

# Water Resources Management In Citarum River Basin, Indonesia : Challenges, Strategies, And Future Perspectives

Fez, Morocco, 6 - 7<sup>th</sup> July 2023

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**3<sup>rd</sup> International Conference on Water and Climate:  
Basin Management, Key to Adaptation and Achieving the Sustainable Development Goals**

# Establishment of NARBO in 2004

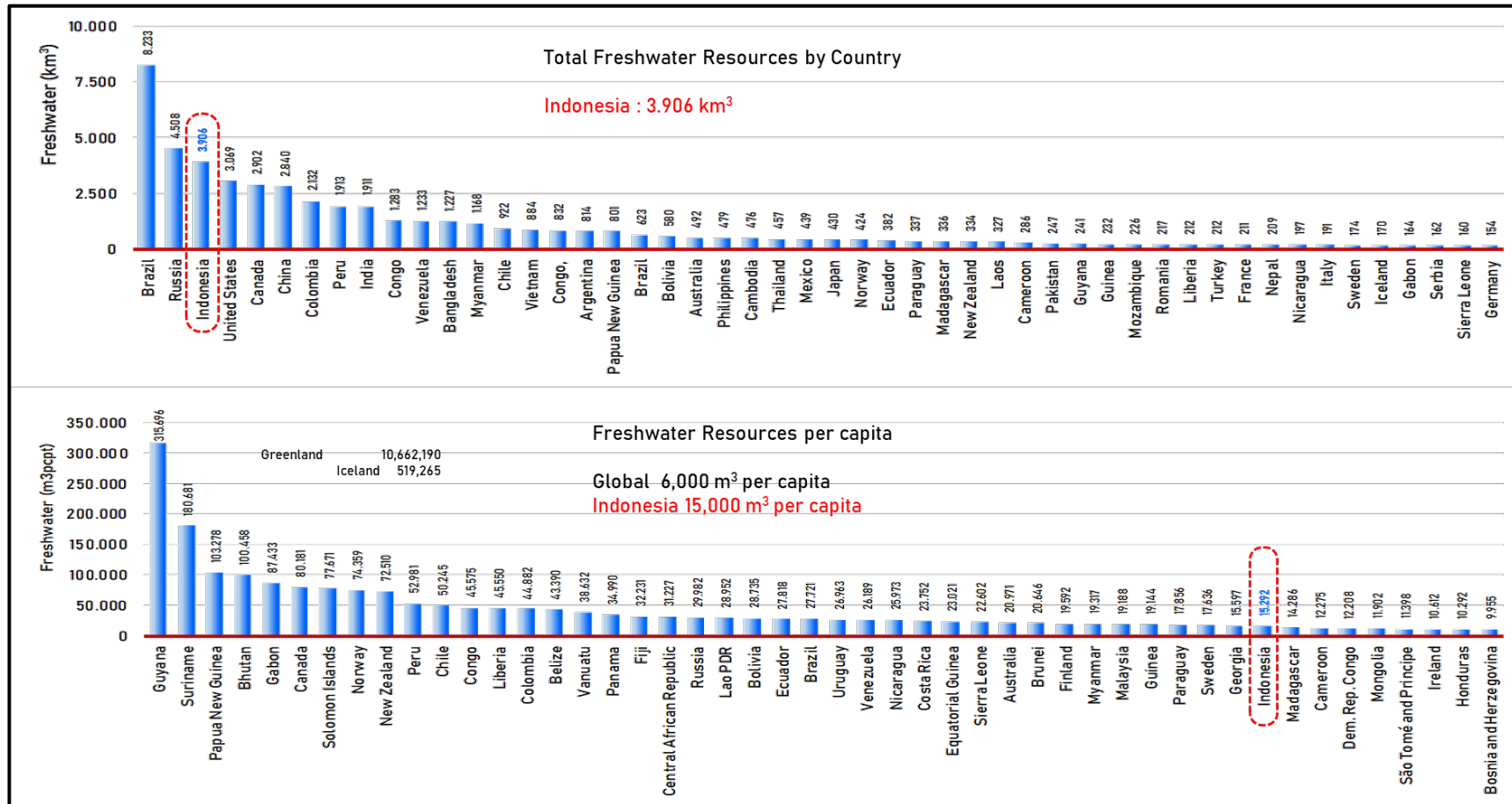


Third World Water Forum in March 2003



- The 1<sup>st</sup> General Meeting in Malang, Indonesia on 24 Feb, 2004
- At present NARBO consists of 96 institutions across 19 countries in Asia.

