WASTEWATER POLICY, KOREAN MINISTRY OF ENVIRONMENT, 2012)

Key Drivers: Water & Sanitation Coverage

Economic Rates of Return for Key Infrastructure In Africa

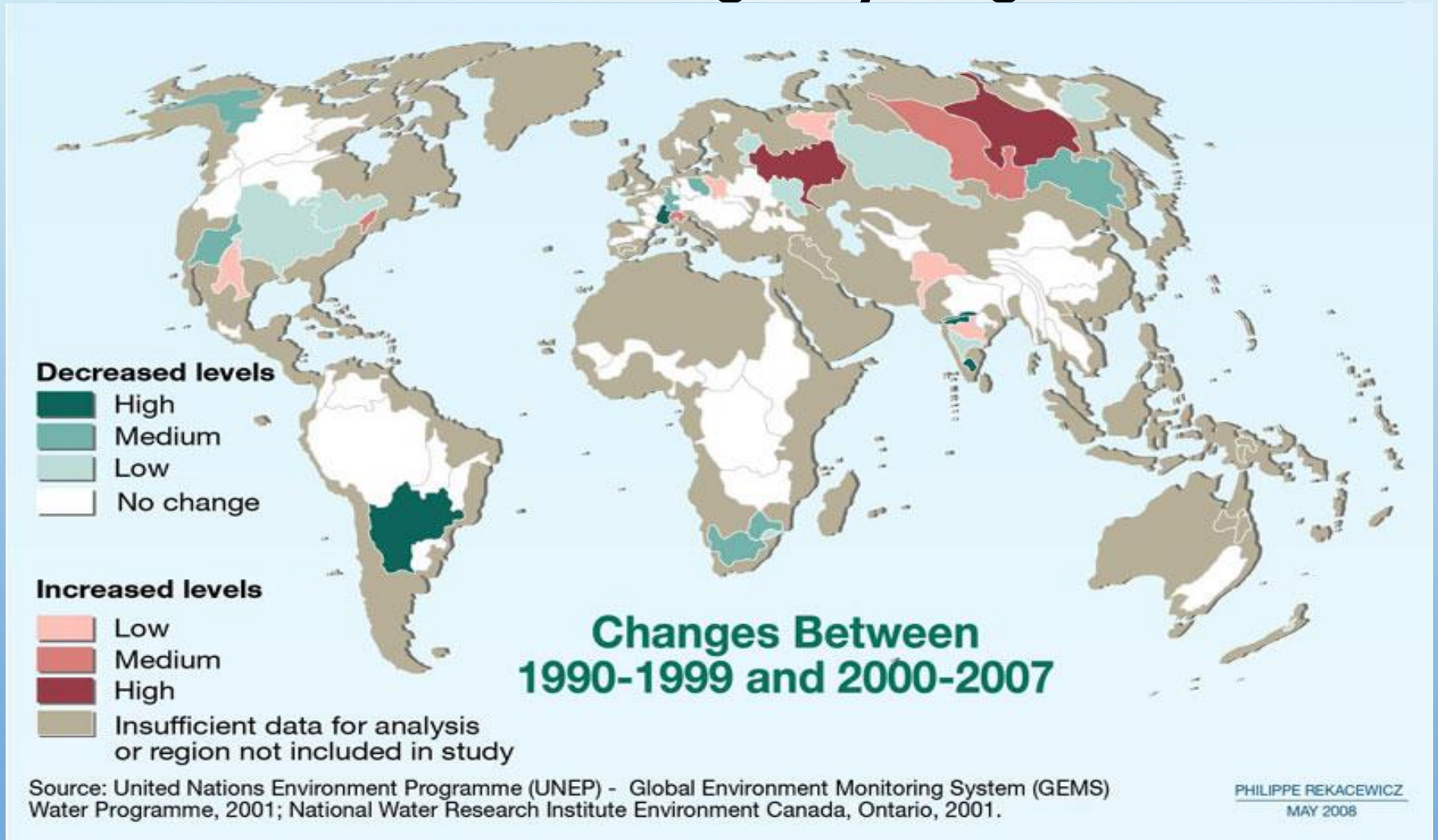
Table 2.5 Economic Rates of Return for Key Infrastructure

Country type	Railway rehabilitation	Irrigation	Road rehabilitation	Road upgrades	Road maintenance	Generation	Water
Middle income	18.5	19.3	45.4	19.8	143.0	13.6	26.8
Resource rich	10.8	24.2	16.2	17.4	114.5	20.2	37.0
Low-income nonfragile	6.2	17.2	17.6	12.8	125.7	14.3	7.7
Low-income fragile	2.5	—	9.2	12.0	67.6	24.7	36.9
Sub-Saharan Africa	5.1	22.2	24.2	17.0	138.8	18.9	23.3

Source: Africa Infrastructure Country Diagnostic.
Note: — Not available.

SOURCE: FOSTER AND BRICEÑO-GARMENDIA (2010, TABLE 2.5, P. 71) "AFRICA'S INFRASTRUCTURE : A TIME FOR TRANSFORMATION" HTTPS://OPENKNOWLEDGE.WORLDBANK.ORG/HANDLE/10986/2692

Target 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 increasing recycling and safe reuse globally"



NITRATE LEVELS: CONCENTRATIONS AT RIVER MOUTHS

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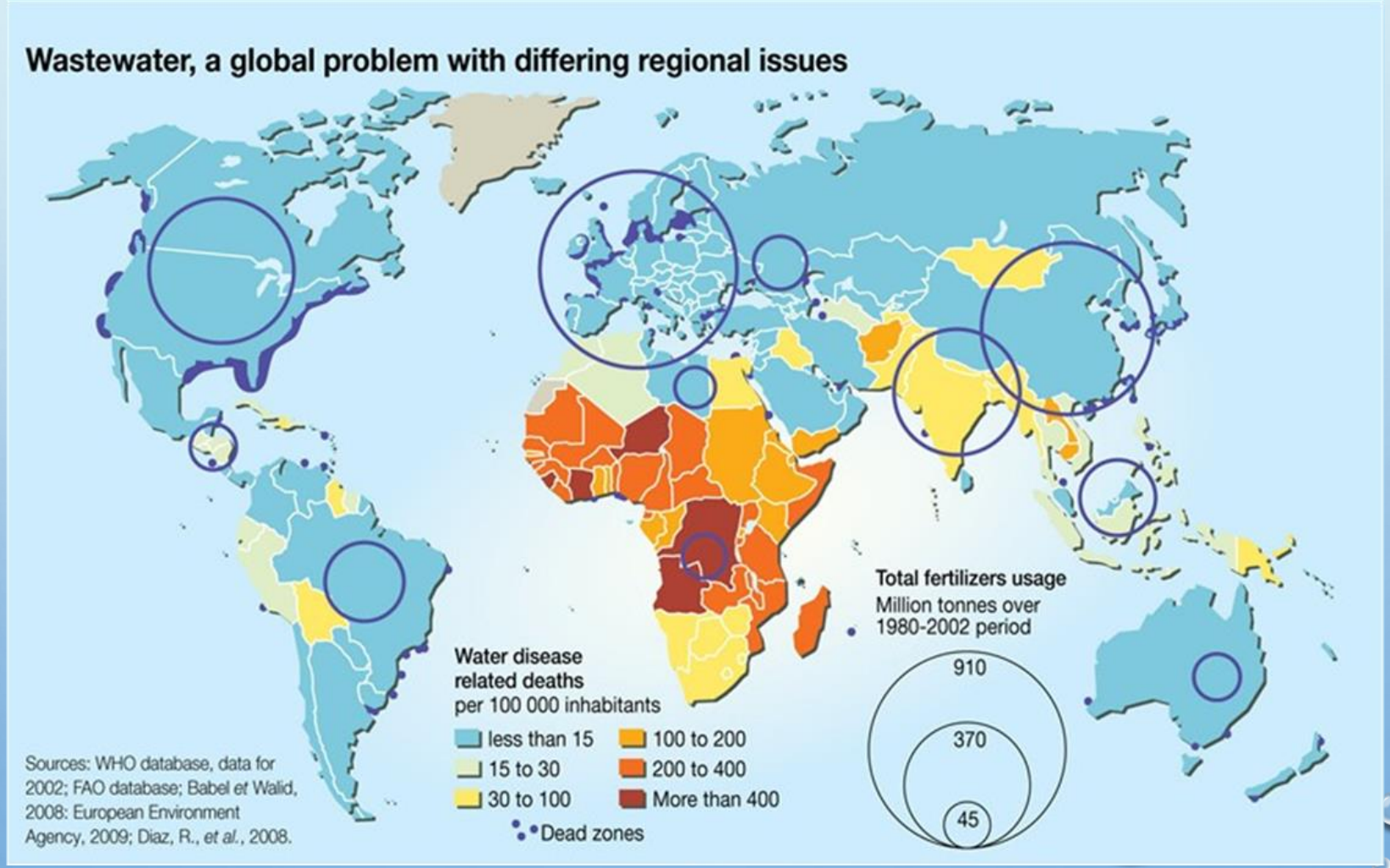

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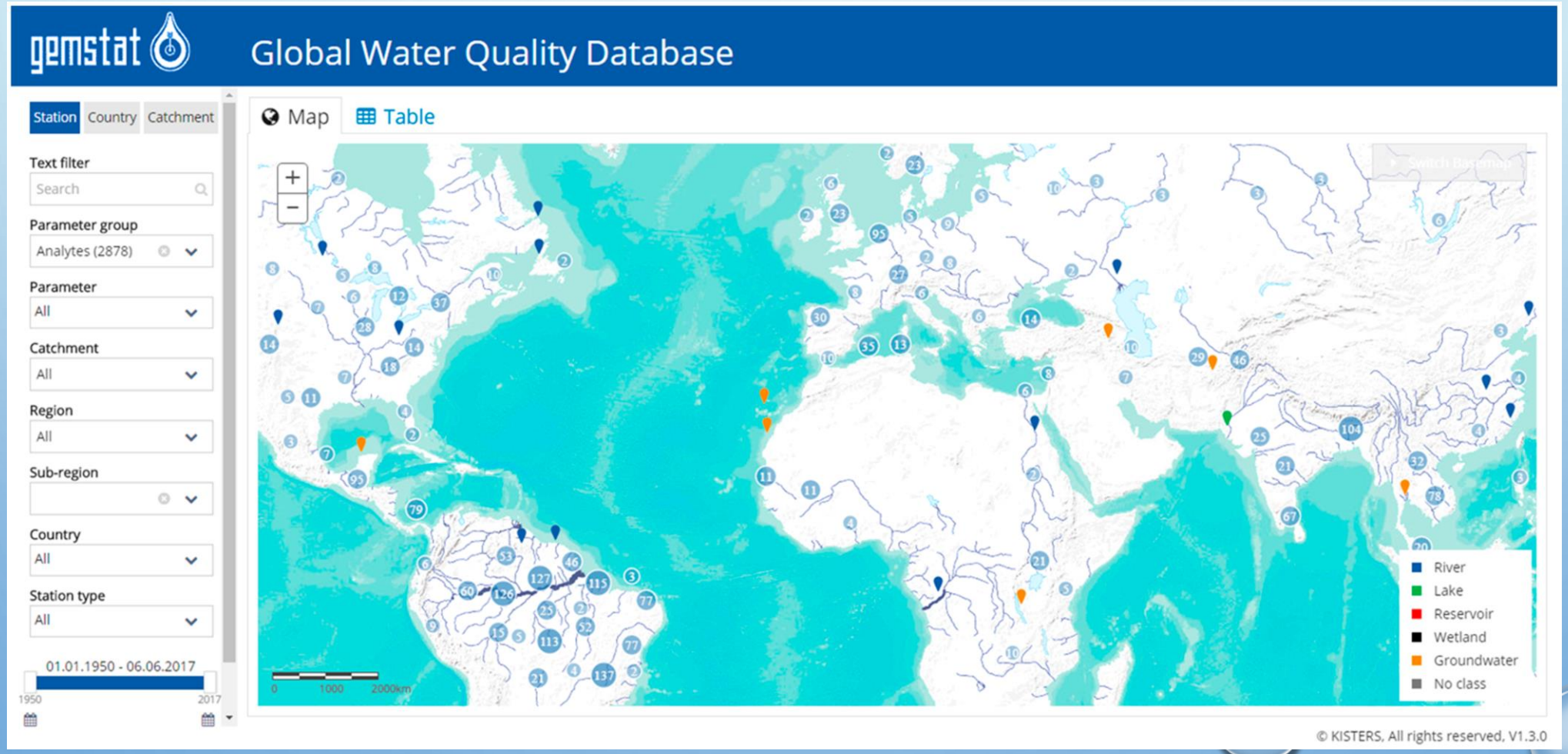

