INNOVATIONS AND INCENTIVES IN THE BLUE ECONOMY

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OVERVIEW

(1) Contexts

(2) Challenges

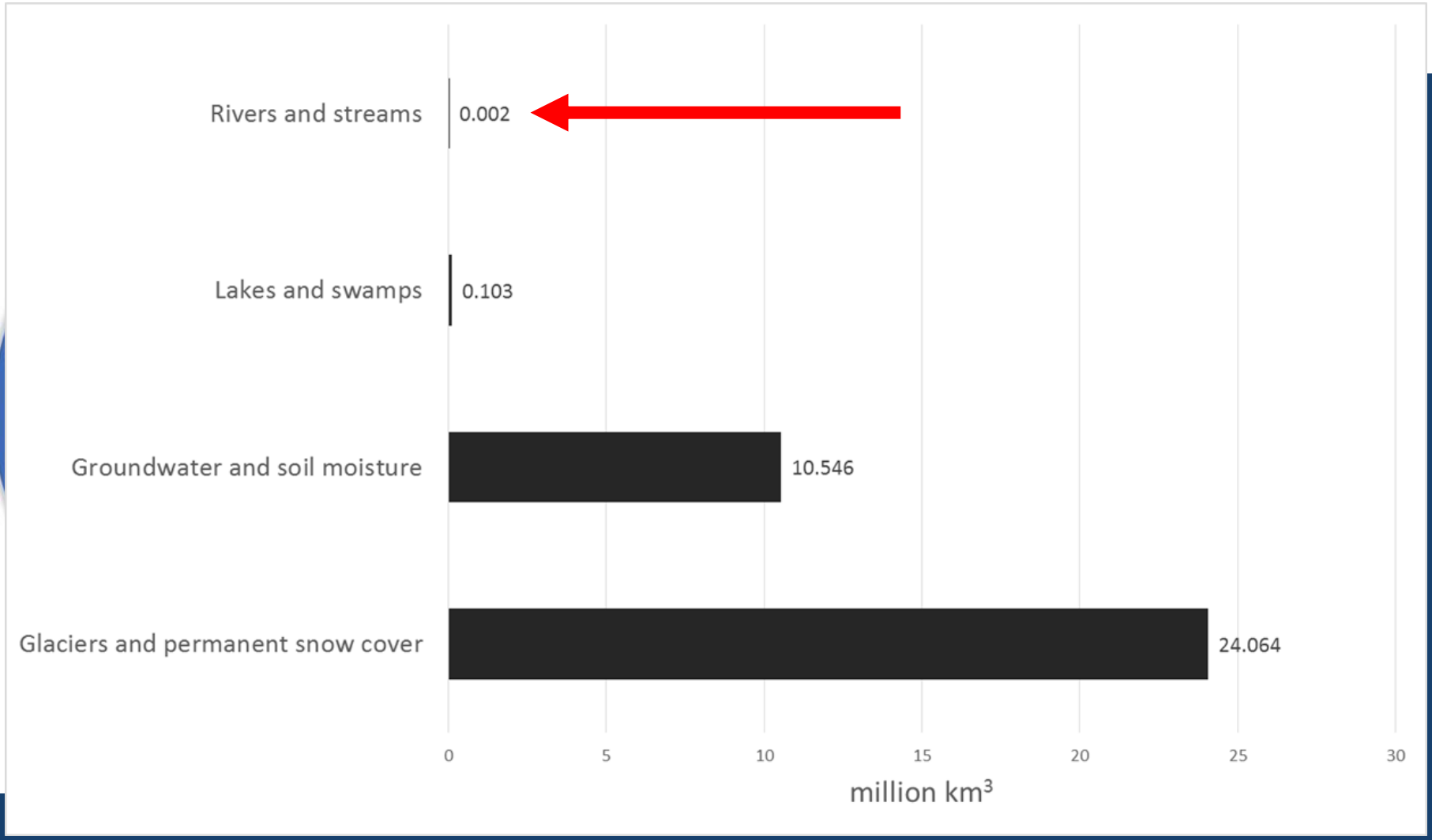
(3) Complexities

(4) Innovation and Incentives

(5) Actions

(1) CONTEXT

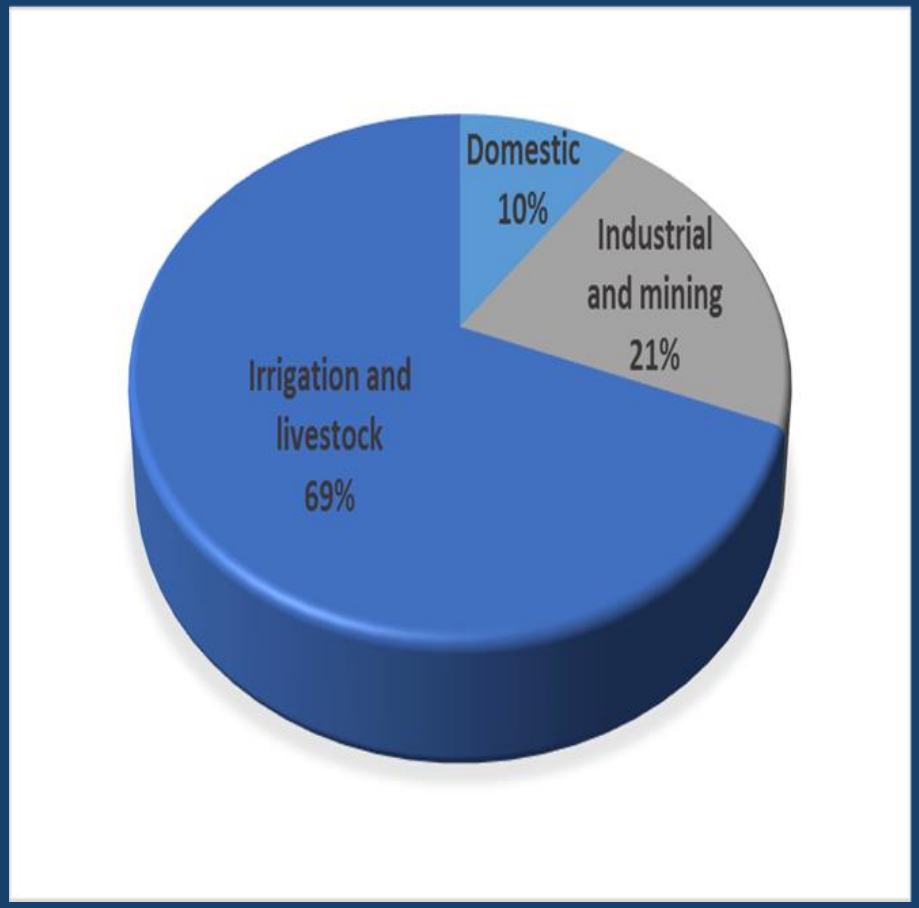
GLOBAL WATER SUPPLY



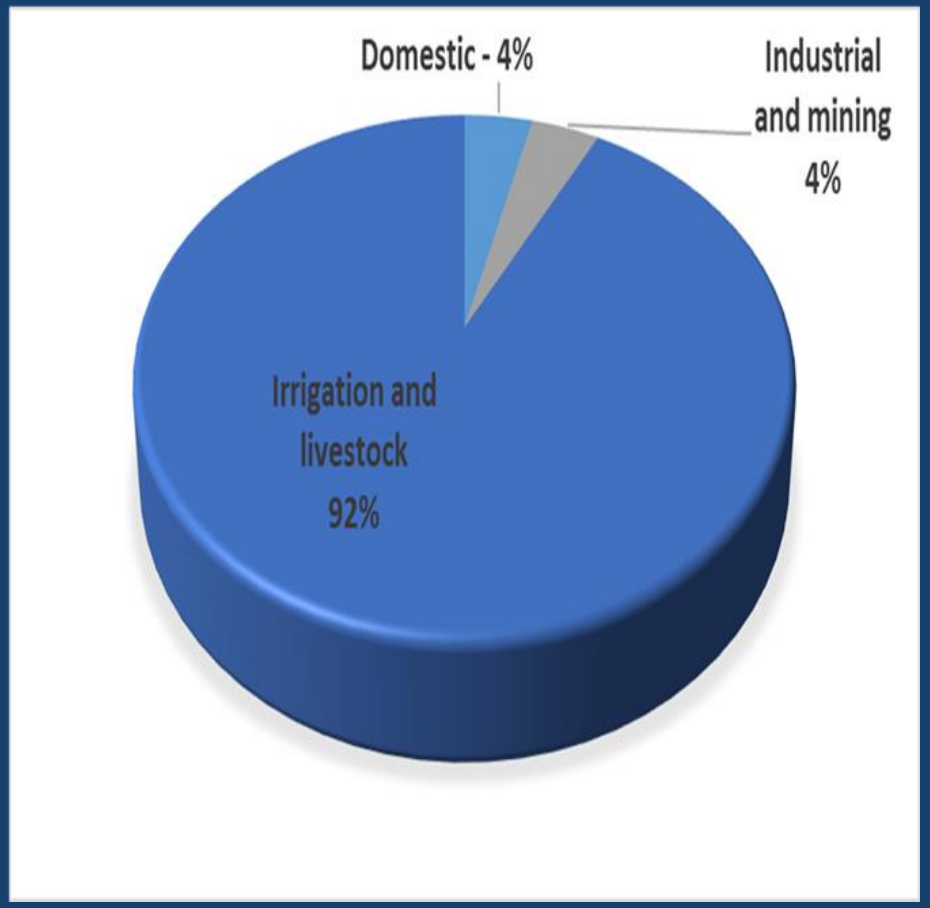
Data Source: Shiklomanov and Rodda (2003)

