



# How the World Bank Group Is Invigorating Water Finance for SDG 6

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# World Bank Group Water Strategy



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# The Water for People, Food, and Planet Challenge

## Water for People

**2.2 billion** lack clean drinking water

**3.5 billion** without safe sanitation

**400,000 children under 5 die each year** from unsafe water, sanitation, and hygiene

**Urban population** facing water scarcity projected to **double globally by 2050**

## Water for Food

**0.5 billion farmers** (~ 80%) are “smallholders” and vulnerable to erratic rains and low access to inputs (seeds, fertilizers etc.)

**Only 6% of farmland in Africa is irrigated** – the world needs to double irrigation to feed the world

**80% rainfed agriculture** produces **60% food** – need **climate smart agriculture practices** to increase food production

**10% of global anthropogenic methane** emanates from rice cultivation

## Water for Planet

**Planetary boundaries for green and blue water have been crossed**, altering water cycle and health of planet

**4 billion people** live in water-scarce areas, with **billions vulnerable** to floods and droughts

**Natural water storage has declined by 27 trillion m<sup>3</sup>** over 50 yrs due to degradation. Safety of existing built storage needs to be managed

**2 million tons of waste** are discharged into the world’s rivers, lakes, and aquifers every day

**83% decline** in abundance of freshwater species since 1970



# What is holding the sector back?

## Water for People

## Water for Food

## Water for Planet

### Sector-Wide Issues

- **Fragmentation of responsibilities** across multiple agencies and **weak** policy, institutional, and regulatory **frameworks**
- **Limited** management of resource, with worsening water quality and increasing conflict over availability
- **Sector financially unsustainable**, with water **underpriced** and unable to cover costs or finance needed investments
- **Gap between current spending** in water (\$0.164 trillion/ year) and **financing needs** (> \$1 trillion/ year for water SDGs by 2030)
- Existing **subsidies poorly allocated** and **do not benefit the poor** or incentivize performance

### Resource Inefficiency and Undervaluation

- **Inefficient utilities**, poor quality, limited cost recovery, high losses
- Limited **wastewater treatment and reuse**
- Irrigation **used for social protection**, with **lower productivity**
- **Lack of regulation** to drive reform and efficiency
- Inadequate results **measurement and tariffs**
- **Lack of regulation** to control river pollution & degradation
- Groundwater **overuse / underuse**
- Poor allocation and **misuse**

### Limited Private Sector Participation

- Water viewed as **a social good**
- **Limited bankable projects** and **creditworthy utilities**
- **Limited business case** for O&M, service delivery
- Lack of smallholder **access to markets, tech, credit**
- **Limited investment** in storage, flood-drought protection

### Complex Implementation

- Poor **coordination**, limited **capacity**
- Lack of **community engagement**
- **Irrigation operators lack customer-centric approach and accountability** towards farmers
- **Lack of political leadership** and **cross-sector engagement**

# Measuring impact and scale across three strategic objectives to achieve water security

| Strategic Objective  | Outcomes (Corporate Scorecard)   | Progress Results Indicators*<br>(TBD in implementation plan)   |
|--|--|--|
| <b>Water for People</b><br><b>1 Accelerate universal access</b> to water and sanitation, and hygiene | <ul style="list-style-type: none"> <li>Millions of people provided with water, sanitation, and/or hygiene (of which % is safely managed)</li> <li>Millions of people receiving quality health, nutrition, and population services</li> </ul> | [# million people] with access to water,<br>[# million people] with access to sanitation,<br>[# million people] with access to hygiene   |
| <b>Water for Food</b><br><b>2 Enhance food production</b> and smallholder <b>livelihoods</b>         | <ul style="list-style-type: none"> <li>Millions of people with strengthened food and nutrition security</li> <li>Net GHG emissions per year</li> </ul>   | [# million ha] of new or rehabilitated irrigation,<br>[# million ha] of low-methane irrigation practices,<br>[# million people] benefitting from increased food production through irrigation, soil conservation, and better rainfed systems |
| <b>Water for Planet</b><br><b>3 Reduce</b> water-related risks and <b>sustainably</b> manage water   | <ul style="list-style-type: none"> <li>Millions of hectares of terrestrial and aquatic areas under enhanced conservation and management</li> <li>Millions of people with enhanced resilience to climate risks</li> </ul>                     | {# million hectares} of landscapes/waterscapes under enhanced conservation and management,<br>[# million people] with enhanced resilience to climate risks (flooding/drought)  |

\*Progress results indicators can be mapped to the corporate scorecard indicators through the respective standard sub-indicators, or as custom indicators.

\*Net GHG emissions per year will be measured across all strategic objectives as applicable

# Strategic Objective 1: Scale up and speed up universal access to water, sanitation, and hygiene

## Core Focus Areas

### Reforming **Water Pricing**

- Move towards **cost-reflective tariffs**
- **Targeted subsidies** to benefit the poor & vulnerable
- **Economic regulation** for setting and enforcement of **tariffs and service standards** for utilities and service providers

### Strengthening **Capacity**

- **Public sector capacity** building across levels of government, e.g., South-South and North-South exchange; Singapore Water Center and with private sector participation

### Accelerating **Utility/Service Provider Reforms**

- **Policy, institutional, and regulatory reforms** for access, efficiency, recycle, and reuse
- **Utility turnaround** (e.g. loss reduction) to improve **creditworthiness**

### Scaling **Sub-National Financing**

- **Support fiscal decentralization** with a coordinated approach across WBG
- Support **creditworthy municipalities** and sub-national **utilities** raise **financing without sovereign guarantees**

## Enablers

### Leveraging **Private Sector Participation**

- Take on board **lessons learnt** from **successful examples** as well as **past failures**:
  - Ensuring strong sector **governance**
  - Leveraging **hybrid solutions** (blending public and private capital) to maintain **affordability**
  - Developing **local currency** solutions
  - Engaging stakeholders esp *community-based organizations* to build **social acceptance**
- **Tailor type of private interventions** depending on level of maturity of market and subsector (urban vs rural, bulk water vs networks etc.)
- Encourage private participation to bring **operating efficiency, financial sustainability, and innovation**

## Strategic Objective 2: Enhance food production and smallholder farmers' livelihoods

### Improving Pricing

- Improving **tariff structures** through volumetric/non-volumetric pricing, quotas, and other market-based mechanisms
- Repurposing subsidies**

### Enhancing Performance

- Instilling **accountability, transparency, productivity improvements** through AI, remote sensing
- Investing in rehabilitation and modernization** of existing systems
- Using **performance-based contracts** for O&M & service delivery

### Supporting Climate Resilience

- Enhancing irrigation access as a **climate risk management strategy**
- Reducing **methane/GHG emissions**
- Improving yield and location** to avoid encroachment on critical habitats

### Accelerating Value-Added Agri

- Enabling **soil fertility, nutrient management, and enforcement of water allocation rules** through AI, remote sensing, and advisory
- Facilitating smallholder farmer access to **inputs, insurance, tech, information, post harvest infra** etc.