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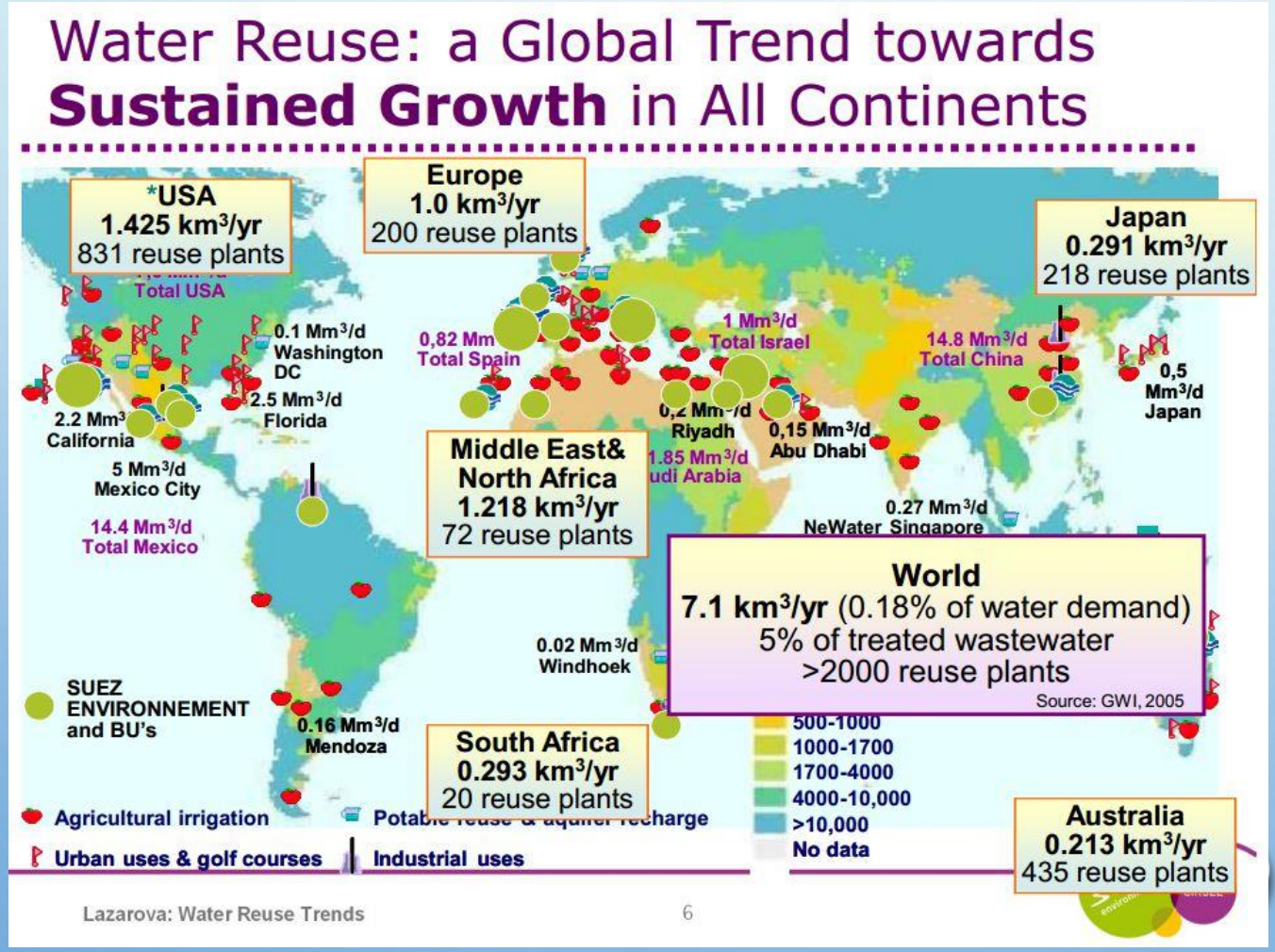
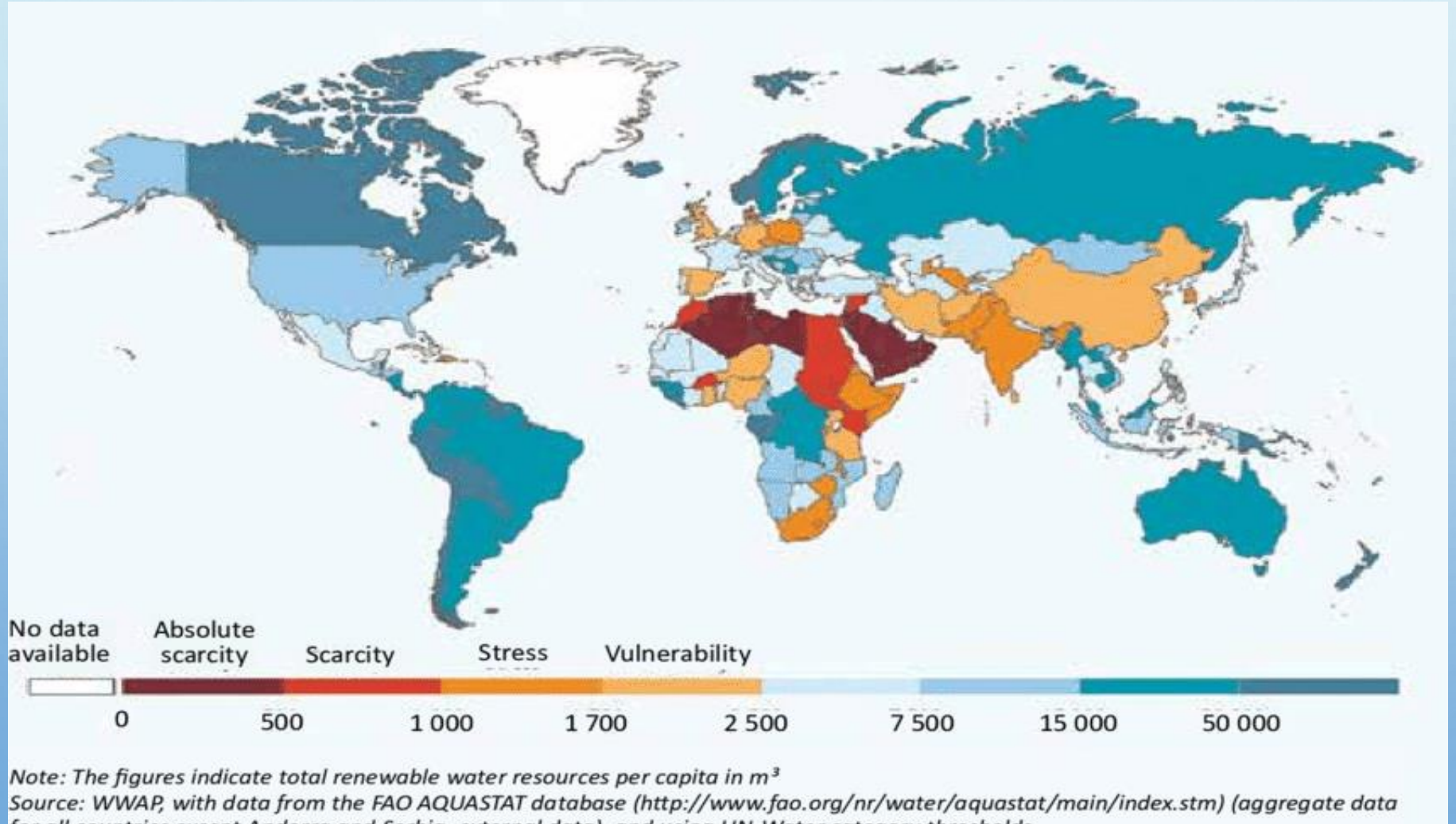


HTTP://SLIDEPLAYER.COM/SLIDE/3411290/

Target 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"



Note: The figures indicate total renewable water resources per capita in m³
Source: WWAP, with data from the FAO AQUASTAT database (http://www.fao.org/nr/water/aquastat/main/index.stm) (aggregate data

TOTAL RENEWABLE WATER RESOURCES PER CAPITA (2013)

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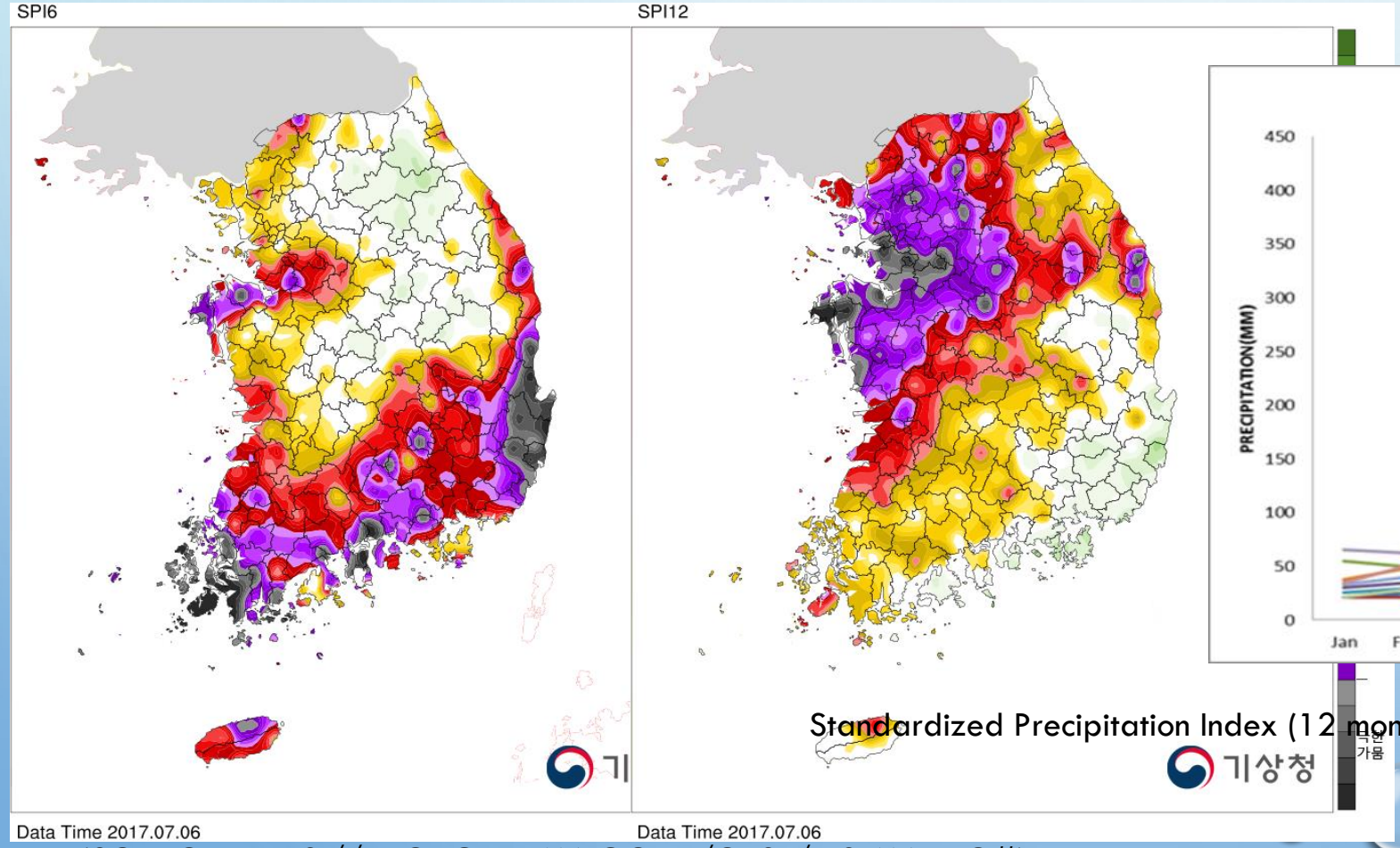
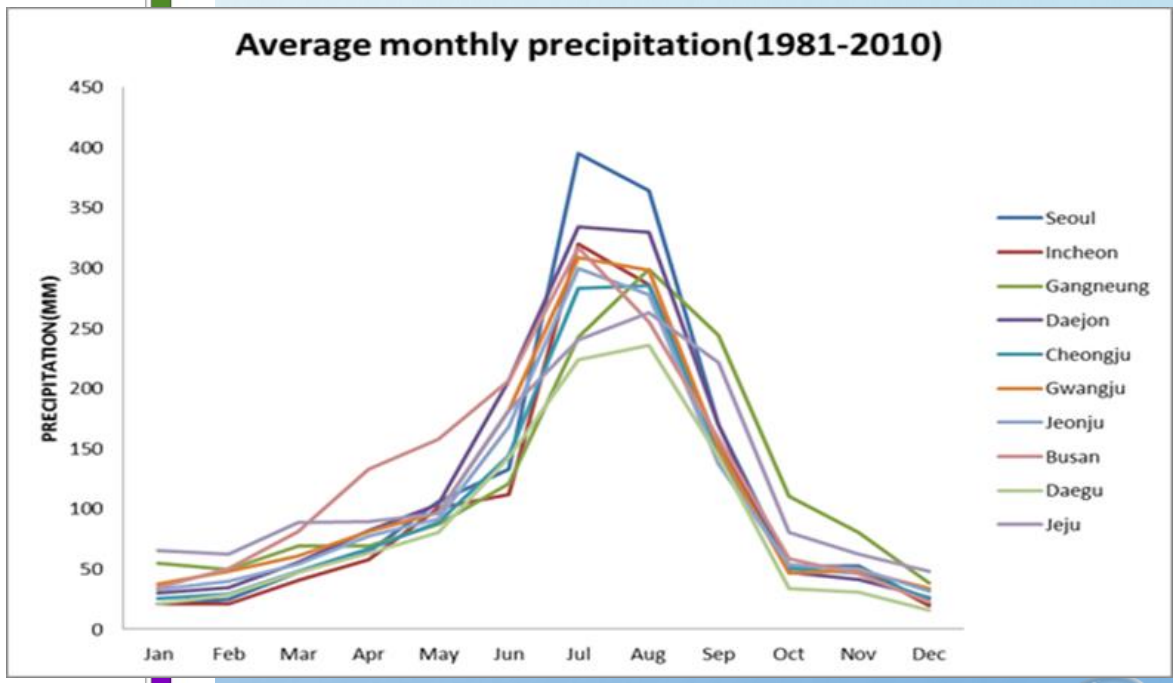


