



# Achieving Safe, Sustainable and Efficient Water, Wastewater Treatment and Sanitation Systems

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## APFSD 2017: REGIONAL ROAD MAP FOR IMPLEMENTING THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT IN ASIA AND THE PACIFIC

### EXPECTATION

- strengthen regional cooperation on priority issues
- enable continued and more efficient and coordinated support
- facilitate more effective knowledge sharing

### PRACTICAL MEANS OF IMPLEMENTATION

- Data and statistics
- Technology
- Finance
- Policy coherence
- North-South, South-South, international & regional partnerships

### THEMATIC AREAS WITH MULTISECTORAL IMPACTS OF

- Leave no one behind
- DRR & resilience
- Climate change
- Natural resource management
- Connectivity
- Energy

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# WASTEWATER ISSUES

- Wastewater amounts in urban areas has increased due to:
  - ❖ Urban population growth
  - ❖ Rapid expansion of industrial sectors
- There is a lack of data on wastewater treatment for 33 countries in the region!
- Untreated wastewater causes:
  - ❖ Damage to the environment
  - ❖ “A silent disaster”, 2nd APWS
  - ❖ Harm to human health & well-being due to diseases, physiological traumas

**SDG 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 substantially increasing recycling and safe reuse globally**

# HOUSEHOLD WATER SECURITY INDEX

## Countries

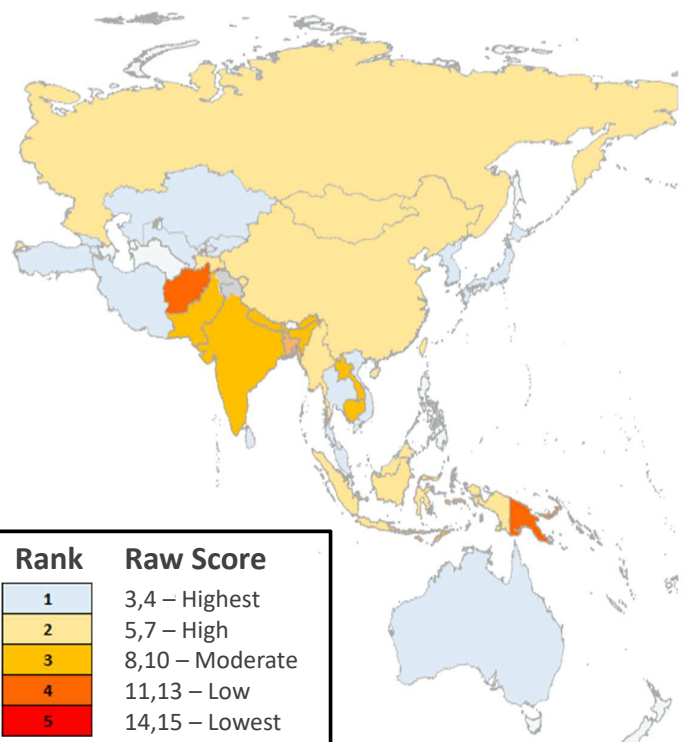
Georgia, Armenia, Samoa, Tonga, Malaysia, Thailand, Iran (IR), Maldives, Sri Lanka, Turkey, Cook Islands, Niue, DPR Korean, Uzbekistan, Kyrgyzstan, Viet Nam,

China, Vanuatu, Micronesia (F.S), Tajikistan, Myanmar, Indonesia, Bangladesh

Pakistan, Solomon Islands, Lao PDR, India, Nepal, Kiribati, Timor-Leste, Cambodia

Papua New Guinea, Afghanistan

**Data Not Available**, Data used Japan, R. Korea, Australia, Singapore, Palau



*\*The correctness of the map is subject to the availability and accuracy of data in access to improved water supply and DALYs attributable to water, sanitation, and hygiene.*

