



# Green Cities

**Livable, Inclusive, Competitive Places following 5-E Principle:  
Equity, Environment, Economy, Enablers and Engagement**

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# **ADB's East Asia Department (EARD) and Urban and Social Sectors Division**

- **Mongolia and the People's Republic of China (PRC)**
- **Urban, water, education, health, and social protection sectors**
- **Work closely with other divisions in EARD:**
  - i. Environment, Natural Resources and Agriculture;**
  - ii. Public Management, Financial Sector, and Regional Cooperation (RCI);**
  - iii. Sustainable Infrastructure—combining Transportation and Energy; and our**
  - iv. Resident Missions in the PRC and Mongolia.**

# ADB's Strategy 2030: 7 Operational Priorities (Livable Cities OP4)



## OP1 | Addressing Remaining Poverty and Reducing Inequalities

human development and social inclusion, quality jobs, education and training, better health, social protection



## OP2 | Accelerating Progress in Gender Equality

scaled-up support for gender equality; women's economic empowerment; gender equality in human development, decision-making, and leadership; reducing time poverty for women; strengthening women's resilience to shocks



## OP3 | Tackling Climate Change, Building Disaster Resilience

low greenhouse gas emissions development, approach to building climate and disaster resilience, environmental sustainability, water–food–energy security nexus



## OP4 | Making Cities More Livable

integrated solutions, funding for cities, inclusive and participatory urban planning, climate resilience and disaster management



## OP5 | Promoting Rural Development and Food Security

market connectivity and agricultural value chain linkages, agricultural productivity and food security, food safety



## OP6 | Strengthening Governance and Institutional Capacity

public management reforms and financial sustainability, service delivery, capacity and standards



## OP7 | Fostering Regional Cooperation and Integration

connectivity and competitiveness, regional public goods, cooperation in finance sector, subregional initiatives

# ADB's Strategy 2030: Urban Contributions to 7 Operational Priorities



## OP1 | Addressing Remaining Poverty and Reducing Inequalities

- Promote social inclusion through affordability and accessibility of urban services, equity, and jobs.
- Ensure accessibility for citizens with special needs.
- Promote affordability and access of basic services for the urban poor.



## OP2 | Accelerating Progress in Gender Equality

- Facilitate women's participation in urban planning and governance.
- Mainstream gender in urban transport.
- Create opportunities for women's employment and entrepreneurship.
- Develop smart technologies for the special needs of women.
- Address the needs of women migrants.



## OP3 | Tackling Climate Change, Building Disaster Resilience

- Promote an integrated approach to address climate risks.
- Knowledge exchange on climate mitigation and adaptation measures.
- Build capacities of cities to utilize climate finance to achieve local environmental improvement objectives.
- Link nationally determined contribution frameworks to city-level greenhouse gas accounting.



## OP4 | Making Cities More Livable

- Increase focus on new subsectors including slum development, informal settlements, and affordable housing for social inclusion
- Continue focus on gender, climate change, disaster and governance.
- Create strong links to create inclusive facilities for urban transport, energy, and health.



## OP5 | Promoting Rural Development and Food Security

- Support rural-urban connectivity.
- Advocate innovative information and communication technologies to better link rural-urban economic linkages.
- Support food security through improved market integration and connectivity.



## OP6 | Strengthening Governance and Institutional Capacity

- Facilitate the enhancement of citizen-centric approaches and partnerships.
- Enhance transparency and accountability of city governance systems.
- Improve service delivery and citizen engagement using the latest technologies.



## OP7 | Fostering Regional Cooperation and Integration

- Encourage development of economic city clusters along economic corridors.
- Integrate cities into regional value chains and global production networks.
- Link border cities in climate action agreements and use of shared infrastructure.
- Facilitate cross-border transport flows.
- Facilitate implementation of cross-border power purchase agreements.
- Promote regional public goods and tourism.

# Urbanization in the Asia and Pacific Region: Overview

Cities are the center of economic growth and innovation.



The region's urban trajectory has created major challenges, such as congestion, pollution, and increased disaster risk.



