

# Operationalizing the Urban NEXUS in cities and metropolitan regions

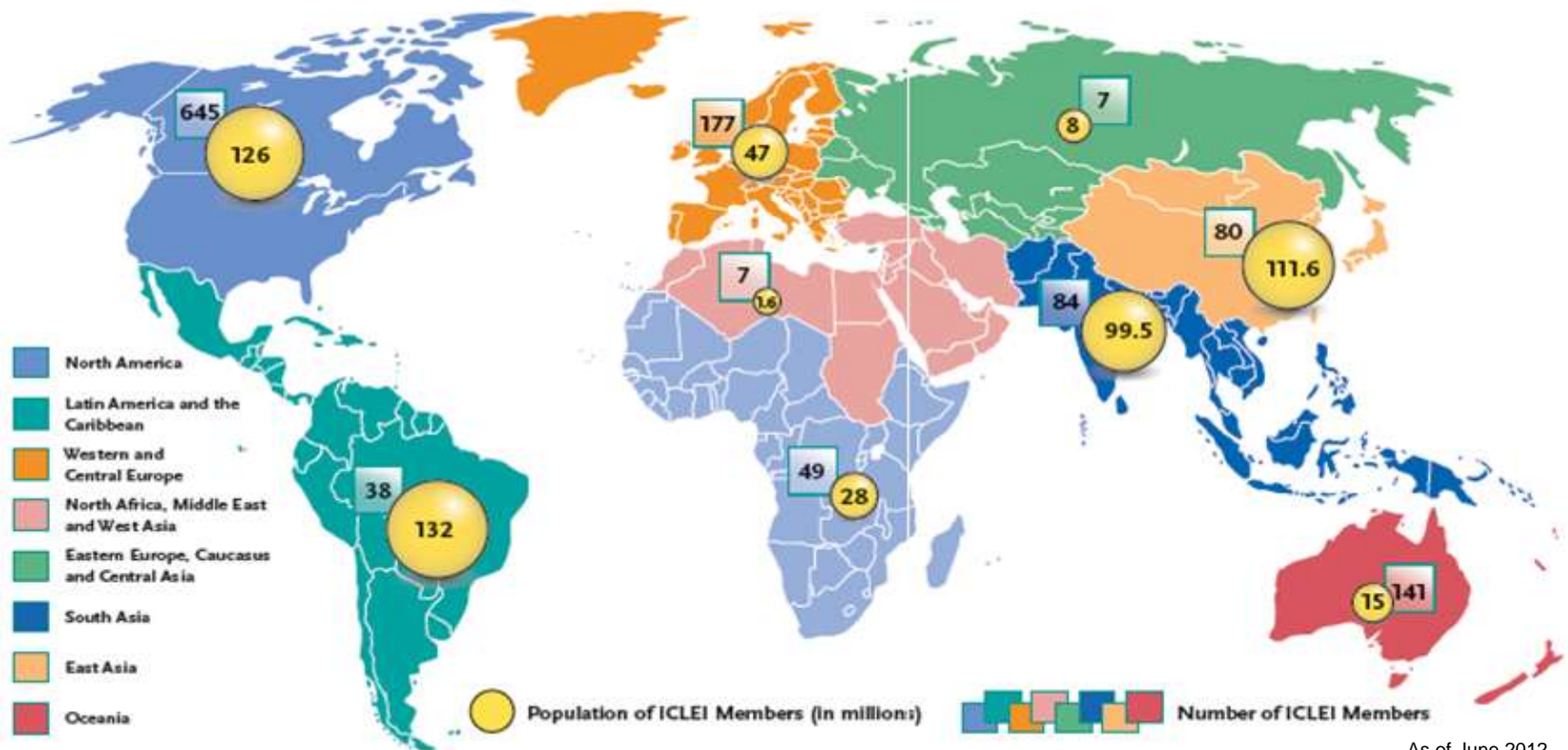
## Within the context of Urban-Rural Continuum

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ICLEI – Local Governments for Sustainability