# WATER SERVICES AND JOBS IN DIFFERENT SECTORS

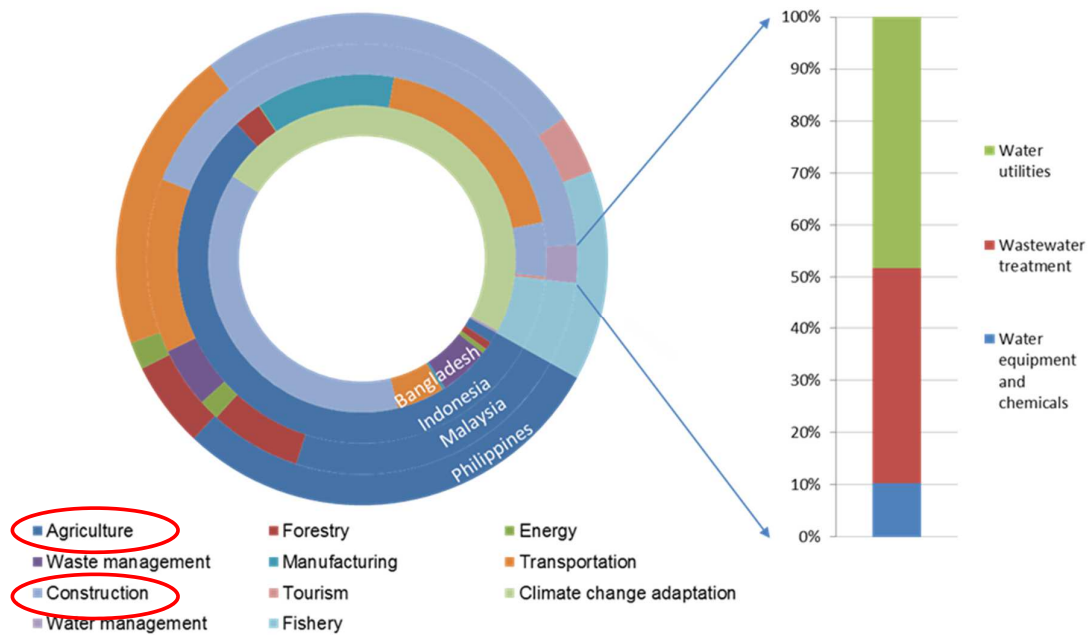


Figure: Core Environmental Related Jobs through Green Mapping Studies in Four South-East Asian Countries (2010-2012).



**ESCAP E-learning Course at SDG Helpdesk**  
<https://sdghelpdeskelearning.unescap.org/thematicarea/detail?id=9>

**SHIFTING TOWARDS WATER-RESILIENT  
 INFRASTRUCTURE AND SUSTAINABLE CITIES**



## ESCAP E-learning Course at SDG Helpdesk

(<https://sdghelpdesk-elearning.unescap.org>)

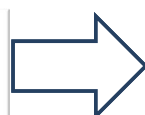
### Wastewater Management & Sanitation: promoting Decentralized Wastewater Treatment Systems (DEWATS) in South-East Asia

## POLICY INSTRUMENTS: GOVERNANCE STRUCTURES & ECONOMIC INSTRUMENTS

Integrated water resource management	<ol style="list-style-type: none"> <li>1. Integrated water resource provision and a water treatment system</li> <li>2. Optimizing water infrastructure</li> <li>3. Promoting an environment-friendly water cycle system</li> </ol>
Distributed wastewater management system	<p>Has 3 main objectives:</p> <ol style="list-style-type: none"> <li>1. Public health improvement</li> <li>2. Energy and water conservation</li> <li>3. Environmental protection</li> </ol>
Reuse and recycling	Minimize freshwater demand and reduce wastewater treatment needs. The following treatment technologies can be used: membranes, wetlands, sand filters and waste stabilizing ponds.
Local impact development (LID)	Local and decentralized measures, mitigate development impacts to land, water and air by: mimicking natural drainage, using small-scale practices, managing storm water at source, using simple and natural practices and making landscape and infrastructure multifunctional
Water pricing	Increase of block tariffs, providing subsidies to the lower-income households, etc.