### Enablers

#### Encouraging Private Sector Participation

- De-risking **smallholder investments** through first loss provisions
- Creating Risk Sharing Facilities (RSF) **for equipment providers**
- Creating buyers' demand for **sustainable production** (e.g., certification, traceability)
- Financing **irrigation infra/ tech and O&M improvements**, including through PPPs where socio-economically viable
- Using guarantees** for infrastructure development (e.g., wastewater reuse for irrigation)
- Fostering new market segments** through irrigation service providers

# Strategic Objective 3: Reduce water-related risks and sustainably manage water

## Core Focus Areas

### Reducing Likelihood and Impact of **Droughts and Floods**

- Supporting **early warning systems, hydromet, hazard mapping**
- Improve **dam safety**
- Rehabilitate **existing storage**
- Enhancing **green and grey storage**
- Supporting **land restoration**
- Advancing **water secure city-regional water systems** in collaboration with urban water utilities/service providers.

### Restoring Rivers and Aquifers

- Supporting **catchment, river, and aquifer** restoration and protection
- Facilitating river clean up and pollution management: **wastewater treatment and reuse**
- Enabling **biodiversity protection**

### Strengthening **Ecological Outcomes and Productivity**

- Basin-level planning, management**, including monitoring, allocation, and improved water valuation
- Institution building** (community organizations to transboundary scales)
- Strengthening** laws, regulation, enforcement, joint management bodies

## Enablers

### Encouraging **Private Sector Participation**

- Financing **wastewater treatment and re-use** (e.g., hybrid PPPs)
- Facilitating **disaster risk finance** (e.g., sustainability-linked and catastrophe bonds, green securitization, catchment funds, pooled risk facilities, carbon market linkages, and parametric insurance)
- Structuring **PPPs** for revenue-generating activities (e.g., **hydropower generation, navigation**)
- Performance-based contracts for equipment providers of **early warning and hydromet systems**
- Fostering **increased application of innovative technology** through private sector participation



# Scaling up Finance for Water



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# Global investment inadequate to meet Water SDGs ...and private spending is a drop in the bucket \*

