Towards A National Framework for Integrated Urban Water Management

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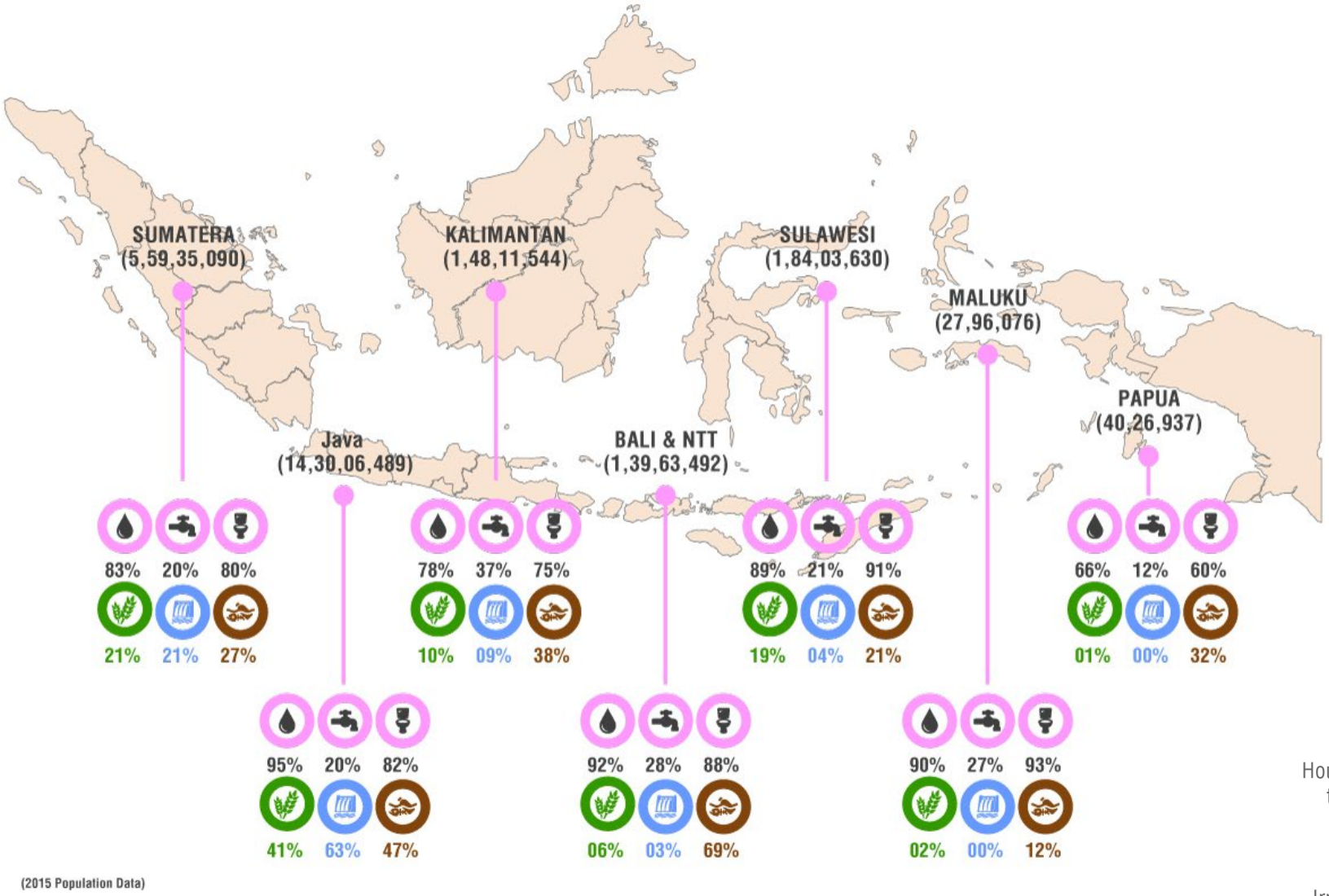
The World Bank

INDONESIA

GWSP GLOBAL WATER SECURITY & SANITATION PARTNERSHIP

WORLD BANK GROUP Water

Overview of Indonesia Water Challenges



Challenges vary across regions

Java and Bali – the most urbanized islands - suffer the most form water pollution.