# POLICY INSTRUMENTS FOR ENABLING BUSINESS

Target Setting	National or sector targets for greenhouse gas emissions, carbon intensity, energy intensity, etc
Standards	Performance standards, technology standards, ambient standards, bans and limitations, etc
Environmental Regulations	Mandatory assessments (such as an environmental impact assessment)
Fiscal instruments	Taxes, subsidies
Charge systems	Pollution charges, Product charges, user charges, etc.
Market creation	Tradable emission permits
Financial mechanisms	Grants, soft loans, funds and green Procurement
Eco-labelling	Mandatory or voluntary labelling for various products – general or impact-specific (such as energy labels)
Voluntary agreements	Voluntary agreements with specific industries, for example on greenhouse gas emissions reductions or energy efficiency, eco-industrial parks
Corporate Social Responsibility (CSR) and environmental reporting	Voluntary for overall CSR, partially mandatory agreements with environmental reporting, such as the amount of greenhouse gas Emissions
Partnerships	Partnerships with research institutes and private sector for R&D in key sectors or Technologies
Education and training	Education for sustainable development, awareness campaigns or awards




The AWaP could explore investment options for multi-stakeholder collaborative models



- Social Mission
- Financial Incentives
- Delivering high returns
- Making financial equity become social equity

# INCREASE IMPACT INVESTMENT IN WATER INFRASTRUCTURE



**Impact investments** are investments made into companies, organizations, and funds with the intention to generate social and environmental impact alongside a financial return.

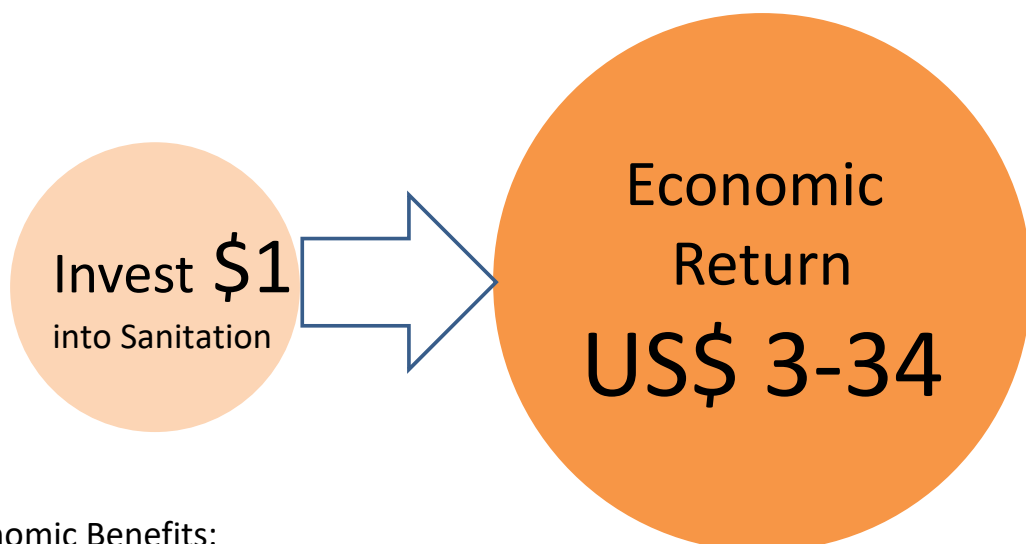
*Definition from GIIIN (Global Impact Investing Network)*

Every **1US\$** invested in sanitation can yield ~ **3-34US\$** of direct/indirect socio-economic benefits.