ADB's 5Es of Livable Cities



**80%** of economic growth in developing Asia comes from its urban areas

**20 out of 33 megacities** with a population of 10 million or more are located in Asia

**Up to 3%** of the region's annual GDP is lost due to traffic congestion and long commuting hours

**Over 90%** of the population is exposed to air pollution beyond World Health Organization levels

**84%** of all people affected by natural disasters worldwide live in Asia and the Pacific

- Economy
- Environment
- Equity
- Enablers
- Engagement

# Urbanization Trends in the Asia and Pacific Region

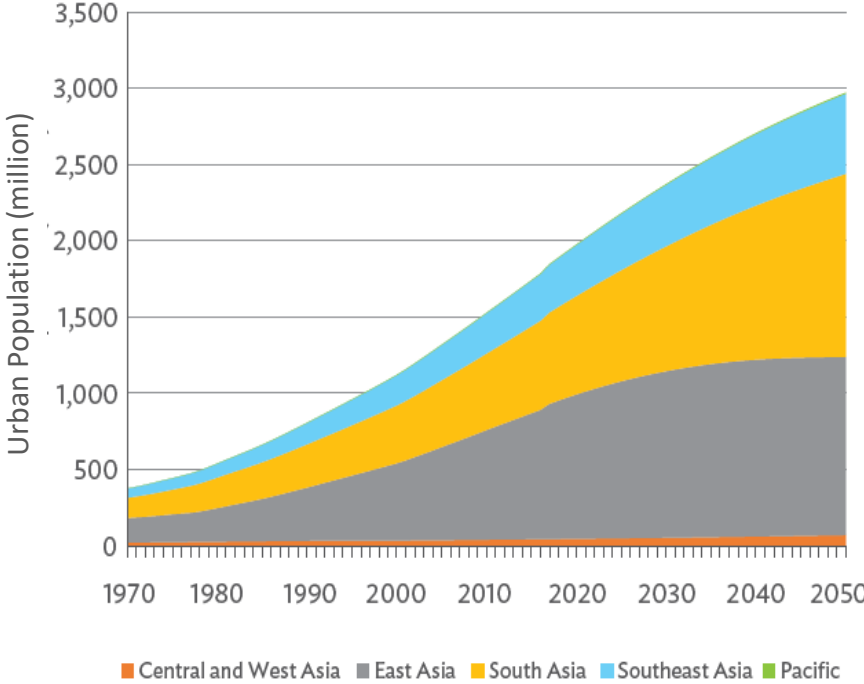
The Asia and Pacific region is home to more than 56% of the world's total population and 54% of the world's urban population.

The region has some of the most populated and densest cities in the world with 20 of the 33 global megacities (population of 10 million or more) in the region.

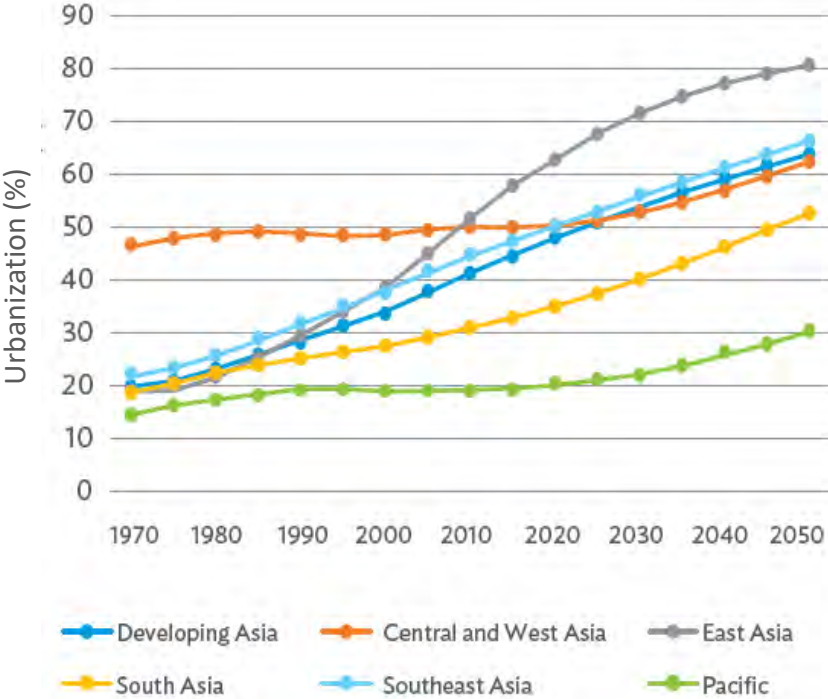
Of the 36 cities that grew more than twice as fast as the global annual average rate of 2.4% between 2000 and 2018, 28 cities are located in Asia, with 17 in the People's Republic of China.

Major change in urban footprints: The growth of urban footprints beyond an individual city's administrative boundary and the agglomeration of urban areas including peri-urban areas, economic corridors and city regions calls for coordinated governance, land use, and infrastructure planning, which are generally lacking in the region.