Standardized Precipitation Index (12 months)

(SOURCE: HTTPS://DROUGHT.KMA.GO.KR/OBSE/DISTMAP.DO#)



SEASONAL VARIATION OF PRECIPITATION IN KOREA

(SOURCE: KOREA METEOROLOGICAL ADMINISTRATION)

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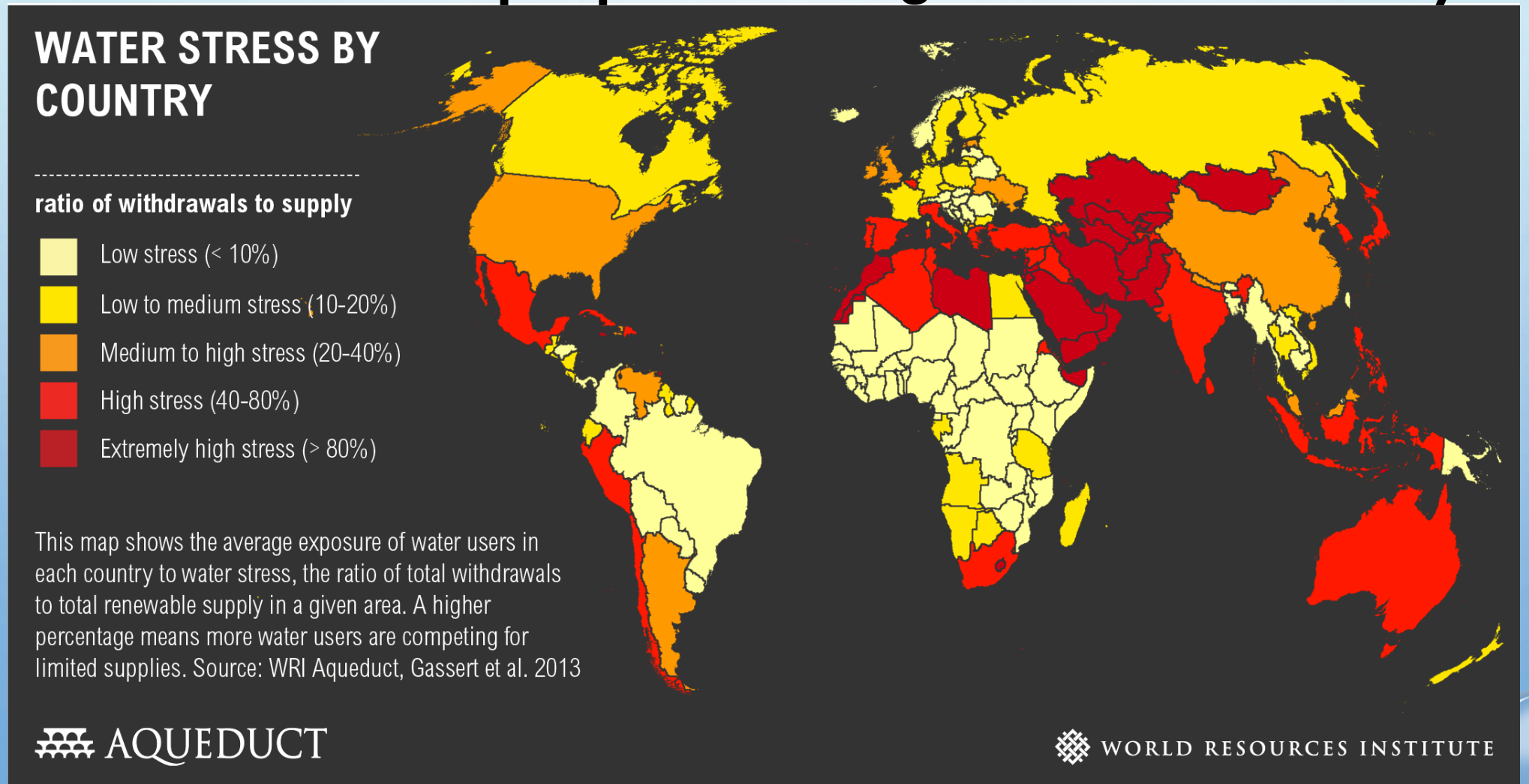

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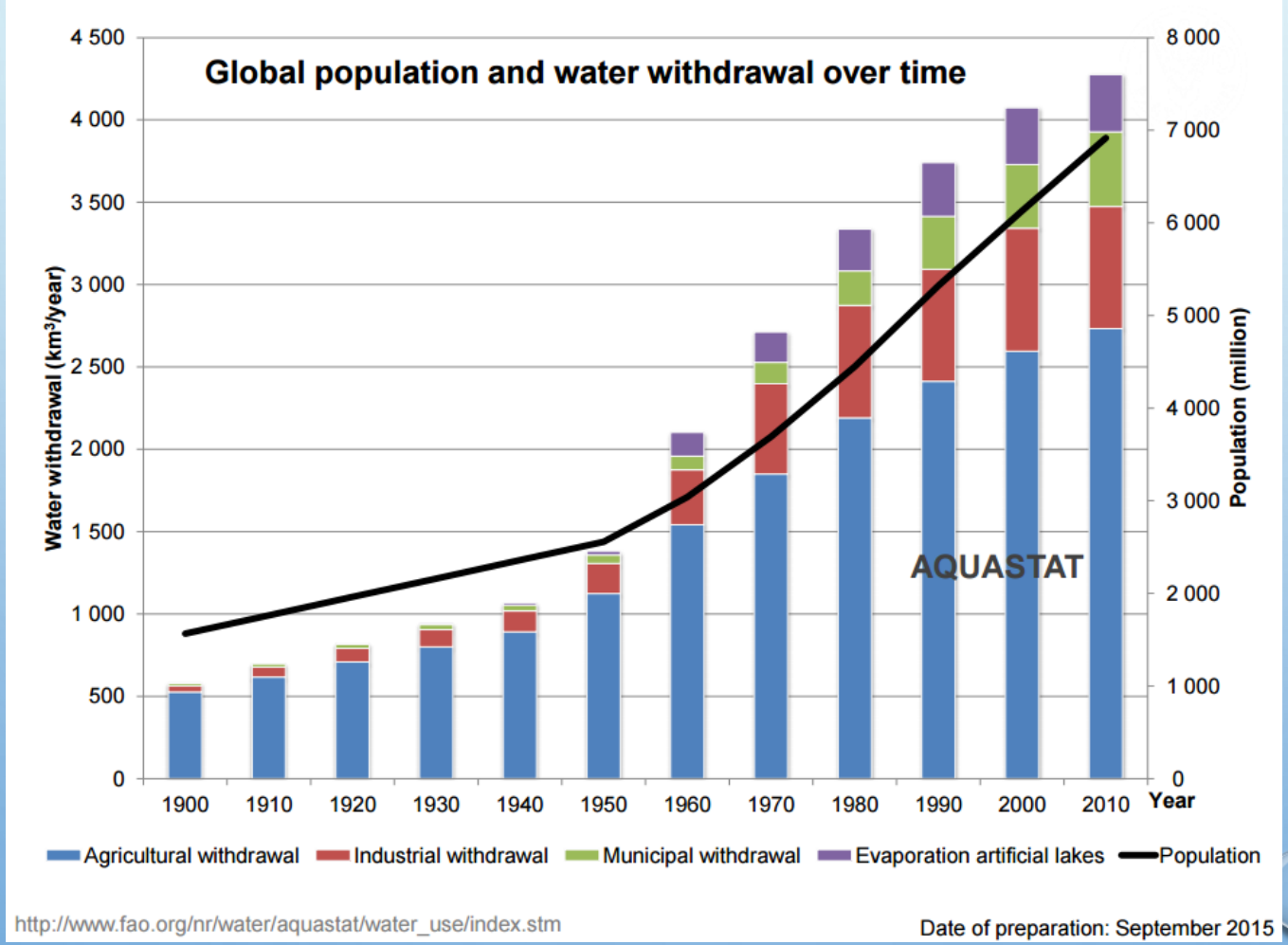

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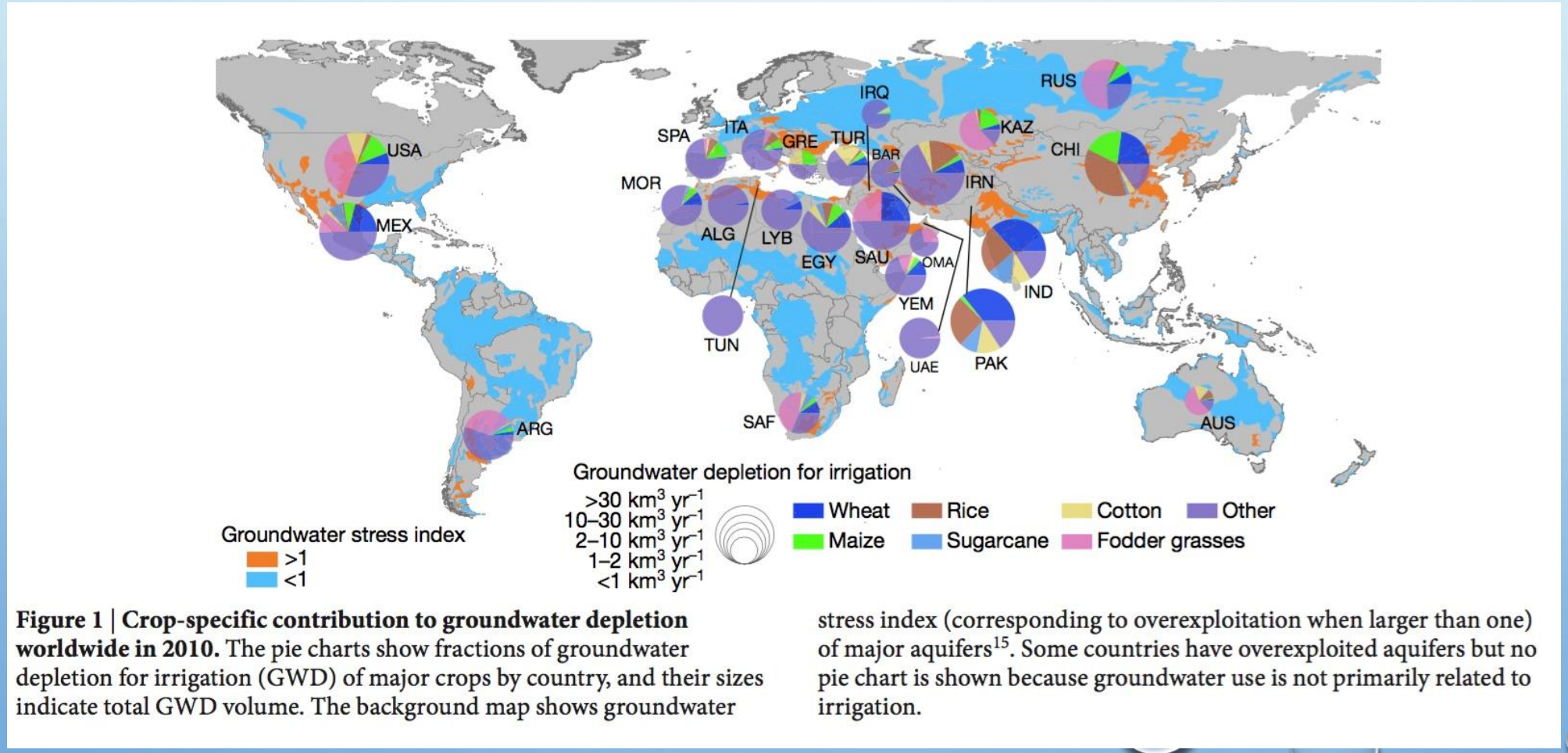

Figure 1 | Crop-specific contribution to groundwater depletion worldwide in 2010. The pie charts show fractions of groundwater depletion for irrigation (GWD) of major crops by country, and their sizes indicate total GWD volume. The background map shows groundwater stress index (corresponding to overexploitation when larger than one) of major aquifers[15]. Some countries have overexploited aquifers but no pie chart is shown because groundwater use is not primarily related to irrigation.