# INDONESIA WATER RESOURCES



Sources: <https://www.indexmundi.com/facts/indicators/ER,H2O,INTR,PC/rankings>  
[https://en.wikipedia.org/wiki/List\\_of\\_countries\\_by\\_total\\_renewable\\_water\\_resources](https://en.wikipedia.org/wiki/List_of_countries_by_total_renewable_water_resources)  
<https://www.worldatlas.com/articles/countries-with-the-most-freshwater-resources.html>

Looking at current situation of water resources potential, Indonesia belongs to the **third** richest country in the world in terms of total renewable water resources. The total available fresh water for the country reaches about 3,906 billion m<sup>3</sup>. If we focus more on the fresh water per capita, Indonesia is **ranked 42<sup>nd</sup>** worldwide. It means **if** the government is able to well manage this great resource, it offers a huge opportunity to enhance the sustainable development

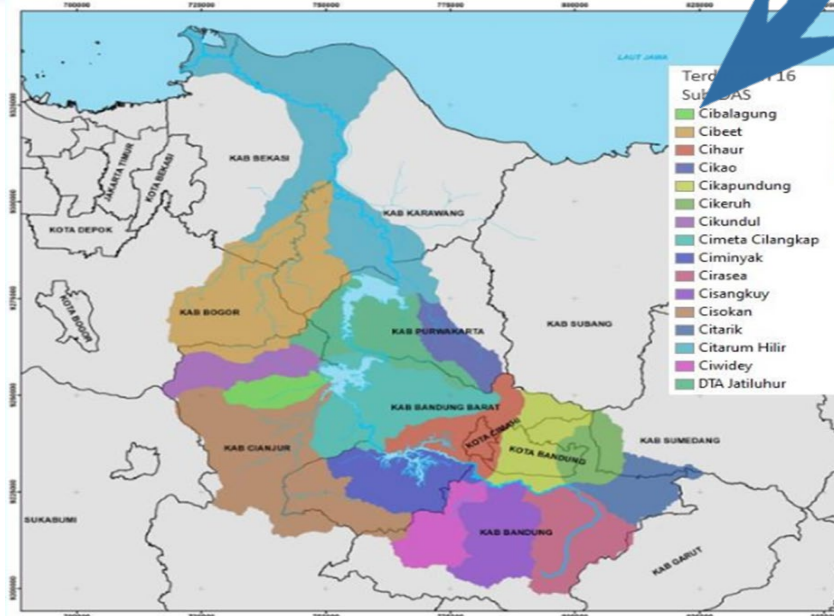
# WHERE IS CITARUM RIVER BASIN ??



## CITARUM RIVER BASIN IN WEST JAVA PROVINCE

### Profile Citarum River Basin

- ✓ 11.323 km<sup>2</sup>  
(32% of West Java total area)
- ✓ ±18 million of population
- ✓ Length 297 km
- ✓ More than 4.500 Industries



### Water Management

#### Water Supply 47 m<sup>3</sup>/sec

Drinking Water Municipals and Industries of 1,100 million m<sup>3</sup>/year for Capital City Jakarta & West Java

#### Food Security

Through irrigation water for an area of 420,000 Ha.

