PUBLICATIONS

1) Priority Policy Recommendations for Urban Flood Management in the Context of Climate Change in the Asia-Pacific region

2) Integrating e-Sustainability and Resilience into Low-cost and School Building Development

3) Eco-efficient Urban Water Infrastructure Development in Nepal

4) Integrated Energy-Water Resources Management for Green Industries: The Case of Mongolia

5) Holistic Resilient Eco-efficient Schools in the Philippines

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UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

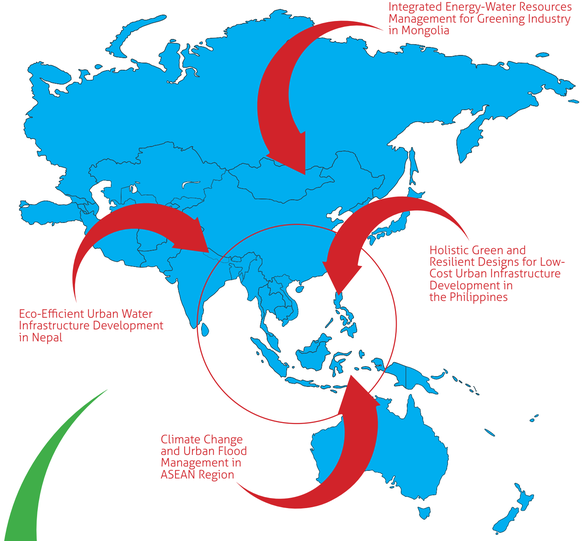
ECO-EFFICIENT INFRASTRUCTURE DEVELOPMENT: TOWARDS A GREEN AND RESILIENT URBAN FUTURE

Pilot Implementation of Low Carbon Green Growth Roadmap for Asia and the Pacific

The Asia-Pacific region is rapidly urbanizing. While this transformation is benefitting many economies it has placed enormous pressure on natural resources and the urban environment. In large part this is a result of inefficiencies and exploitation of resources without necessary attention to limits or costs. If the region is to benefit from its urban future however, it must shift towards eco-efficient and climate resilient models underpinned by the need to build more sustainable, equitable and resilient cities.

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has implemented a project titled "Pilot Implementation of Low Carbon Green Growth Roadmap for Asia and the Pacific" with the aim to enhance capacity of developing countries on policy development for eco-efficient resource management, and sustainable and resilient urban infrastructure development in the region. The project was funded by the Government of the Republic of Korea through Korea-ESCAP Cooperation Fund (KECF).

OVERVIEW



Duration: Two years (December 2012 – December 2014)

Target Countries: Mongolia, Nepal, Philippines and ASEAN

Target Group: Policymakers of key ministries involved in environment, economic and urban development; local communities and national-level stakeholders

Implementing Office: Sustainable Urban Development Section, Environment and Development Division, ESCAP

Project results

ENHANCED CAPACITY OF POLICY MAKERS

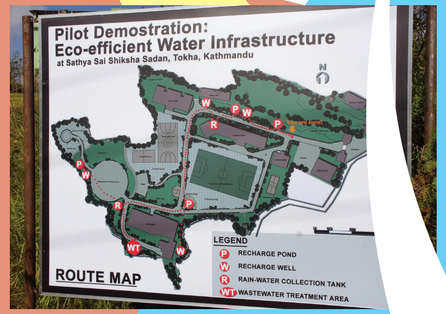
to formulate and apply policy options that

(i) improve the quality of growth

(ii) help achieve IADGs and MDGs in the area of water and energy

NEPAL

Eco-Efficient Urban Water Infrastructure Development in Nepal



Kathmandu valley is facing rapid and haphazard urbanization. The valley had a total population of nearly 2.5 million in 2011 (including about 1.5 million urban population). The projected population of Kathmandu city alone will be more than 1.8 million in 2030. This means on-going pressure on already scarce water infrastructure, social support facilities, clean energy, and health and sanitation. These challenges should be addressed with new approaches for sustainable urban development and greening the economy, with a focus on effective and efficient management of water and energy.

Within this broader framework, ESCAP worked towards institutional strengthening of relevant government ministries, departments and agencies at central and local levels, including Kathmandu Valley Development Authority (KVDA) aimed at integrating eco-efficiency and low carbon green growth concepts in water-energy infrastructure towards sustainable urban development of Kathmandu valley and other emerging cities/towns in Nepal.

To support policy development, a project on eco-efficient urban water infrastructure development, in collaboration with KVDA, including installation of a pilot eco-efficient urban water infrastructure system in peri-urban area of Kathmandu, and preparation of the strategy paper on eco-efficient urban water infrastructure development in Nepal, was implemented. A national workshop on eco-efficient water infrastructure for sustainable urban development in Nepal jointly with the Ministry of Urban Development, and KVDA was organized in Kathmandu on 15-16 October 2014.