Households with access to improved water

Households with access to piped water

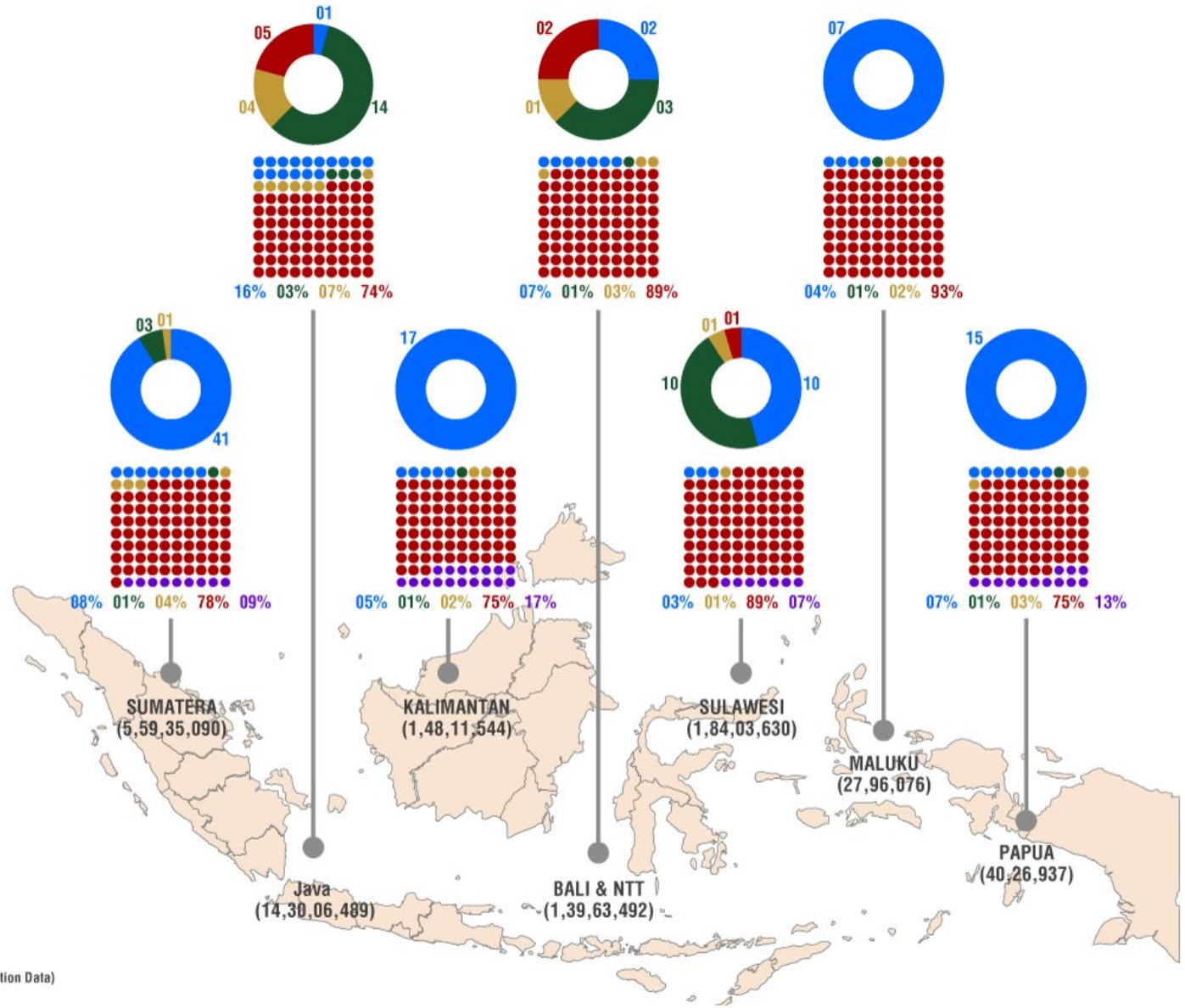
Households with access to improved sanitation

Irrigation area of total national irrigation area

Water storage of total national water storage

Surface Water Monitoring Stations Heavily Polluted

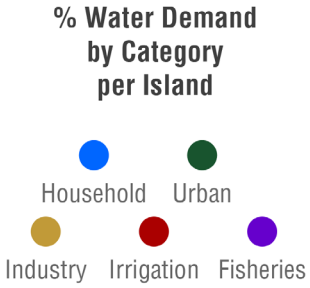
Water Demand vs Water Stress

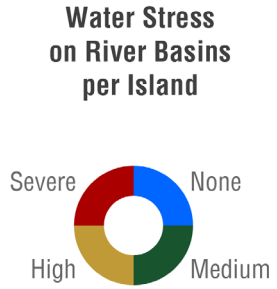


(2015 Population Data)