(SOURCE: GROUNDWATER DEPLETION EMBEDDED IN INTERNATIONAL FOOD TRADE)

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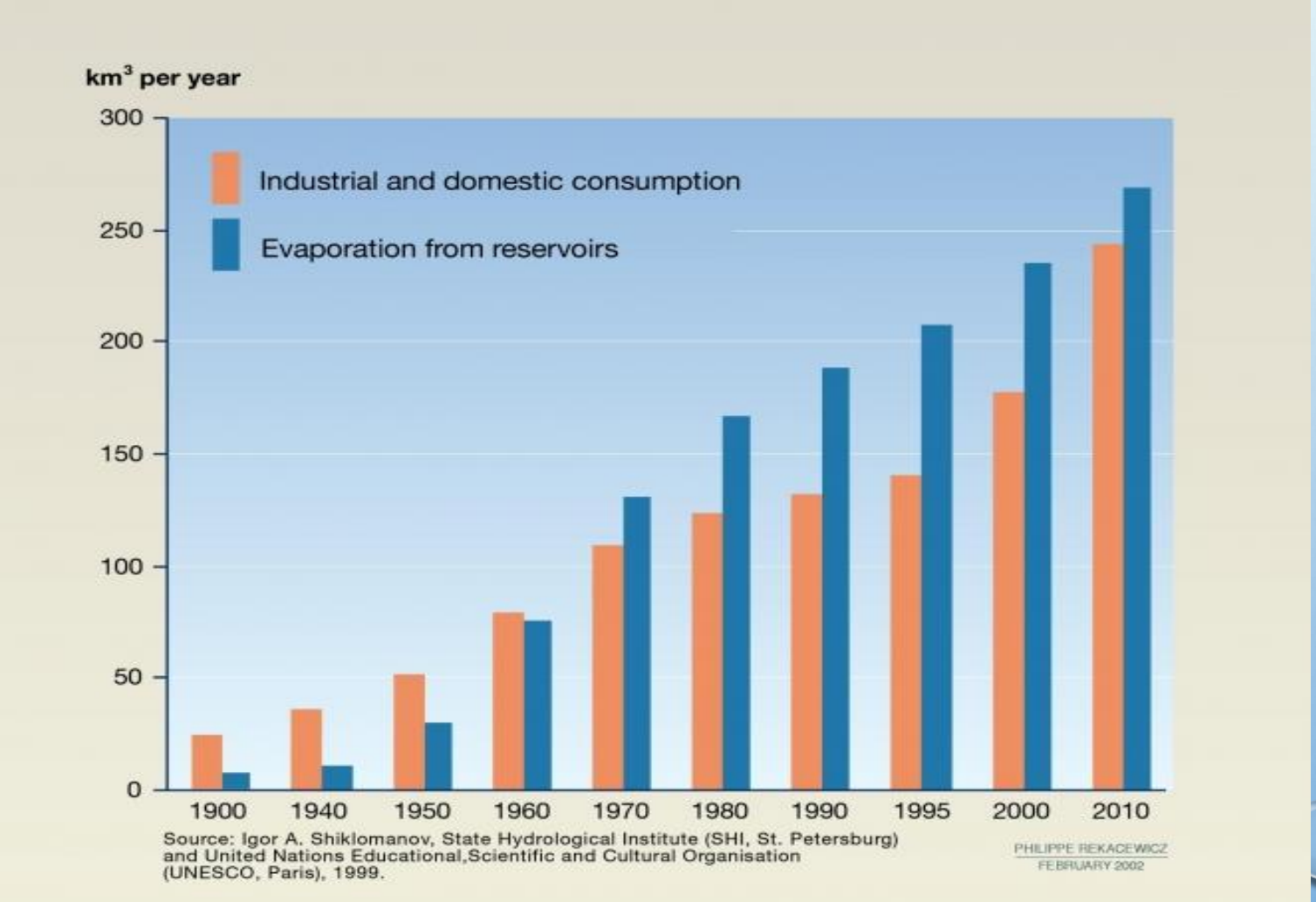

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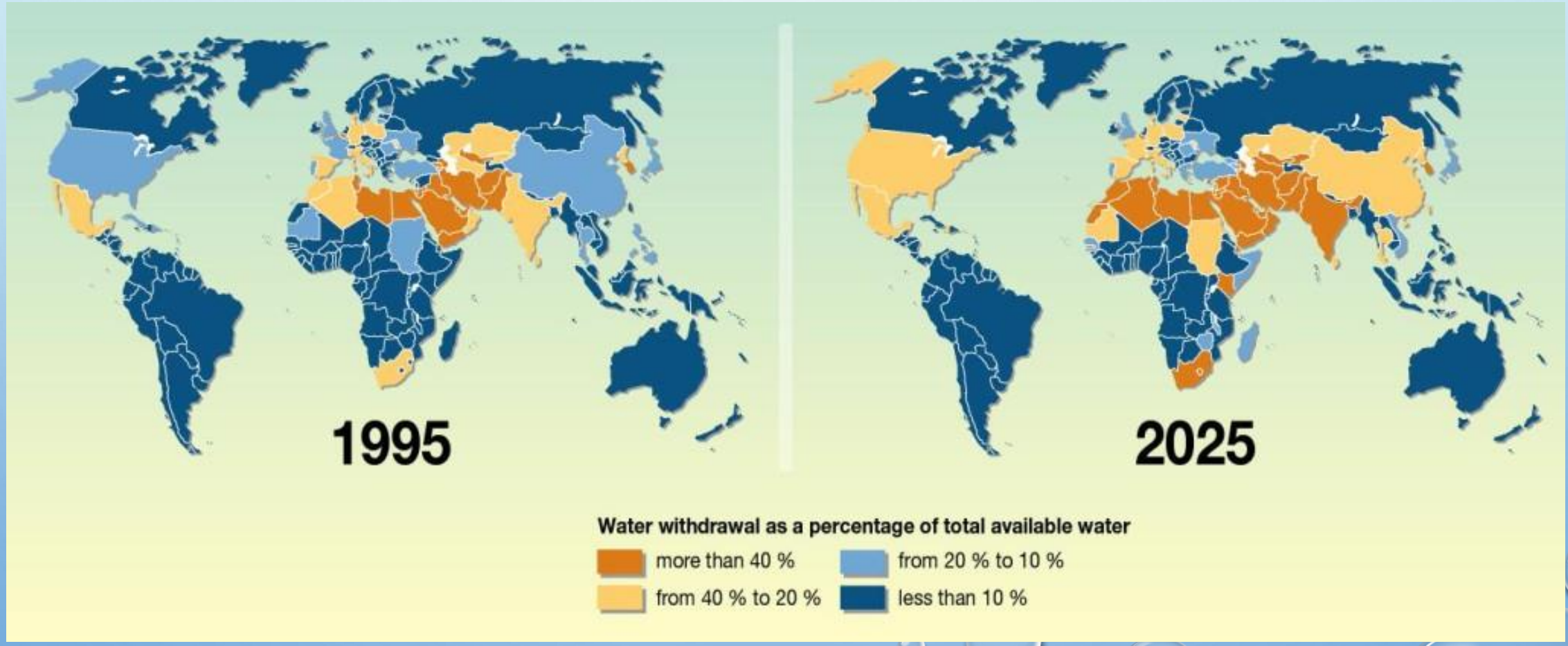

(SOURCE: UNITED NATIONS WORLD WATER ASSESSMENT PROGRAMME, 2012)

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

- **"Integrated water resources management (IWRM)"** is a process to manage water resources in a comprehensive, participatory and coordinate manner by incorporating relevant sectors, stakeholders and agendas.

(HTTPS://WWW.GWP.ORG/CONTENTASSETS/88F9A30E73AC4E59AB379654C1CA07BF/5663957886_5B21290B6F_O.JPG)

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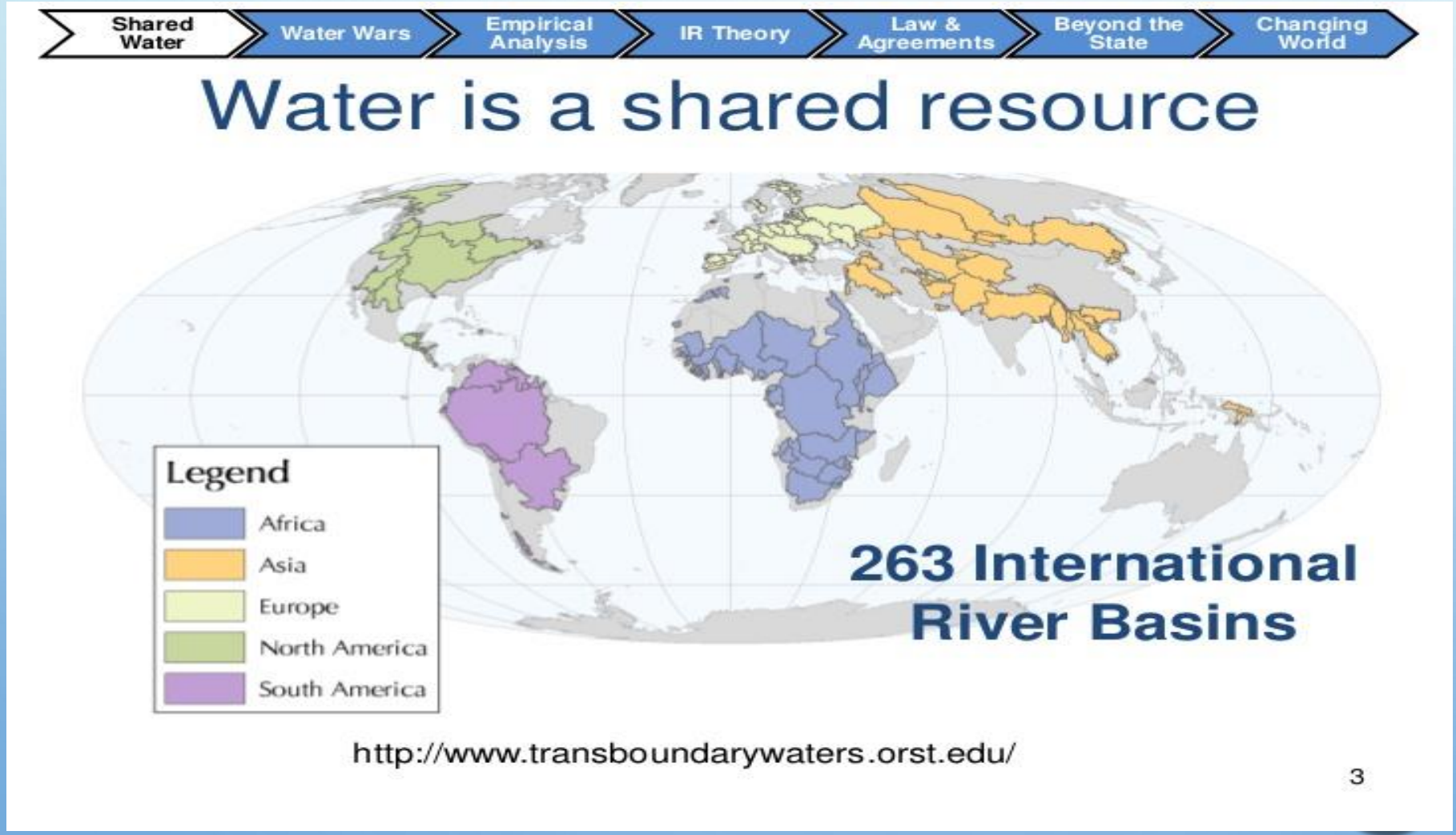

Transboundary Water Systems of the World. Data sources: IGRAC 2012 for aquifers, TWAP Lakes Group, Naturalearthdata for rivers, NOAA 2007 for LMEs