The pilot eco-efficient urban water infrastructure system constructed at Sathya Sai Shiksha Sadan, Tokha, Kathmandu, included (i) rainwater harvesting system (collection and treatment, and also recharging), (ii) decentralized wastewater treatment (both black water and grey water) and recycling system, and (iii) greenery landscaping. The project demonstrated good practices on eco-efficient water resource management with the possibility of replication in other peri-urban areas in Kathmandu valley, and other parts of the country.

The national workshop discussed key challenges, opportunities and specific areas for implementation towards the development of urban water infrastructure in Kathmandu and also cities/towns outside of Kathmandu valley. The workshop resulted in agreement of 10 key outcomes and also provided inputs to finalize the strategy paper for necessary follow up by the concerned government ministries/agencies in Nepal.

PHILIPPINES

Holistic Green and Resilient Designs for Low-Cost Urban Infrastructure Development in the Philippines

The Philippines is highly vulnerable to various kinds of natural disasters and the impacts of climate change. It is ranked highest in the world in terms of vulnerability to tropical cyclones. Such disasters have quantifiable effects on national and urban economies in the Philippines, with particular impacts on vulnerable groups.

ESCAP has worked towards institutional strengthening of relevant departments and agencies at central and local levels in the Philippines with the aim to integrate environmental sustainability and resilience to disasters into low cost building codes, designs and construction. In partnership with local experts, ESCAP has also worked to design eco-efficient as well as disaster and climate change resilient buildings/schools, which often act as community infrastructure in times of disasters. A national workshop on sustainable urban infrastructure development in the Philippines was organized, jointly with the Department of Science and Technology of the Republic of the Philippines. The workshop discussed current national policies, issues/challenges to integrate environmental sustainability and resilience to disasters for sustainable urban infrastructure development with a focus on low cost buildings and schools design and development in the Philippines. The workshop resulted in the agreement of 12 key outcomes for the consideration of the concerned government departments/agencies in the Philippines, and provided valuable inputs towards the finalization of two important documents: (i) strategy on integrating e-sustainability and disaster resilience into low cost building codes and (ii) designs for holistic green and resilient schools.

MONGOLIA

Integrated Energy-Water Resources Management for Greening Industry in Mongolia

Urban growth rates in Mongolia over the past several decades have been high – exceeding the Asia-Pacific's overall urbanization patterns. At present, an estimated 71% of Mongolia's population lives in urban areas (primarily in Ulaanbaatar) – with this proportion expected to rise to 80% in 2030 (UNDESA, 2014). Ulaanbaatar faces particular challenges in managing growth and balancing resource use, along with the expansion of industries. There is a lack of efficiency in the use of resources, particularly, water and energy in industrial and urban sectors.

In response, ESCAP developed a strategy paper on 'Integrated Energy-Water Resources Management for Green Industries: The Case of Mongolia', and organized jointly with the Ministry of Environment and Green Development of Mongolia (MOEGD), a national workshop on 20-21 August 2014 in Ulaanbaatar. The workshop focussed its discussion on current national policies, including the recently-adopted Green Development Policy of Mongolia; issues/challenges for greening industries and sustainable urban development in Mongolia through improved energy and water use efficiencies; and the application of low-carbon green urban economy concepts. The workshop resulted in agreement of 10 key outcomes which highlighted integrating strategies on green urban development into national, local and city development plans.

For more information, please go to **http://www.unescap.org/resources/managing-urban-water**

ASEAN

Climate Change and Urban Flood Management in ASEAN Region

According to the 2012 Asia Pacific Disaster Report, from 1970 to 2010 the number of people exposed to the impact of flooding in the region rose from 29.5 million to 63.8 million, and the economic exposure to flood hazard has increased at a faster rate than any other hazard (APDR, 2012). Cities have particular risks as many of them lie on waterways and coasts. In order to prevent/minimize risk of floods in cities and towns, there is an urgent need to strengthen the capacity of local governments which are on the frontline of dealing with urban flooding, including the forging of coordination mechanisms across various levels of government; establishing partnerships with civil society; and formulating effective future planning responses in the context of climate change.

In response to the need to develop greater knowledge and platforms for sharing experience and policy frameworks, particularly in the ASEAN region, ESCAP in partnership with the Ministry of Foreign Affairs and Trade of Korea, and Korean Water and Wastewater Works Association organized the regional workshop on climate change and urban flood management in Daegu, Republic of Korea on 19-20 March 2013. The workshop yielded four 'Priority Policy Recommendations' in the form of 'Daegu Outcome Document'. The key outcomes were disseminated at the 2nd Asia Pacific Water Summit (May 2013; Chiang Mai, Thailand).