Region-wise Urban Population



Region-wise Urbanization Trends



# Urban Sector Challenges in the Asia and Pacific Region

Challenge	Key Statistics	Description
<b>Urbanization</b>	<ul style="list-style-type: none"> <li>• 20% (1950) to 48% (2018) to 55% (2030) to 66% (2050)</li> <li>• About 120,000 migrate daily to Cities</li> </ul>	While bringing economic opportunities, the rate of urbanization and uncontrolled urban growth are compounding the existing challenges of infrastructure deficits, inadequate services, and social inequality
<b>Infrastructure Deficits and Overstretched Public Services</b>	<ul style="list-style-type: none"> <li>• 75% of municipal waste collected but less than 60% treated</li> <li>• Less than 90% people have access to safely managed water supply</li> <li>• less than 20% of wastewater treated</li> </ul>	ADB estimates that Asia and the Pacific will need to invest \$1.7 trillion per year for infrastructure up to 2030.
<b>Environmental Stress and Degradation, and Climate Change and Disaster Risks</b>	<ul style="list-style-type: none"> <li>• 80% of energy consumption is in cities</li> <li>• 75% of carbon emissions are from cities</li> <li>• 40% of global disasters and 84% of people affected are in the region</li> <li>• 4.5 million annual deaths in the region due to air pollution</li> </ul>	Uncontrolled urbanization, lack of effective planning, and excessive use of natural resources exacerbate the existing levels of environmental degradation in cities. The region is the most disaster-affected region in the world and vulnerable to climate change impacts.
<b>Social Dimensions, Aging Societies, and Labor Market Disparities</b>	<ul style="list-style-type: none"> <li>• 564 million of the world's 881 million (&gt;60%) slum dwellers are in the region</li> <li>• Many countries will have more than 20% of population aged 65 or older by 2050 (ROK: 35%, Singapore: 34%, Thailand: 30%, PRC: 28%, Viet Nam: 21%)</li> </ul>	Slums and informal settlements and the poor are disproportionately affected. Increasing elderly population and youth unemployment coexist. Urban labor markets reflect informal jobs with low wages, underemployment, and in-work poverty.
<b>Governance and Institutional Capacity</b>		Cities and urban regions face governance challenges, including weak institutions, overlapping legal and regulatory frameworks, lack of coordination, corruption, poor public services, lack of own-source revenues, and capacity constraints, despite the increasing level of decentralization

# ADB Approaches and Key Definitions for Cities

**Livable cities.** *“Livability” is a term often used to describe the quality of life and community well-being, supported by strong governance systems and practices. A city to become more livable follows an integrated planning approach to the provision of infrastructure and services and other public goods based on economic competitiveness, environmentally sustainable growth, social and financial inclusion, and resilience.*

**Green cities.** *Green cities are places where people can enjoy high level of environmental quality including clean air, water, soil, low noise levels and night-light pollution levels. Green cities have robust systems and networks of green open spaces that provide a great variety of ecosystem services. Comprehensively green cities would be based on a green circular economy, producing no waste and be financed by green finance sources and mechanisms.*

**Inclusive cities.** *Inclusive cities allow all people, including marginalized and vulnerable social groups, to equally benefit from opportunities, including access to services, infrastructure, housing, jobs, technology, and finance.*