# A global network of cities for sustainability

1000+ members in mega-cities, super-cities, urban regions, large cities, medium- and small cities & towns in 88 countries, impacting on ~ 20% of world's urban population



As of June 2012

# RESILIENT URBAN FOOD SYSTEMS: OPPORTUNITIES, CHALLENGES, AND SOLUTIONS

## Outcomes of the Resilient Urban Food Systems Forum

Bonn, Germany | 1 June, 2013

### WHAT IS A FOOD SYSTEMS APPROACH FOR CITIES?

Urban food is much more than just food: It is about the system and taking an ecosystem approach. Looking at the food system and thinking about the resilience of your city-region will assist you with this process. We have learned that more holistic perspectives are needed. But what does this mean in practice? It means considering city and regional food in common avenues like health and education, but also in sectors that are usually neglected: transport and logistics – getting food to where it needs to be going, disaster and emergency management, urban food networks for urban poor, food infrastructure, and greening the (local) economy.

We must also see food within the system in which the city sits. A systems approach to the city's food means local governments need to shift the dynamics in different municipal areas. Space must be made for different actors to get on board. Champions are needed, to broker between those different stakeholders. For example, it might be necessary to communicate with, collect information from, and involve the private sector or other actors that hold a wealth of knowledge and information on the food system.

#### TORONTO, CANADA

Is world renowned as a municipal food policy leader, with a long history working to ensure access to healthy, affordable, sustainable, and culturally acceptable food. Toronto Food Policy Council shared its examples of food access mapping, increasing integration through public health program delivery, shortened and diversified food supply chains, urban agriculture, cultural foods, and global gardens.

What makes TFPCC so successful? Driving an agenda for over 20 years with very few resources means you have to make do with what you have got and use it to your advantage. Cities need political will and support for food system projects, but this can come from different avenues such as health or social programs. In TFPCC's case, this complex weave of interests contributes to the longevity and success of the food system innovations. TFPCC shows that in reimagining these areas it is important to start from bottom up community based projects.



#### LINKÖPING, SWEDEN

Takes a systems approach with local businesses and technology providers. Its district heating system will join food production and energy efficiency in making a food factory with the maximum level of natural growth. Plantagon will use vertical energy from the height of its buildings to gain productive ground in its city greenhouse. This example shows technology provides opportunities for food system design and creation, necessary in other areas such as aquaponics, roof tops, and other greenhouses.

What makes Linköping so successful? Strong political leadership and courage to make an attractive and energy efficient city, utilizing and listening to research, local businesses, and innovative technology providers. There is a lot of technology based knowledge out there for cities, but it needs to be understood and used. There is a need to foster relationships with younger businesses and put appropriate technologies in place that do not need to be high-tech.



#### BELO HORIZONTE, BRAZIL

The Municipal Secretary of Food and Nutritional Security has a vision to contribute to the improvement of life quality for the inhabitants of Belo Horizonte through actions which promote Nutrition and Food Security. Its most impressive example is the increasingly popular municipal run public restaurants which supply affordable, healthy meals to its citizens.

What makes Belo Horizonte so successful? Strong leadership and commitment to the human right to food and nutritional security for citizens. The city provides training programs, school meals and education on nutritious food, local employment by procuring food from regional family suppliers, and it delivers thousands of tasty, fresh meals daily to people from all over the city. To achieve this, the city leverages federal and state policies and funding on food security and social welfare toward locally specific policy and program designs.



### CITIES NEED TO CONSIDER THE REGION

City regional food systems will play an important role in balancing and linking urban and rural food supply. Taking a city-region approach means looking beyond traditional jurisdictional borders, sectors, and scales. It is important to understand that in reality, rural to urban farming systems exist in a continuum with multiple types of flows and interactions between them. Leveraging different resources (research, financial, knowledge, etc.) and finding synergies between different municipal programs can assist this process. For example, small scale land holders both in and around the city often cannot compete with conventional and large scale farms outside the city, creating a need for projects that recognize why these systems are important and innovate ways to apply their strengths in the local setting. Further, farmers need training and support in the face of changing weather patterns and localized climate impacts affecting production.