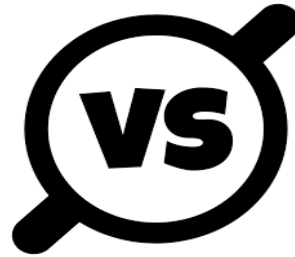
## Water **Financing Needs**

**\$6.7 trillion**

by 2030

**\$22.6 trillion**

by 2050

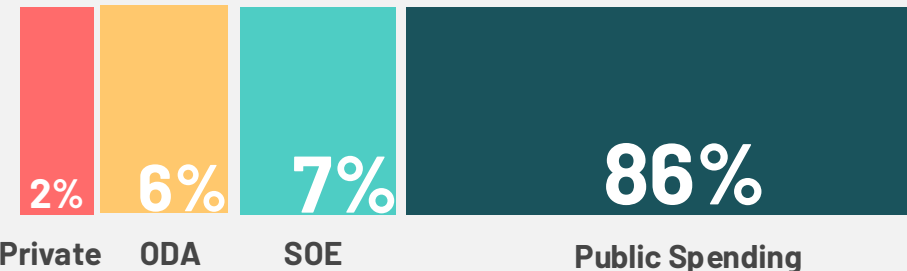


## Annual Spending in the Water Sector

**Public spending** constitutes largest share of spending in the water sector – a mere **0.5% GDP** on average

**Private spending** makes up roughly **2%**.

**US\$ 164.6 billion**

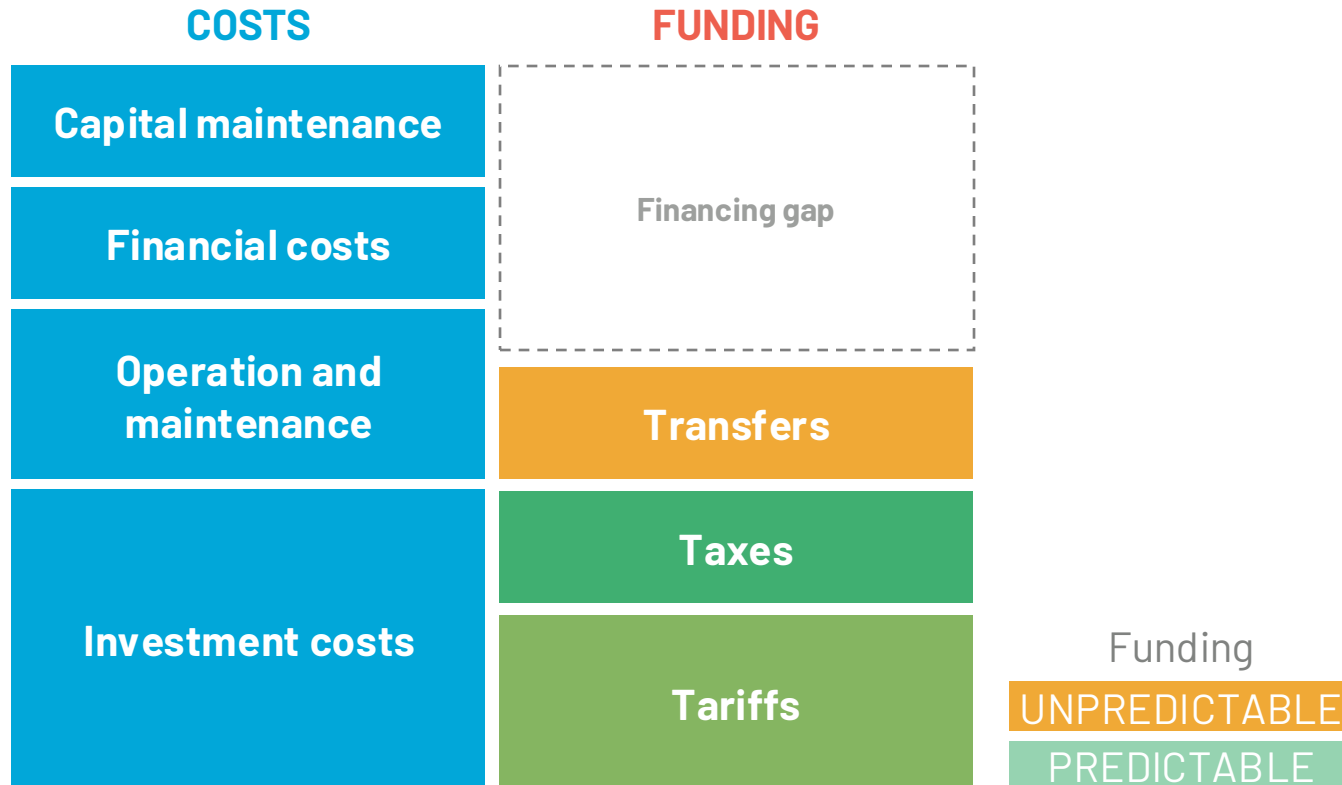


**Only 1.2% government budget is for water; compared to 4–5% for energy or transport sector vs 60% for human development**

\* **Funding A Water Secure Future**

# Public resources are critical but insufficient for water

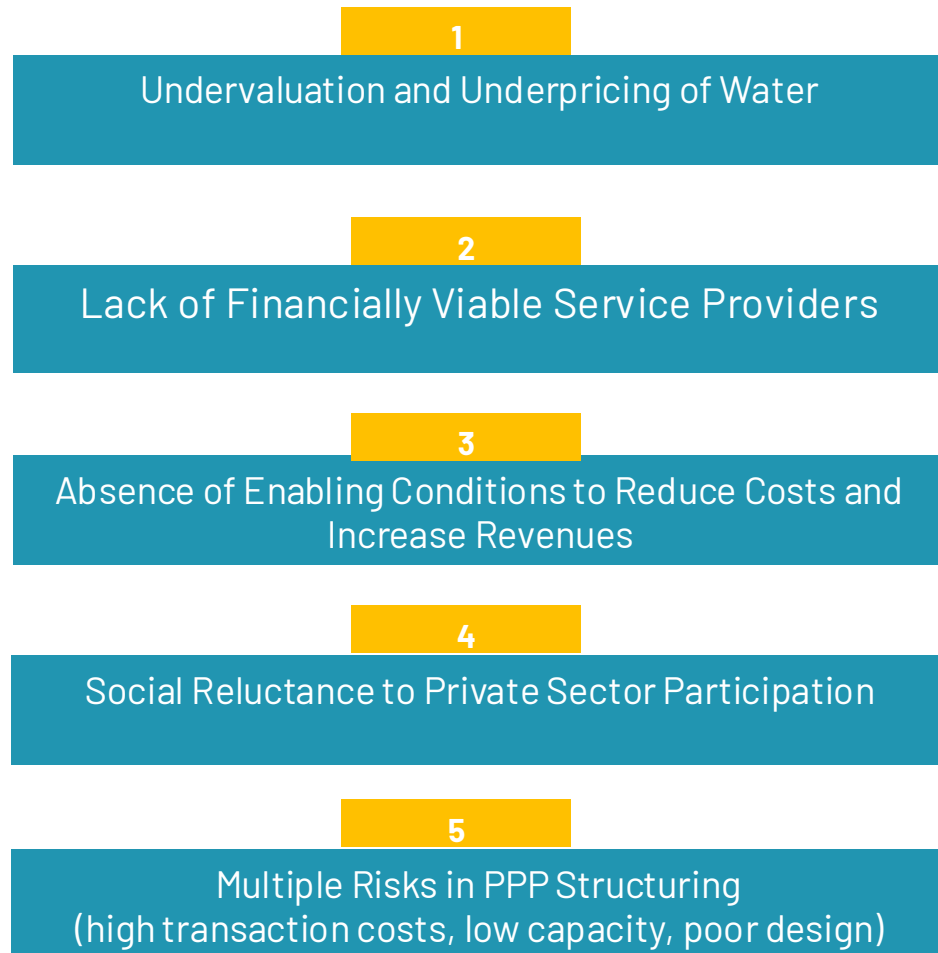
## WATER SERVICE PROVIDER'S FINANCES



### Low levels of direct user payments (tariffs):

- Reluctance to charge the full operational costs to users
- Low willingness to pay
- Affordability concerns for the poor
- Absence of government commitment to enhancing financial sustainability

# Binding Constraints to Attracting Additional Investments and Possible Solutions



- **Cost-reflective tariffs, with targeted subsidies** to protect the poor and vulnerable
- Creation of **incentives for efficiency**
- **Capacity building** of service providers
- **Coordinated platform approaches with stakeholders**, including NGOs
- **Turnaround strategies** and performance improvement plans for water service providers



# How do we attract financing and close the investment gap?

1

Establish the Enabling Conditions  
*for Financial Sustainability, Creditworthiness, and Access to Financing*

2

Mobilize Private Sector Expertise  
*to Improve Operational and Financial Efficiency*

3

Diversify and Expand the Full Spectrum of Finance  
*using public resources more efficiently to crowd in additional investments*

4

Advance Adaptation and Resilience Outcomes  
*to strengthen the business case for water sector investments*