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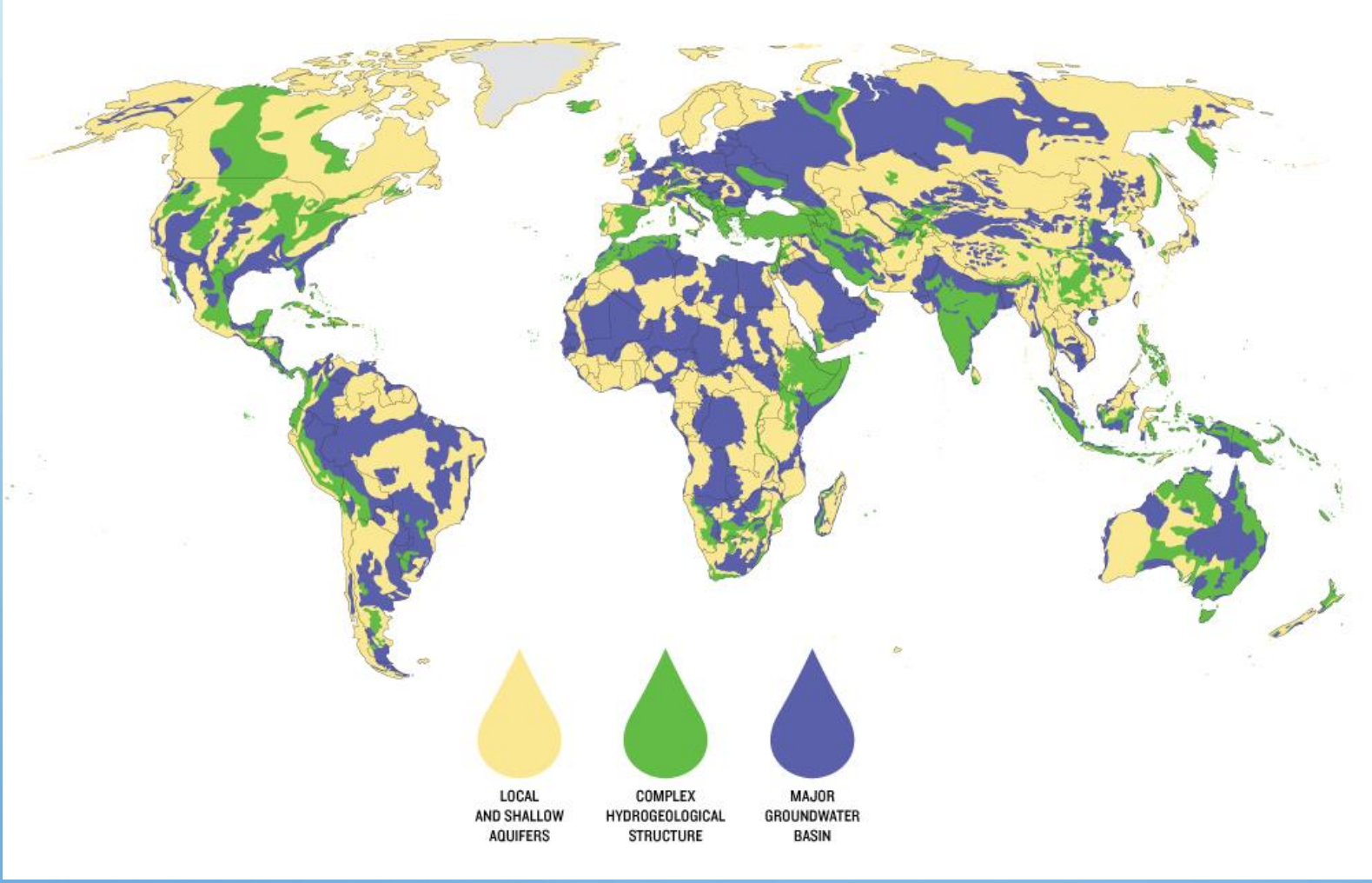
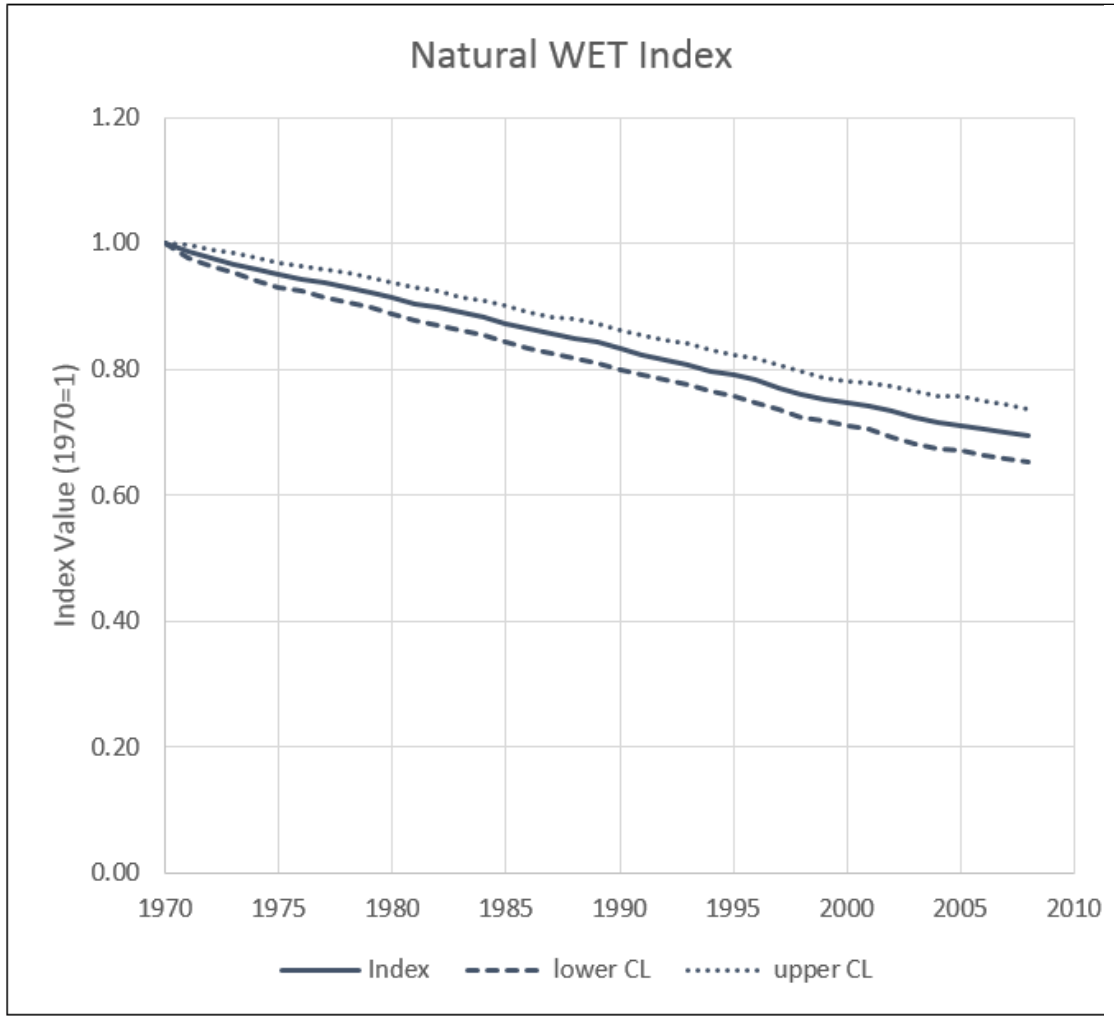
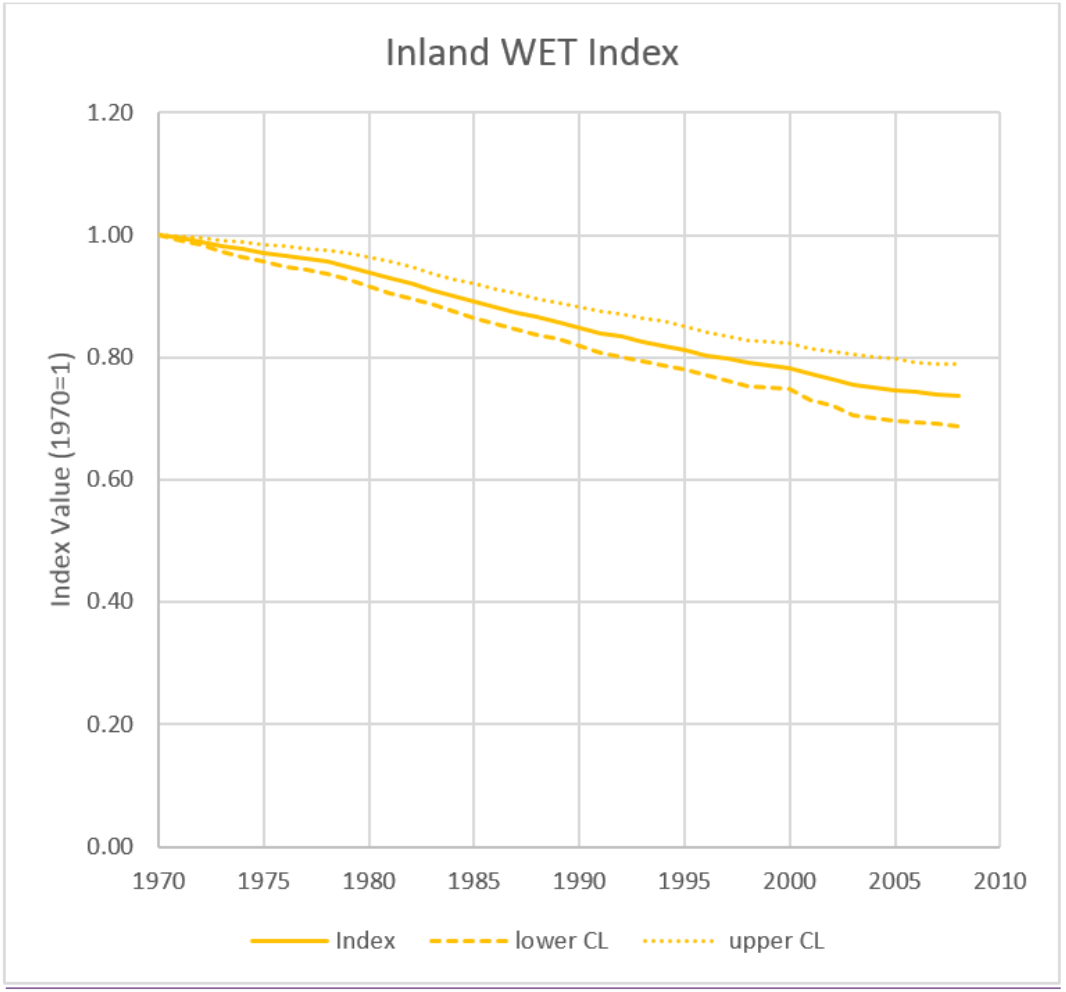


created by Peder Engstrom and Kate Brauman of the Institute on the Environment’s Global Landscape Initiative. BGR & UNESCO (2008): Groundwater Resources of the World 1

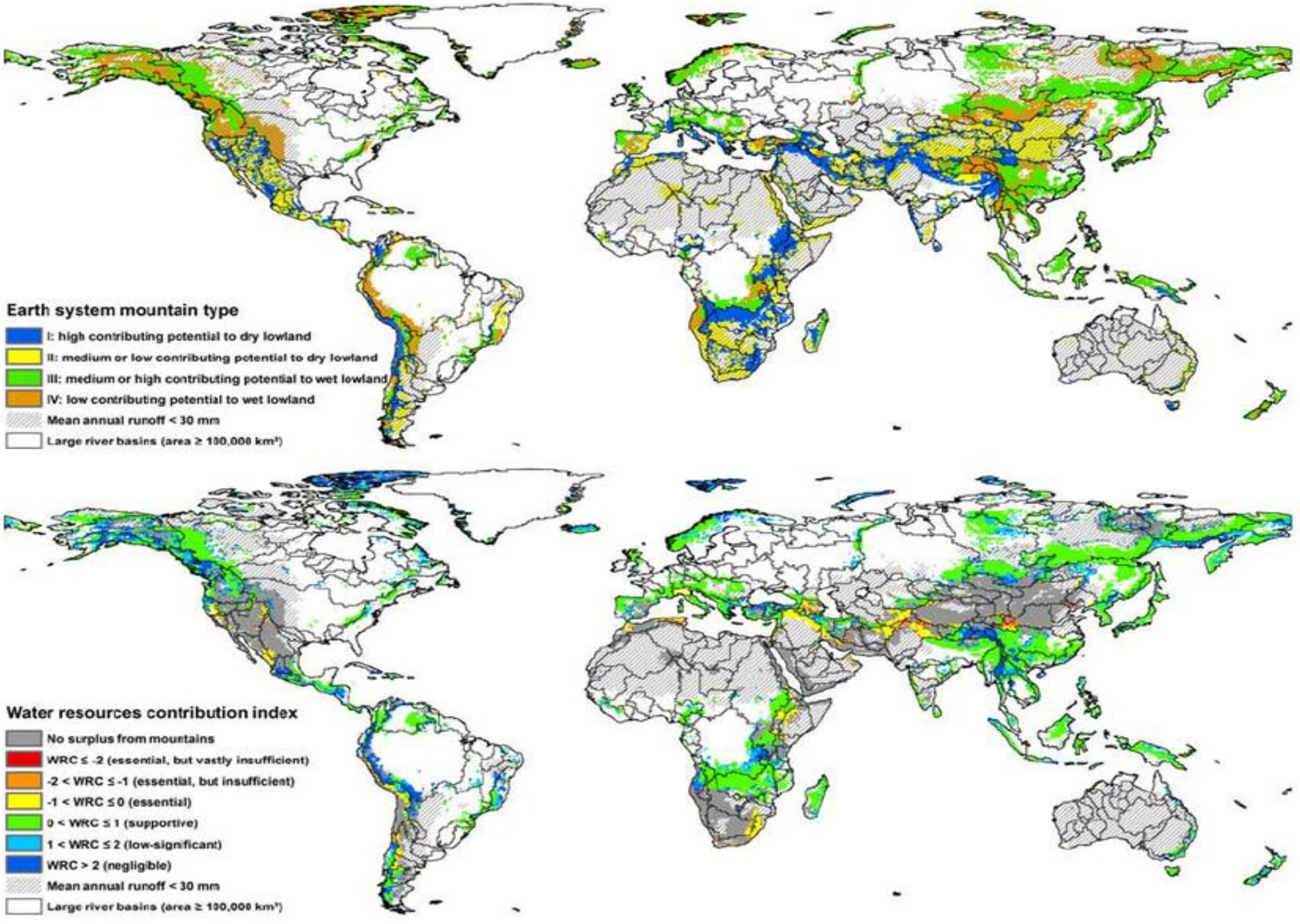
Target 6.6 "By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes"





https://www.bipindicators.net/indicators/wetland-extent-trends-index

Wetland Extent Trends Index



Global map of Earth system mountain types (top, cf. Figure 2) and of water resources contribution index WRC (bottom, cf. Table 2)

https://www.researchgate.net/figure/Global-map-of-Earth-system-mountain-types-top-cf-Figure-2-and-of-water-resources_fig2_228616164