#### ROTTERDAM, THE NETHERLANDS

Has a project Regional Food Mission. This led to an assessment of Rotterdam products to see which products can be grown to and around Rotterdam and which supermarkets would be interested in buying these products.

How does it combine the city-region? Introduction of a Regional Food Council – an Advisory Board composed of producers, food industry, traders, NGOs and consumers.



#### DUMANGAS, THE PHILIPPINES

In flood and drought prone areas, the Climate Field School combines indigenous knowledge with scientific methods. It helps local communities to strengthen their food security and livelihoods by teaching farmers to read weather forecasts, interpret satellite photos, set up their own weather stations – and to decide what and when to plant based on this timely information. Its overall goal is to reduce disaster risks and enhance the capacities of local institutions, communities, and especially rural women.

How does it combine the city-region? It trained rural farmers and improved their livelihoods, recognizing their role in the long term resilience of the city-region food system.

What are the socio-economic advantages? Lessening damages to infrastructure which reduces reconstruction and rehabilitation expenses for the government; livelihoods of constituents are protected and kept continuously productive; resources can be utilized in other developmental endeavors; and increased and maximum agricultural production is attainable.



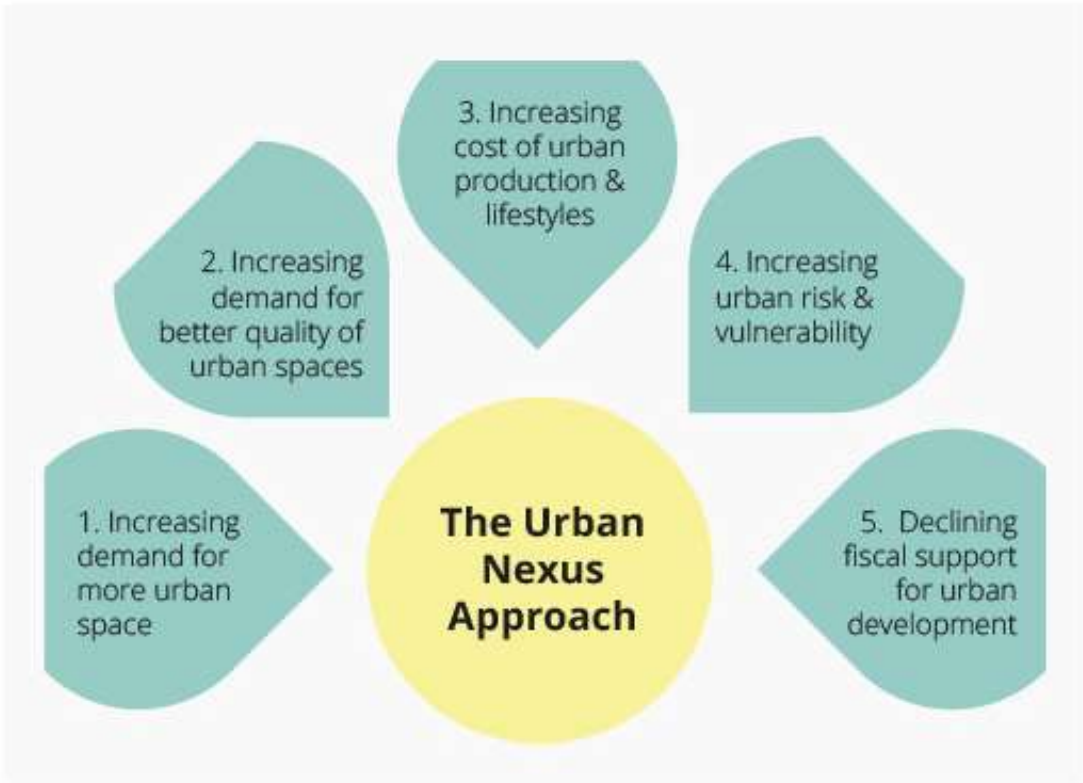
#### KESBEWA, SRI LANKA

Uses ecological and climate smart production technologies, which are promoted through the rehabilitation of paddy fields in flood zones and wetlands, while also supporting home-garden units for future integration into a greater green city mosaic.

