

Integrated Resource Management in Asian Cities: the Urban Nexus An Overview

**Resilient Cities 2019
Bonn, Germany**

Project Overview

Phase I: 2013-2015

7 YEARS

Phase II: 2016-2019

PARTNERS

Regional GIZ Urban Nexus

**United Nations Economic
and Social Commission
for Asia (UNESCAP)**

**ICLEI Local Governments for Sustainability,
Southeast and South Asia**

**FUNDED
BY**

**Federal Ministry of Economic
Cooperation and Development,
Government of Germany**

**FOCUSED
SECTORS**

Water, Energy, Food and Waste

Geographical Impact



7
COUNTRIES

12 CITIES

China: Binhai, Rizhao
India: Nagpur and Rajkot
Indonesia: Pekanbaru,
Tanjungpinang
Mongolia: Ulaanbataar
Philippines: Naga City,
Santa Rosa
Thailand: Chiang Mai, Korat
Vietnam: Da Nang

Urban Nexus

A **multi level** and **multi sectoral** approach, a tool contributing to greater **resource efficiency**, by highlighting:

the **interdependencies** between water, energy and food security

a **fundamental shift**, from a **sectoral** to a **cross-sectoral, integrated** approach

the **synergies** and **competing** uses of water, land and energy-related resources

the **challenges** in existing structures, **sector policies and procedures**

The need to **protect** and **use in a balanced manner** three "supply securities" water, energy and food

Nexus Sectors

Technical Cooperation focusing on **Water, Wastewater, Energy and Solid Waste**

Solid Waste Management: one of the major challenges most of the cities are facing

- Introduced and promoted innovative technologies like 'Maximum Yield Technology'
- Feasibility studies elaborated for:
 - Da Nang, Vietnam
 - Tanjungpinang/Indonesia
 - Laguna Province/Naga City/Philippines,
 - Bangkok/Thailand (cooperation with 100 RC/Rockefeller Foundation)
 - Ulaan Baator/Mongolia
 - Nagpur, India



Water and Wastewater Management:

- Introduced and promoted innovative wastewater collection technology 'Vacuum Sewer' in **Danang, Tanjungpinang, Weifang**
- Study on water supply and waste water treatment in **Cambella/Jakarta** (cooperation with 100 RC)
- Rehabilitation of Wastewater treatment plant in **Korat**
- Study on vacuum sewer waste water collection for neighborhood in **Korat**
- Studies on Mae Kha in **Chiangmai**, rehabilitation of the Mae Kha within an overall water and waste water concept for Chiangmai
- Training on Vacuum Sewer collection system in **Rajkot** for 70 municipal officials



Energy Efficient Housing:

- Cooperation with the Capital Housing Corporation of Ulan Bator on ger-readjustment (Khoroo 19)
- Housing project (180 households, 12 ha) focusing on land pooling of ger inhabitants to develop an “Eco Village” (affordable housing) – environmentally friendly, public consultation/community development
- Energy Master Plan study for Ulaanbataar: promoting to move from a carbonized to a decarbonized energy system by 2050 (Paris Climate Agreement)



Overall 40 projects identified and studied, CAPEX amount to Euro 550 million. OPEX also calculated for each project to be borne by urban local government

Some of the impacts in **Da Nang (Vietnam)** include:

- Improved sanitation
- Organic waste from HHs and restaurants to be converted into energy
- Organic manure from agricultural residue
- Reuse wastewater to irrigate urban agricultural and green spaces

Some of the impacts in **Korat (Thailand)** include:

- Practitioners learned to reduce water losses, save energy and lower costs
- Systematic operation and maintenance process introduced to manage pumps
- 30% reduction in electricity consumptions

Capacity Building and Trainings



**Peer Learning Event, Philippines
(2014)**



**Technical Training on Vacuum
Sewer, Bangkok (2015)**



**Exposure visit to China (MYT) & Germany
(Vacuum Sewer), 2016**



**Technical Training on Vacuum Sewer,
Raikot, 2017**



Peer-to-peer Learning and Knowledge Exchange: Officials from Mongolia visit Nagpur, 2017



Study tour on Vacuum Sewer to Dubai to, 2018



Delegation from National Government and Cities attend exposure visit to MYT Plant in Germany, 2018

Urban Nexus Trainings

- Additional funds from BMZ for supporting SDGs/Urban Nexus Training for national level for India, Indonesia, Mongolia & Vietnam (extension up to July 2019)
- Interactive training formats and modules developed
- Participants from National and Local level involved along with State level training institutions (**all levels of governance involved**)
 - ✓ New Delhi, India in March 2-3, 2019
 - ✓ Pune, India with YASHADA in February, 28-1March, 2019
 - ✓ Ulan Bator, Mongolia with National Development Agency (NDA) in the lead May 2018
 - ✓ Delhi, India with NIUA and NITI Aayog in the lead July/August 2018
 - ✓ Da Nang, Vietnam with the Ministry of Planning and Investment (MPI) October 2018
 - ✓ Jakarta, Indonesia with BAPPENAS November 27-30, 2018



Role of Academia

- Colleges, training institutes and universities “**strategic**” partners to make Nexus approach sustainable (**SDG No. 17**)
- Colleges, training institutes and universities are the “cradle” for innovations and are apt to take them forward (**scaling up**)
- Students, trainers and professors - all of them “**natural**” multipliers
- Training institutes concentrate on research, training and extension work
- Basis for promoting innovation such as **cross-sectoral** approaches, integrated resource planning as well as environmentally friendly technologies
- Integrate Nexus approach into the **curricula of training institutes** and implement within their extension work in collaboration with Municipalities (YASHADA, Pune)

- Best practice example cooperation with Bicol College for Applied Science and Technology (BISCAST) (second greenest building in the Philippines!!!)
- Cooperation networking between training institutes established (MGSIPA, YASHADA, ATI Bengal in India)
- BISCAST and KMUTT, Chulalongkorn University joined



Urban Nexus and SDG

- Urban nexus as a means of implementation of global agendas
- Shift from linear economy to circular economy
- Promotes cross sectoral integration
- Strengthen institutions, collaborative governance and build capacities for integrated planning and management
- ICLEI South Asia conducted an assessment of the status of SDG implementation in three Indian Cities (Nagpur, Rajkot and Trivandrum)



Regional Workshops

9 Regional Workshops organised by UNESCAP in partnership with GIZ and ICLEI



9th Regional Workshop in Bangkok, 2019

7th Regional Workshop in Tanjungpinang, 2017



8th Regional Workshop in Bangkok, 2018



6th Regional Workshop in Santa Rosa, 2018

Outreach and Global Events

- **17** Outreach & Global events
- **9** Regional Workshops
- **6** National Dialogues
- Policy Inputs and Brief
- Presence at Resilience Cities Asia Pacific and the World Congress organised by ICLEI



Challenges and Learning

Capacity Building and
generating awareness is a
continuous process



Collaboration between different actors
across **horizontal scales** also needs time
and efforts



Bringing together **multiple
levels of governance (National,
State and Local)/Vertical scale**
requires considerable time



Creating **openness/thinking
out of box** to the Urban NEXUS
approach is crucial



Political will and **commitment**
ensures that an Urban NEXUS
approach will be
institutionalized



Thank you!

For more information about the Urban NEXUS project:
<https://www.unescap.org/urban-nexus>

Contact:

Emani.kumar@iclei.org

Deputy Secretary General, ICLEI and Executive Director, ICLEI South Asia