#### Energy Security 3.350 MW

Through the provision of ± 5 billion kWh/year raw water for hydropower in Dams of Saguling, Cirata and Ir. H. Juanda

#### Flood Control 26,500 Ha

In North of West Java areas  
Through the water level control in 3 Dams Reservoirs (Saguling, Cirata & Ir. H. Djuanda)

# COMPLEX PROBLEM ISSUES



Citarum Water Quality is **Heavily Polluted**



Prediction of waste in Metropolitan Bandung **±6000 tons / day**



Critical land area in Upstream Citarum watershed **77,000 Ha**



North West Java, Bandung regency : **11.750 ha flood** almost every year

## Indonesia's Citarum: The World's Most Polluted River

By World Bank, 2018

**Rotten river: life on one of the world's most polluted waterways –**

<https://www.theguardian.com>

<https://www.dw.com>

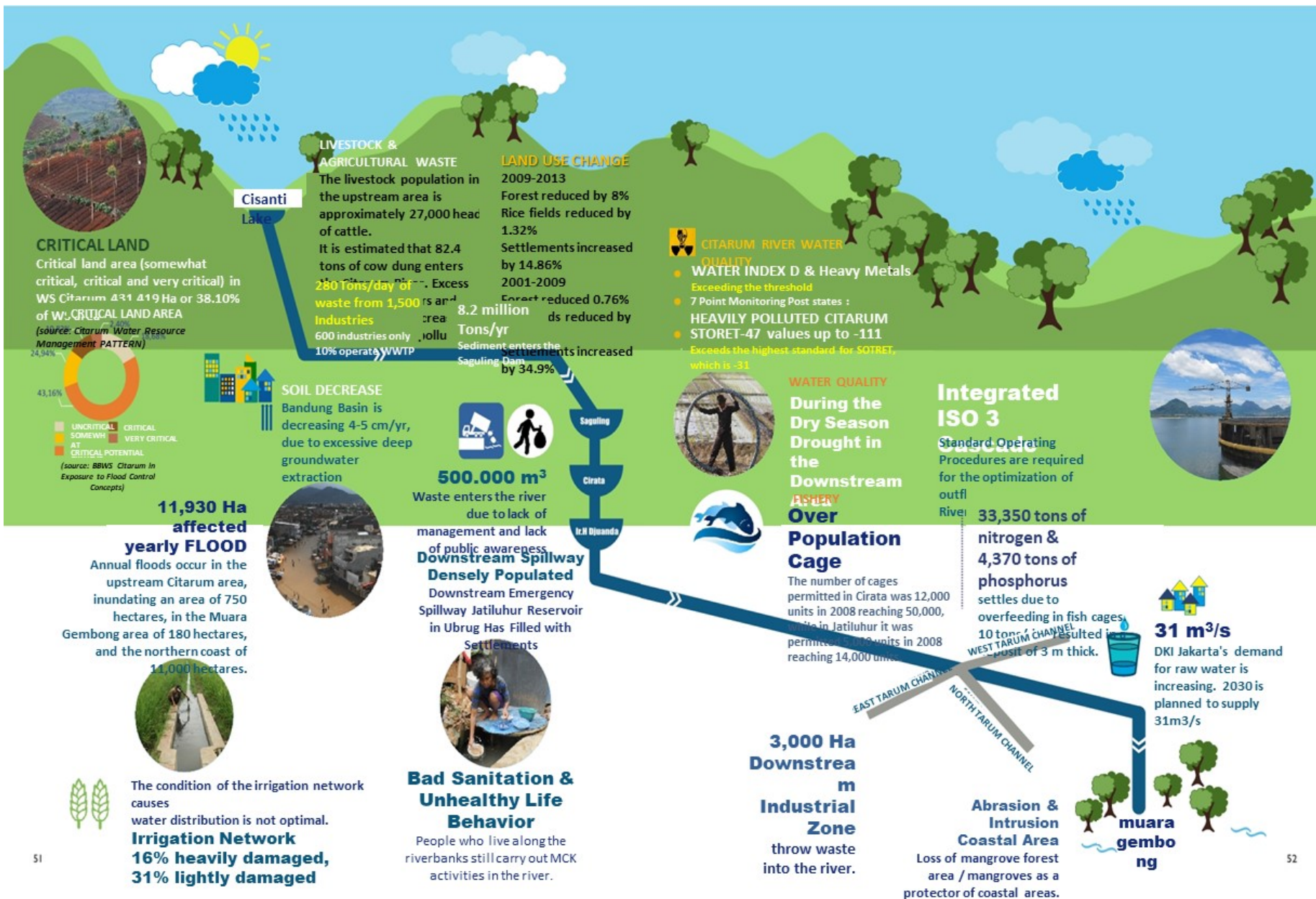
The Citarum river in West Java is considered the dirtiest river in the world. Textile factories discharge tons of untreated toxic waste into the river every day.

