







### Fifth Regional Workshop on Integrated Resource Management in Asian Cities: The Urban Nexus Chiang Mai, Thailand, 17-19 June 2015

## WORKSHOP SUMMARY

The Fifth Regional Workshop on "Integrated Resource Management in Asian cities: the Urban Nexus", took place from 17 to 19 June 2015 in Chiang Mai, Thailand, and was organised by ESCAP in partnership with GIZ, the Municipality of Chiang Mai and ICLEI. The workshop was organized in the context of the project "Integrated Resource Management in Asian Cities: The Urban Nexus "(thereafter called "Urban Nexus Project"), financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by GIZ in partnership with ESCAP, ICLEI and the Nexus partner cities.

The workshop was attended by more than 120 participants from China, India, Indonesia, Mongolia, Philippines, Thailand, and Viet Nam. Participants included representatives from city governments, including 9 mayors and vice-mayors, representatives from national ministries of participating countries, private sector enterprises, academic experts, and representatives of international organizations, multilateral development banks and foundations.

Partner cities highlighted the relevance of the urban nexus approach and expressed their strong commitment to adopt and mainstream its principles by signing the Nexus Partnership Declaration on "Developing Integrated, Resource-efficient and Inclusive Cities for a Better Future". The Nexus Partnership Declaration (enclosed in annex) outlines key principles that cities can follow to promote a nexus approach and highlights five areas of commitment, including in terms of strengthening local governance by promoting work across departments and institutions and enhancing public participation.

The meeting was opened by Mr. Suriya Prasartbandit, Governor, Chiang Mai Province, Mr. Tassanai Buranupakorn, Lord Mayor, Chiang Mai Municipality, Mr. Peer Gebauer, Deputy Head of Mission and Permanent Observer to ESCAP, Embassy of the Federal Republic of Germany to Thailand and Mr. Donovan Storey, Officer-in-Charge, a.i., Environment and Development Division, ESCAP. Ms. Ladawan Kumpa, Deputy Secretary-General of the Office of the National Economic and Social Development Board of Thailand delivered the keynote presentation.

The workshop highlighted the importance of the nexus approach for the sustainable development of the Asia-Pacific region, as energy, water and food security are increasingly under threat as a result of population growth, urbanization, changing consumption patterns of a growing middle class, as well as the impacts of climate change and natural disasters. The workshop also emphasized the relevance of the nexus approach for the implementation of key internationally agreed development goals, including the Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals to be adopted in September 2015, the New Urban Agenda to be adopted by the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in 2016, as well as existing and perspective commitments related to climate change to emerge of the 21<sup>st</sup> conference of the parties of the UNFCCC.







In particular, the nexus can help advance the balanced integration of the three dimensions of sustainable development and achieve coherence across goals. By integrating policies and measures across critical resources the nexus can enhance synergies and reduce trade-offs and ultimately support a transition to sustainability. Lastly, by shifting towards sustainable resource management, the urban nexus fundamentally promotes sustainable urban development, through sustainable urban and peri-urban ecosystem services, and integrated and well-planned spatial development.

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It was noted that the nexus approach can act as a guiding principle for the development of sustainable cities and nexus thinking can support the development of smart cities through a systems approach. The "Excellence in City Transformation" award won by the partner city of Da Nang, Viet Nam, showed increased international recognition for cities that adopt a progressive and holistic approach to urban development. Nexus thinking can also help guide emerging concepts, such as urban mining, as a way to recover valuable resource from waste and address shortage of key resources. In this connection, it was noted that the nexus approach was also being taken up by the private sector to promote holistic thinking and circular value chains as success factors for transformation, replacing a linear economic model with a circular one.

The workshop allowed reviewing and learning from the experiences of Thailand in promoting urban nexus initiatives. Thailand's sustainable development strategies are guided by the Sufficiency Economy philosophy developed by His Majesty King Bhumibol Adulyadej, which puts people at the centre of development. The five-year National Economic and Social Development Plan provides the vision, mission and objectives. The current Eleventh Plan integrates various dimensions relevant to the nexus, including the management of natural resources and the environment towards sustainability, the linkages between agriculture, food and energy, as well as an overall shift to quality of growth. Implementation strategies include integrated water resource management, agricultural zoning and urban green growth. The importance of knowledge, science, technology and innovation was also emphasized.