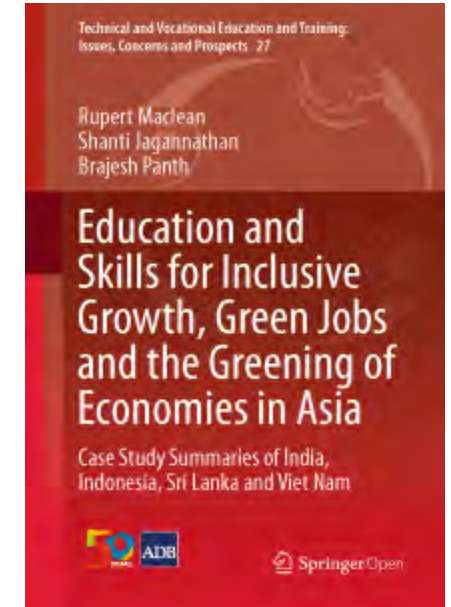
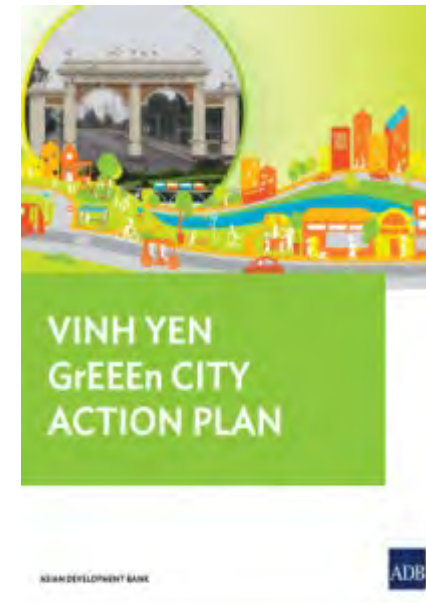
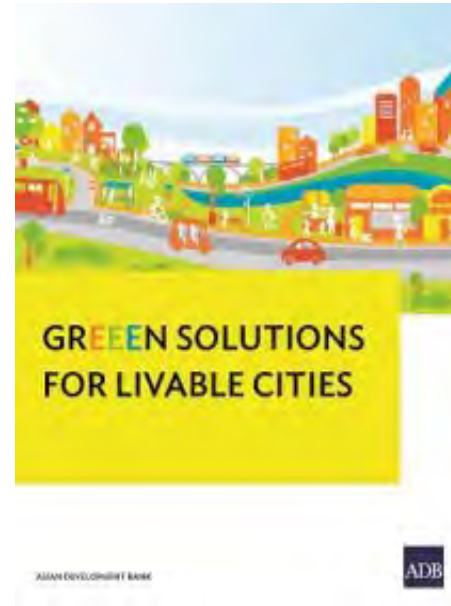
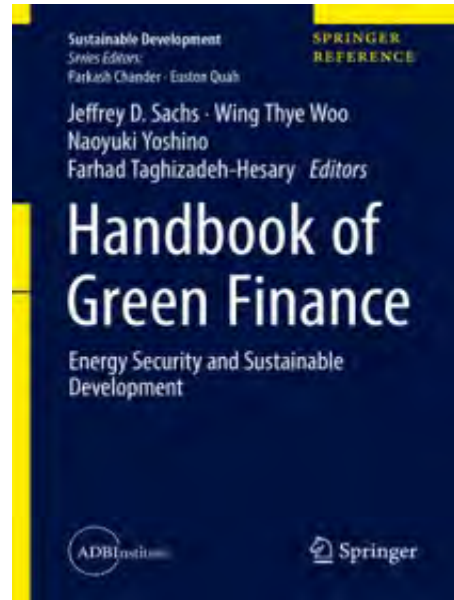
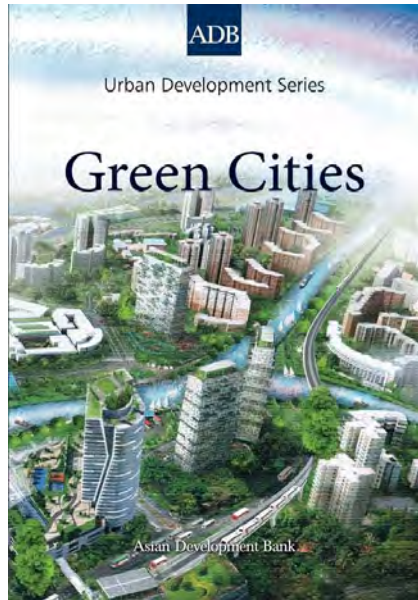
**Competitive cities.** *City competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity of a city or country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy.*

**Resilient cities.** *A resilient city helps individuals, communities, institutions, businesses, and systems survive, adapt, and grow even in the face of shocks and stresses, which include not only climate change or natural disasters such as typhoons, floods, and earthquakes, but also social and economic disruptive events such as terrorism, economic recessions, and cyberattacks.*

**Smart cities.** *A “smart city” makes efficient and effective use of information and communication technologies and data to improve core functions of city planning, management, and increase efficient service delivery and use of resources, while effectively engaging with citizens and the private sector through feedback loops and e-governance.*



# ADB Publications on Green City City Development





**Some completed, ongoing, and future  
ADB Projects  
in the PRC and Mongolia  
with Green City Development  
Approaches**



## **A. Some of ADB's Completed Green City Development Projects in the PRC**

- **Suzhou Creek Rehabilitation Project (Loan 1692-PRC)**
- **Nanjing Qinhuai River Environmental Improvement Project (Loan 2297-PRC)**
- **Songhua River Basin Water Pollution Control and Management Project (Loan 2487)**
- **Wuhan Wastewater and Stormwater Management Project (Lone 2240-PRC)**

# **Suzhou Creek Rehabilitation Project**

## **(Loan of \$300 million, completed in July 2005)**

### **Key Components**

- **The project is designed to improve the water quality in Suzhou Creek, strengthen water resources management, and improve flood control.**
- **This will enhance health standards and quality of life for residents living in the vicinity of the creek.**

# **Nanjing Qinhuai River Environmental Improvement Project (Loan of \$100 million, completed in May 2015)**

**The project loan of \$100 million from the ordinary capital resources of the Asian Development Bank (ADB) was approved on 18 December 2006, and became effective on 11 July 2007. The loan was closed on 31 December 2014.**