Indonesia's Citarum is relied upon by millions, but decades of pollution have choked it with chemicals and rubbish

<https://www.idntimes.com/>



# COMPLEX PROBLEM OF CITARUM RIVER BASIN



- ### Pollution
- ✓ Farm waste
  - ✓ Agriculture waste
  - ✓ Industrial waste
  - ✓ Domestic waste
  - ✓ Fishery waste
  - ✓ Solid waste
  - ✓ Sedimentation

- ### Degradation
- ✓ Critical land
  - ✓ Land cover change
  - ✓ Flood
  - ✓ Lack of education and law enforcement

# LEADERS COMMITMENT

## President of the Republic of Indonesia Commitment on Citarum Watershed Rehabilitation

The Project has to finish within 7 years

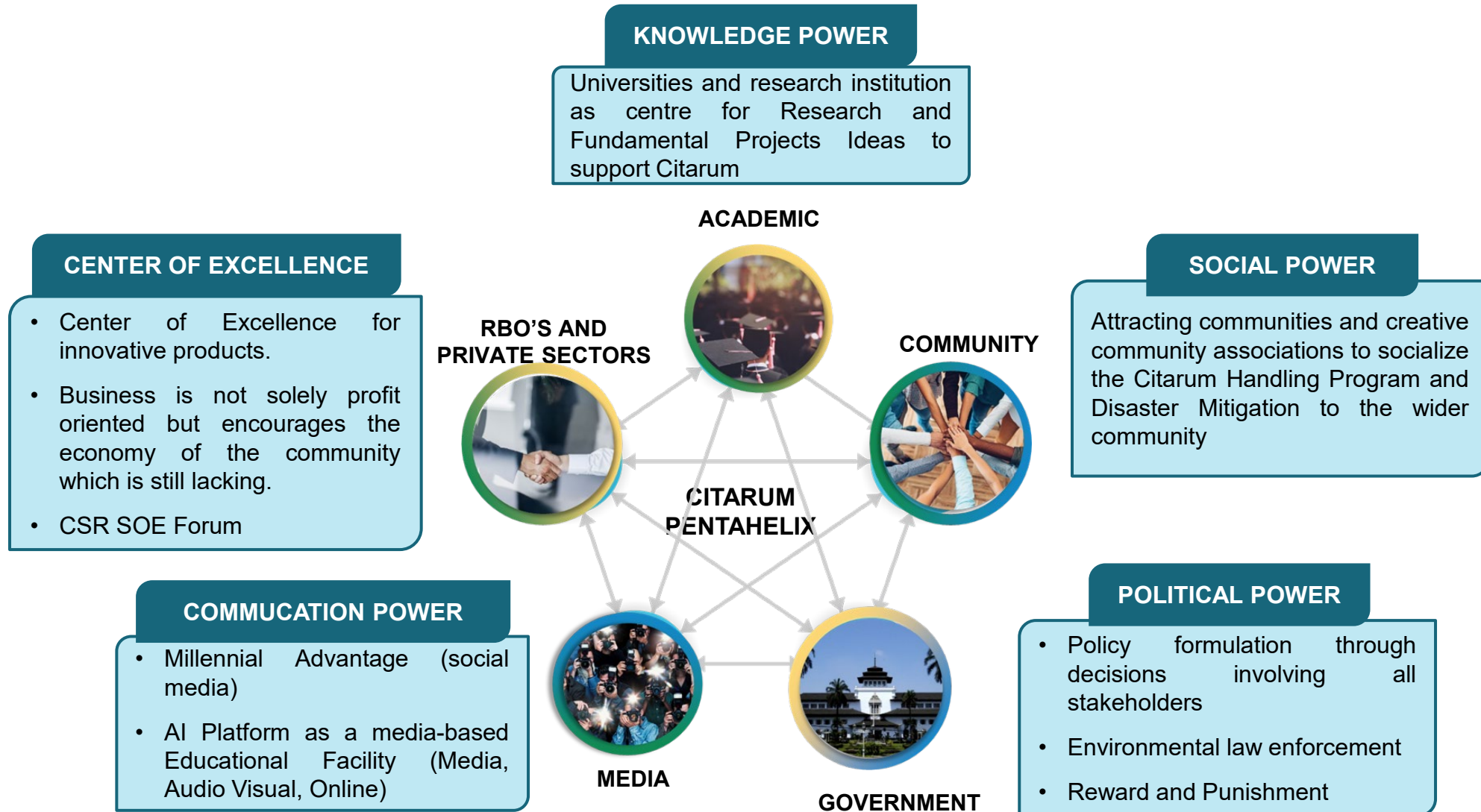
“ Mid-January 2018 we will start from upstream to downstream repairs, revitalization in the Citarum River, because of the information and data that Citarum is very dirty. ”