GLOBAL WATER DEMAND

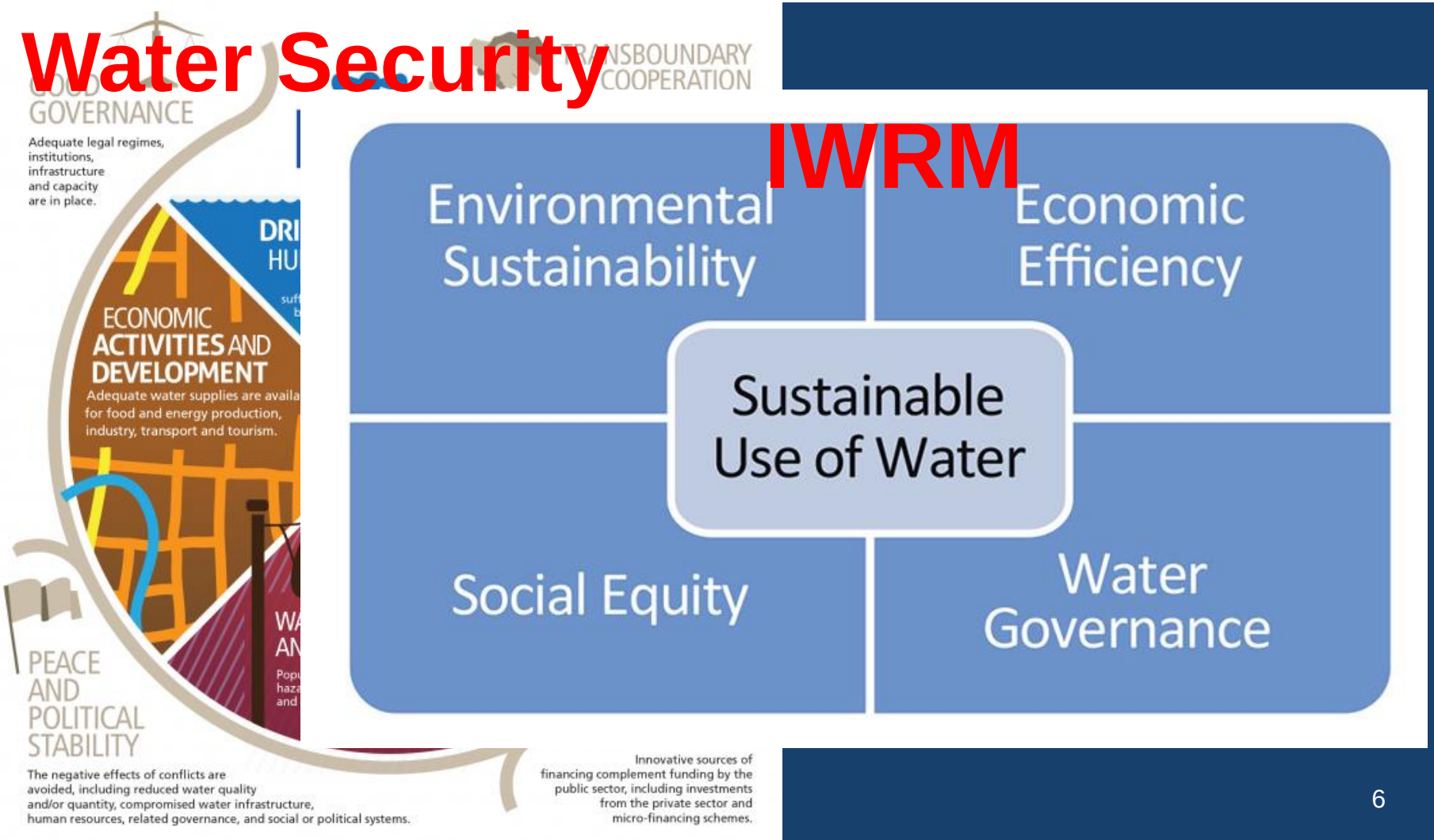
Extraction



Consumption

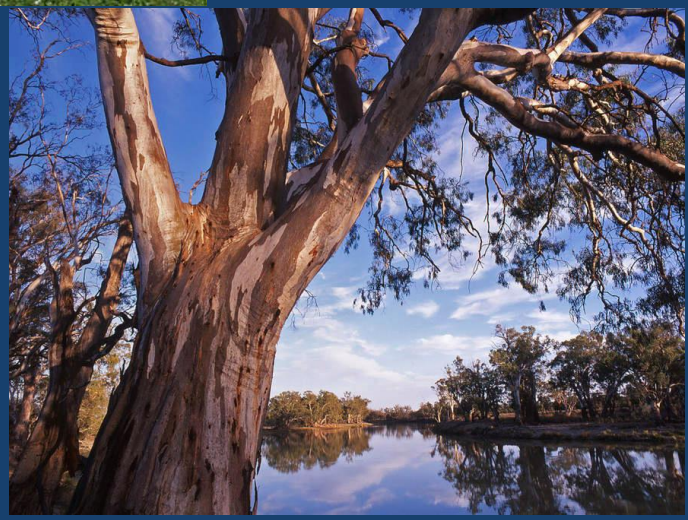


BLUE ECONOMY: THE SUSTAINABLE USE, REUSE AND TREATMENT OF FRESHWATER IN SUPPORT OF ECONOMIC, SOCIO-CULTURAL AND ENVIRONMENTAL VALUES