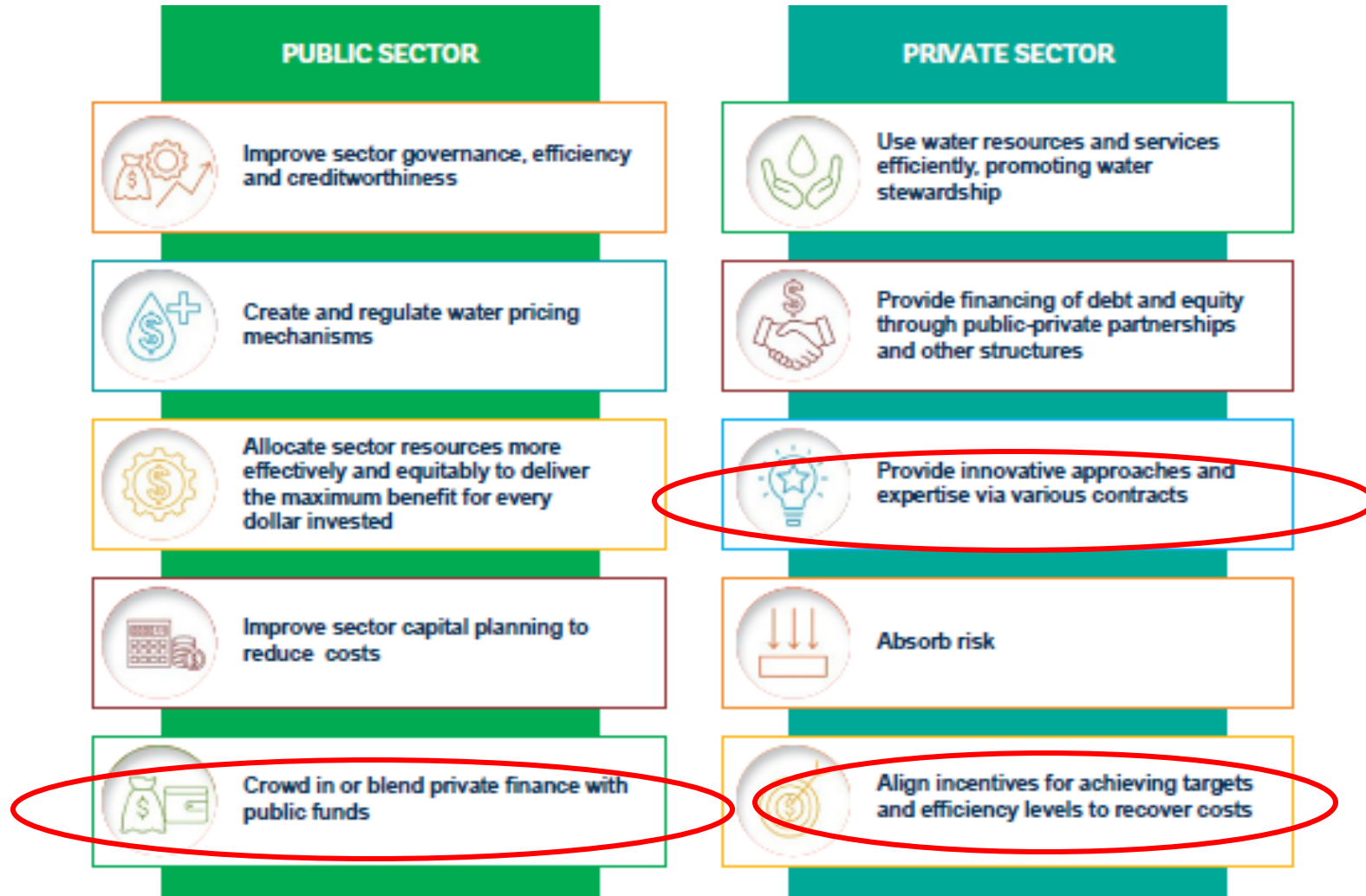
# WBG Roadmap: 10-Step Engagement

## Steps of Engagement

## WBG Tools and Instruments

|                                |    |   |  |
|--------------------------------|----|---|--|
| Training and Capacity Building | 1  | <b>Building Capacities</b> to Support the Foundations of Creditworthiness                                       | IBNET, Utility Financing and Creditworthiness, Shadow Credit Ratings, Utility of the Future, Citywide Inclusive Sanitation, Utilities for Climate                  |
|                                | 2  | <b>Assessing Macro-Fiscal</b> Conditions, Financial Market Maturity, and Investment Climate                     | SCD, CPF, InfraSAP for Water, CPSD, OECD Scorecard   |
| Analysis & Diagnostics         | 3  | <b>Aligning Water Security with Climate Goals and Economic Development</b>                                      | CCDRs, CLEAR, Water Security Diagnostics, WICER  |
|                                | 4  | <b>Designing supportive Policies, Institutions and Regulations (PIR)</b>  | PIR framework, PER   |
| Financial Planning             | 5  | <b>Integrating Financial Sustainability Analysis</b> in Sector Planning and in WBG Project Cycle                | Financial modeling, financial viability analysis, 3Ts analysis   |
| Turnaround Strategies          | 6  | <b>Turning Around Technical Efficiency and Operational and Financial Performance</b> of Water Service Providers | Performance improvement plans (Utilities of the Future); PBCs for NRW reduction and energy efficiency, irrigation modernization                                    |
|                                | 7  | <b>Developing a Pipeline of Bankable Projects</b>   | Better data and information, market-making, support for project development, pooling projects to reach economies of scale and reduce viability risks               |
| Financing Solutions            | 8  | <b>Creating Markets for Local Currency Financing</b> and Mobilizing Domestic Finance                            | Domestic commercial lending and capital markets  |
|                                | 9  | <b>Mobilizing the Full Suite of Funding and Financing Solutions</b>   | Efficient public spending, blended finance, PPP, VGF, commercial debt, microfinance, risk retention instruments, payment- and loan guarantees, WBG Scaling Rewater |
| Stakeholder Engagement         | 10 | <b>Developing a Coordinated Approach with Stakeholders</b>  | 2030 WRG multistakeholder platforms, principles of engagement with MDBs, donor roundtables, high-level events  |

# Roles of the Public and Private Sector



Strategic use of public funds to crowd in the private sector

Private sector expertise can help with financial sustainability too!