“ Total revamping until completion in the form of land reutilization and things related to tributaries, factory waste we see thoroughly. In order for Citarum to really benefit agriculture, raw water will be clean again enjoyed for life. ”



# INTEGRATED WATER RESOURCES MANAGEMENT

## STRATEGIC POLICY – CITARUM PENTAHHELIX





# PROGRESS PROBLEM SOLVING OF CITARUM RIVER BASIN

### 1. Critical Land



### 2. Domestic Waste



### 3. River Restoration



### 4. Industrial Waste



### 5. Farm Waste



### 6. River restoration



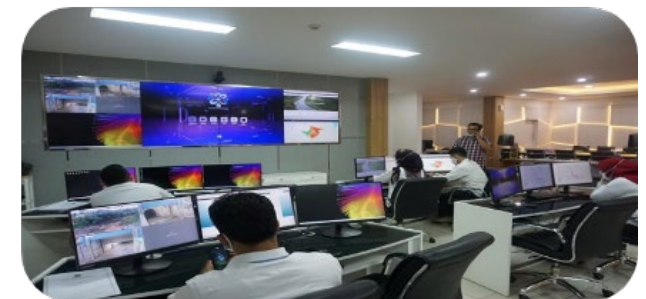
### 7. Law Enforcement



### 8. Education & Community



### 9. Research and Information



# SUCCESS STORY AT CITARUM RIVER BASIN

<b>Initial Conditions 2018</b> <b>Heavy Contaminants</b> Water Quality Index <b>33,43 Points</b>	<b>Achievement 2023</b> <b>Mild Contaminant</b> Water Quality Index <b>58 Points</b>	<b>Ultimate Target 2030</b> <b>Lightly Contaminant</b> Water Quality Index <b>70 Points</b>
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# UPCOMING EVENT