One of the key priorities and drivers of nexus-related policies in Thailand is energy security. The Royal Thai Government has adopted an Integrated Energy Blueprint, which includes the target to reduce energy intensity by 30% by 2036 compared to 2010. Strategies promoted by the Ministry of Energy to achieve the target include energy efficiency and conservation standards, building codes, energy labelling, economic and fiscal incentives as well as public awareness and capacity building. The National Housing Authority is also promoting energy efficiency in the housing sector. Moreover, the national target of 25% of renewable energy in total energy consumption by 2021 reflects a shift towards resource efficiency and sustainability.

The workshop discussed challenges and opportunities in adopting an urban nexus approach, drawing from the experiences of participating cities, in particular in relation to wastewater treatment and solid waste management.

The Bantang sanitary landfill in Chiang Mai provided an example of the opportunities available to produce biogas (and electricity out of it) and fertilizer out of organic waste, which in developing countries represents the lion's share of municipal solid waste (50-70%). At the same time, it was noted that landfill gas recovery allows partially capturing the methane released by the organic waste, and waste treatment methods such as anaerobic digestion and composting can be even more effective. However, large-scale investments are often hampered by the short lengths of contracts concluded between municipalities and operators.







Wastewater treatment also provides great opportunities for producing energy but the presence of combined sewers in most of the cities represents a key technical challenge as the organic load of the wastewater reaching the treatment plants is often too low, while individual septic tanks can contaminate the soil, rivers and the groundwater. The workshop called for the application of separate sewers to collect wastewater and storm water. Considerable opportunities exist also to improve the energy efficiency of water supply and wastewater treatment, as considerable amounts of energy are used to pump water. In Nakon Ratchasima, Thailand, for example, the introduction of energy efficient pumps could save energy and respective payments to be made to the utility. Moreover, the reduction of water leakages in the supply system would reduce the water consumption as well as the energy required for pumping.

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Securing financing for projects was highlighted as a challenge. In many instances municipalities have been given unfunded mandates, while their ability to raise revenues is limited. Municipalities generally depend on transfers from central government for capital investments, while they have to bear the full cost of operational expenditures. Tariffs are not generally set to maintain levels of cost recovery needed to achieve sustainable operations of services. For some municipalities it is politically unfeasible to raise tariffs, others do not even have the legal authority to do so. Nevertheless, a number of participating cities are starting to set tariffs for waste water treatment and to gradually increase tariffs for water, energy and waste.

Drawing from experiences with decentralization in various countries, the workshop called for a greater degree of autonomy for local governments in implementing certain nexus-related projects, considering that lengthy and complex approval procedures from higher levels of government represent a challenge for many municipalities. At the same time, the workshop stressed the need to build the capacities of local governments to develop, implement and monitor nexus projects. National governments have a key role to play in developing mechanisms and programmes for capacity building of local governments, such as, for example, the National Academy for Mayors of China, which provides training for mayors and bureau leaders in key areas such as urban planning. National governments can also develop dedicated programmes to advance sustainable urban development, including nexus, such as the 100 smart cities programme or the Swachh Bharat Mission of India.

Adopting nexus solutions often requires cities to collaborate with neighbouring municipalities, as both urban growth and resource footprints go beyond administrative boundaries. Learning from the experience of Germany with counties and special purpose associations, clustering was highlighted as a modality to promote collaboration and joint infrastructure development among neighbouring municipalities. For example, the municipalities of Santa Rosa and Baguio, Philippines, have established cooperation agreements with neighbouring municipalities for the management of shared water courses. It was also noted that many local governments lack the economies of scale and the resources to adopt specific technological solutions, for example for solid waste management. To address these challenges, the municipalities of Chiang Mai and Chiang Khan, Thailand, were able to develop waste treatment plants by establishing cooperation agreements with neighbouring municipalities.

