WASTEWATER MANAGEMENT IN ASIA-PACIFIC AND SDGS

AWAP PARTNERSHIPS

Bridging Partnerships for attaining SDG 6.3

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Contents

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The Environment and Development Division

- Facilitates policy development to integrate the environmental concerns into development.
- Focuses on management of natural resources and urban development
- Areas of work
  - Sustainable Development Goals
  - and the 2030 Agenda
  - Policies for Environment and Development
  - Sustainable Urban Development
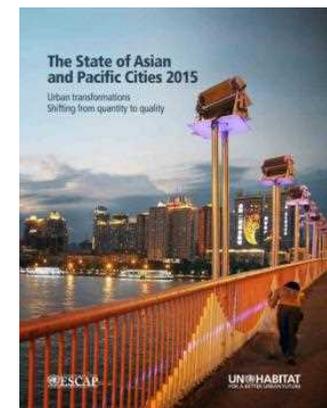
Analysis and research to enhance understanding on regional dimensions of sustainable development and facilitation of implementation of NUA
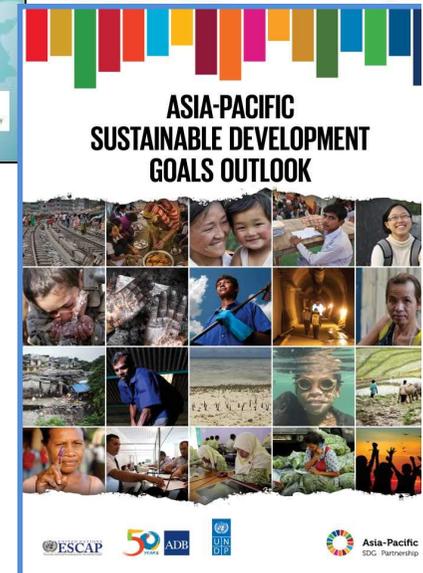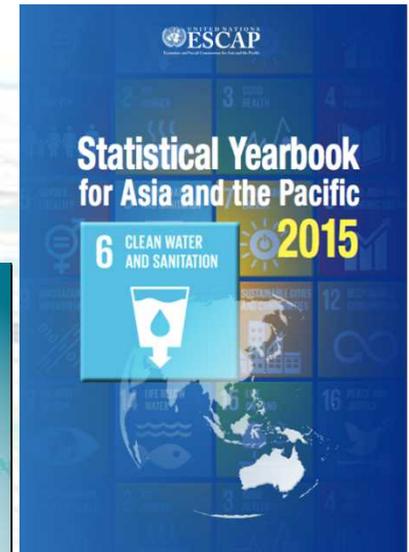
Analysis and research to enhance understanding regional dimensions of sustainable development

- Reframing and re-prioritizing relationships between economy, society and environment

- Government capacity to set a clear direction for transformation

- Regional cooperation holds potential to establish shared normative visions.

- Urbanization at the core of the region's future socio-economic and sustainable development prospects

- Growing gaps between current patterns of growth and what is needed for a more inclusive and sustainable urban future

- Comprehensive policy analysis and options focusing on finance, transport, inclusivity eco-cities.

Water and Sanitation for Sustainable Cities

- Substantive analysis on SDG is presented in the in Statistics Yearbook 2015, regional chapters of the World Water Development Report (2016, 2017) and Asia and the Pacific SD Outlook

- Policy Guidance Manual on Wastewater Management and Sanitation with a Special Emphasis on Decentralized Wastewater Treatment Systems was prepared in technical cooperation of ESCAP-UN-Habitat and Asian Institute of Technology and was launched at APUF-6 in October in Jakarta, Indonesia

- Secretariat is promoting effective policy frameworks using integrated urban water management approaches and sensitizing governments to empower business cases and to enable local communities in managing water-efficient urban infrastructure (upcoming two e-modules for policy makers at the https://sustdev.unescap.org/course/category/1)