## 10<sup>TH</sup> WORLD WATER FORUM

WATER FOR SHARED PROSPERITY

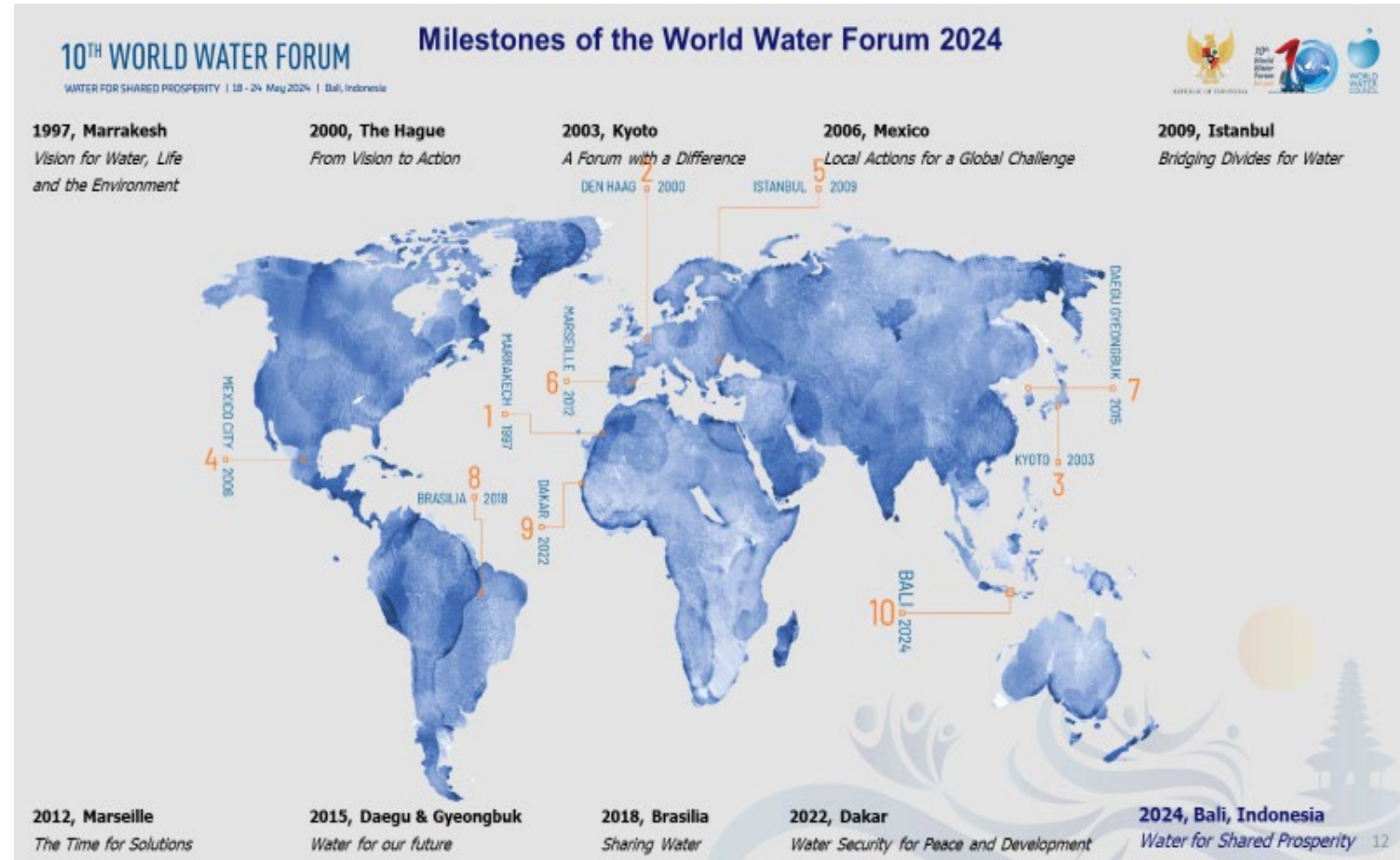
18 - 24 May 2024 | Bali, Indonesia

The World Water Forum punctuates the international calendar every three years as one of the largest gatherings of water-related multi-stakeholders.

The 10<sup>th</sup> edition of the World Water Forum will be jointly organized by the World Water Council and the Republic of Indonesia and is set to take place from 18 to 24 May 2024 in Bali.

The Forum is expected to be attended by 30,000 participants from 172 countries and will consist of various programs such as official sessions, high level panels, thematic sessions, side events, youth space, fair & expo and technical field trips.