BLUE ECONOMY: IMPORTANCE OF WATER VALUES

Economic



Environmental

Socio-cultural

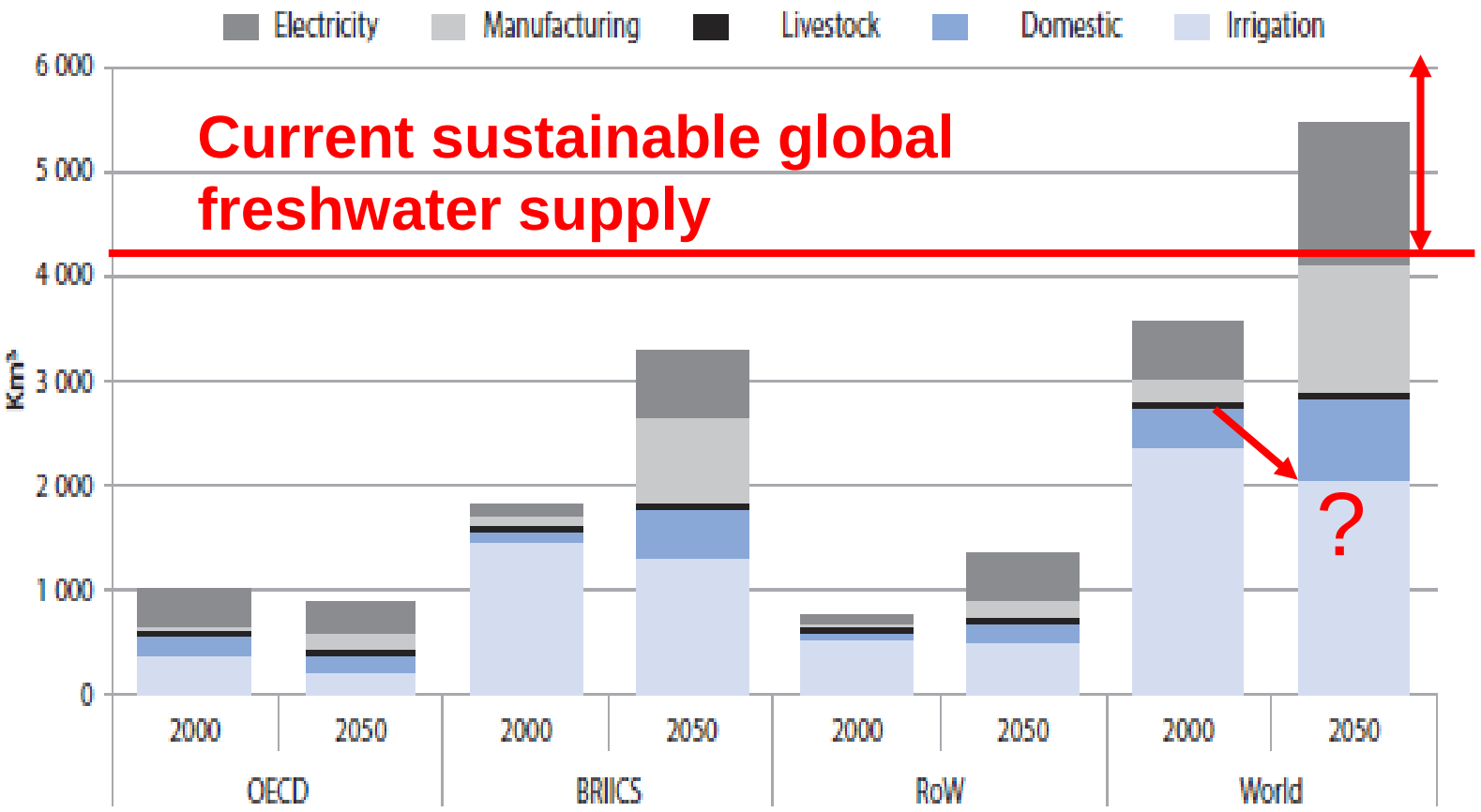
INCENTIVES: INDUCEMENTS, REWARDS OR BENEFITS FOR GIVEN ACTIONS OR BEHAVIOURS

(2) CHALLENGES

Water Scarcity

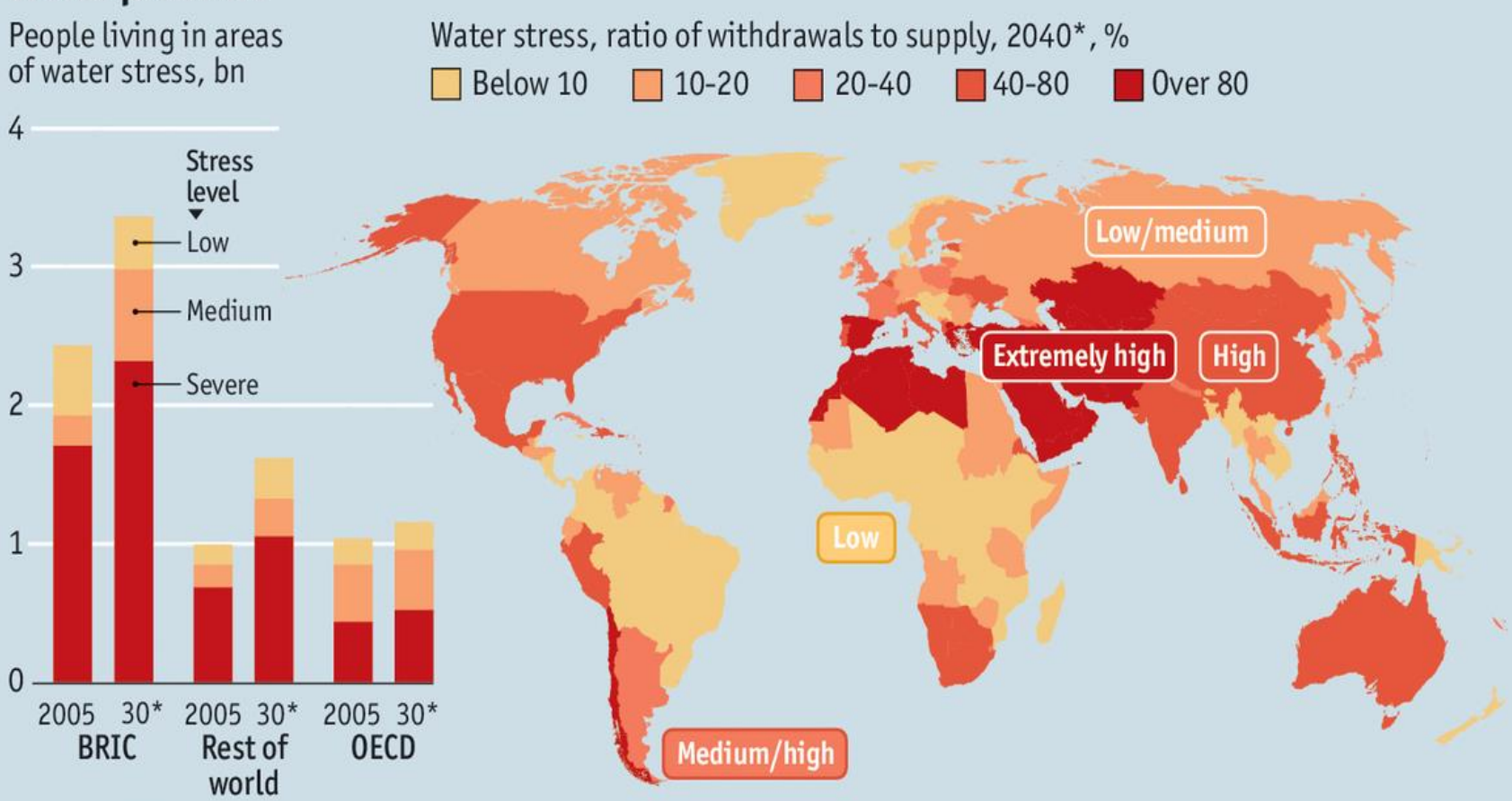
Water Quality

GLOBAL WATER EXTRACTIONS

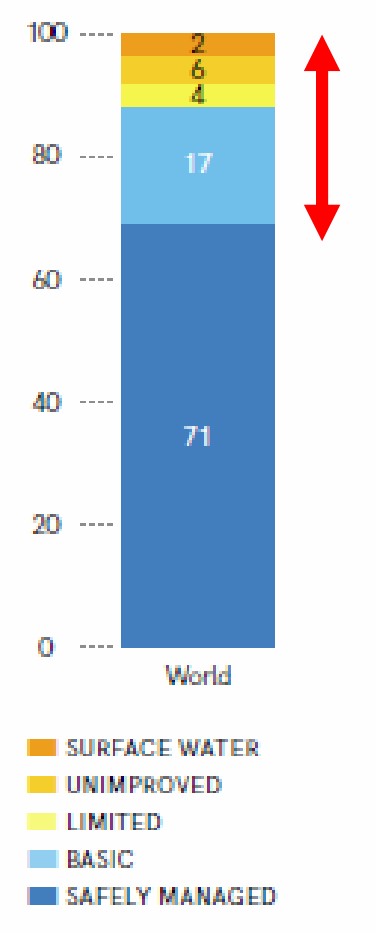


Source: OECD (2015)