POLICY GUIDANCE MANUAL ON WASTEWATER MANAGEMENT

WITH A SPECIAL EMPHASIS ON DECENTRALIZED WASTEWATER TREATMENT SYSTEMS

ESCAP | UN HABITAT FOR A BETTER URBAN FUTURE | AIT Asian Institute of Technology

Statistical Yearbook for Asia and the Pacific

6 CLEAN WATER AND SANITATION

2015

ASIA-PACIFIC SUSTAINABLE DEVELOPMENT GOALS OUTLOOK

ESCAP 50 YEARS ADB UNDP Asia-Pacific SDG Partnership

Asia Pacific Forum on Sustainable Development: Regional Roadmap

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 OF COOPERATION WITH MULTISECTORAL IMPACTS

- Leave no one behind
- DRR & resilience
- Climate change

- Natural resource management
- Connectivity
- Energy

277 million people lack access to clean and safe drinking water
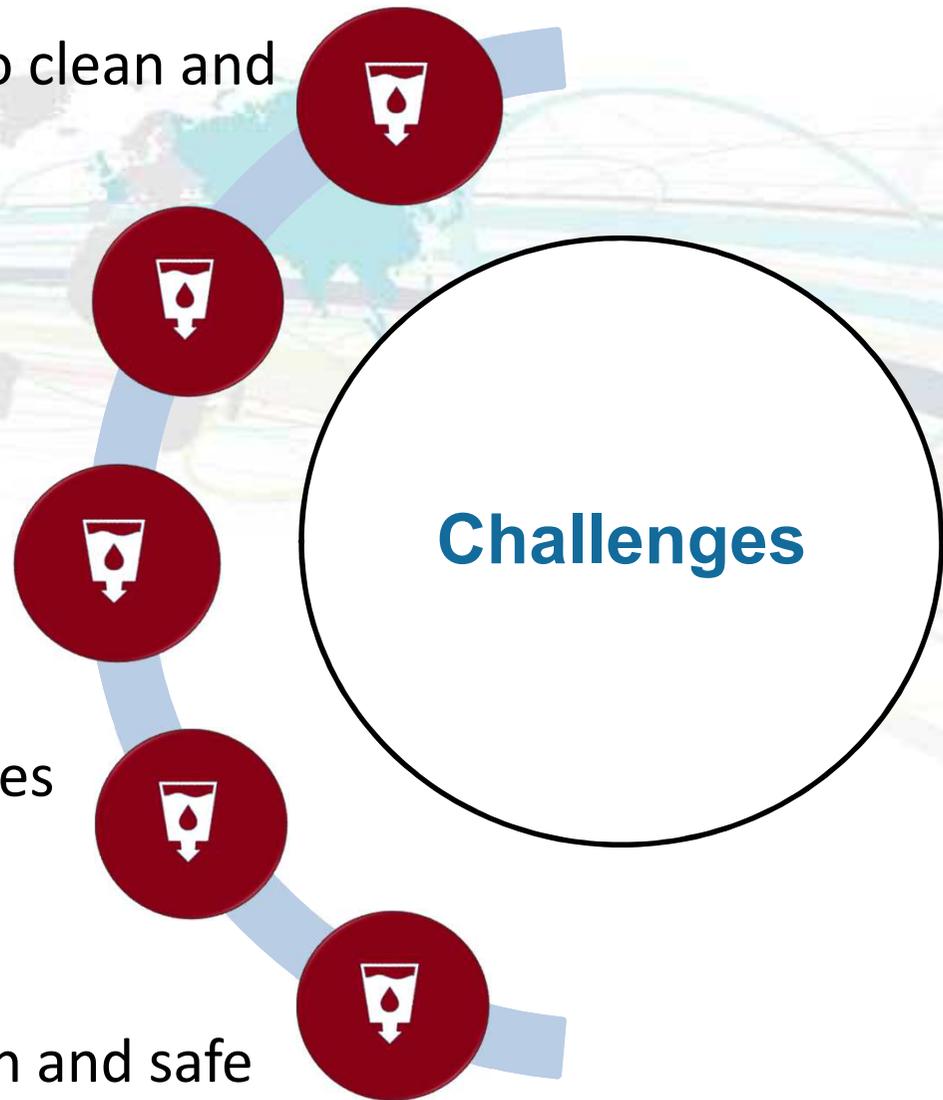
70-80% of wastewater is untreated