Challenges vary across regions

Java and Bali – the most urbanized islands - suffer the most form water pollution and have highest percentage of water stressed river basins





Indonesia Water Security – Challenges and Solution Areas

Pillar I Water Threats

RELIEVING THE GROWING WATER STRESS

MANAGING WATER QUALITY SUSTAINABLY BY TRACKING WATER POLLUTION

ENHANCING SUSTAINABILITY AND IMPROVING RESILIENCE TO DISASTERS

Pillar II: Water Services

ACCELERATING INCLUSIVE, SUSTAINABLE AND EFFICIENT WATER SUPPLY TO ALL

EXPANDING & FINANCING EFFICIENT SANITATION AND WASTE WATER TREATMENT

MODERNIZING IRRIGATION AND IMPROVING PRODUCTIVITY

Pillar III: Water Governance

STRENGTHENING THE GOVERNMENT FRAMEWORK

STRENGTHENING INSTITUTIONS FOR COORDINATION & CAPACITY BUILDING

IMPROVING THE EFFICIENCY OF PUBLIC EXPENDITURES FOR WATER & MOBILIZING FINANCE

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INTERLINKED CHALLENGES

INCREASED CLIMATE STRESSORS > MORE FREQUENT AND SEVERE FLOOD & DROUGHT EVENTS

UNTREATED WASTEWATER > ECOLOGICAL DEGRADATION

LAND USE CHANGE, & DENSIFICATION > LANDSLIDES, HIGH SEDIMENT LOAD