# Select Case Studies

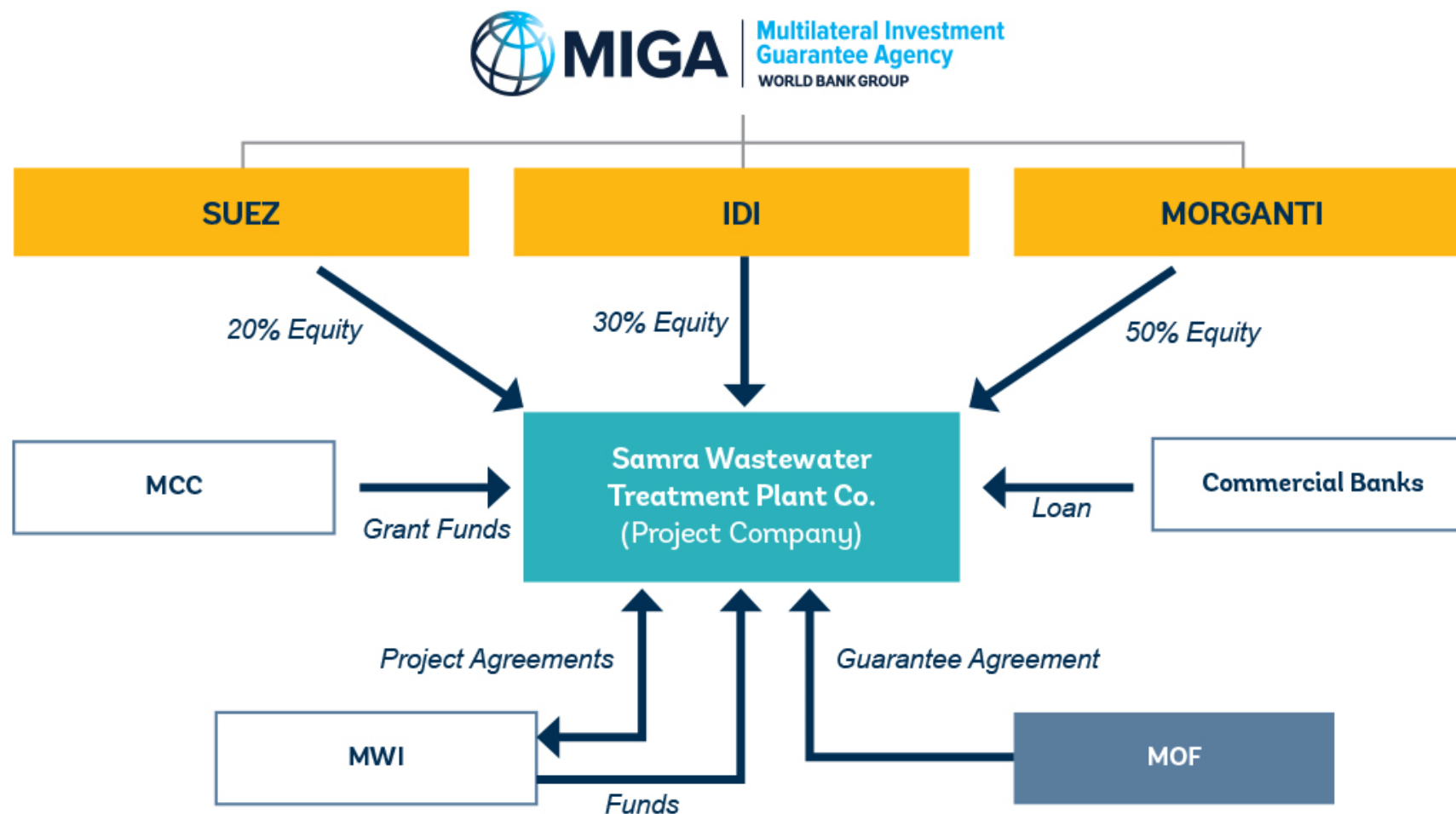


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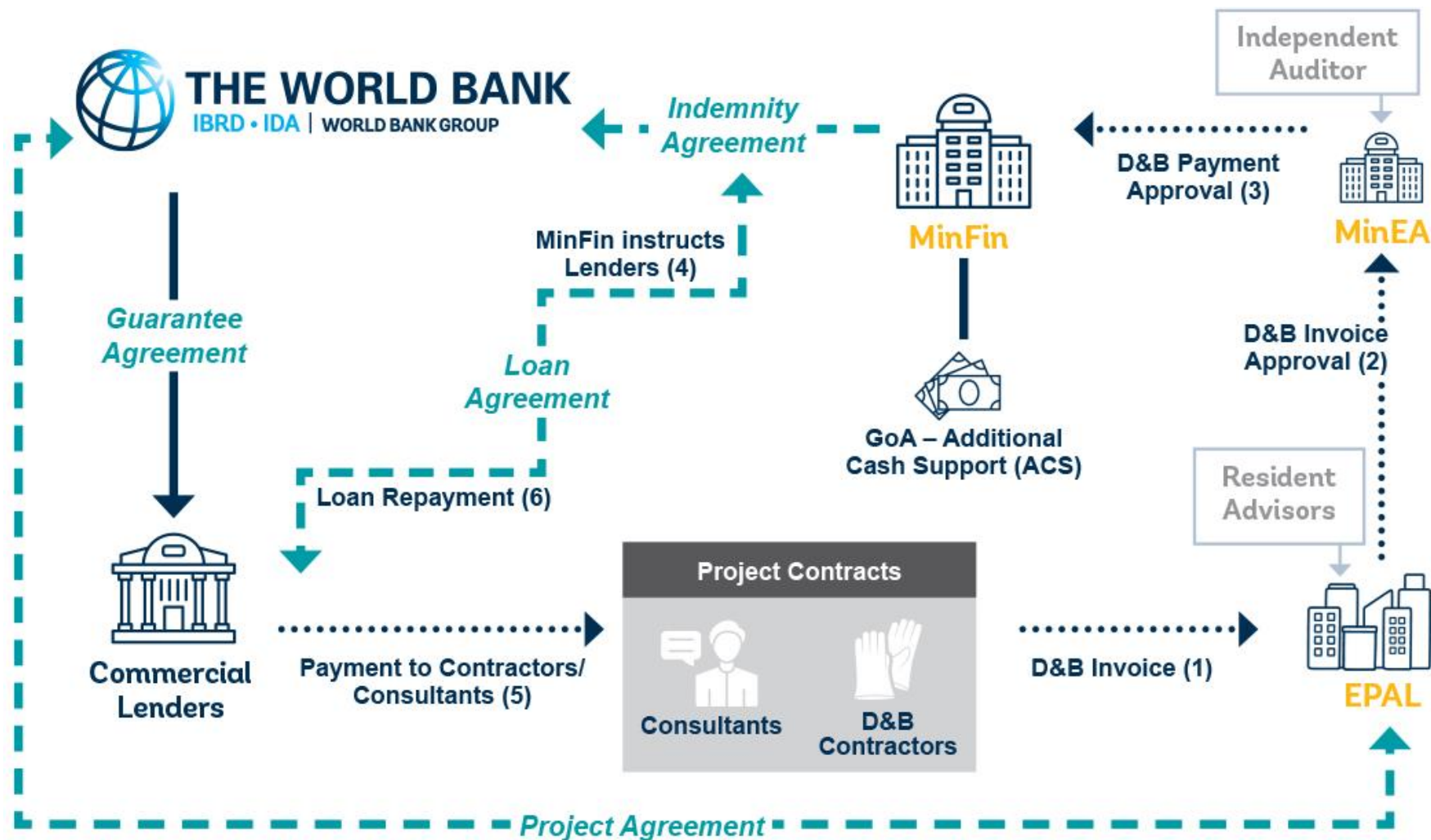
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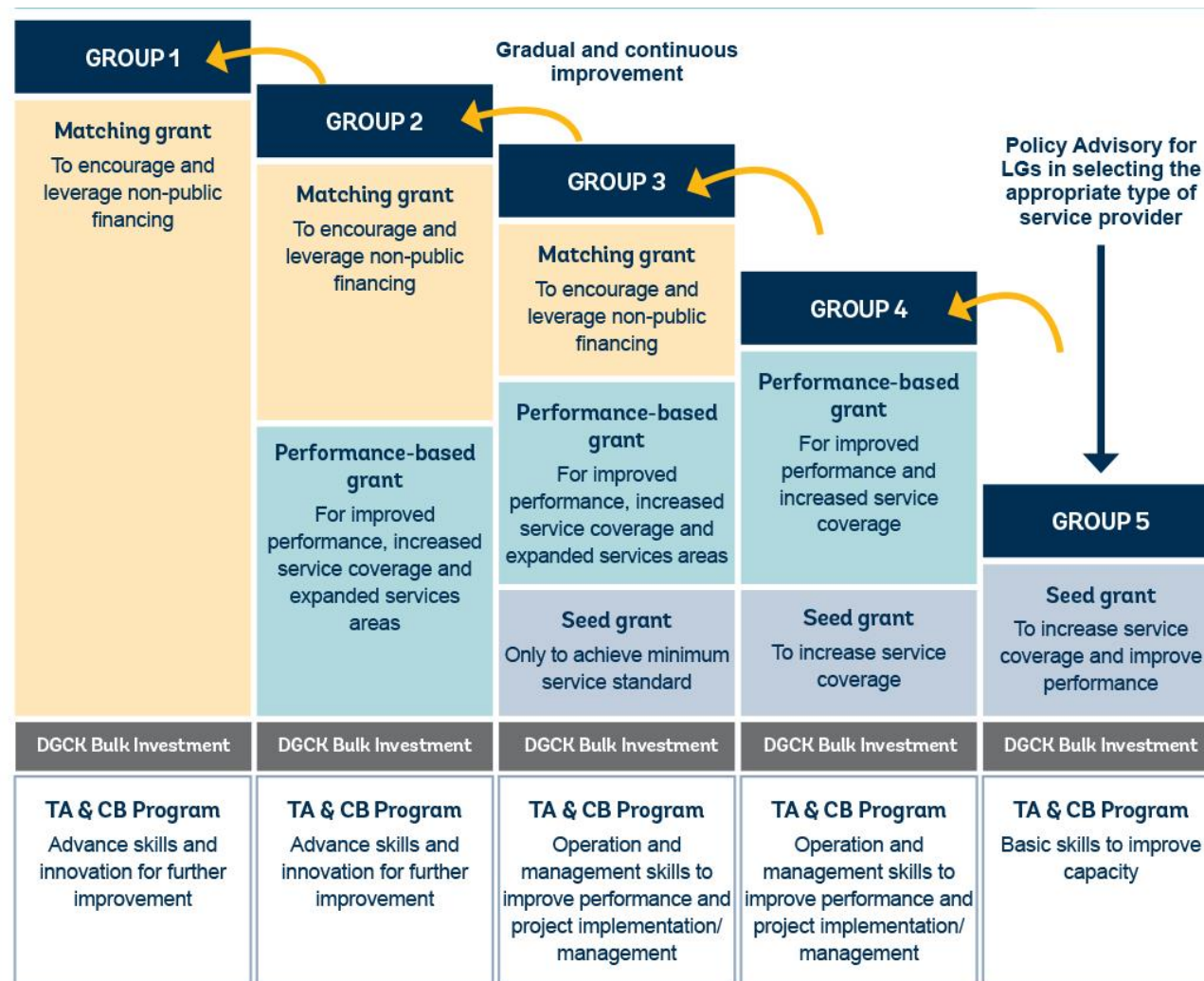
# AS Samra Wastewater Treatment Project, Jordan



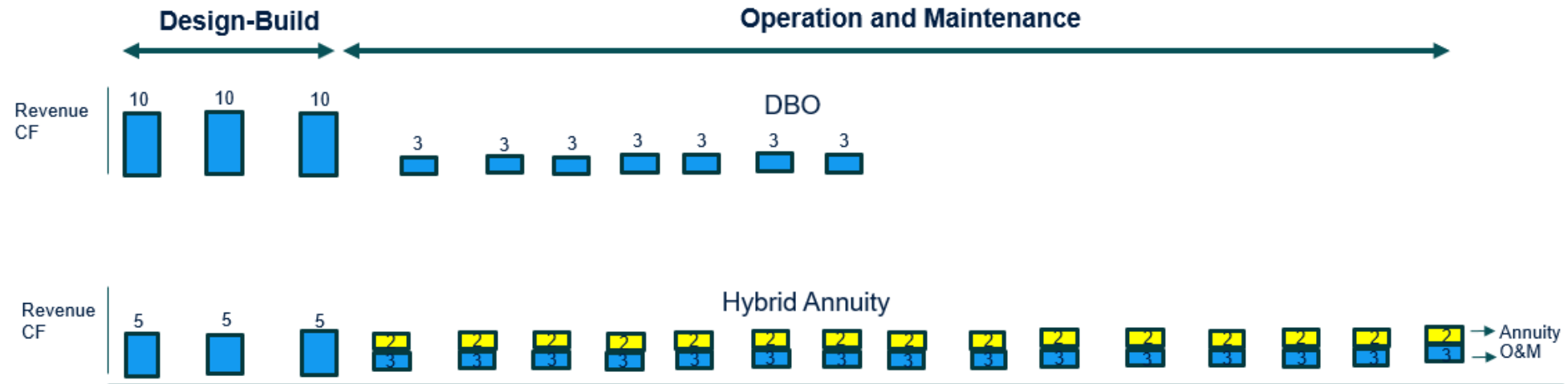
# Angola Bitá Water Project



# Indonesia NUWAS



# PPP Hybrid Annuity Model for Ganga Rejuvenation



Design of **First PPPs for Wastewater Treatment** in the Ganga Basin

**Unique Hybrid Annuity Model:** Concessionaire mobilizes 100% investment

- 40% reimbursed during construction and upon commissioning
- 60% of remaining capex paid as annuities during the concession period, along with O&M expenditure