Over half of Asia-Pacific's urban population live in low coastal areas

Challenges

Water runs the economy; cities produce 80% of global GDP

Challenges of provision of clean and safe water in periods of water-related disasters and climate change effects

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Statistics: SDG 6 progress in Asia and the Pacific

- **SDG 6.1**: 94% population have access to improved clean drinking water (2015)

- **SDG 6.2**: 65% population use improved sanitation facilities (2015)

- **SDG 6.3**: 70-90% wastewater is untreated in some countries (2011-2012); Singapore is the only country that achieves 100% treated wastewater (2013)

- **SDG 6.4**: 13% total freshwater withdrawals on average in the upper middle income economies; no data in low and lower middle economies (2005)

- **SDG 6.5**: Integrated Water Resources Management (IWRM) Indicators are well utilised in some countries, such as Japan and Singapore. Project-based examples: Mekong River and Aral Sea Basin management

Case study: Wastewater use in India

- A case study in 2013 attempted to look at the overall urban wastewater challenges [6.3] in India (generation, its uses, livelihood benefits and health impacts)
- Growing water demand forces to lift water from agriculture waterscapes
- Wastewater was found as a reliable water supply for crop production [2.4, 2.3, 2.1]
- However, wastewater agriculture is not without negative externalities
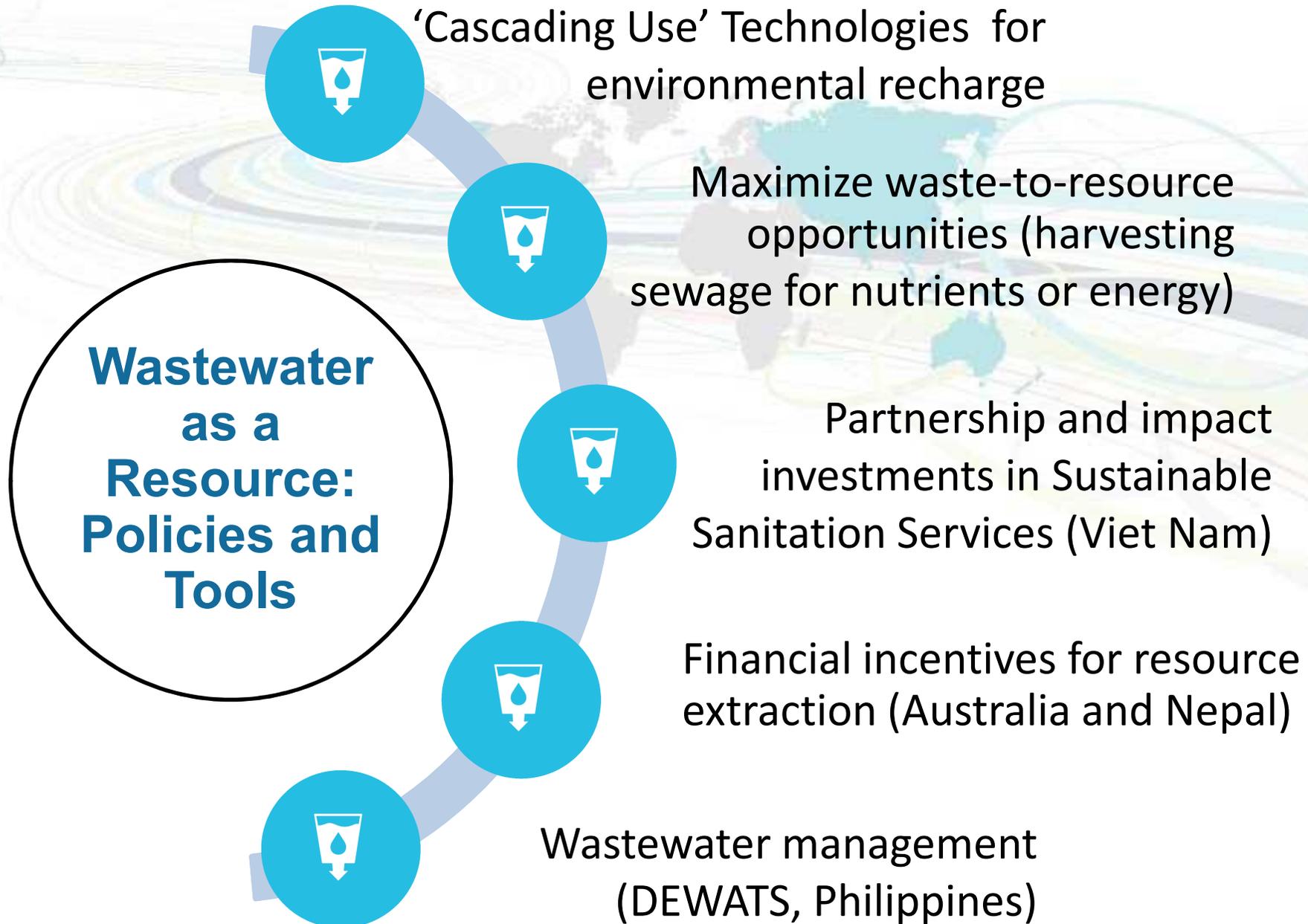
Making Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable by Localizing SDGs