SURFACE WATER POLLUTION > HIGHER WATER TREATMENT COSTS

DEEP GROUNDWATER ABSTRACTION > SUBSIDENCE

INCREASING RATE & VOLUME OF RUNOFF > RIVER FLOODING

SUBSIDENCE & SEA LEVEL RISE > COASTAL FLOODING

IMPERMEABLE SURFACES > FLASH FLOODING

INADEQUATE PIPED WATER SUPPLY > PUBLIC HEALTH DECLINE AND INCREASE IN INEQUALITY

DEGRADED/ INADEQUATE SANITATION SYSTEM > GROUNDWATER CONTAMINATION

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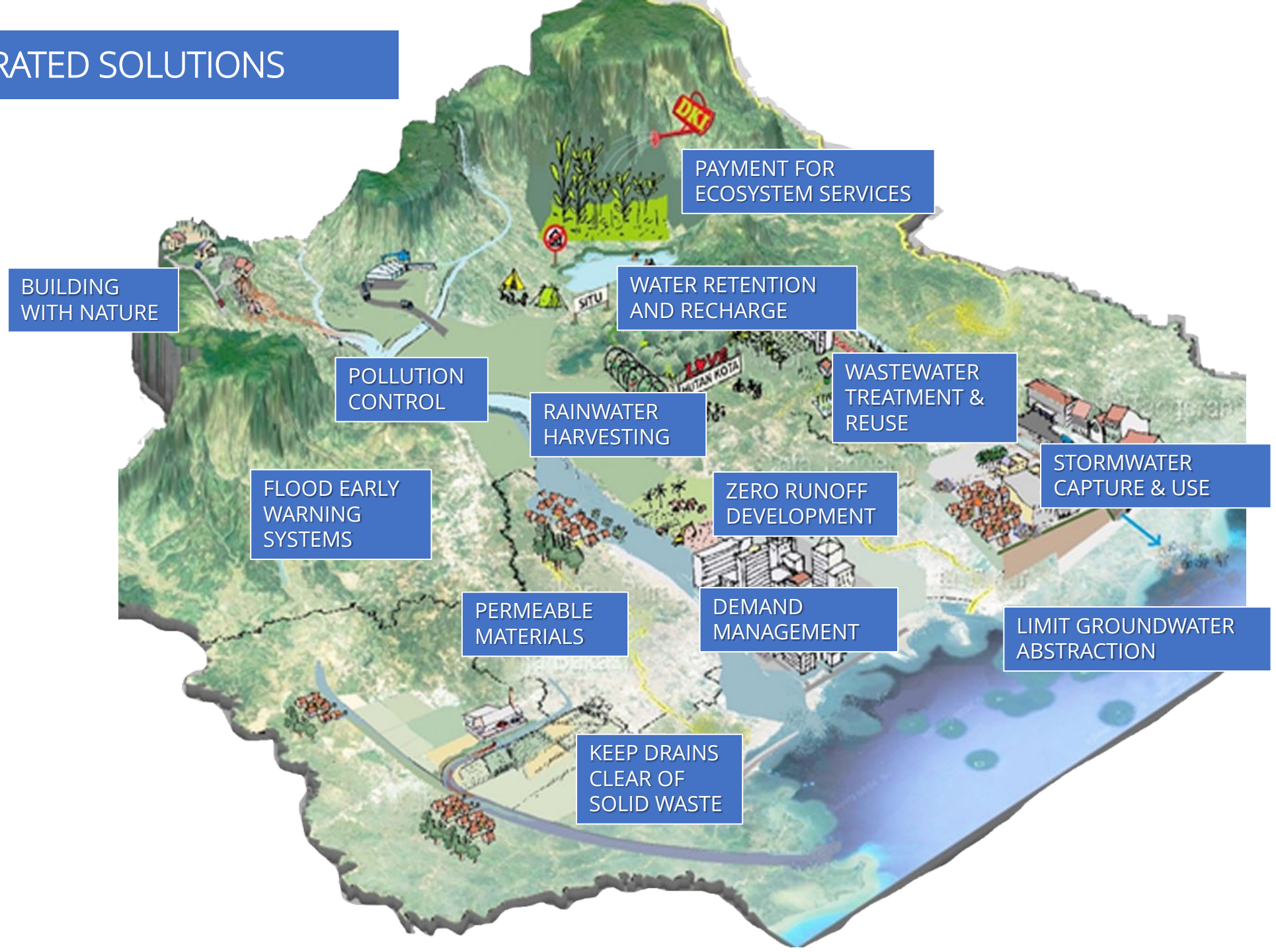
INTEGRATED SOLUTIONS



Core Components of IUWM

INTEGRATE

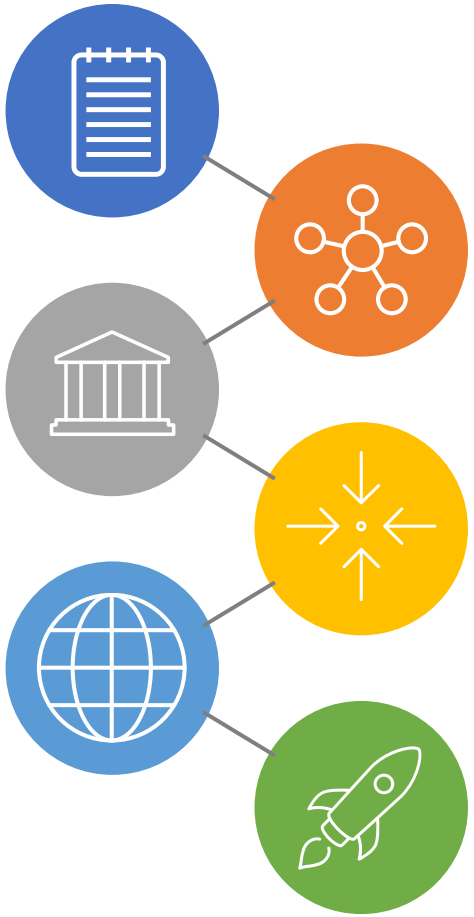
Integrate planning and management of all sources and uses of water in the city

COOPERATE

Cooperate across administrative boundaries to manage resources, infrastructure and waste

TRANSPARENT AND OPEN

Share information and take decisions through transparent and participatory processes



COORDINATE

Coordinate water planning with spatial planning and other urban sectors

OPTIMIZE

Focus on efficient use of existing resources and infrastructure before making major capital investments

FLEXIBLE AND ADAPTIVE

Adaptive planning to manage current and future risks

Why IUWM?