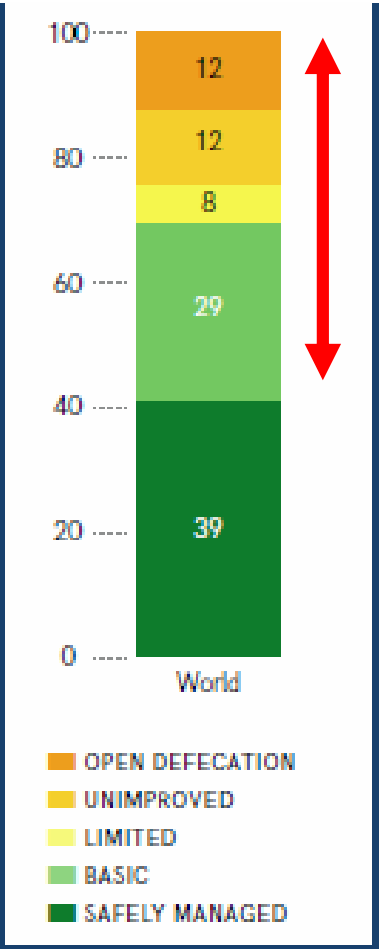
PROJECTED GLOBAL WATER STRESS 2040



HUMAN WATER NEEDS



Drinking Water



Sanitation

Source: WHO & UNICEF 2017

INADEQUATE WASH INVESTMENTS

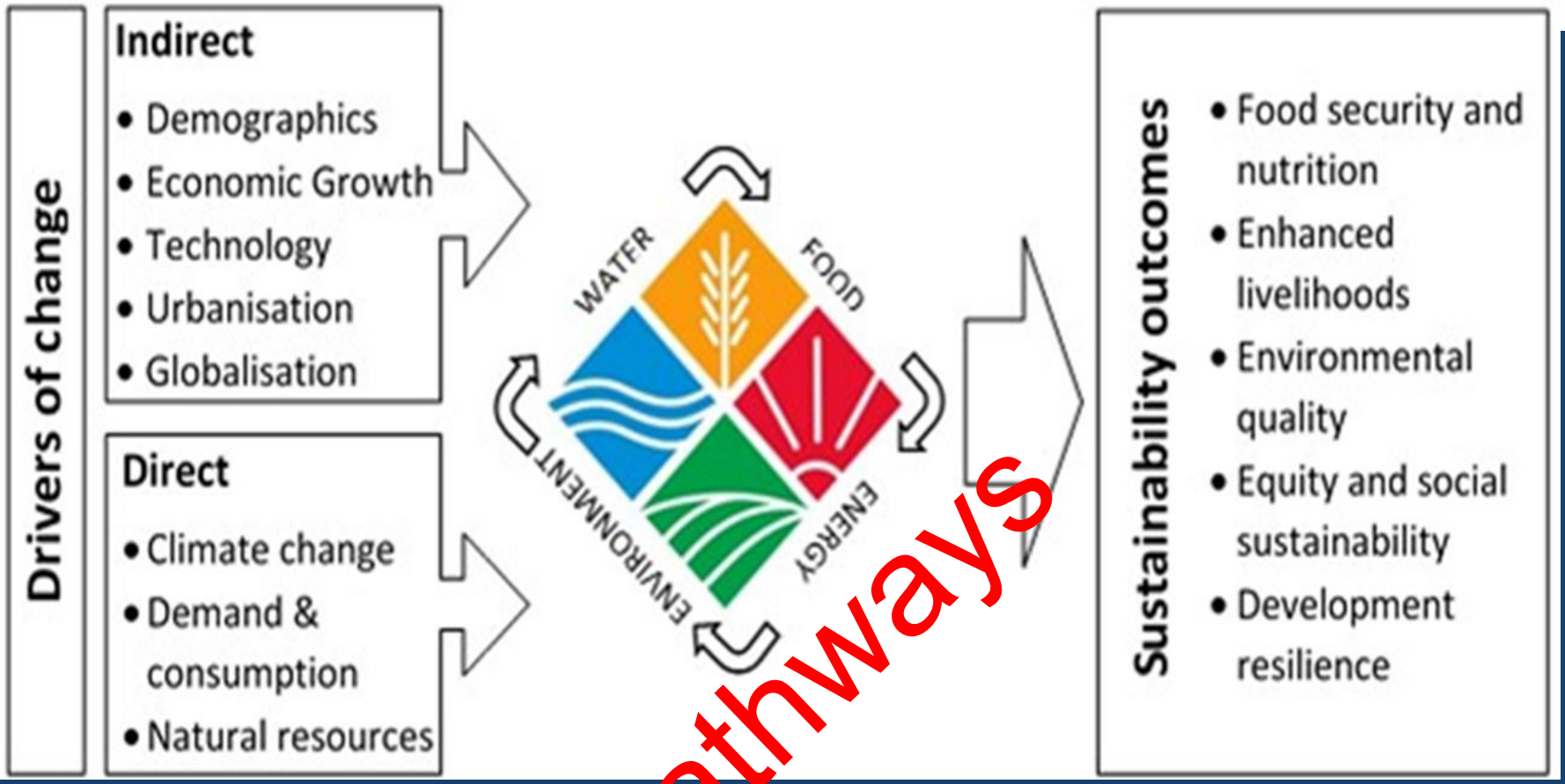
Global INCREMENTAL annual investments in WASH estimated at USD 28 billion to achieve SDG 6

	Per cent of countries reporting sufficient finance to meet national targets (n= 70)[2]	
Programme area	Urban	Rural
Drinking-water	22%	10%
Sanitation	13%	10%
Water quality	19%	9%

Source: GLAAS 2016/2017 country survey.

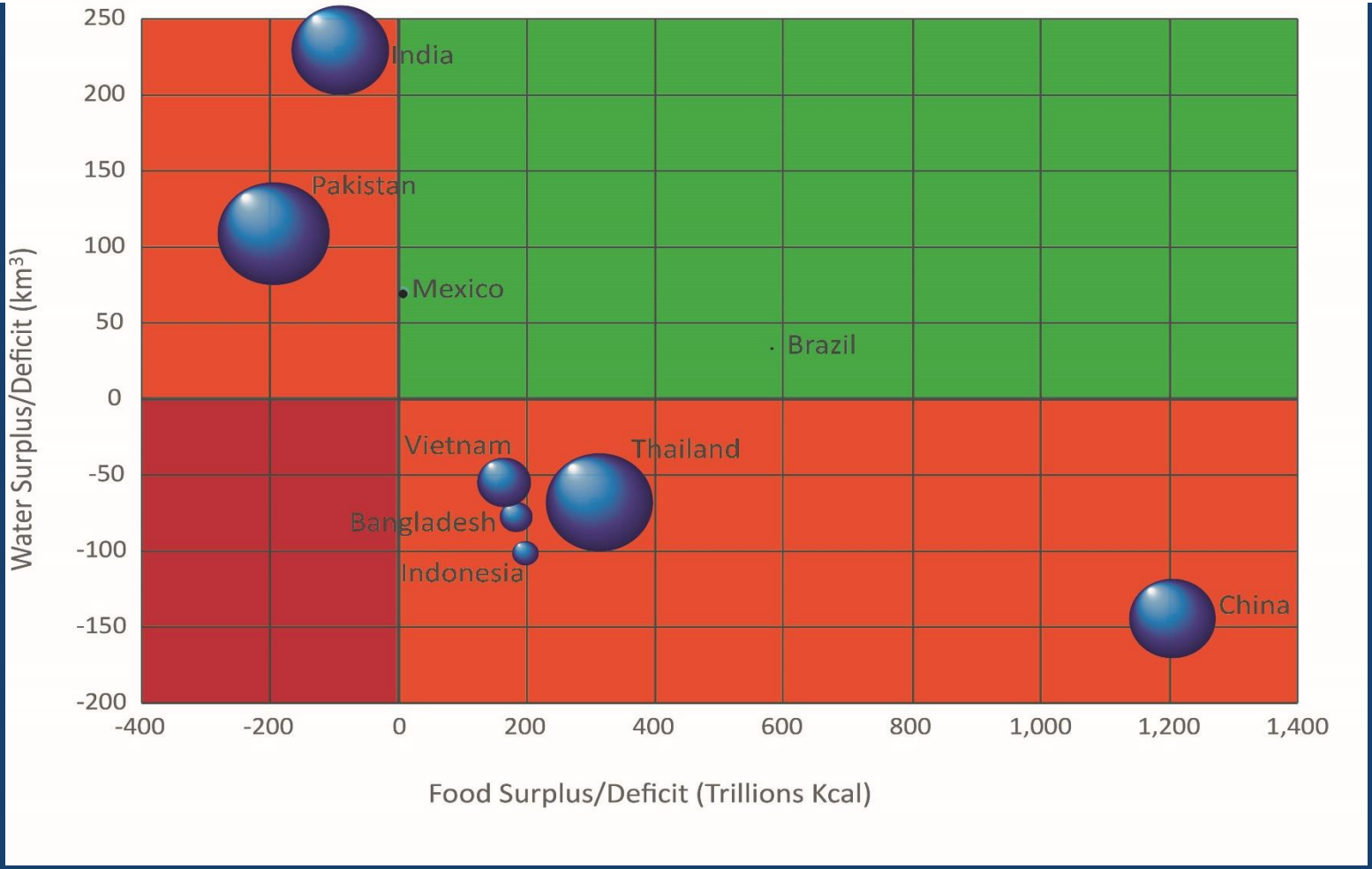
3. COMPLEXITIES

DRIVER, PATHWAYS AND OUTCOMES



Adapted from Fan (2014)