Water infrastructure

- accounts for **about 1%** of total global impact investment (17 projects)
- can mitigate water-related disasters

The Tan Hoa Lo Gom canal sanitation project in Ho Chi Minh City, Viet Nam was a privatized **\$167 million fund** that built **13 improved bridges** with sewage systems

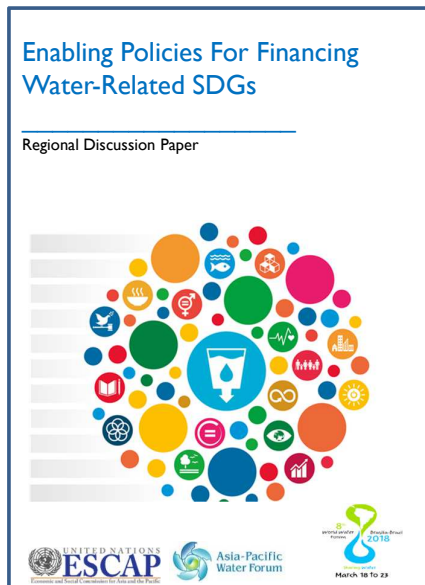


## Social Economic Benefits:

- Health benefits
- Improved water supply
- Source of electricity
- Benefits for agriculture
- Additional: jobs, taxes, tourism

Depends on the region, current situation, used technology, policy

# RECENT ANALYTICAL PRODUCTS OF ESCAP



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## ESCAP METHODOLOGY IS SUPPORTING THE IMPLEMENTATION OF THE 2030 AGENDA FOR SD

The ESCAP-developed comprehensive methodology assists policymakers with integration of the SDGs into national planning:

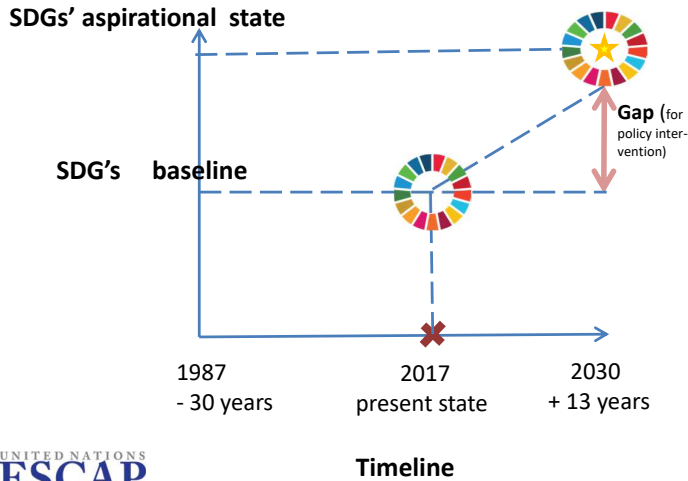
- Reviewing existing institutional architecture and mandates to determine their relationship with the 17 SDGs;
- Assessing the impacts of policies and identifying effective policy interventions (leverage points) for impactful investment and use of scarce resources; and
- Stakeholder mapping and engagement in collectively developing the aspirational and qualitative vision for societal change.