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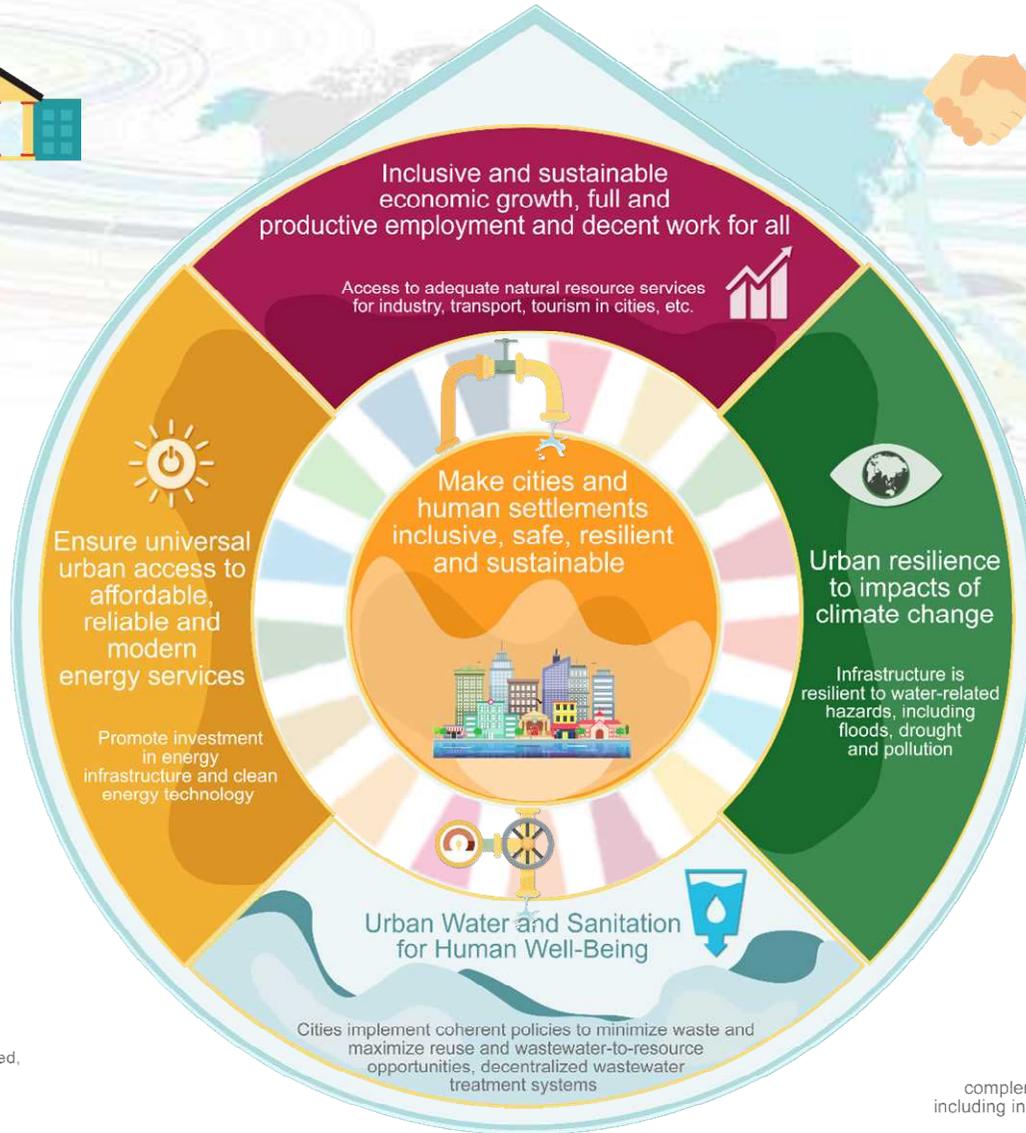
GOOD GOVERNANCE
Adequate legal regimes, institutions, water infrastructure and capacity are in place.