IUWM helps cities:

- Meet water policy targets despite limited resources
- Generate co-benefits for other policy targets e.g. increase urban green area; upgrade informal settlements; disaster risk reduction
- Improve equality: the poor are hardest hit by interlinked water risks and have most to gain from better access to safe water and sanitation and reduced flood risk
- Raise resilience to climate change and other future risks
- Environmentally sustainable - incorporates resource recovery
- Increase in property values around urban rivers and lakes

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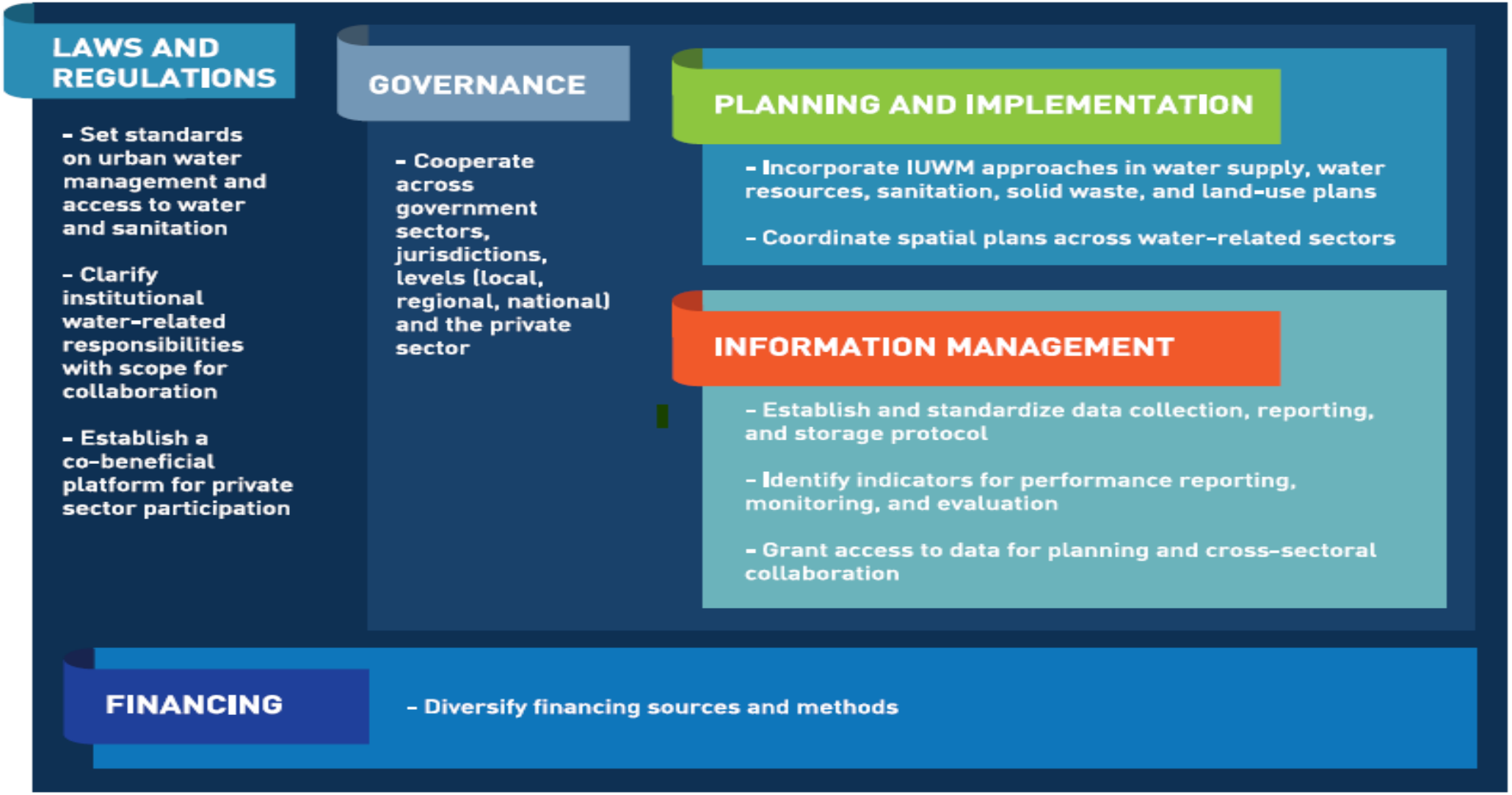
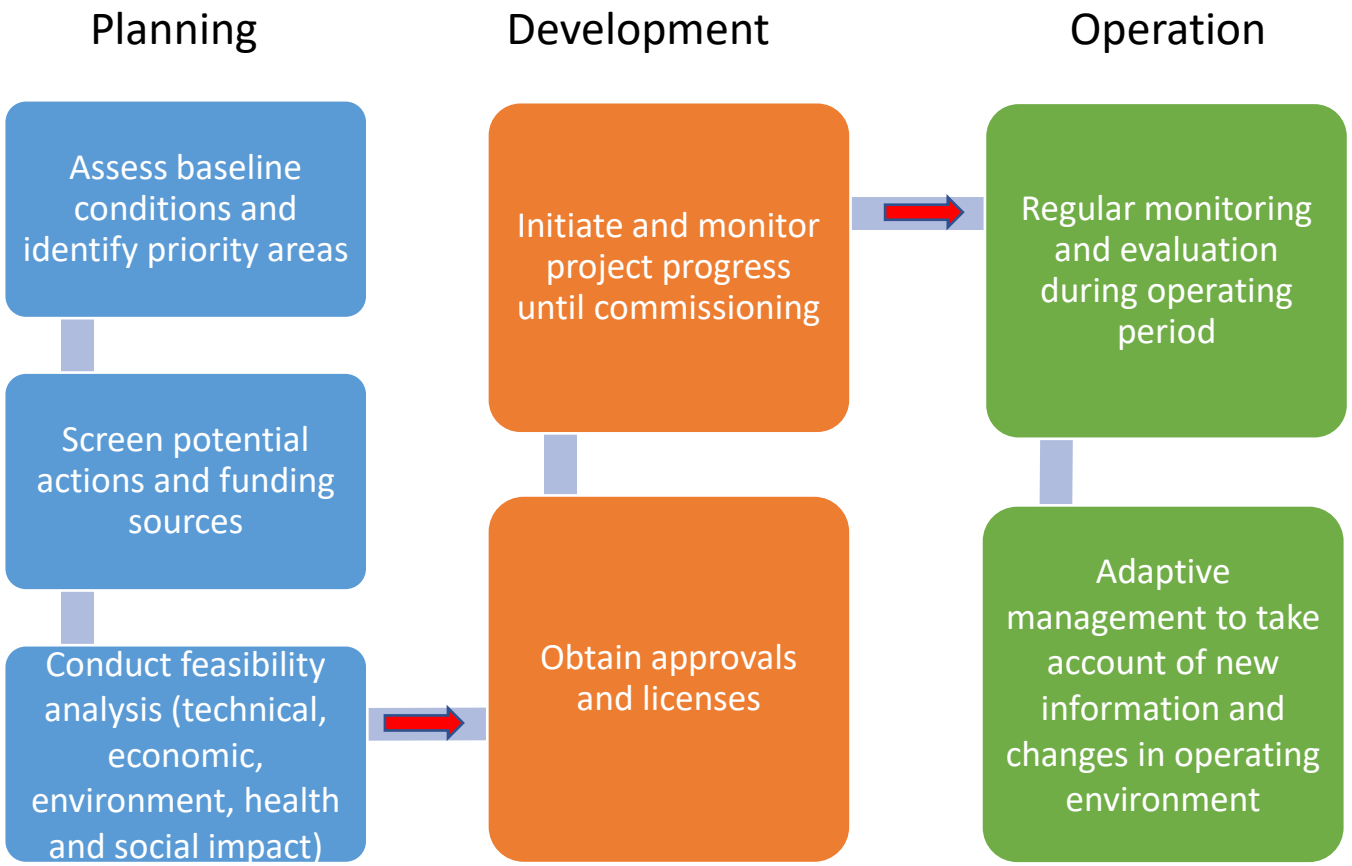
National Framework for IUWM in Indonesia