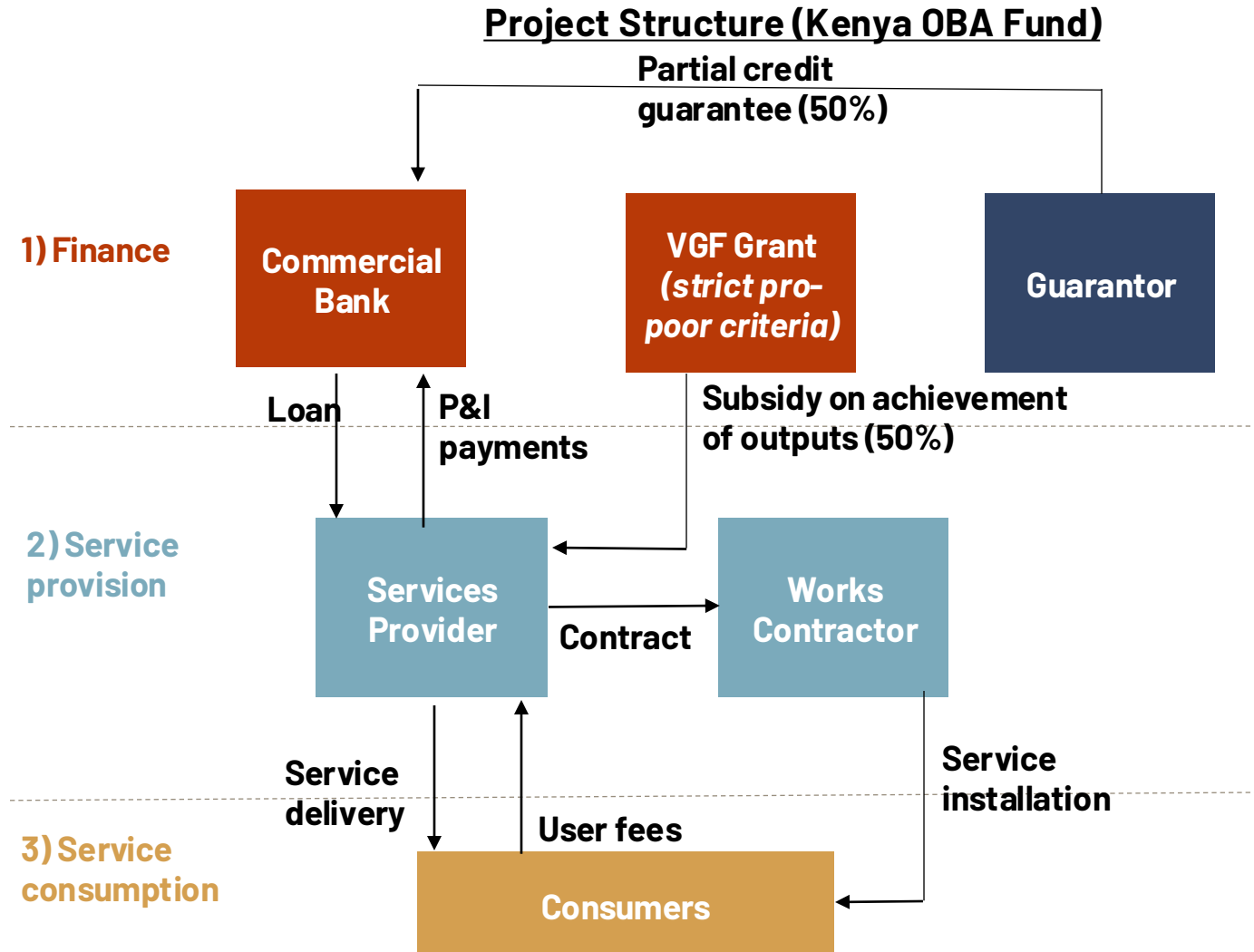
Model **replicated across Ganga basin**

**\$650 million private capital mobilized**



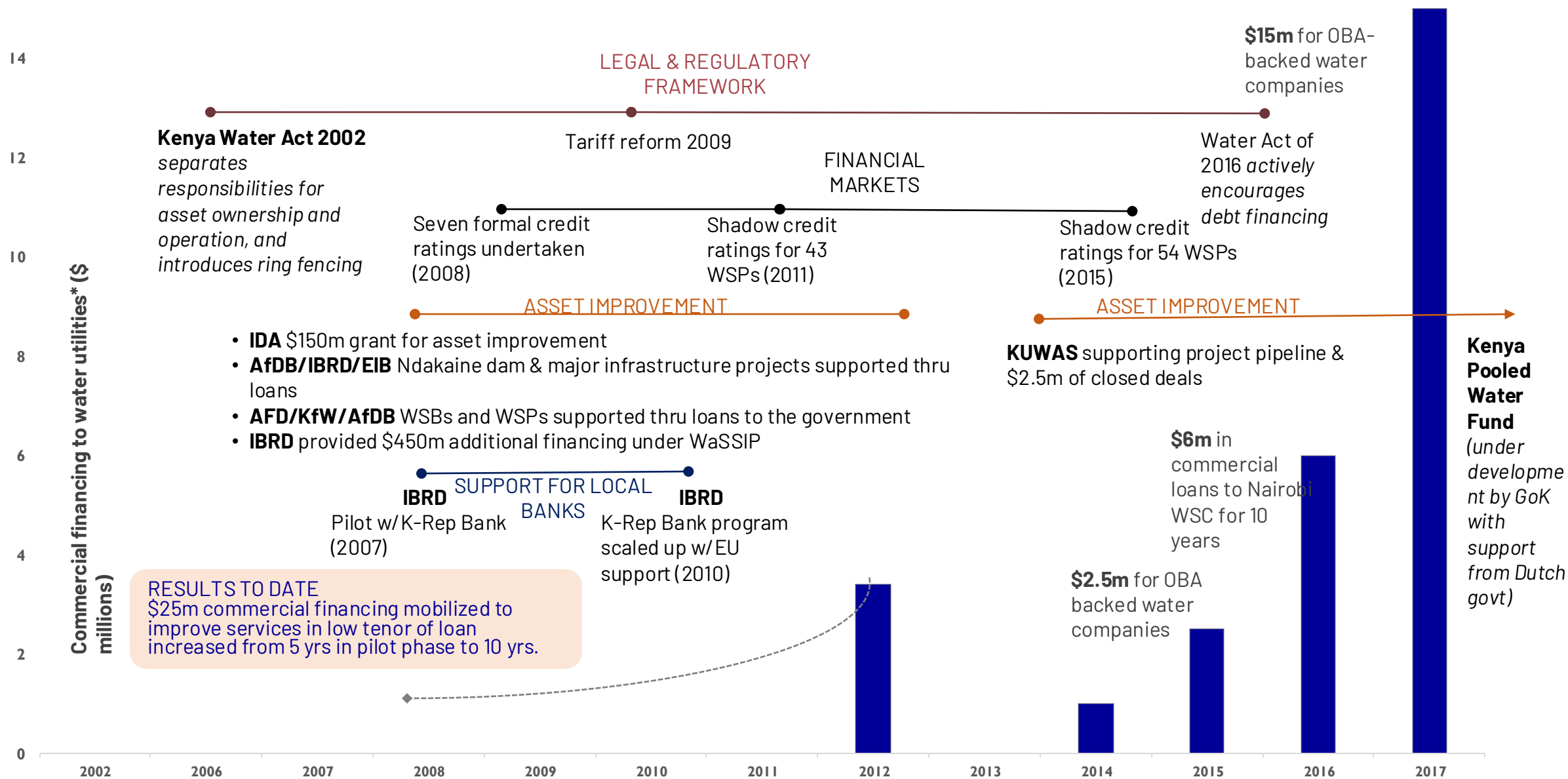
# Commercial Financing of Water and Sanitation in Kenya