REGIONAL CITY NETWORKS
Cities collaborate and coordinate on actions that support knowledge and implementation.

PEACE & POLITICAL STABILITY
The negative effects of conflicts are avoided, including those resulting from reduced water quality and/or quantity, comprised water infrastructure.

FINANCING
Innovative sources of financing complement funding by the public sector, including investments from the private sector and micro-financing schemes.

Inclusive and sustainable economic growth, full and productive employment and decent work for all

Access to adequate natural resource services for industry, transport, tourism in cities, etc.

Make cities and human settlements inclusive, safe, resilient and sustainable

Ensure universal urban access to affordable, reliable and modern energy services

Promote investment in energy infrastructure and clean energy technology

Urban resilience to impacts of climate change

Infrastructure is resilient to water-related hazards, including floods, drought and pollution

Urban Water and Sanitation for Human Well-Being

Cities implement coherent policies to minimize waste and maximize reuse and wastewater-to-resource opportunities, decentralized wastewater treatment systems

Towards water resilient sustainable cities

Kathmandu, Nepal

Sathya Sai Shiksha Sadan School in 2013 has started installation of the Decentralized Wastewater Treatment System (DEWATS). The construction of wastewater treatment facilities includes provision of a system of a water recycling and water distribution after treatment for gardening purposes. While the price of equipment was high, the operational and maintenance costs are low and the pilot yields a greater environmental returns.

Myanmar

In 2014 the Myanmar government formally introduced the National Water Policy (NWP) and adopted the Integrated Water Resource Management (IWRM) approach.

Bangkok, Thailand

Bangkok's wastewater user charge is financing the process of wastewater treatment and is addressing serious environmental issues. Bangkok is raising the public awareness by promoting education and participation of local communities in wastewater treatment projects in order to boost reuse of treated wastewater in agriculture and industry.

Phnom Penh, Cambodia

The Phnom Penh Water Supply Authority is focused on r educing unaccounted water losses from 1993. The Authority increased tariffs between 1993 and 2008. Unaccounted water losses declined from 72% to 6%.