**The Project helped Nanjing, the capital city of Jiangsu Province, in (i) reducing water pollution; (ii) protecting water resources; (iii) reducing economic losses and disruption to livelihoods from frequent localized flooding; (iv) promoting sustainable economic development; (v) improving the environment, living conditions, and public health standards; (vi) developing an integrated wastewater and sludge management system; and (vii) improving service efficiency through increased competition and private sector participation.**

**The Project included 10 major activities grouped into six components (i) Inner Qinhuai River sewerage and water replenishment, (ii) City East wastewater treatment plant (WWTP) and sewerage system, (iii) North HeXi District sewerage, river improvement, and water replenishment, (iv) stormwater drainage, (v) sludge treatment and disposal component, and (vi) institutional development.**

# Nanjing Qinhuai River



**Before**



**After**

# **Songhua River Basin Water Pollution Control and Management Project**

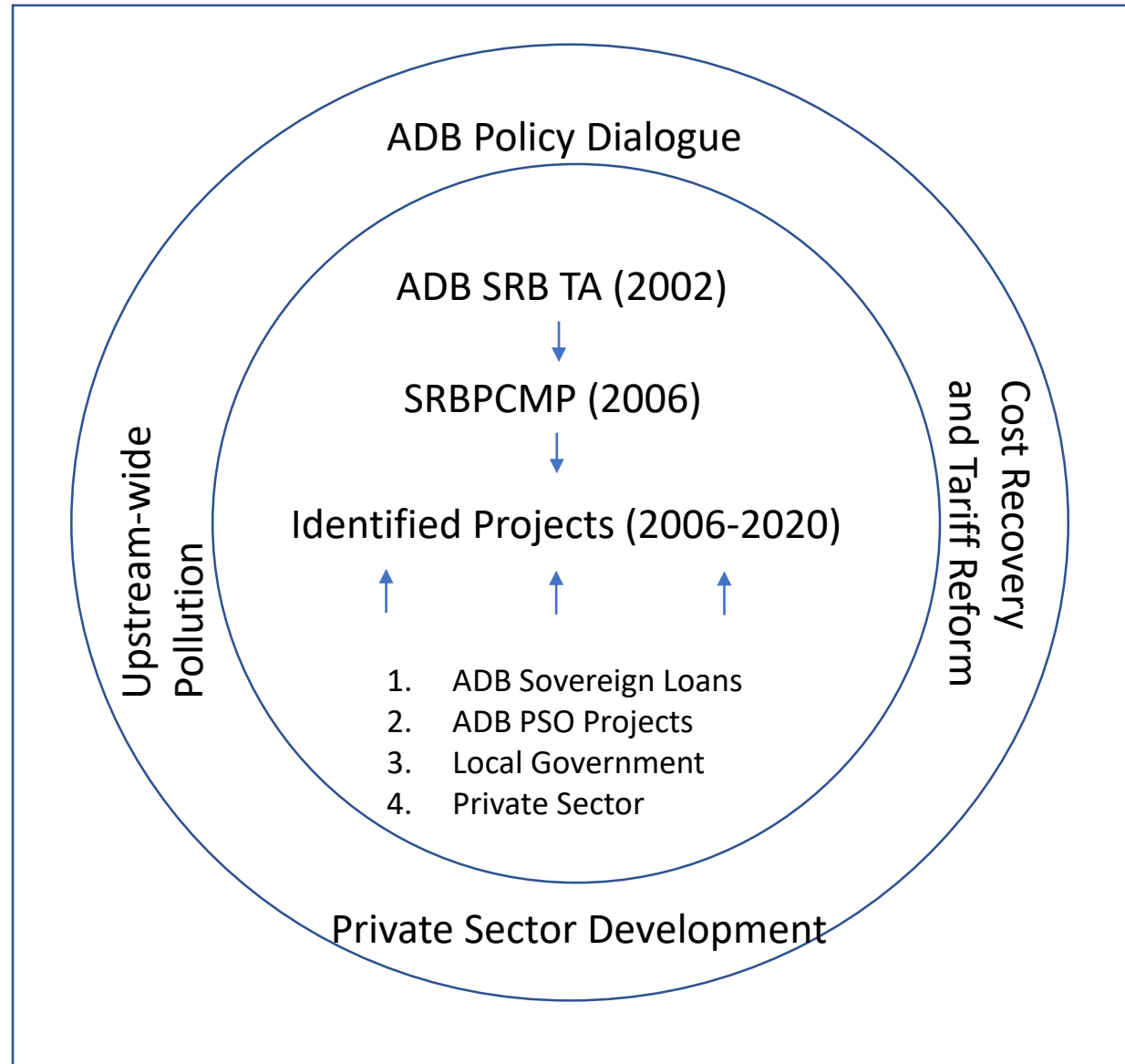
**(Loan of \$200 million, completed in April 2015 )**