How does it combine the city-region? The regional government is working with guidance from international organizations to increase urban and peri-urban food production, thereby enhancing the city and the region's (Kesbewa is located in the most urbanized province in Sri Lanka) self-reliance in food, complementing rural production.



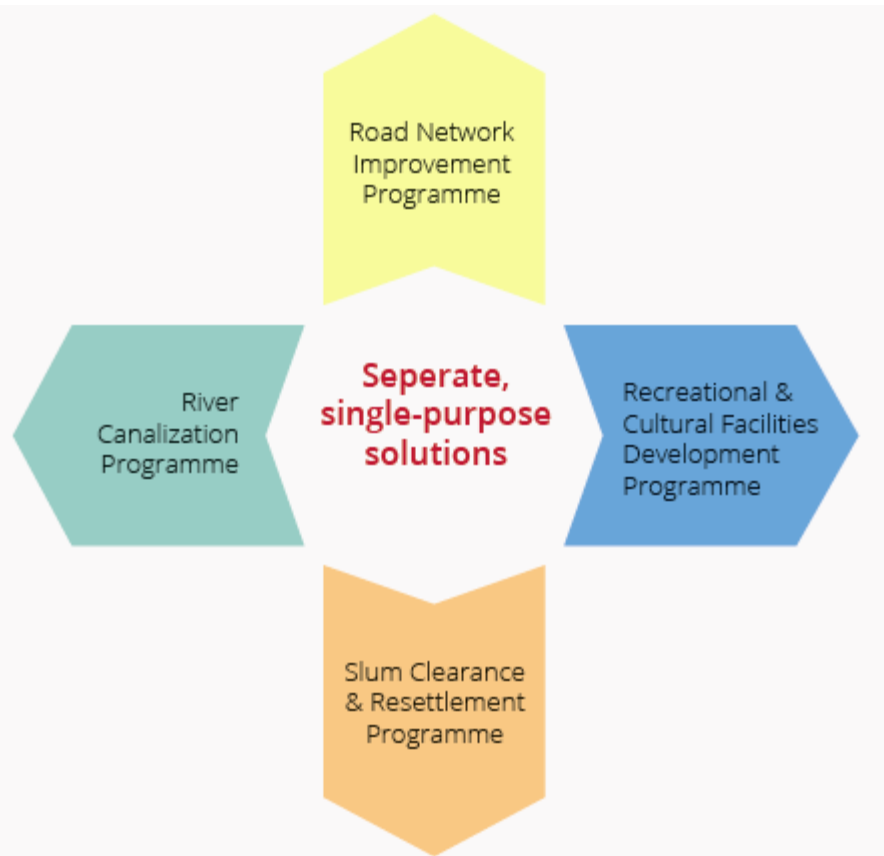
# The Urban NEXUS responds to the challenging demands of a rapidly urbanizing world