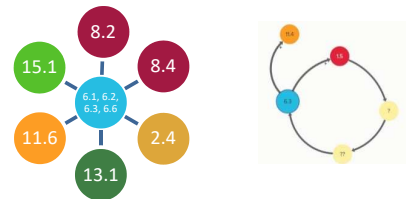
# ASSESSMENT OF SDG READINESS

## SDG baseline data and the gap analysis

## Systems thinking approach to integrated SDG planning

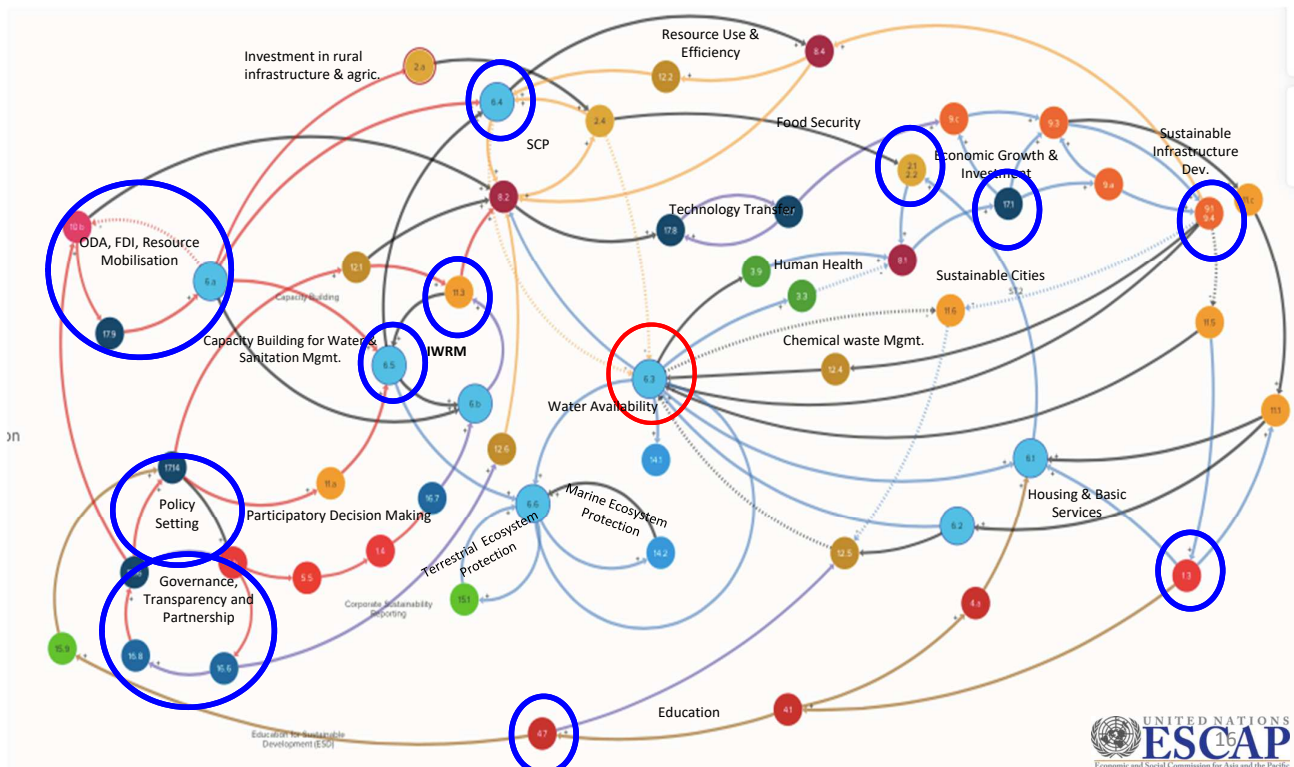


- ESCAP methodology is providing tools to analyze the types of inter-linkages between the targets of 17 SDGs, strengths and directions
- Planners can identify and analyze the leverage points for most effective interventions for the new dynamics of the 17<sup>th</sup> indivisible SDG's system