## **Combating Pollution in Songhua River Basin A PRC-ADB Collaborative Approach**

**17 years**  
of sovereign and nonsovereign operations in Northeast PRC

# ADB's programmatic approach in Songhua River Basin (SRB)



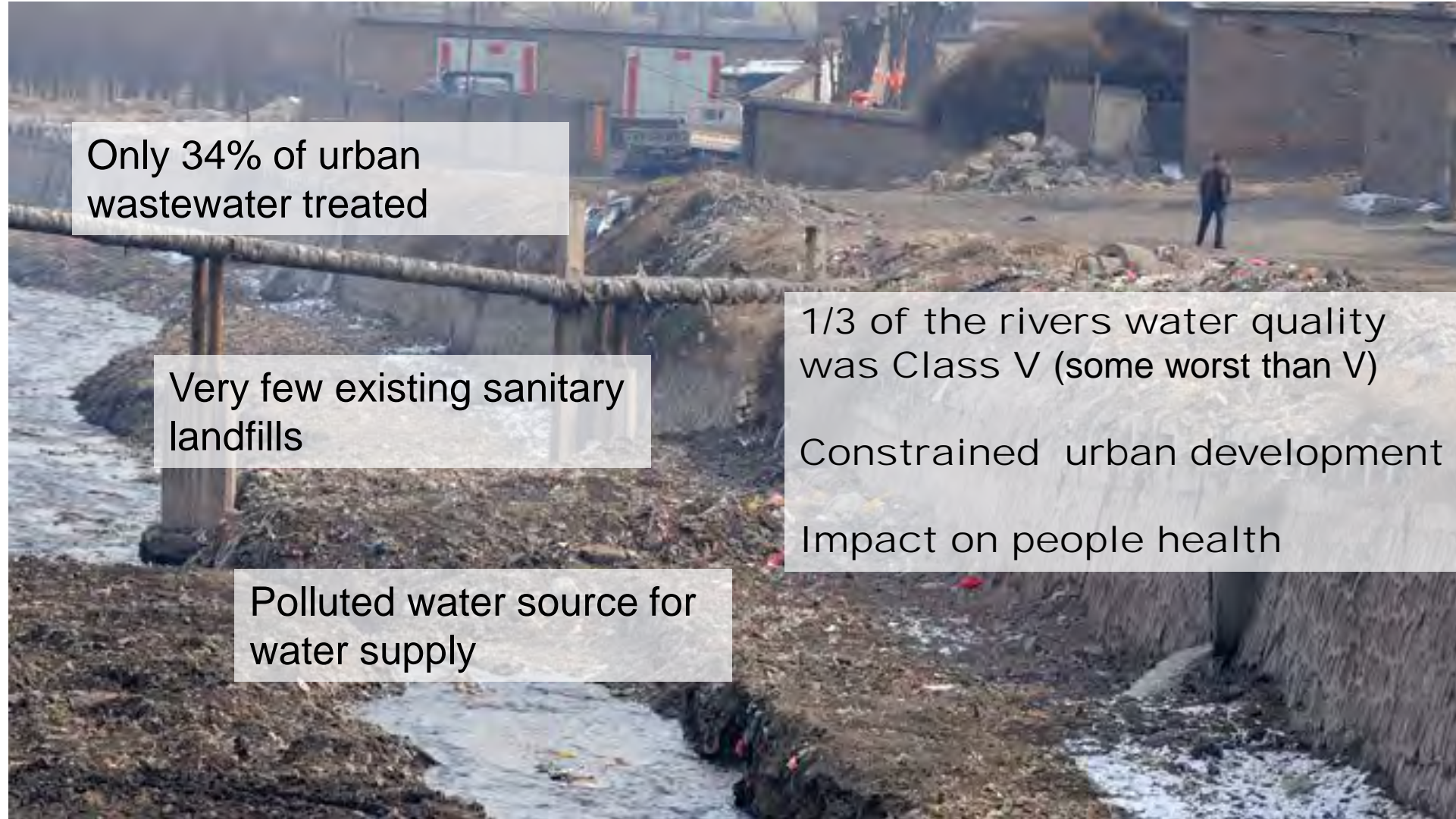


Year	Project
2005	Jilin Water Supply and Sewerage Development Project (\$100 million)
2007	Jilin Urban Environmental Improvement Project (\$100 million)
2008	SRB Water Pollution Control and Management Project (\$200 million)
2010	SRB Water Pollution Control and Management Project Private Sector Facility
2012	SRB Water Pollution Control and Management Project Private Sector Facility (Phase II)
2014	Jilin Urban Development Project (\$150 million)
2017	Heilongjiang Green Urban and Economic Revitalization Project (\$310 million) - ongoing
2019	Heilongjiang Green Urban and Economic Revitalization Project - Additional Financing (\$150 million) - ongoing
2019	Jilin Yanji Low-Carbon Climate-Resilient Healthy City Project (formerly Jilin Yanji Urban Development Project, \$130 million) - future