FOOD AND WATER GAPS 2050



Source: Grafton, Williams and Jiang. (2017)

TAXONOMY OF WATER CHALLENGES

Types
Transboundary Waters (60% world's transboundary rivers have co-operative agreement)
Rural versus Rural (Lack of rights and upstream preference or priority use)
Rural versus Environment (Tradeoffs between irrigation and environmental flow or aquifer recharge)
Rural versus Urban ('Win-win' transfers fail to happen due to transition costs and missing markets)
Urban versus Urban (leakage problems, inadequate pricing and rapid urbanization)

Source: Grafton, Garrick and Horne (2017)

Socio-cultural Factors

1. Lack of shared norms and social capital
2. Divergent mental models
3. Weak communication and social exclusion
4. Large group size and/or social heterogeneity
5. Legacy of inequitable water use

Constraints

1. System boundaries and limits are poorly defined
2. Water supply is unreliable
3. Inadequate or inappropriate infrastructure
4. Stranded assets
5. Insufficient modelling, metering and monitoring

Political Economy

1. Vested interests
2. Poorly defined property rights
3. Third party effects
4. High transaction costs
5. Limited administrative capacity
6. Institutional fragmentation
7. Inter-governmental coordination challenges

4. INNOVATION AND INCENTIVES

INNOVATION: RISK-INFORMED DECISION-MAKING

East Coast of Japan, 11 March 2011

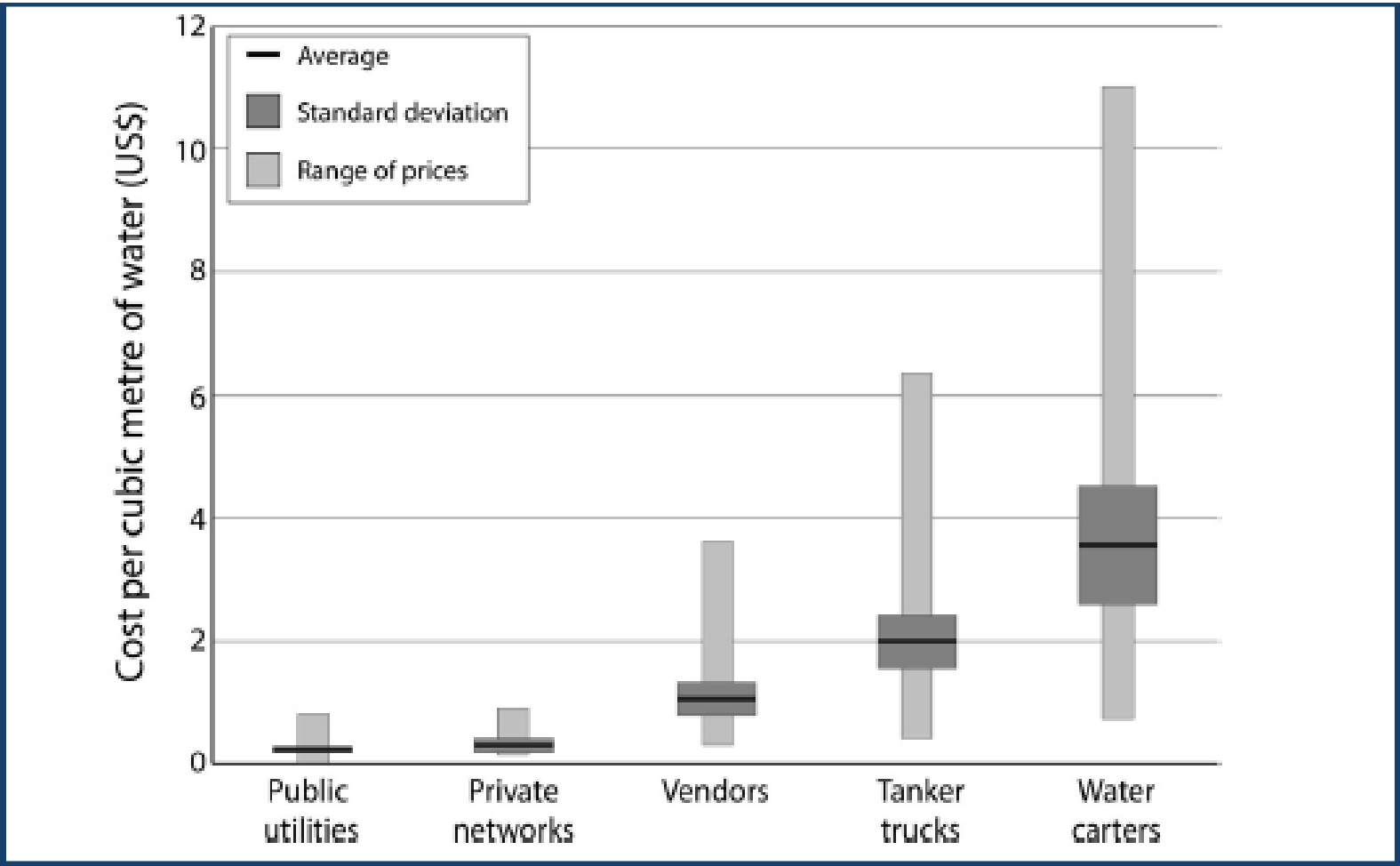
RESILIENT DECISION-MAKING

Scoping Stage	1. Identify Stakeholders, Decision-Makers, Data & Knowledge	2. Identify Events & Drivers	3. Develop Options	4. Define Causal Risk Model
Assessment Stage	5. Prepare Tools and Data	6. Assess Risks & Options	7. Prepare Investment Decision Inputs	
Implementation Stage	8. Consult & Revise	9. Implement & Evaluate	10. Document, Review & Update	

INCENTIVES: WATER PRICING & MARKETS

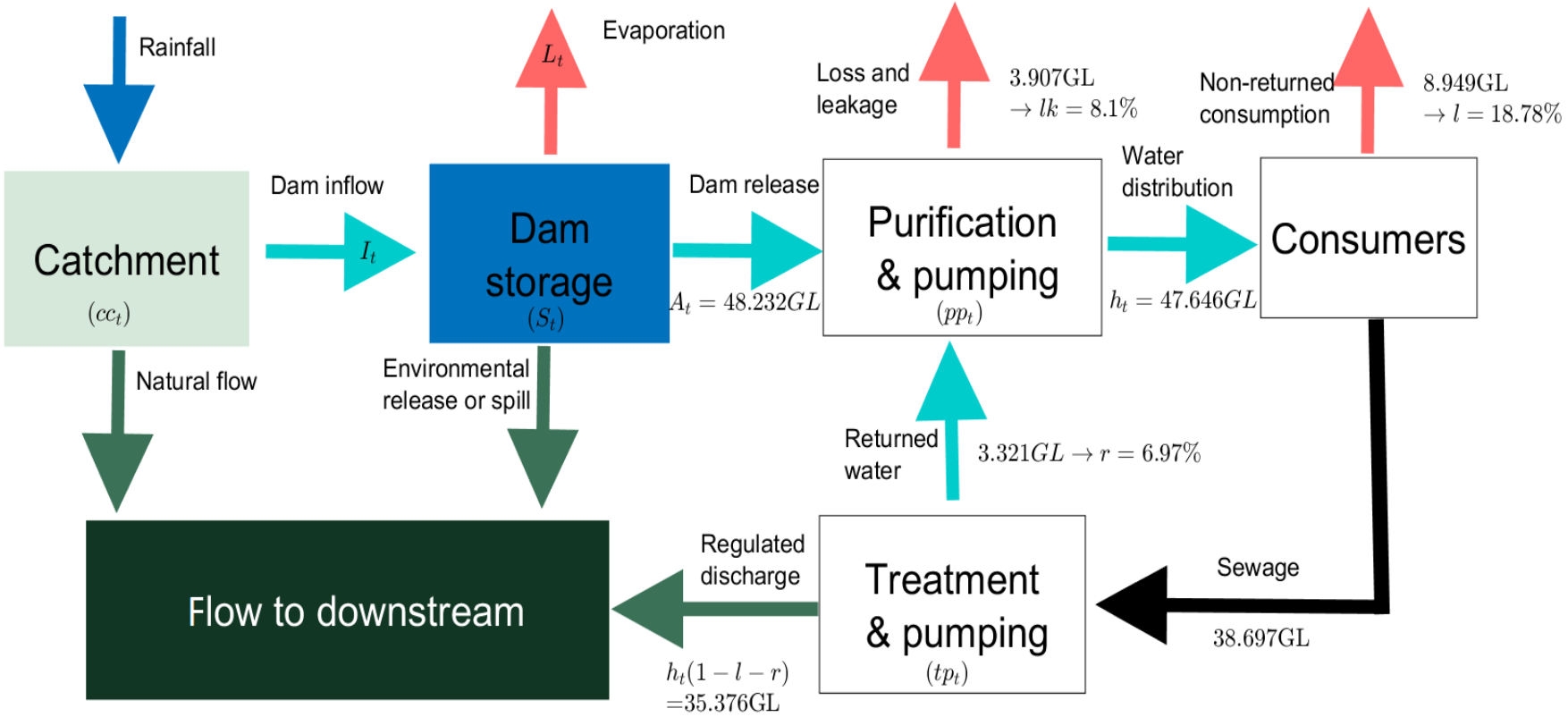
Water markets in the Murray-Darling Basin