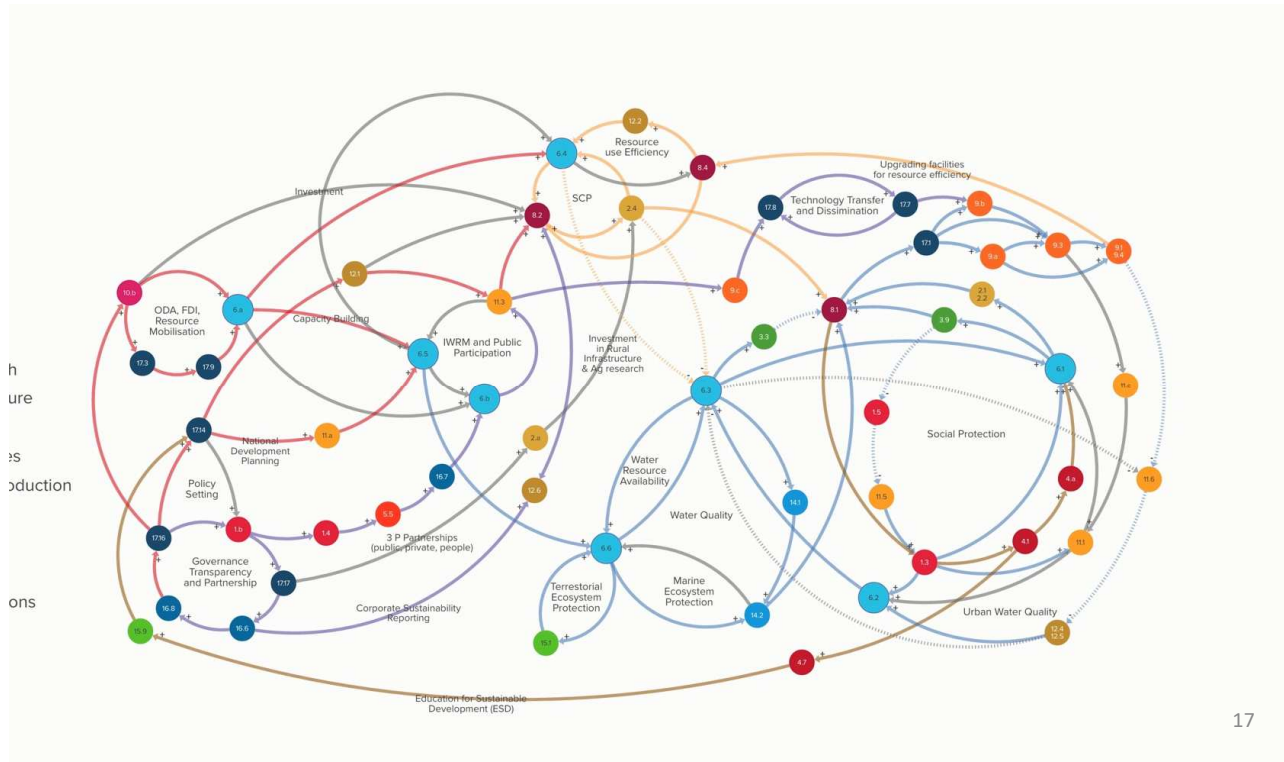
# INTEGRATION OF THREE DIMENSIONS OF SUSTAINABLE DEVELOPMENT : SYSTEM THINKING AS A RELEVANT COMPREHENSIVE FRAMEWORK