# POLLUTION

One of the most polluted river basins in the PRC



Only 34% of urban wastewater treated

Very few existing sanitary landfills

Polluted water source for water supply

1/3 of the rivers water quality was Class V (some worst than V)

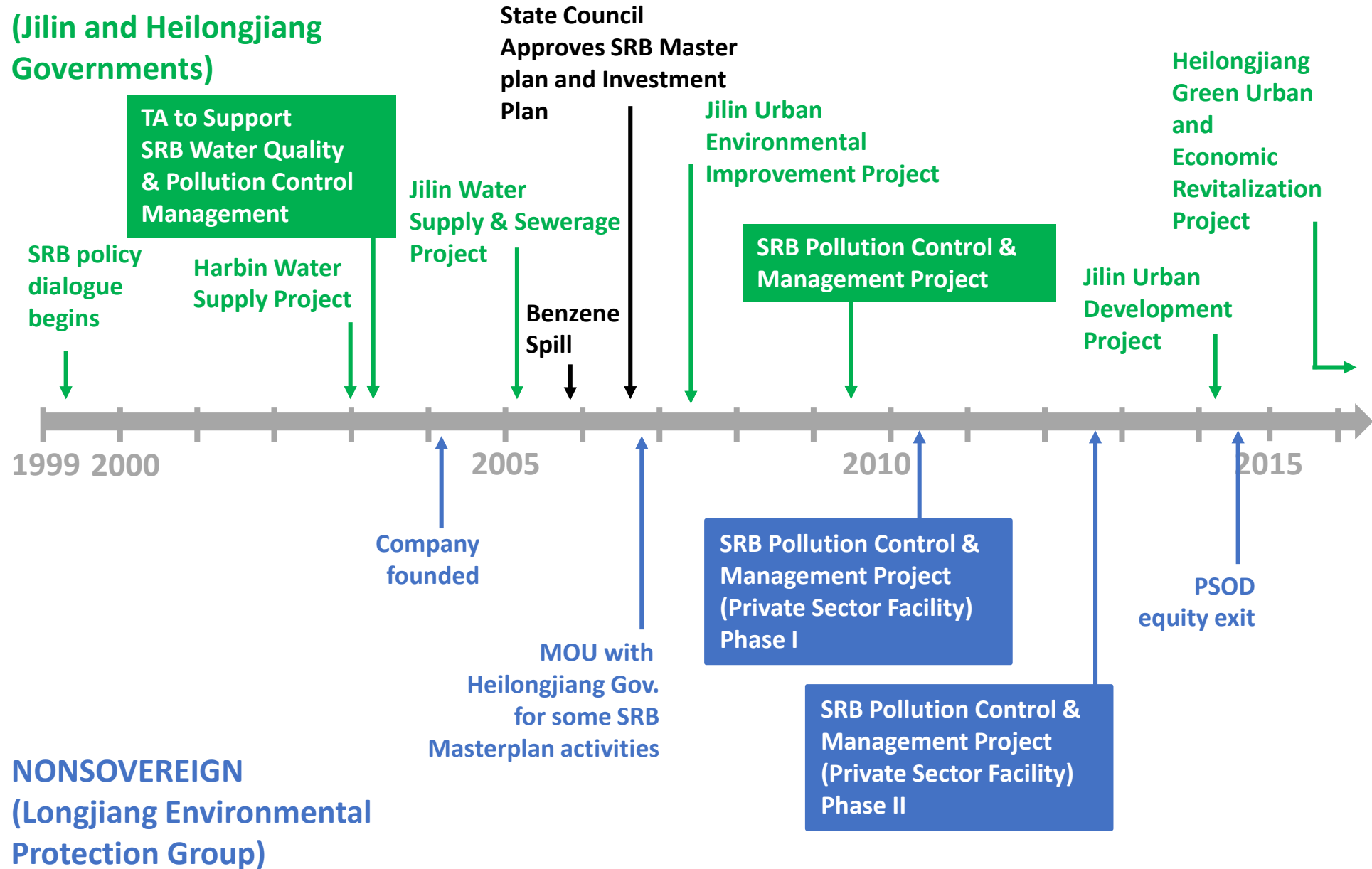
Constrained urban development

Impact on people health

# ADB'S ENGAGEMENT

## SOVEREIGN

(Jilin and Heilongjiang Governments)



# STRATEGY & SEEDS

## TA to Support SRB Water Pollution Control Masterplan

- ▷ 15 years investment plan
- ▷ Long-term water pollution control master plan
- ▷ Policy inputs to the 11th FYP, monitoring and control system, and **SRB Commission**

Reaching high level Government decision makers  
Tactful engagement of all stakeholders  
Continuous tariff reform dialogue  
Encouragement of the use of private sector financing and PPP

The background image shows a city skyline with a bridge in the foreground. The bridge has a dark metal structure with silhouettes of people walking on it. Below the bridge is a beach with a large pile of ice in the foreground. In the background, there are several buildings, including a prominent one with a clock tower. The sky is clear and blue.