WATER PRICING



Source: Kariuki and Schwartz (2005, p. 26)

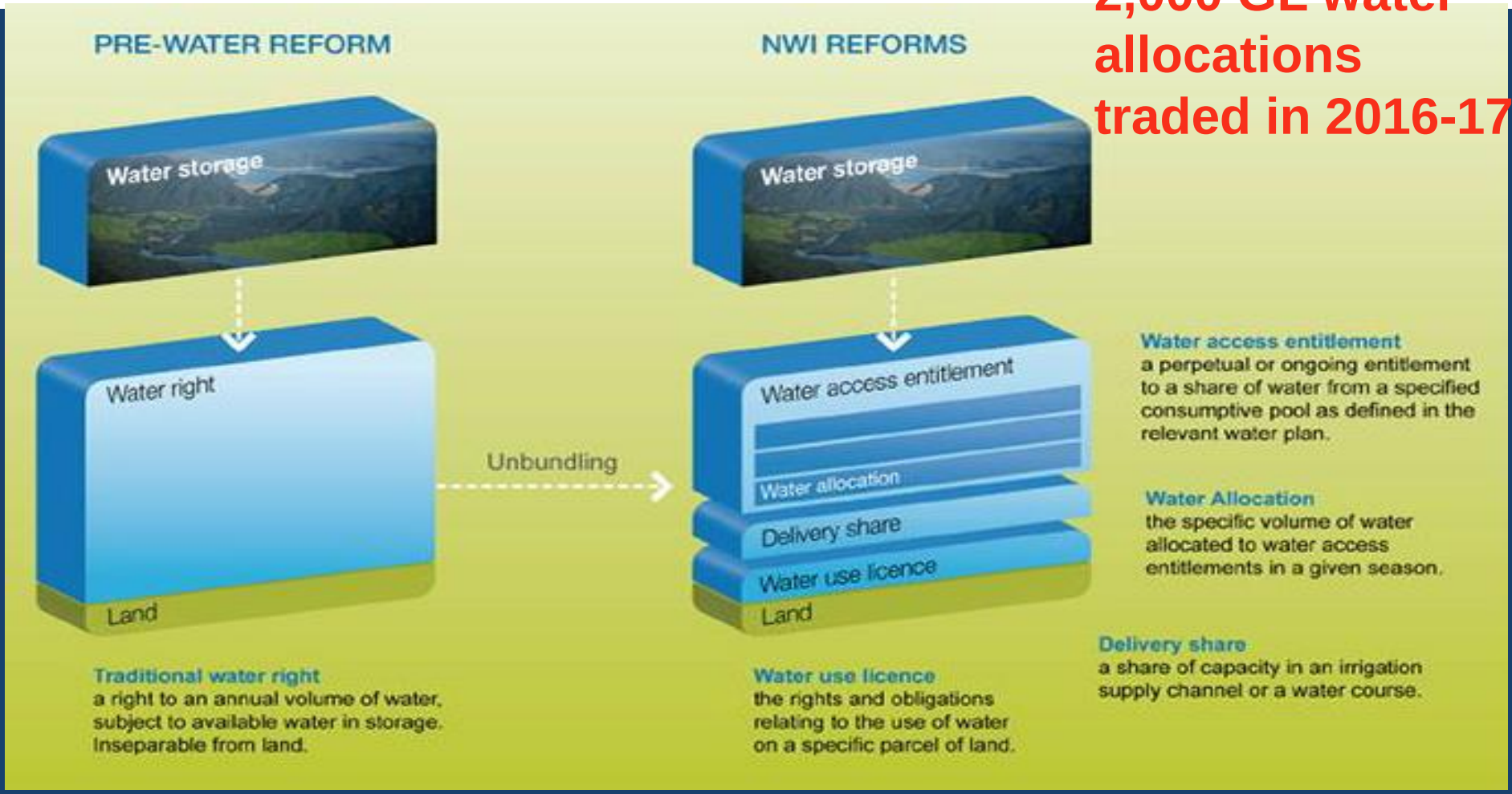
URBAN WATER SYSTEM



Source: Grafton and Chu (2017)