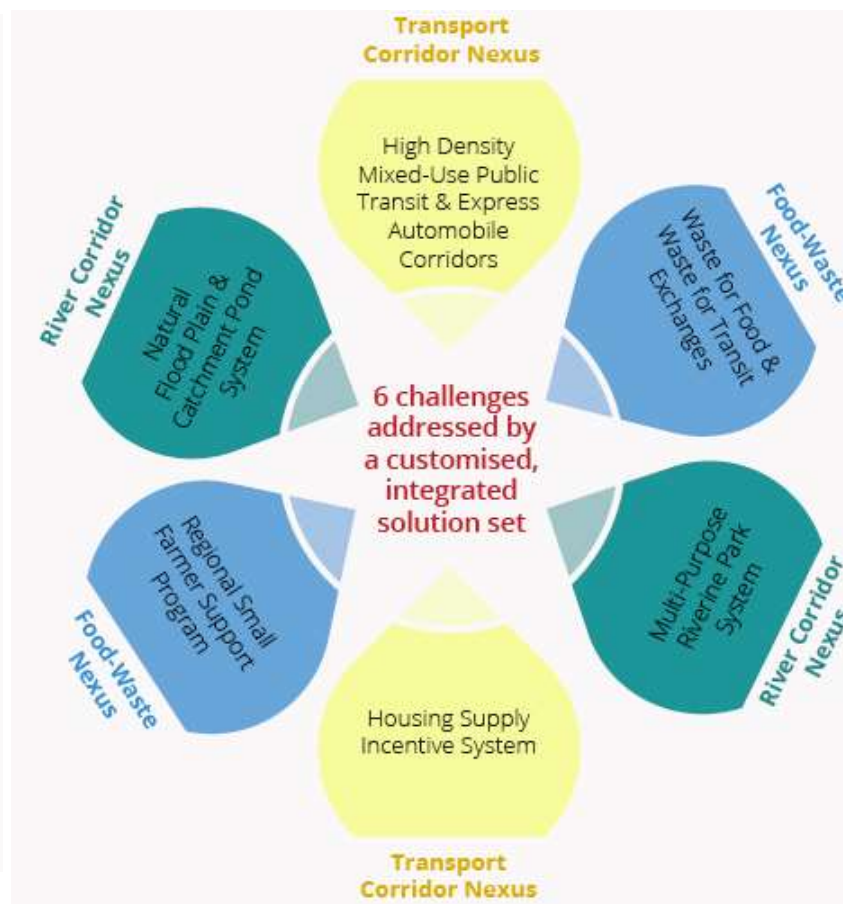


# Responses to Urban Sustainability

## Conventional approach

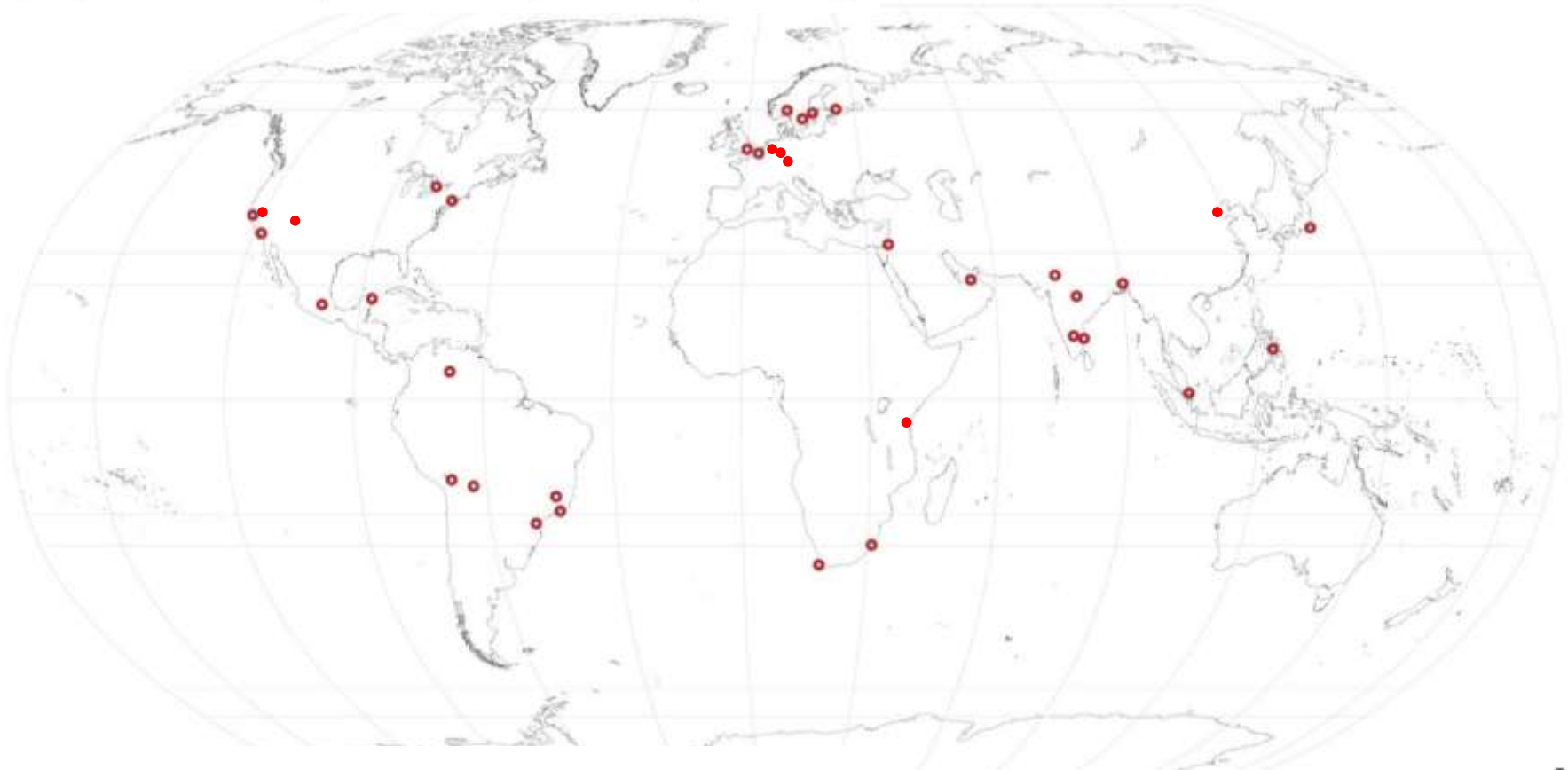


## UrbanNEXUS Approach - Curitiba