The workshop emphasized the importance of communication and coordination between central and local governments, and in particular of two-way communication. While the central government has a key role to play in setting objectives, policies and standards, implementation is done at the local







level, and local governments can provide useful feedback to national policy-makers on challenges encountered and support required. Mechanisms (both formal and informal) for coordination and dialogue between central and local governments exist in all participating countries, although in most cases communication passes through the provincial/state level. Some mechanisms for directly seeking the feedback of local governments in policy formulation or for local governments to seek clarifications on policies exist, but there is scope for strengthening communication between central government and municipalities.

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Hosting seminars and workshops organized by the national government in various cities was mentioned as a useful informal modality for national-local dialogue. Participants also stressed the relevance of knowledge-sharing platforms and city-to-city cooperation, to allow cities to learn from each other's experiences and practices. In this regard, the regional workshops, national dialogues and peer-to-peer learning organized under the project were highlighted as very useful and relevant.

The workshop highlighted the importance of rural-urban linkages and of peri-urban areas in ensuring the sustainable management of natural resources, and in particular water and food. In this regard, the importance of adopting a city-region perspective was emphasized. It was also noted that considerable synergies can be developed between nexus approaches and integrative solutions to promote resilience and measures such as peri-urban agriculture, rainwater harvesting and sustainable land use planning can not only enhance water, energy and food security but also improve resilience and livelihoods.

Drawing from experiences in promoting water quality and energy efficiency, the meeting emphasized the importance of reliable data and the need to monitor the benefits of nexus projects in order to increase political support and public acceptance. In order for the urban nexus to be mainstreamed and integrated into infrastructure planning, there is a need to build the evidence base to be able to convince policy makers. It was also noted that several actions to promote sustainable urban development can generate co-benefits in other areas and these should be identified and to the extent possible measured.

The workshop allowed reviewing ongoing regional and global initiatives by GIZ, ADB, UNDP, UNEP, UN-Habitat and the Rockefeller Foundation, related to the urban nexus and with which the urban nexus could develop synergies. In particular, initiatives on resource efficient cities, green cities, poverty and environment, sustainable and green buildings, resilience, cities and climate change, water quality, valuing green assets and infrastructure, all can advance nexus thinking and practice.

The Sixth Asia-Pacific Urban Forum, to be convened by ESCAP on 19-21 October 2015 in Jakarta, Indonesia, back-to-back with the High-level Regional Preparatory Meeting for Habitat III for Asia-Pacific on 22-23 October, would provide a key platform for mainstreaming nexus into the regional urban development agenda.

The sixth regional workshop would take place in Santa Rosa, Philippines, in November 2015.



## Nexus Partnership Declaration "Developing Integrated, Resource-efficient, and Inclusive Cities for a Better Future"

On this day, 19<sup>th</sup> of June 2015, on the occasion of the 5<sup>th</sup> Regional Workshop on Integrated Resource Management in Chiang Mai, Thailand, participating cities announce and commit this Nexus Partnership Declaration.

#### **Our Cities Today**

The cities of today are rapidly growing economically; characterized by sprawling urban development and increasing population. Often, such growth is achieved without due regard to proper urban planning and sustainability of natural resources. Intensified resource use, especially in terms of water, food, and energy are significant challenges for sustainable urban development.

#### **Our Challenge**

Cities tend to plan and manage resources sectorally. However, water, food, and energy are interconnected and "silo" thinking prevents efficient resource use and overlooks opportunities for synergies across sectors. Therefore, sustainably managing the natural resource base that underpins socio-economic development of cities requires an integrated and cross-sectoral approach.

#### **Our Cities of the Future**

Cities of the future require a paradigm shift -- to break away from the "silo" thinking and to move towards integration. In light of other pressing development concerns including climate change, cities need to recognize and maximize the interlinkages and synergies between and among resources such as water, food, and energy. This is the Urban Nexus approach.

#### **Our Principles**

With the integrated and holistic management of water, food, and energy resources at its core, the Urban Nexus:

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