# 10<sup>th</sup> World Water Forum Bali 2024



## Theme of the 10<sup>th</sup> World Water Forum

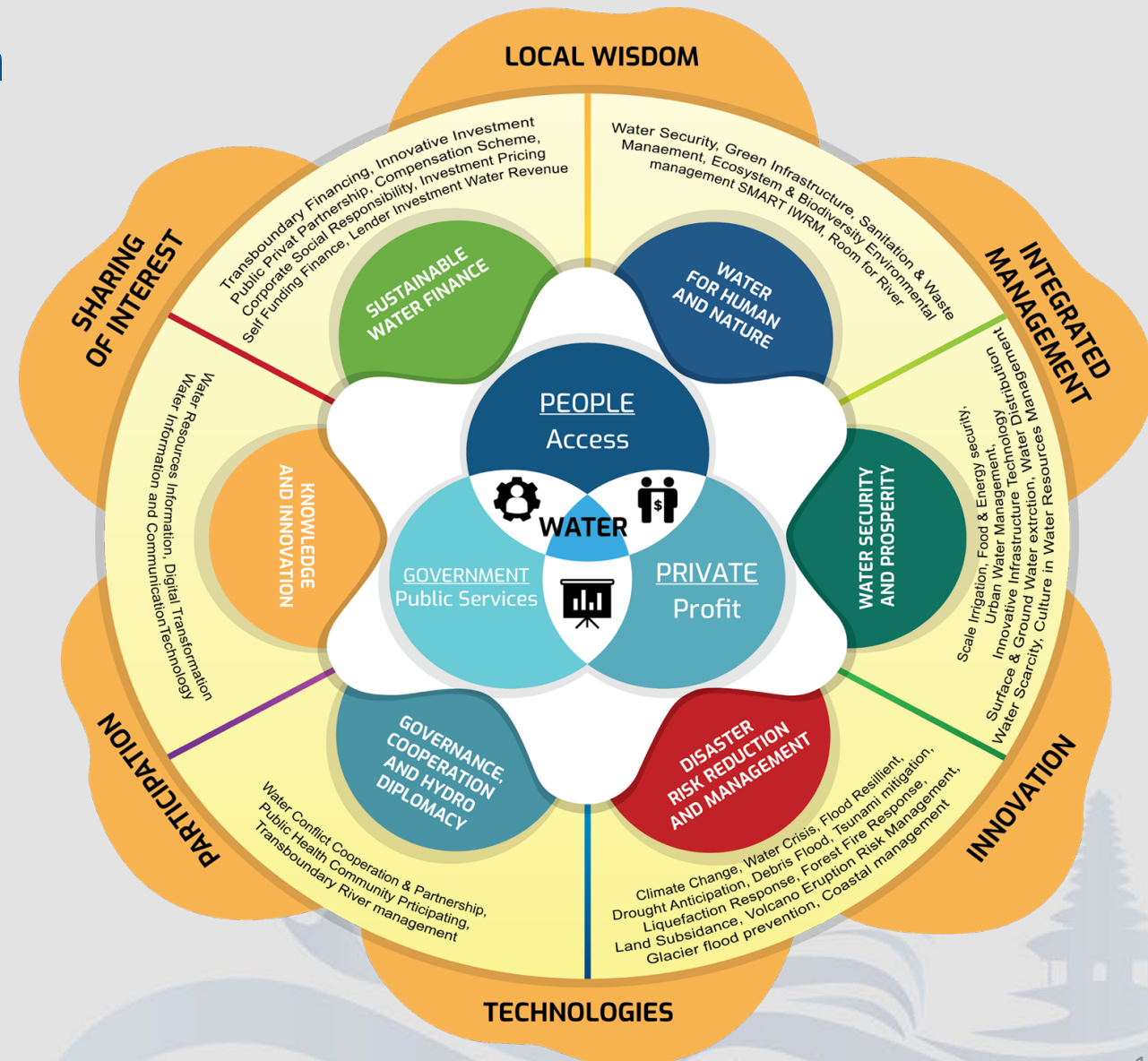
### Water for Shared Prosperity

#### 3 main players in water resources:

1. People who need good access to water
2. Governments who provide Public services
3. Private Sector who search for profit

#### Managing water together with the aim of prosperity for all through:

- Integrated Management
- Continuous Innovation
- Latest Technologies
- Active Participation
- Sharing of Interests
- Incorporate the Local Wisdom



KILOMETER  
CITARUM

THANK  
YOU