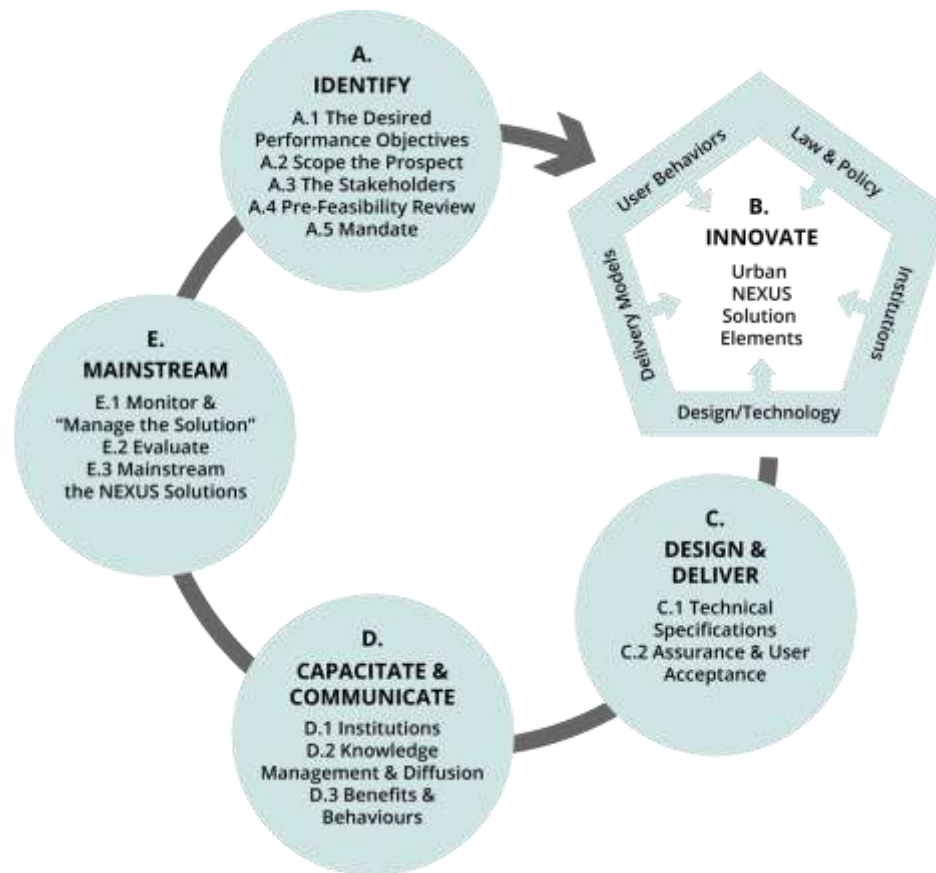
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## Targeting NEXUS food security: Vancouver's Regional Food System Strategy