## High Impact Leverage for achieving SDG 6.3

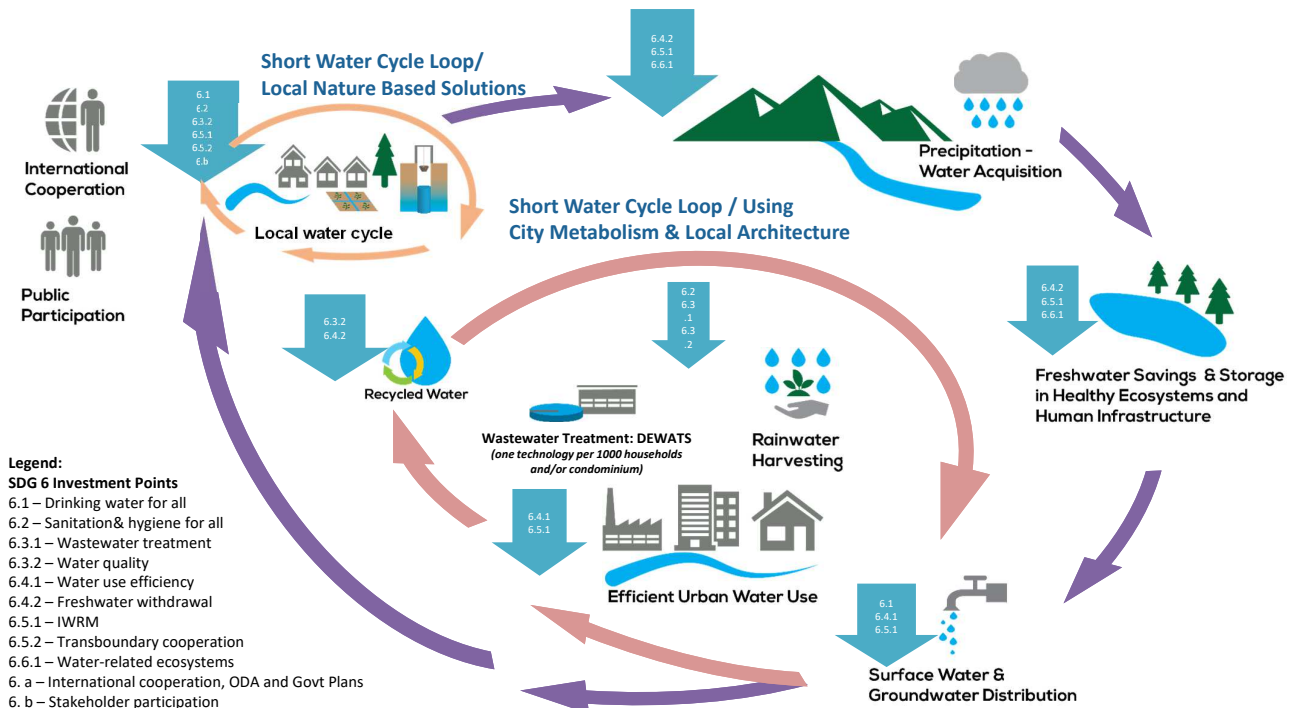




# DEVELOPING CAUSAL LOOP DIAGRAM



# SDG INTERVENTION POINTS IN WATER CYCLE



## KEY MESSAGES

- Attract impactful investments and ensure collaborative partnerships for meeting water-related SDGs, including investments in resilient infrastructure
- Identify financing approaches that enhance domestic revenue to improve water-related services
- Shift the focus to water-efficient infrastructure to reduce losses and wastes. Manage water use across all sectors and enable sustainability of water withdrawals
- Plan financing frameworks to ensure the sound management of water cycles and identification of intervention (and investment) points
- Implement decentralised financing schemes where feasible, and empower the leadership of local governments in river basin management practices
- Strengthen the capacity of regional networks and policymakers in meeting water related SDGs, and develop robust monitoring and reporting
- Better integrate water resources in urban and urban/rural planning to assure resilience, efficient supply and demand management, and effective governance



## ESCAP KNOWLEDGE PRODUCTS

### **Integrating the Three Dimensions of Sustainable Development: A Framework and Tools**

<https://sustdev.unescap.org/Files/Integrating%20the%20three%20dimensions%20of%20sustainable%20development%20A%20framework.pdf>

### **Analytical Framework for Integration of Water and Sanitation SDGs and Targets Using Systems Thinking Approach**

#### **Thinking Approach**

<https://sustdev.unescap.org/Files/resource/be091e7a9604024298e074d880312c16.pdf>

### **Integrated Approaches for Sustainable Development Goals Planning: The Case of Goal 6 on Water and Sanitation**

<http://www.unescap.org/publications/integrated-approaches-sustainable-development-goals-planning-case-goal-6-water-and>

### **Low Carbon Green Growth Roadmap for Asia and the Pacific**

<http://www.unescap.org/sites/default/files/Full-report.pdf>

### **E-Learning Course: Low Carbon Green Growth Roadmap**

<https://sustdev.unescap.org/thematicarea/detail?id=5>

### **E-Learning Course: Integration of SDG Into National Planning**

<https://sdghelpdesk-elearning.unescap.org/thematicarea/detail?id=11>





# Thank You!

Environment and Development Division, Economic and Social Commission  
for Asia and the Pacific (ESCAP)



AWaP, Kutakyushu, 2018