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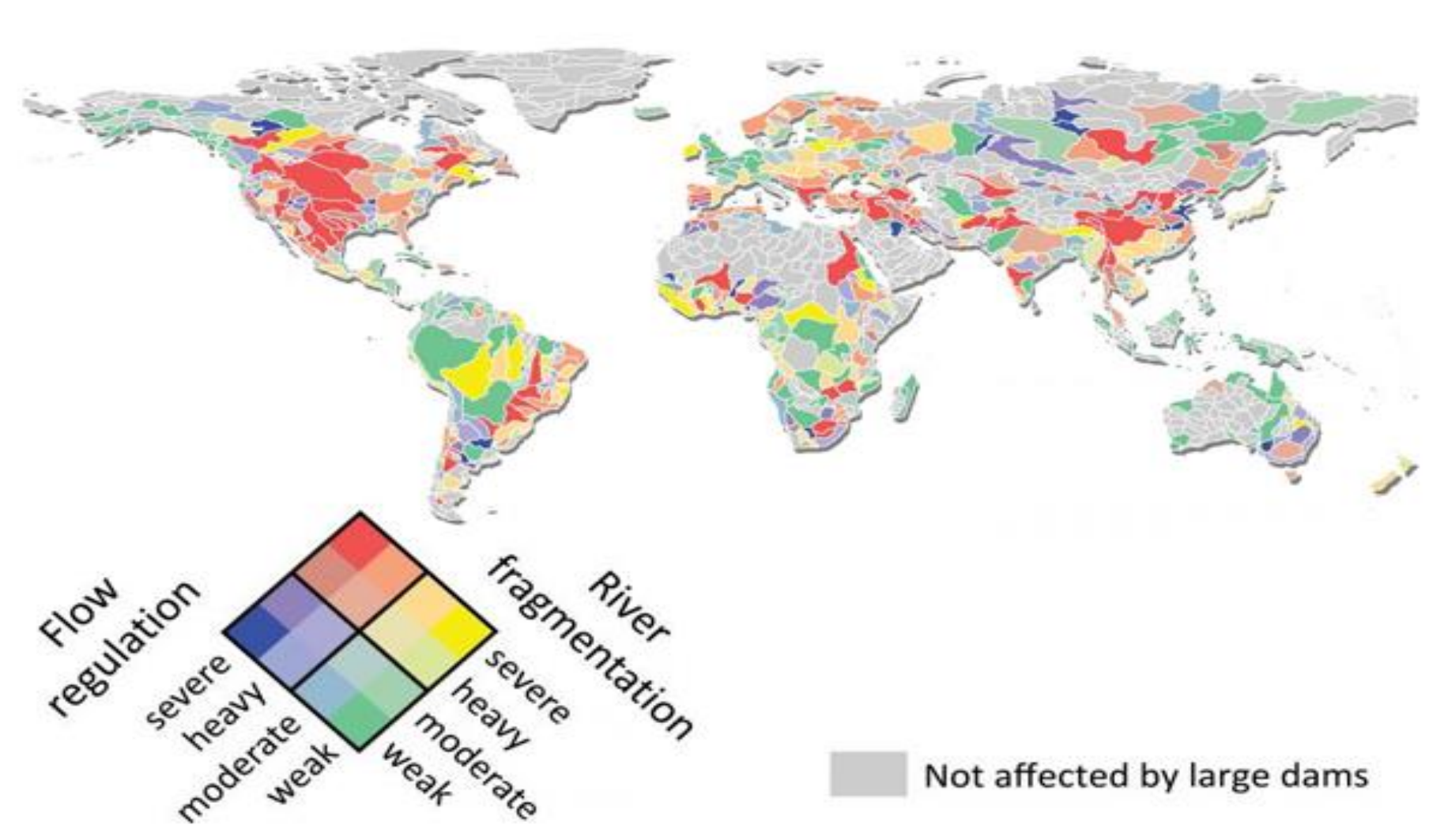
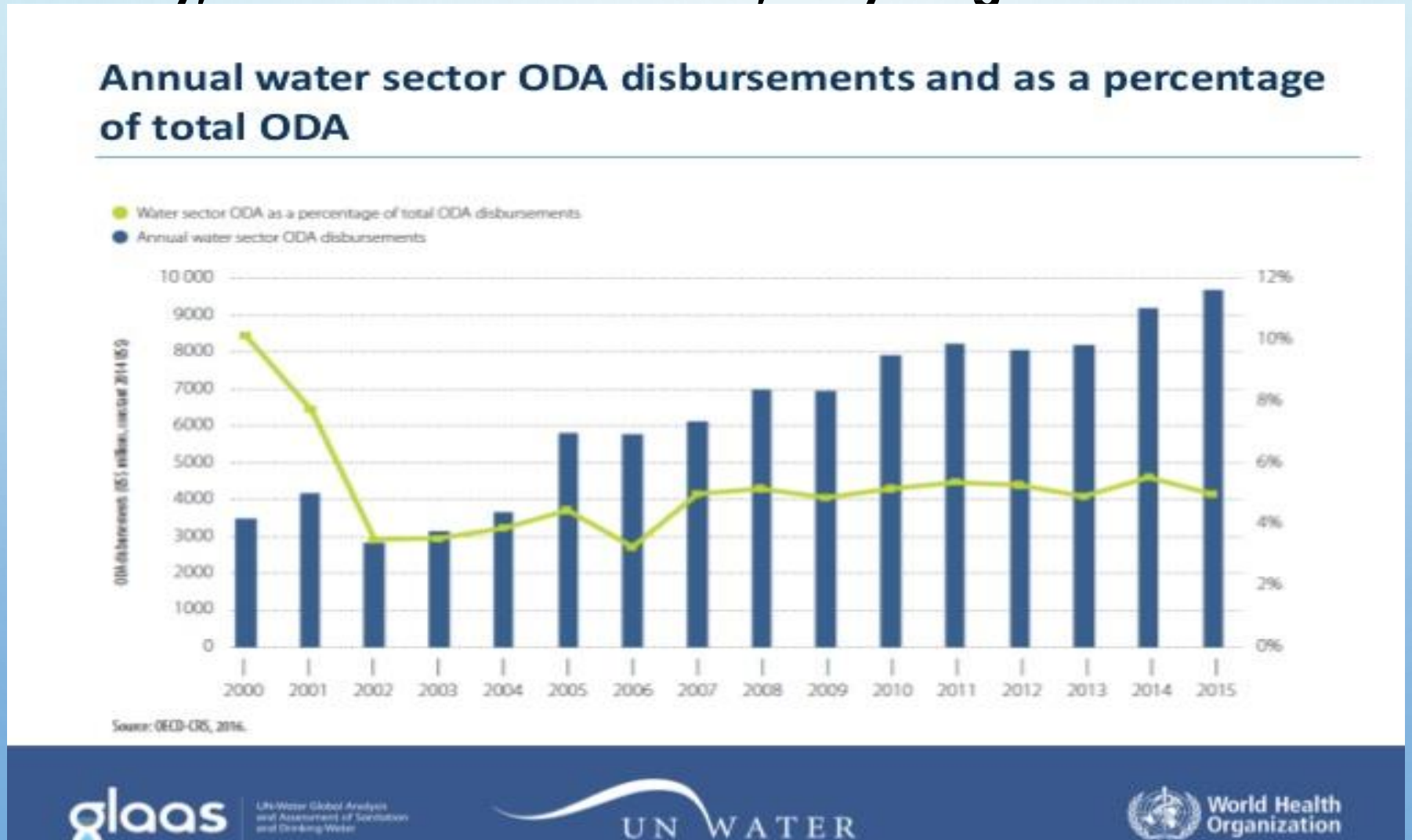


http://iopscience.iop.org/article/10.1088/1748-9326/10/1/015001

McGill University : Dam impact matrix (DIM) for Sub-basin: Combining fragmentation and flow regulation indices for the current situation (2010).

Target 6.a "By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies"



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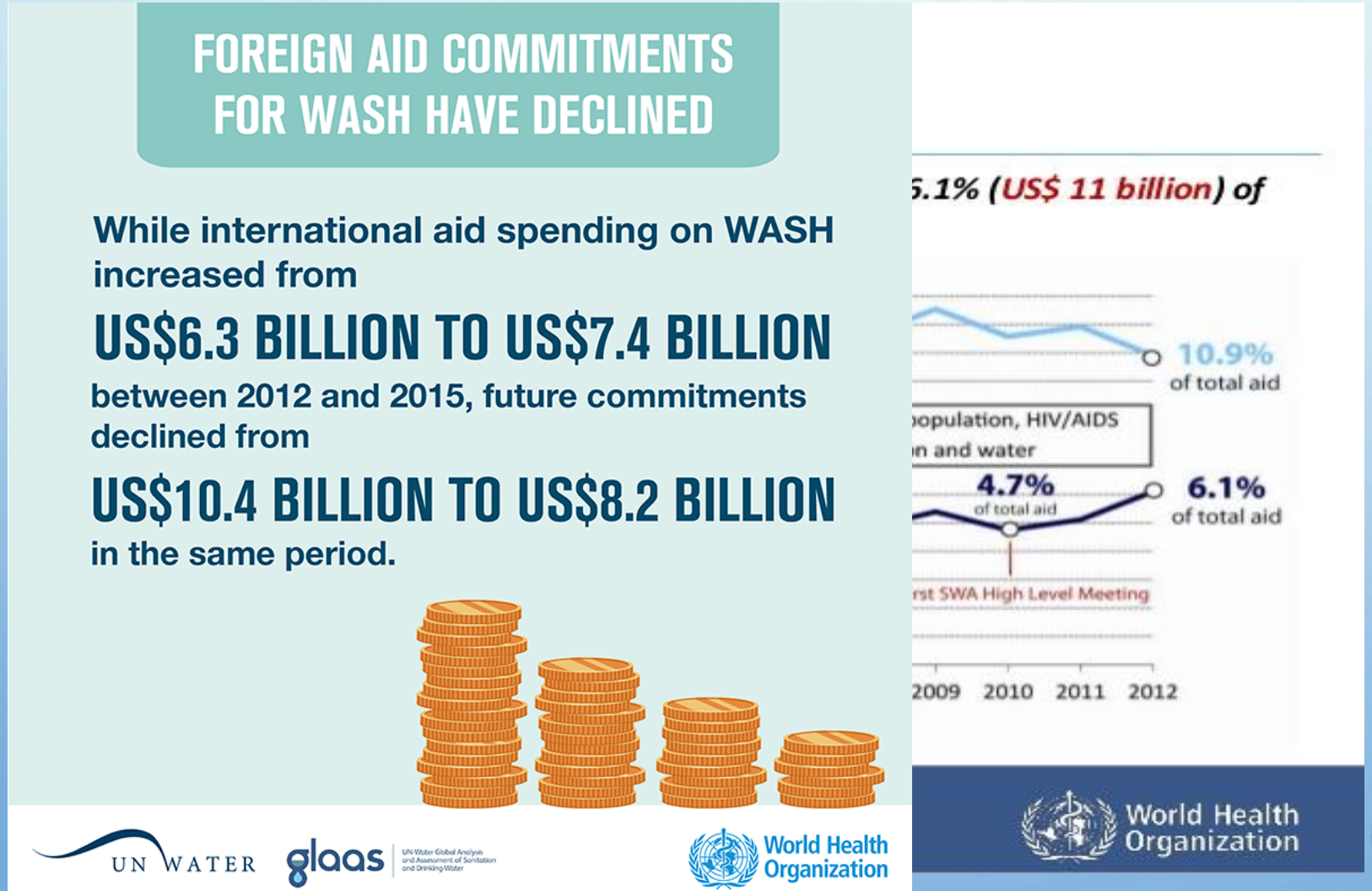