Singapore

• The Public Utility Board (PUB) of Singapore had installed a deep tunnel sewage treatment system to meet Singapore's long term needs. The used and treated water gets further purified at NEWater plants to meet 30 percent of the water needs for the city. Thus, the innovative water and sanitation urban governance of Singapore, built on inventive capacity of citizens, improved the health and productivity of economic workforce.

• The Ministry of Environment and Singapore's national water agency PUB introduced a new policy called "Four Taps" in 2002 to address water self-sufficiency. Each tap has a specific focus: (1) local catchment water, (2) imported water, (3) highly purified reclaimed water, known as NEWater to ensure safe water quality, and (4) mdesalinated water via seawater desalination plants.
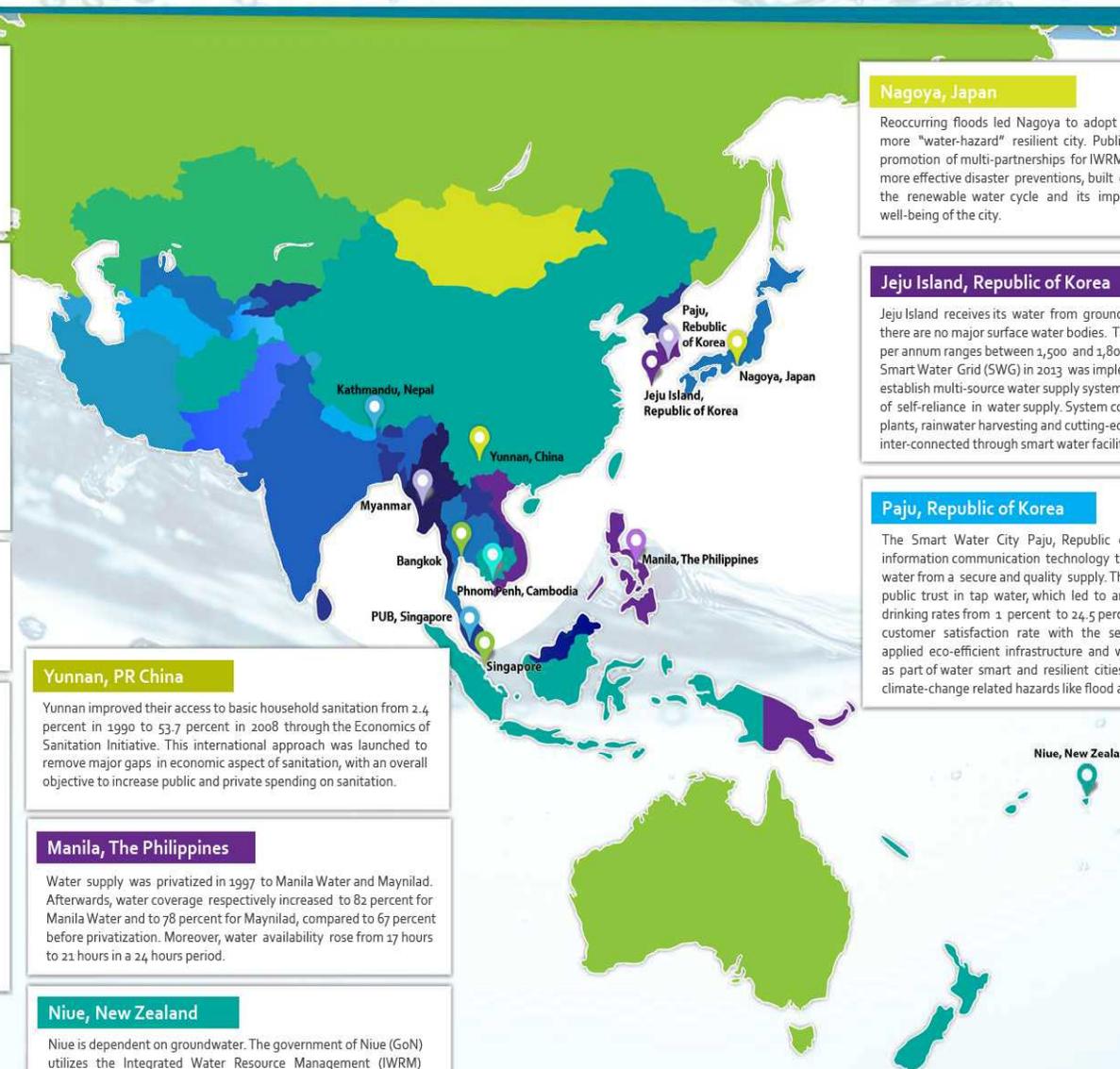
Nagoya, Japan