WATER MARKETS: MURRAY-DARLING BASIN

10,000 + trades, 2,000 GL water allocations traded in 2016-17



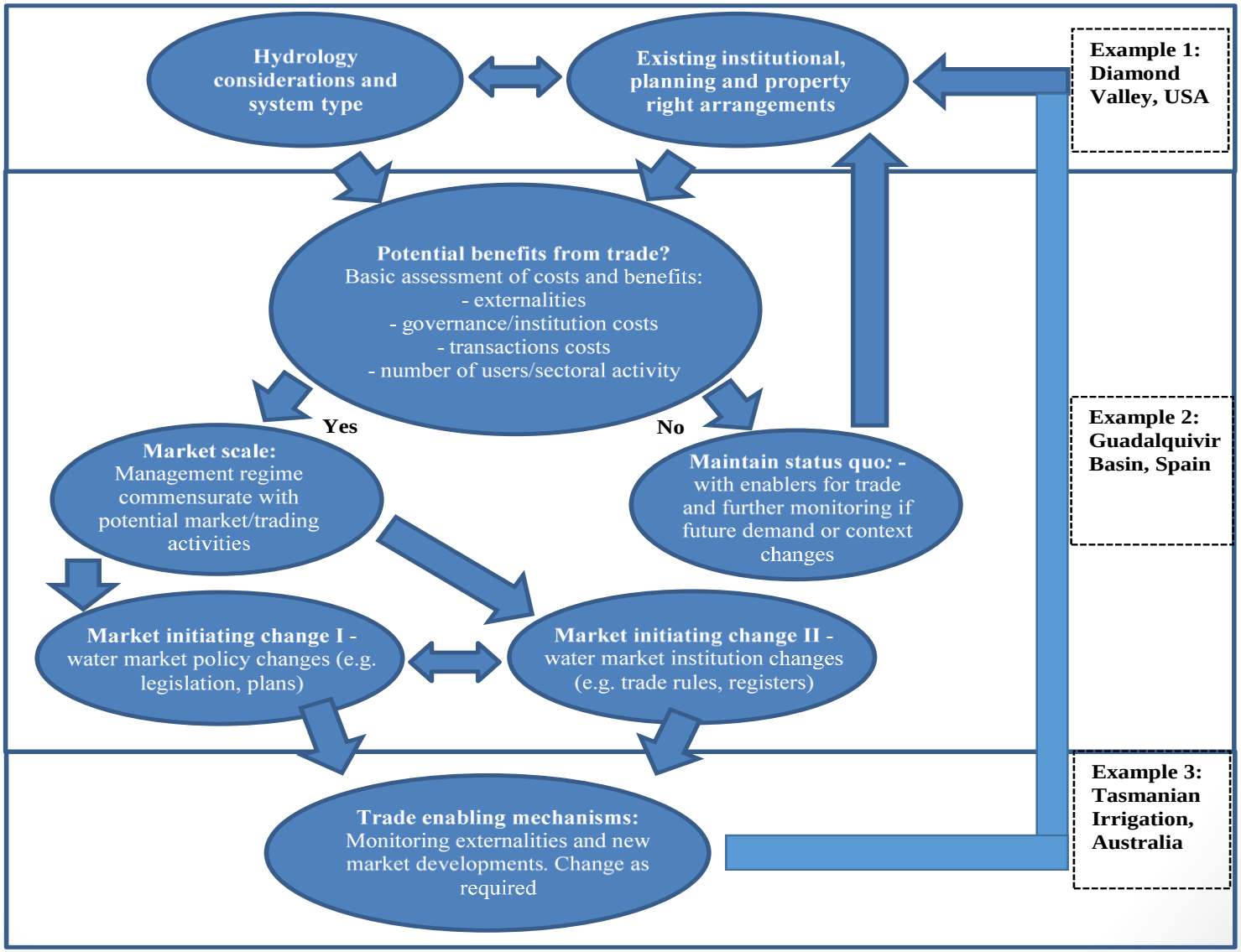
Source: National Water Commission

WATER MARKET READINESS FRAMEWORK

Step 1: Background context

Step 2: Market evaluation, development and implementation

Step 3: Monitoring and continuous review/ assessment



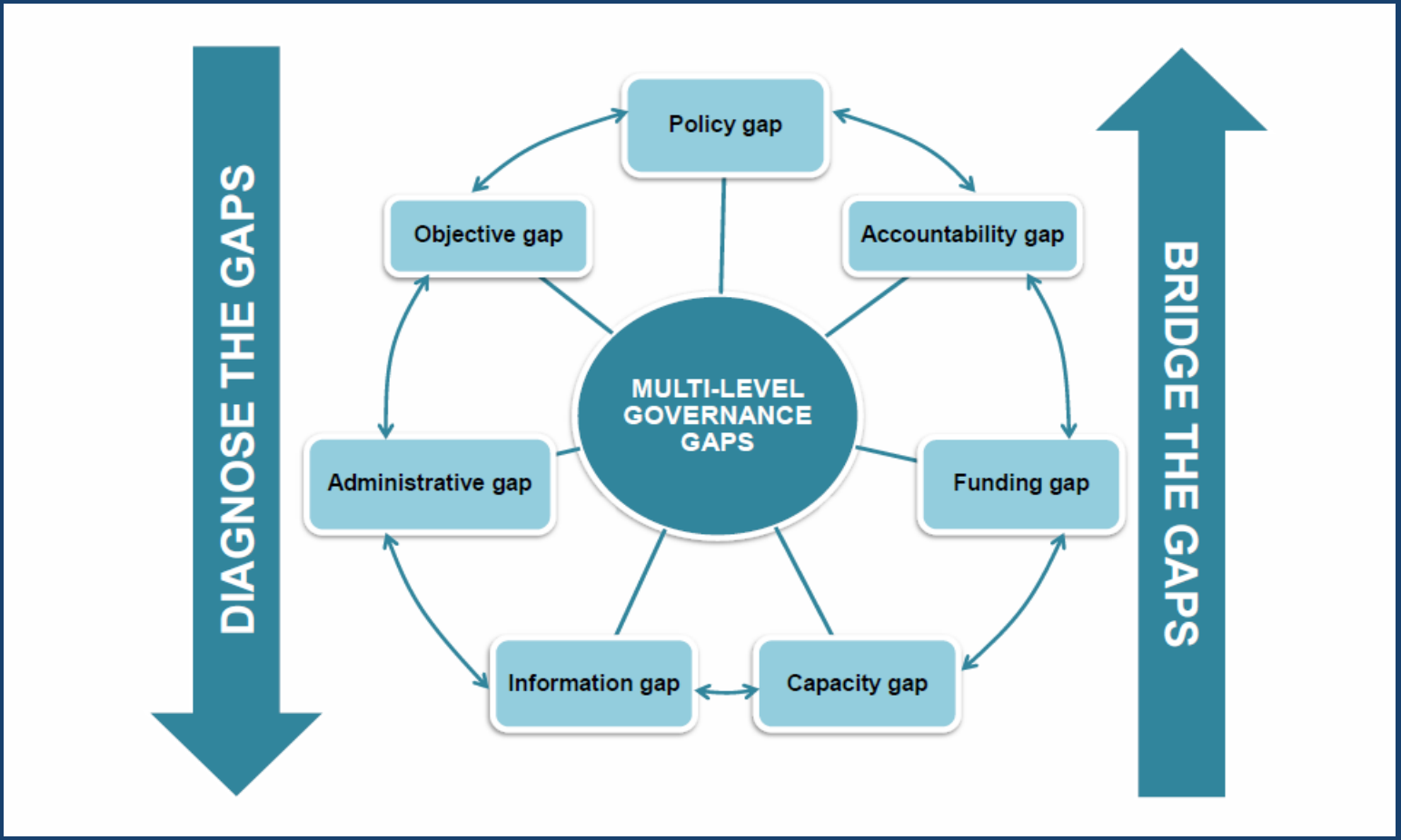
Source: Wheeler et al. (2017)

5. ACTIONS

HOW TO ACT: WHO, WHAT AND WHEN?

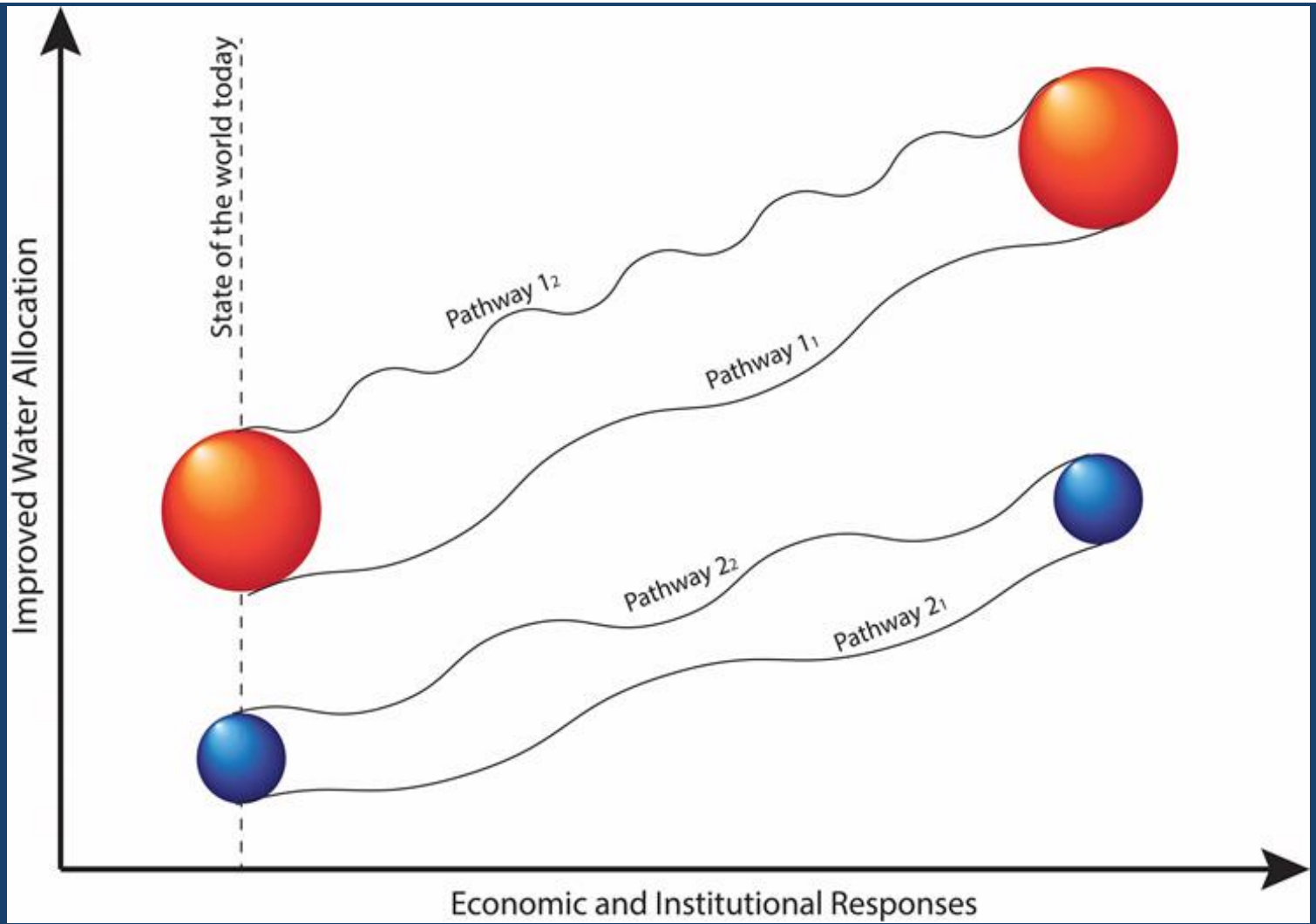
- **Allocative efficiency (place and purpose)**
- **Scale and scope efficiencies (size and mix)**
- **Inter-temporal; dynamic efficiency (time)**
- **Equity (people)**