- 35 communities borrowed **\$3.5 million** from K-Rep bank providing 150,000 people access to improved piped water supply
- Scale-up: 9 utilities accessed **\$22 million** in commercial loans from 4 domestic lenders on market terms, benefitting an additional 300,000 people with water & wastewater services
- Govt planned a pooled water facility (KPWF) to mobilize local private capital to finance water and sanitation infrastructure (implemented by public utilities)



**Pro-poor VGF & partial credit guarantee supported domestic lending to water service providers**

# Kenya timeline



\*Commercial financing includes commercial loans from domestic banks, which may be supported by partial credit guarantees from development partners.

# Lessons Learnt



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# Binding Constraints to Private Sector Participation

1

## Undervaluation of Water

- **Price of water does not reflect its economic value** or broader values, nor the cost of provision
- **Alignment of prices, taxes, subsidies, and transfers** critical to drive efficiency

2

## Lack of Financially Viable Service Providers

- **Limited creditworthy water entities** and financially viable projects
- **Revenue leakages** through **technical and financial inefficiency**

3

## Absence of Enabling Conditions

- **Low incentives** to reduce costs and increase revenues
- **Political influence** and lack of cost-reflective tariffs **undermine bankability**

4

## Social Reluctance to PSP

- **Continued backlash against PSP and PPPs**, building on various contractual terminations in 1990s
- **Result of poor allocation of risks** between public- and private parties, weak enabling environments, lack of contractual clarity, and lack of stakeholder engagement

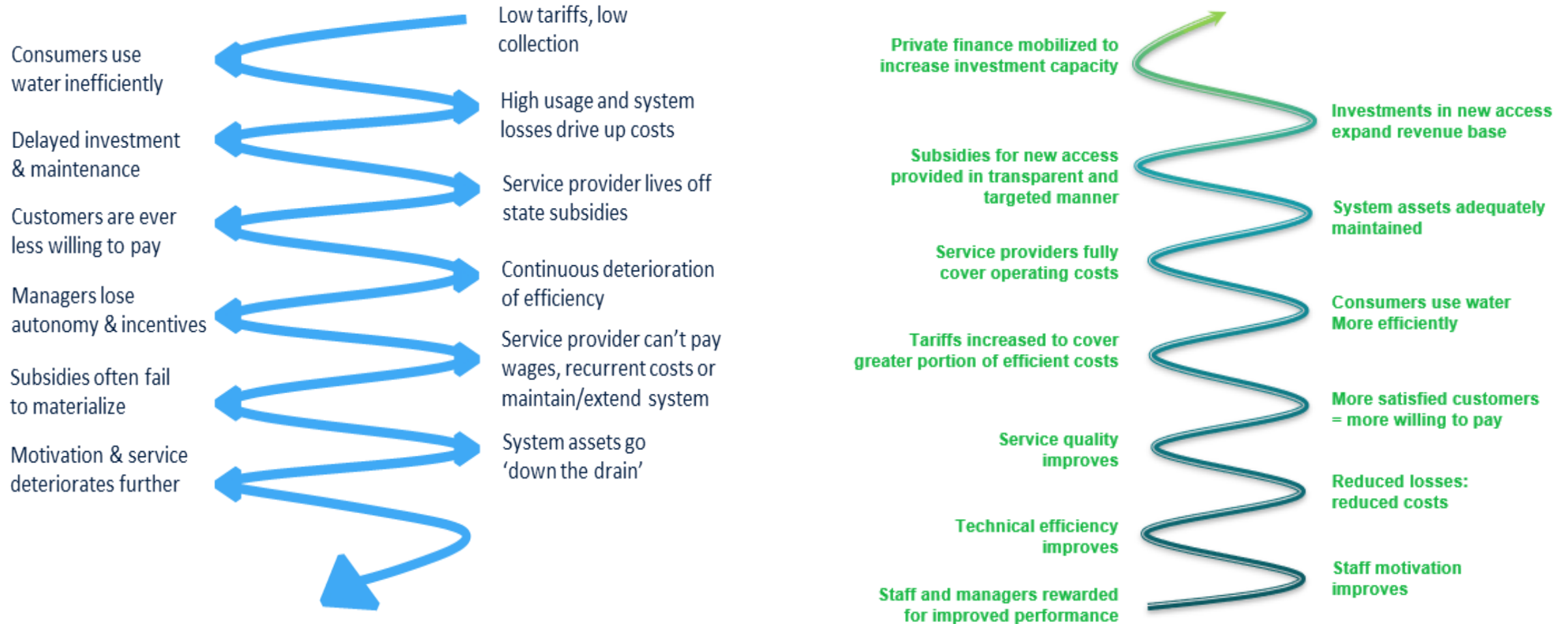
5

## Multiple Risks in PPP Structuring

- **High transaction costs** for PPPs and **limited and weak capacity** in counterparty
- **Poor design**, low-quality pre-feasibility assessments, inadequate structuring of projects



# Downward and Upward Performance in Water Services



Source: [\*Reform and Finance for the Urban Water Supply and Sanitation Sector, World Bank, 2019\*](#)