## The Integrated Water Harvesting Project for food security and income generation

The Urban NEXUS Approach focuses on identifying and developing prospects for achieving multiple urban policy objectives through single investments, projects or programs



# UrbanNexus Pilot projects

## Nashik, India

Resource issues/constraints: Groundwater depletion; high energy use for water treatment and distribution; decreasing available land for cultivation.

### Local Energy-Water-Agriculture-Land Nexus:

Assessing inefficiencies, activating idle land, promoting urban and peri-urban agriculture (UPA). Pilot interventions:

- Agriculture Pump Sets, efficiency & performance evaluation
- Mapping biogas potential in the pilot area
- Creating potential groundwater recharging system
- Promoting agro-tourism/ agro-education in schools



## Kinondoni Municipality, Dar es Salaam, Tanzania

### Nexus Approach

Using 2 neighboring primary schools as demonstration sites for educating community as well as local government actors.

- Interventions: Rainwater harvesting, vertical food gardens, energy efficiency (cooking)
- Benefits of working in schools, e.g.:
  - Various municipal departments need to be implicated
  - Improved learning environment for students
  - Educating community through children





# ICLEI's CityFood Network



ICLEI World Congress 2015  
SUSTAINABLE SOLUTIONS FOR AN URBAN FUTURE  
8 - 12 April 2015 • Seoul, Republic of Korea



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- **Urban Vegetable Gardens Network: Promoting local food production in multifunctional projects**, Almada, Portugal
- **Eco-friendly urban agriculture for a sustainable city**, Gangdong-gu Municipal Government, Republic of Korea
- **Vertical Farming: Taking food production to new heights**, Association for Vertical Farming, Munich, Germany
- **Food cycles in Evanston**, City of Evanston, USA
- **Urban-rural food cooperation**, Seferihisar Municipality, Turkey
- **Agriculture and food waste: How to turn waste into sustainable resources** Linköping, Sweden
- **Food program: Linking social, health and sustainability goals**, Delio Malheiros, Vice Mayor, Belo Horizonte, Brazil

# ICLEI Seoul Plan

Building a World of Local Actions  
for a Sustainable Urban Future

ICLEI Strategic Cornerstones 2015-2021 • ICLEI Action Plan 2015-2021



**DRAFT  
VERSION**  
for adoption by the ICLEI Council

## How ICLEI works: Our strategies for implementing the agendas

For each agenda, and respective working area of ICLEI, we have developed a specific strategic approach. This refers to the combination of global and regional work, the extent to which we develop own methods and tools or the way we cooperate with partners.

A brief explanation of the most relevant activities, including examples, is available in "How ICLEI works" (reference).

### ICLEI's 10 Urban Agendas



#### How ICLEI works: Types of activities and actions

##### Getting local governments ready to act

- Commitment programs
- Thematic leadership

##### Supporting local action

- Local Action programs
- Methodologies, tools, guidebooks and case studies
- Action innovation & new formats
- Networking and connecting
- Capacity building, exchange platforms
- Events, congress series
- Solutions Gateway
- Agency function, help desks and consultancy
- Performance measurement and evaluation

##### Policy and advocacy within global and regional processes

- ICLEI expertise in advisory bodies
- Advocacy
- Alliances and partnerships

##### Communication, media work and outreach

- ICLEI media to inform Members and partners
- Media work, social media

- <http://www.iclei.org/urbanexus.html>
- <http://worldcongress2015.iclei.org/>
- [Yunus.arikan@iclei.org](mailto:Yunus.arikan@iclei.org)