ACT: DIAGNOSING & BRIDGING GAPS

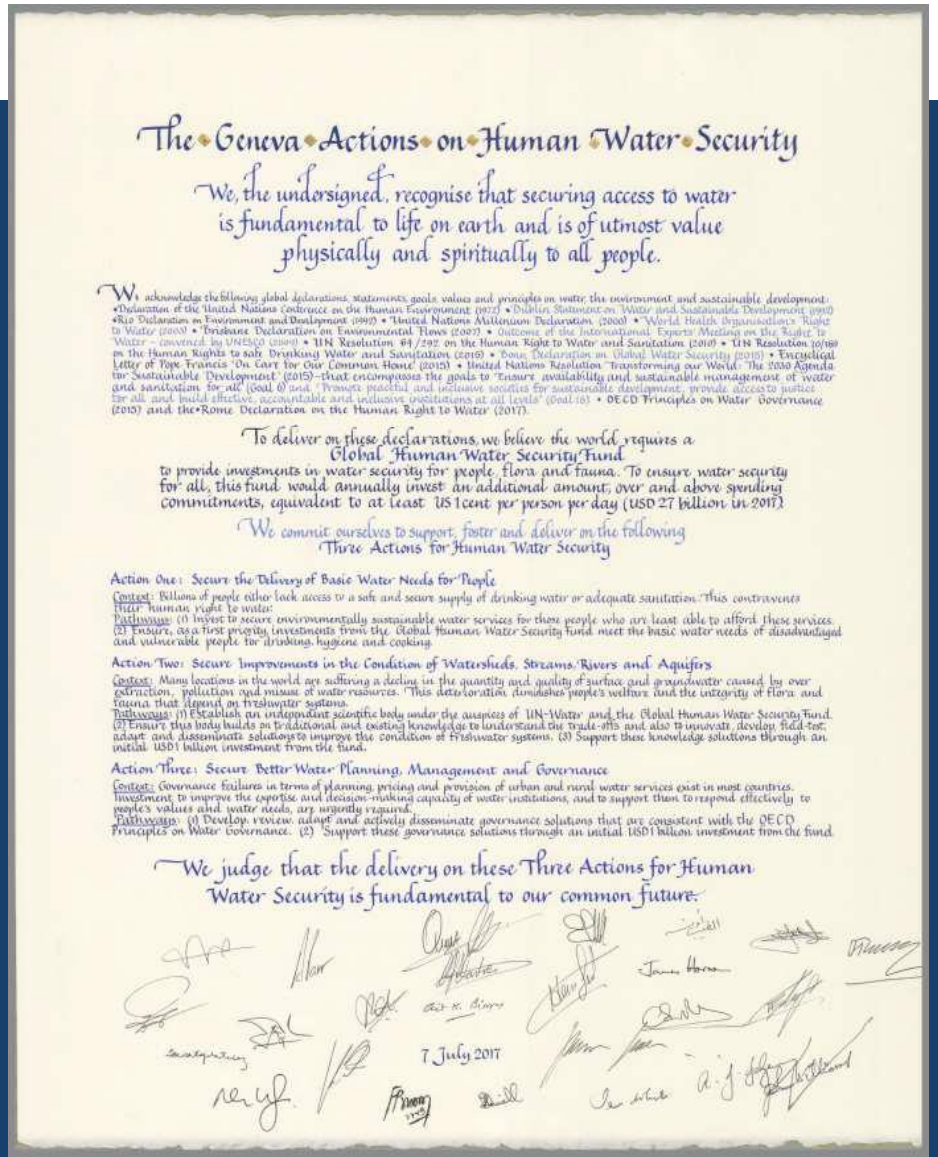


Source: OECD (2011)

ACT: RESPONDING TO THE CHALLENGES



GLOBAL HUMAN WATER SECURITY FUND



The Geneva Actions on Human Water Security

We, the undersigned, recognise that securing access to water is fundamental to life on earth and is of utmost value physically and spiritually to all people.

We acknowledge the following global declarations, statements, goals, values and principles on water, the environment and sustainable development: •Declaration of the United Nations Conference on the Human Environment (1972) • Dublin Statement on Water and Sustainable Development (1992) •Rio Declaration on Environment and Development (1992) • United Nations Millenium Declaration (2000) • World Health Organisation's 'Right to Water' (2002) • Brisbane Declaration on Environmental Flows (2007) • Outcome of the International Experts' Meeting on the 'Right to Water' convened by UNESCO (2009) • UN Resolution 64/292 on the Human Right to Water and Sanitation (2010) • UN Resolution 16/2 on the Human Rights to safe Drinking Water and Sanitation (2010) • Bonn Declaration on Global Water Security (2013) • Encyclical Letter of Pope Francis 'On Care for Our Common Home' (2015) • United Nations Resolution 'Transforming our World: The 2030 Agenda for Sustainable Development' (2015) - that encompasses the goals to 'Ensure availability and sustainable management of water and sanitation for all' (Goal 6) and 'Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels' (Goal 16) • OECD Principles on Water Governance (2015) and the •Rome Declaration on the Human Right to Water (2017).

To deliver on these declarations, we believe the world requires a Global Human Water Security Fund to provide investments in water security for people, flora and fauna. To ensure water security for all, this fund would annually invest an additional amount, over and above spending commitments, equivalent to at least US 1 cent per person per day (USD 27 billion in 2017).

We commit ourselves to support, foster and deliver on the following Three Actions for Human Water Security

Action One: Secure the Delivery of Basic Water Needs for People

Context: Billions of people either lack access to a safe and secure supply of drinking water or adequate sanitation. This contravenes their human right to water.
Pathways: (1) Invest to secure environmentally sustainable water services for those people who are least able to afford these services. (2) Ensure, as a first priority, investments from the Global Human Water Security Fund meet the basic water needs of disadvantaged and vulnerable people for drinking, hygiene and cooking.

Action Two: Secure Improvements in the Condition of Watersheds, Streams, Rivers and Aquifers

Context: Many locations in the world are suffering a decline in the quantity and quality of surface and groundwater caused by over extraction, pollution and misuse of water resources. This deterioration diminishes people's welfare and the integrity of flora and fauna that depend on freshwater systems.
Pathways: (1) Establish an independent scientific body under the auspices of UN-Water and the Global Human Water Security Fund. (2) Ensure this body builds on traditional and existing knowledge to understand the trade-offs and also to innovate, develop, field-test, adapt and disseminate solutions to improve the condition of freshwater systems. (3) Support these knowledge solutions through an initial USD1 billion investment from the fund.

Action Three: Secure Better Water Planning, Management and Governance

Context: Governance failures in terms of planning, pricing and provision of urban and rural water services exist in most countries. Investment to improve the expertise and decision-making capacity of water institutions, and to support them to respond effectively to people's values and water needs, are urgently required.
Pathways: (1) Develop, review, adopt and actively disseminate governance solutions that are consistent with the OECD Principles on Water Governance. (2) Support these governance solutions through an initial USD1 billion investment from the fund.

We judge that the delivery on these Three Actions for Human Water Security is fundamental to our common future.

7 July 2017

The world needs coordinated, prioritised and funded actions to provide basic water needs, respond to the deterioration of watersheds and aquifers, and to correct failures in water governance.

GENEVA ACTIONS

Action One: Secure the Delivery of Basic Water Needs for People

Action Two: Secure Improvements in the Condition of Watersheds, Streams, Rivers and Aquifers

Action Three: Secure Better Water Planning, Management and Governance

https://genevaactions.org/about

NEXT STEPS

(1) Value Water (socio-cultural, environment, economic)

(2) Price Water (rural & urban, scarcity pricing, concessionary rebates)

(3) Strategically Invest in:

- Basic Water Needs
- Value and conserve catchments and aquifers
- Improved water governance