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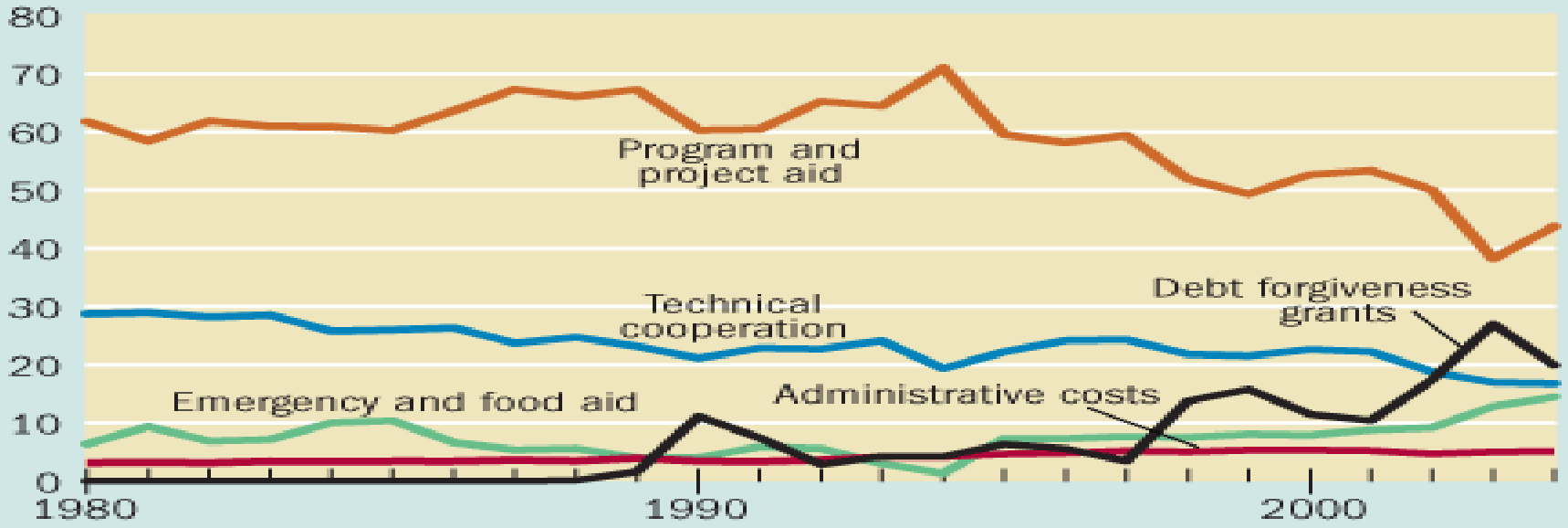
Chart 3

The changing landscape of aid to Africa

The share of program and project aid has taken a big fall.

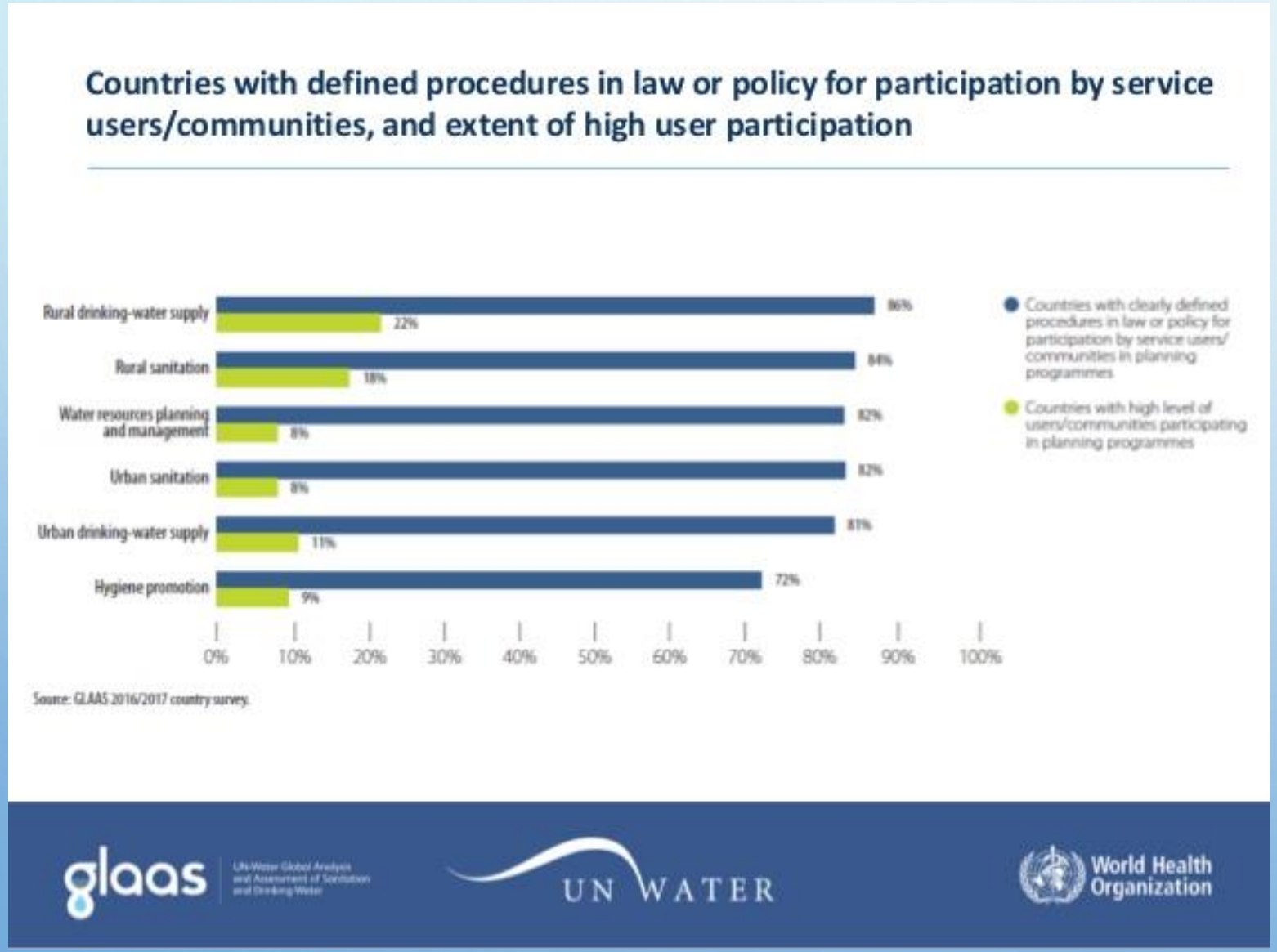
(percent of net ODA by aid instrument)

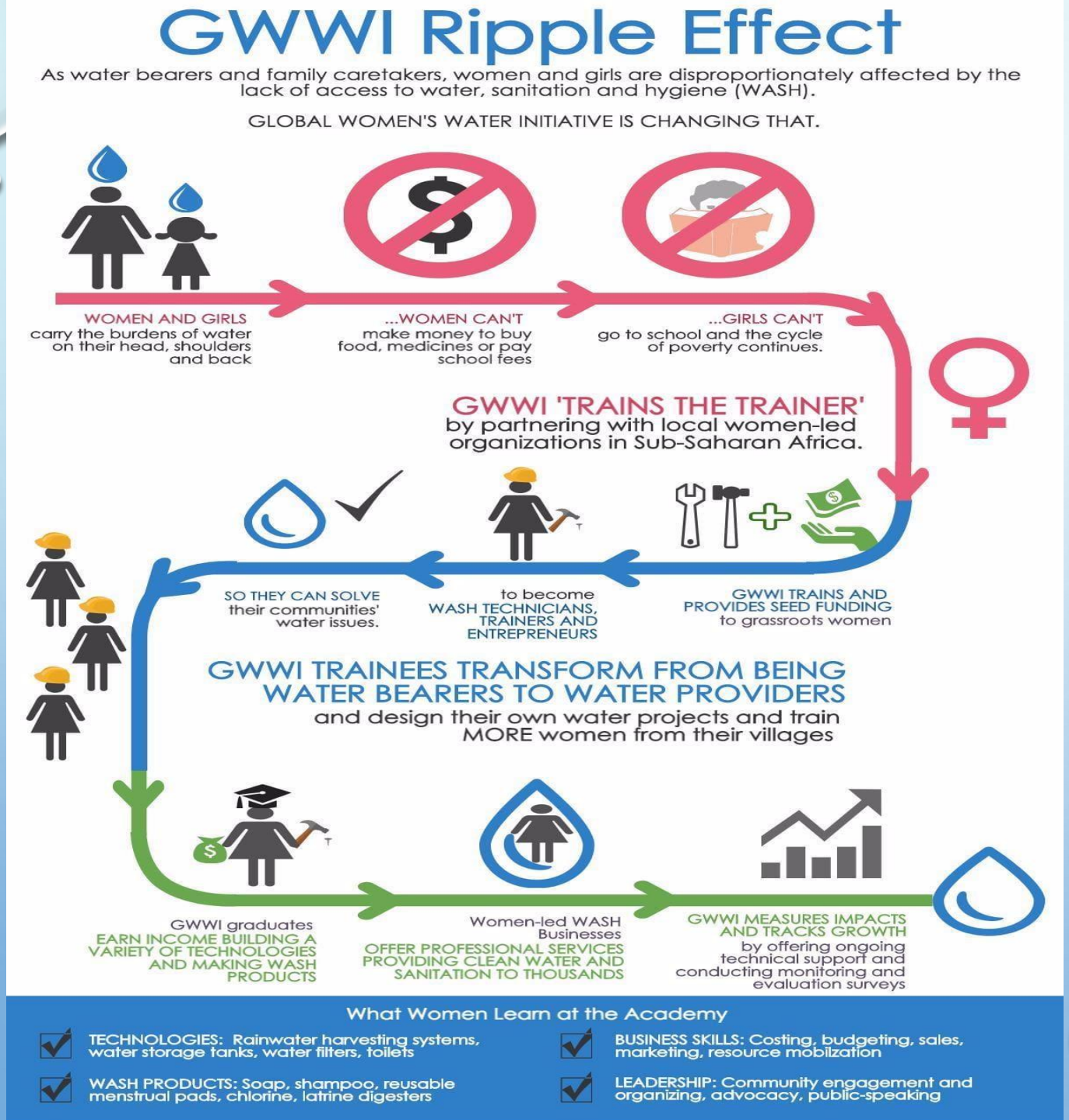


Source: OECD-DAC database.

Note: Aid categories follow OECD-DAC definitions. Program and project ODA refers to total net ODA less special-purpose grants (technical cooperation grants, food and emergency relief, and all debt forgiveness). Administrative costs are for bilateral ODA only and have been imputed for Africa based on global levels. Administrative costs are not reported by multilateral agencies. Debt relief before 1988 was small (less than 1 percent of ODA) and cannot be distinguished by recipient region.

Target 6.b "Support and strengthen the participation of local communities in improving water and sanitation management"