IUWM Process Flow



Stakeholder involvement at all stages:

Planning

- Key stakeholder meetings and consultations

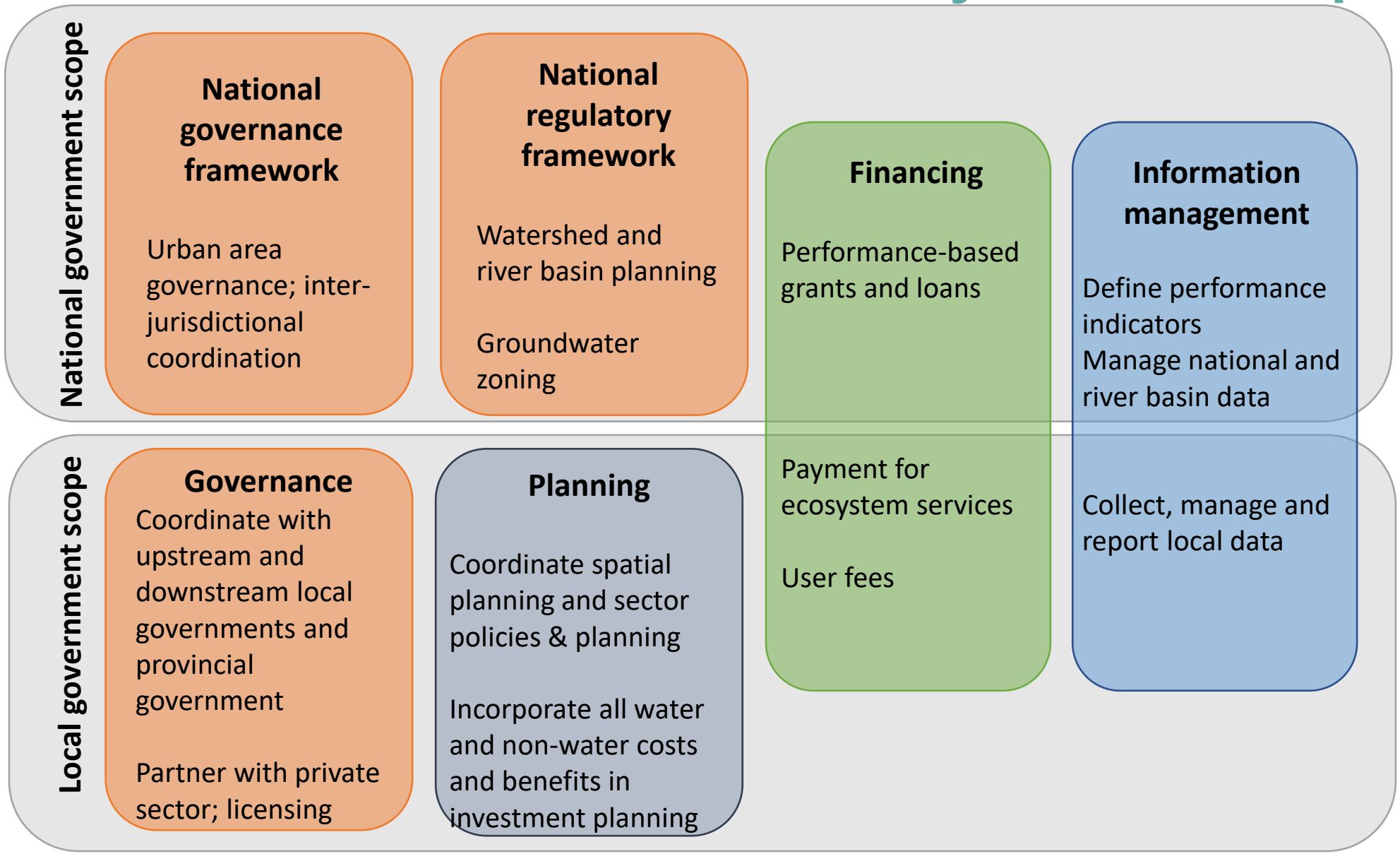
Development

- Engagement with approvers and external vendors

Operation and maintenance

- Stakeholder monitoring

IUWM Actions – National and City Level Examples



National AND local governments implement IUWM

National gov't provides the institutional and regulatory framework, incentives, and monitoring mechanisms

Local gov'ts conduct planning, design and implementation

Innovative Projects to Scale-up and Roll-out

Spring recharge - Bogor

Decreased spring water availability

- Infiltration wells near Ciburial Spring
- Vertical drains to facilitate infiltration to reduce flood risk and subsurface water recharge

Zero run-off - Tangerang Selatan

Rising surface flood risk

- Zero run-off plan prepared for all new developments
- Performance monitored closely

Coordinated investment - Kartamantul

Provision of basic services

- Regional water treatment system (SPAM)
- Wastewater treatment plant (IPAL)
- Integrated landfill (TPST)

“Integrated Urban Water Management has great potential to address interlocking water risks and build resilience in Indonesia’s urban regions, from metropolitan areas spread across multiple jurisdictions to small but fast-growing cities across the archipelago”

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Thank You – Terima Kasih

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