Reoccurring floods led Nagoya to adopt the IWRM to become a more "water-hazard" resilient city. Public participation and the promotion of multi-partnerships for IWRM created trust and led to more effective disaster preventions, built on a better awareness of the renewable water cycle and its impacts on the health and well-being of the city.

Jeju Island, Republic of Korea

Jeju Island receives its water from groundwater resources, since there are no major surface water bodies. The average precipitation per annum ranges between 1,500 and 1,800 mm. A pilot project of Smart Water Grid (SWG) in 2013 was implemented in Jeju Island to establish multi-source water supply systems that nurture capacity of self-reliance in water supply. System comprises of desalination plants, rainwater harvesting and cutting-edge water facilities to be inter-connected through smart water facilities.

Paju, Republic of Korea

The Smart Water City Paju, Republic of Korea, has adopted information communication technology techniques to source tap water from a secure and quality supply. The techniques increased public trust in tap water, which led to an increase in tap water drinking rates from 1 percent to 24.5 percent and an 88.2 percent customer satisfaction rate with the service. Daego and Seoul applied eco-efficient infrastructure and wastewater management as part of water smart and resilient cities with IWRM to mitigate climate-change related hazards like flood and drought.

Yunnan, PR China

Yunnan improved their access to basic household sanitation from 2.4 percent in 1990 to 53.7 percent in 2008 through the Economics of Sanitation Initiative. This international approach was launched to remove major gaps in economic aspect of sanitation, with an overall objective to increase public and private spending on sanitation.

Manila, The Philippines

Water supply was privatized in 1997 to Manila Water and Maynilad. Afterwards, water coverage respectively increased to 82 percent for Manila Water and to 78 percent for Maynilad, compared to 67 percent before privatization. Moreover, water availability rose from 17 hours to 21 hours in a 24 hours period.

Niue, New Zealand

Niue is dependent on groundwater. The government of Niue (GoN) utilizes the Integrated Water Resource Management (IWRM) approach. The previous approach to water management led to fragmented and uncoordinated development and management of resources.

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FLOWCHART

STEP START WITH THE **END IN MIND** – What is your Vision for a Sustainable Future?

STEP IDENTIFY **THEMATIC PRIORITIES** ALIGNED WITH **SDG PROFILES** AND THE **COUNTRY'S SD GOALS**

STEP 3 MAP OUT **SYSTEMS AT GOAL** & **TARGET LEVEL**

STEP IDENTIFY **POLICY LEVERAGE**

STEP FORMULATE **INTEGRATED POLICY STATEMENTS**

STEP REVISIT **SYSTEM MAPS** BY ADDING **SDG INDICATORS** & MAPPING OUT **INSTITUTIONS**

STEP BUILD ON **COMPLEMENTARITIES** AND ENHANCE ACTIONS OF **DRIVING FORCES**

STEP PLAN JOINTLY THROUGH **SCENARIOS**

STEP ADAPT **PATHWAYS** (PLANS)

STEP ATTRACT **IMPACT INVESTMENTS** & **GREEN FINANCING SCHEMES**

Thank you

For information on the EDD and SUDS, please visit:
http://www.unescap.org/our-work/environment-development,
http://www.apministerialenv.org/; http://www.unescap.org/our-work/environment-development/urban-development

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