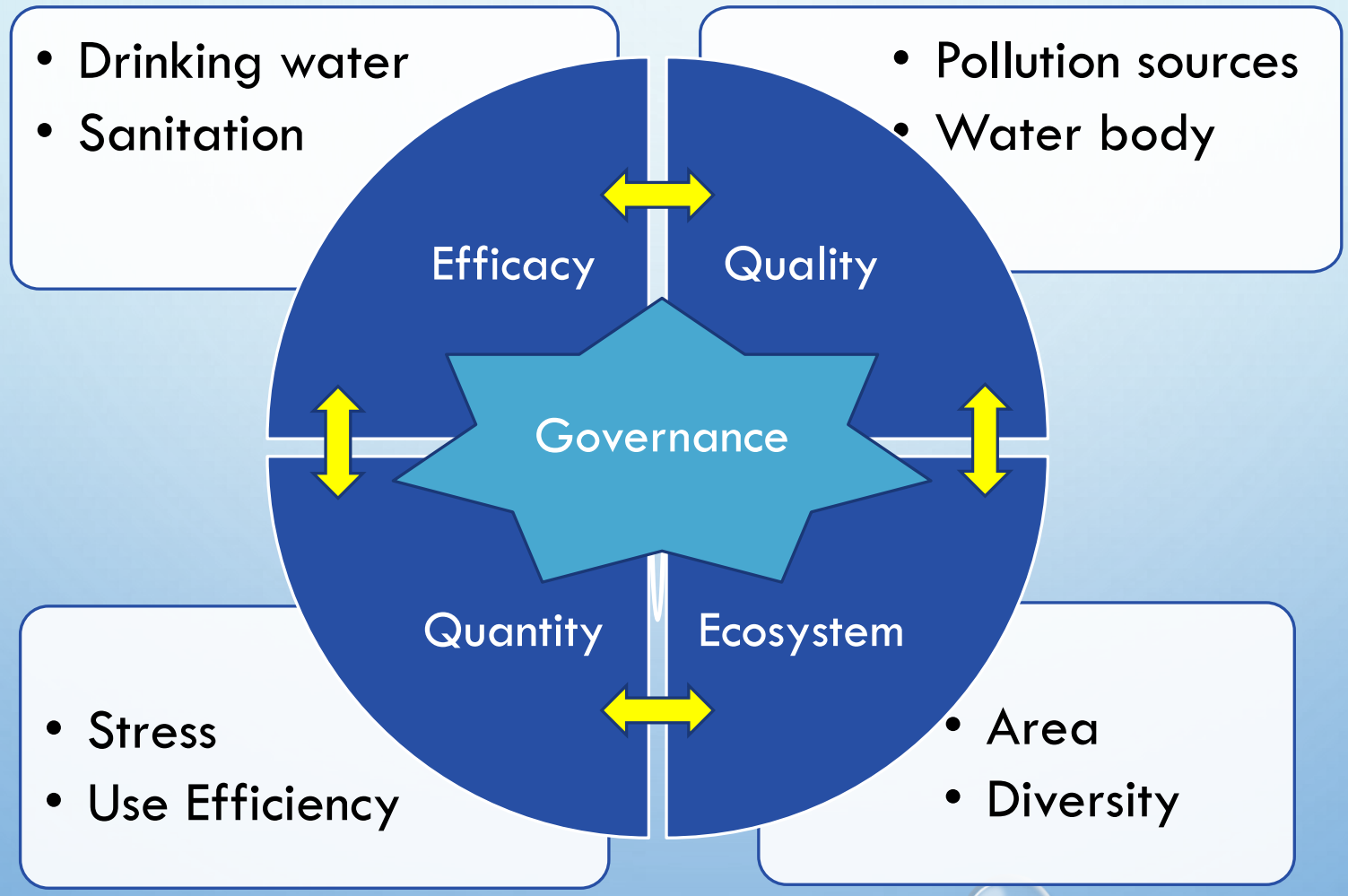




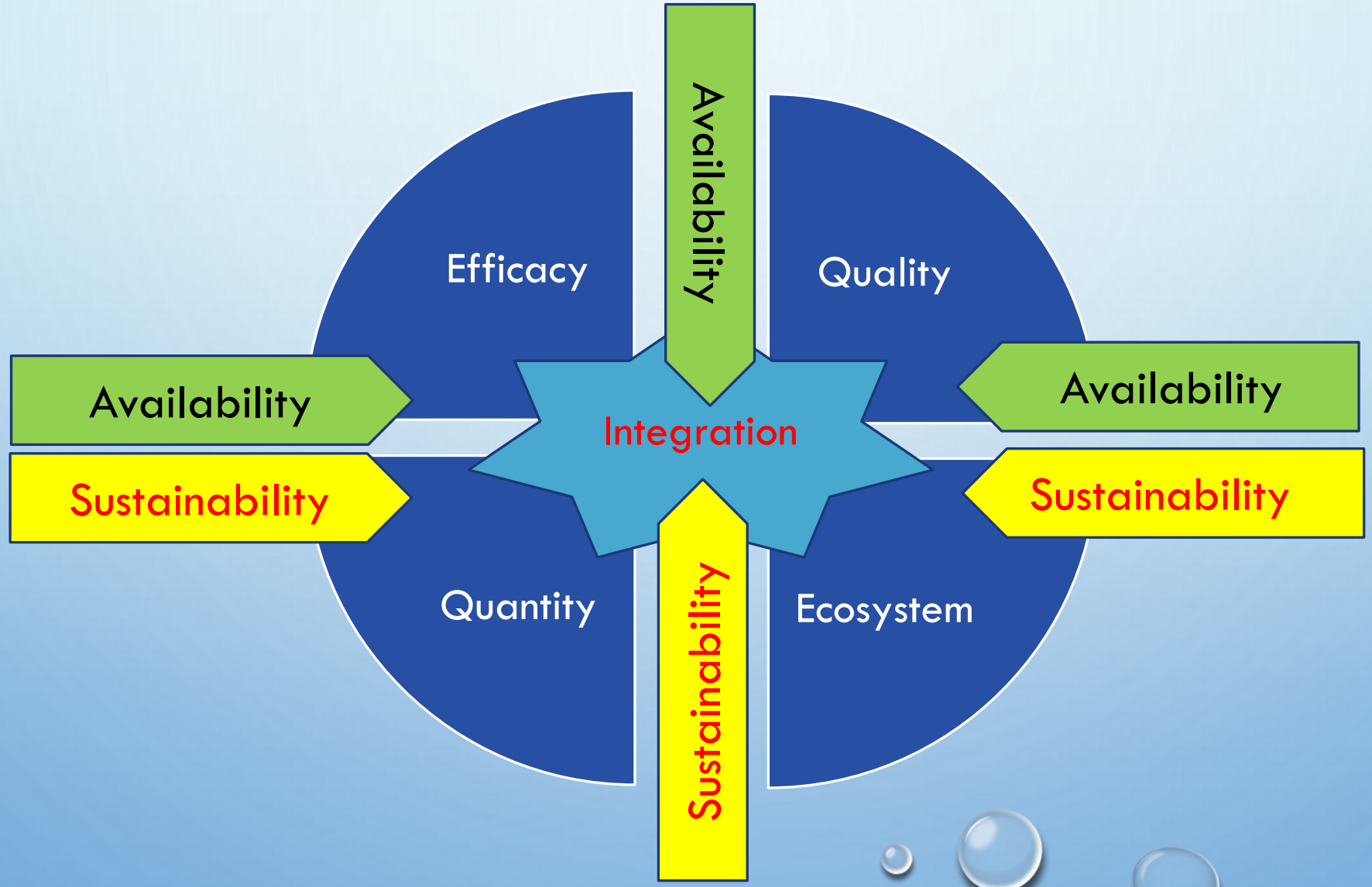
HTTPS://WWW.GLOBALWOMENSWATER.ORG/WHAT

FROM WATER BEARERS TO WATER PROVIDERS AND SOCIAL ENTREPRENEURS!

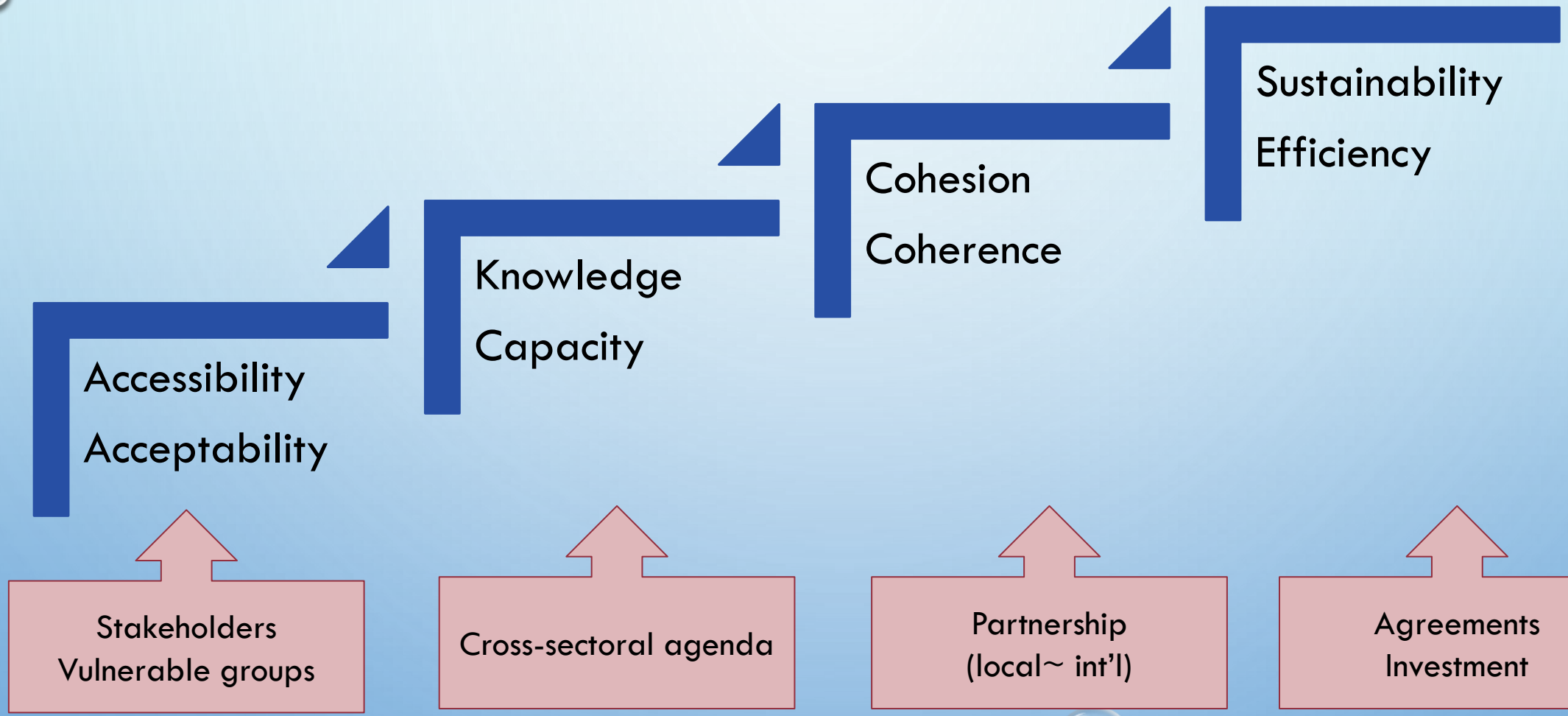
Conceptual Framework of SDG 6



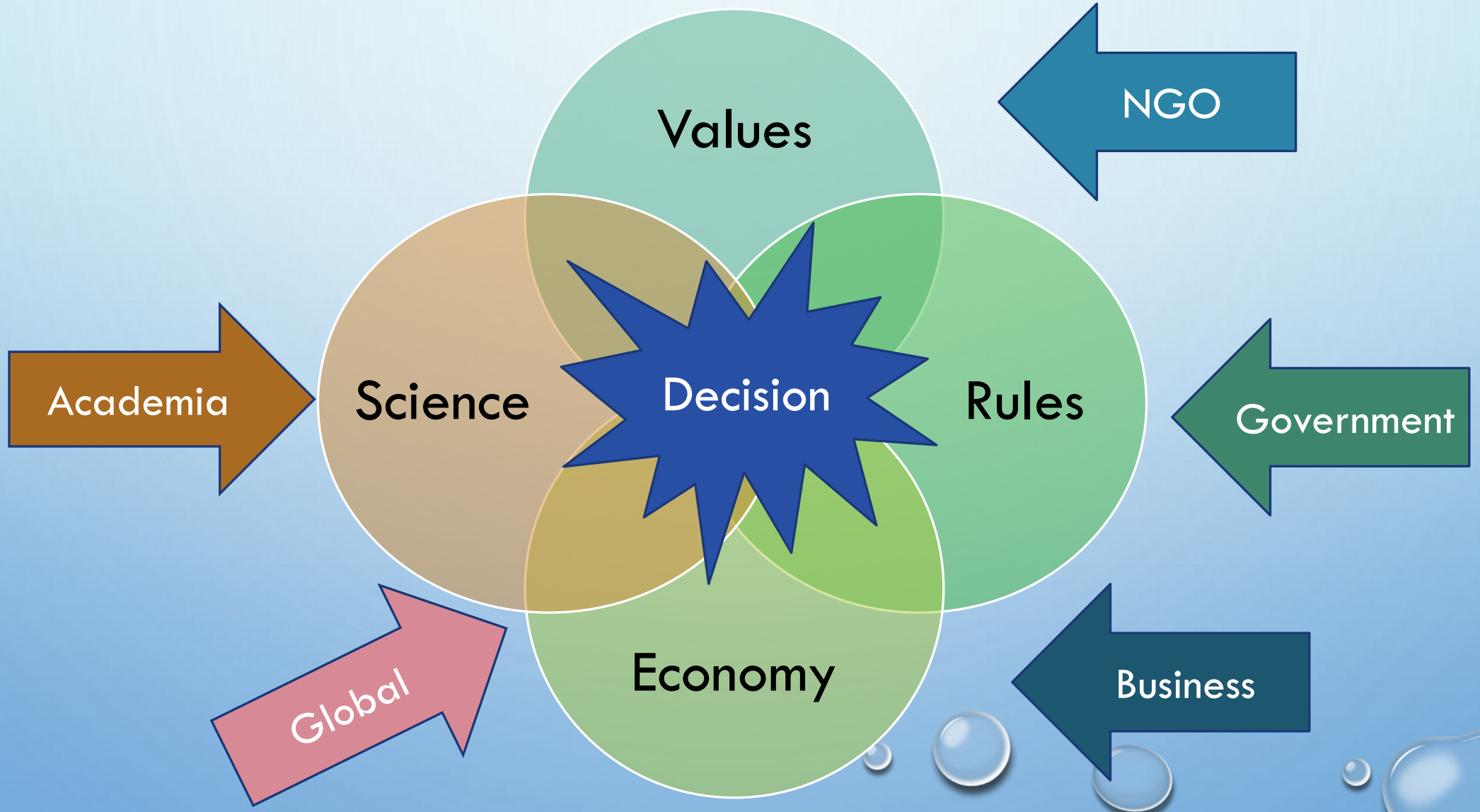
Availability and Sustainability of SDG 6



Inclusive Water Governance



Decision-Making Components and Players



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