# OUTCOME

Sovereign

## SRB Water Pollution Control & Management Project

Total project cost **\$425 million**

ADB finance **\$200 million**

Sectors: wastewater, water supply,  
solid waste and capacity building

Scope: **2 Provinces, two EAs**  
**34 subprojects, 33 IAs in 28 cities.**

Completed with:

- **Minimal cost increase**
- **No delay**
- **Minimal change in scope**
- **98% disbursement**

# OUTCOME

NonSovereign

**Client: Longjiang Environmental Protection Group**

**Phase I and II: \$135m ADB loans, \$9m equity**

**Env & Social safeguard compliance and governance performance improved**

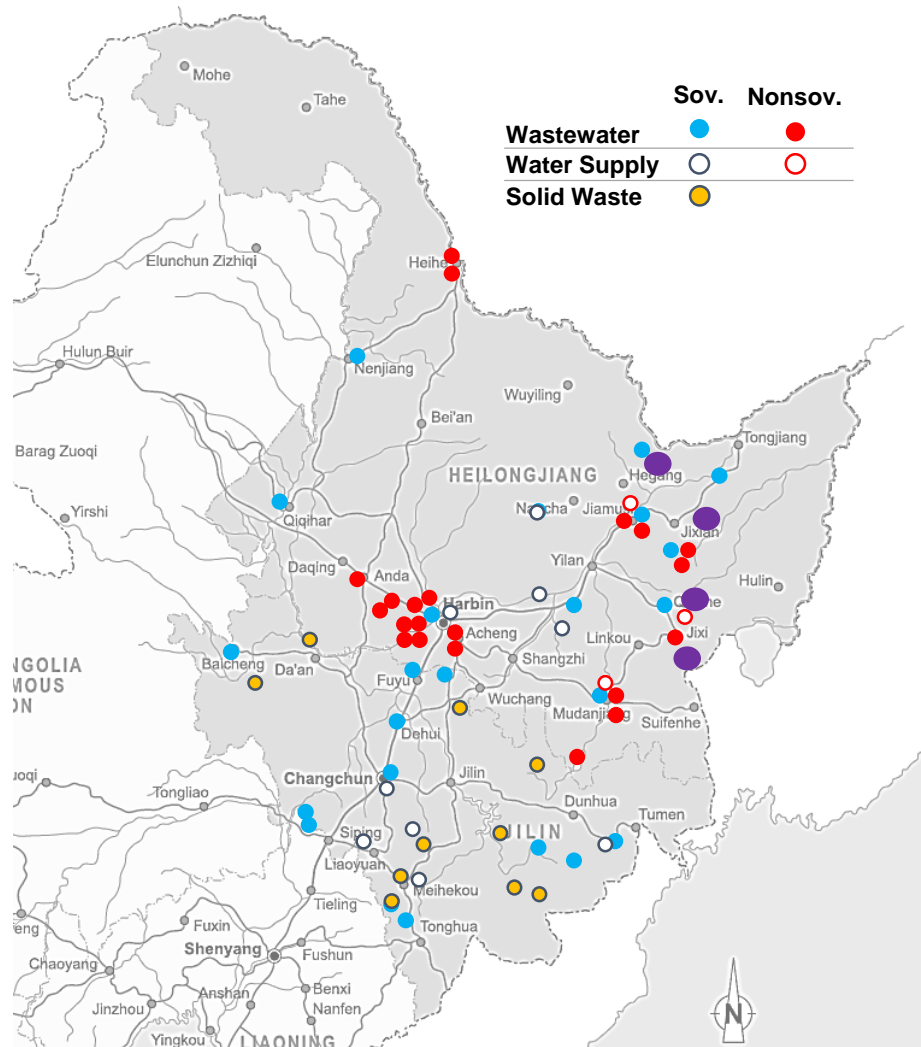
**Growth under ADB financing:  
+130% capacity...55% share of province  
NE PRC's 1<sup>st</sup> commercial sludge plant**

**ADB's equity exit:  
\$9m invested, exit at \$31m in 4.5 years  
(IRR: 31.2%)**

**Co-investment mobilized**

# RESULTS

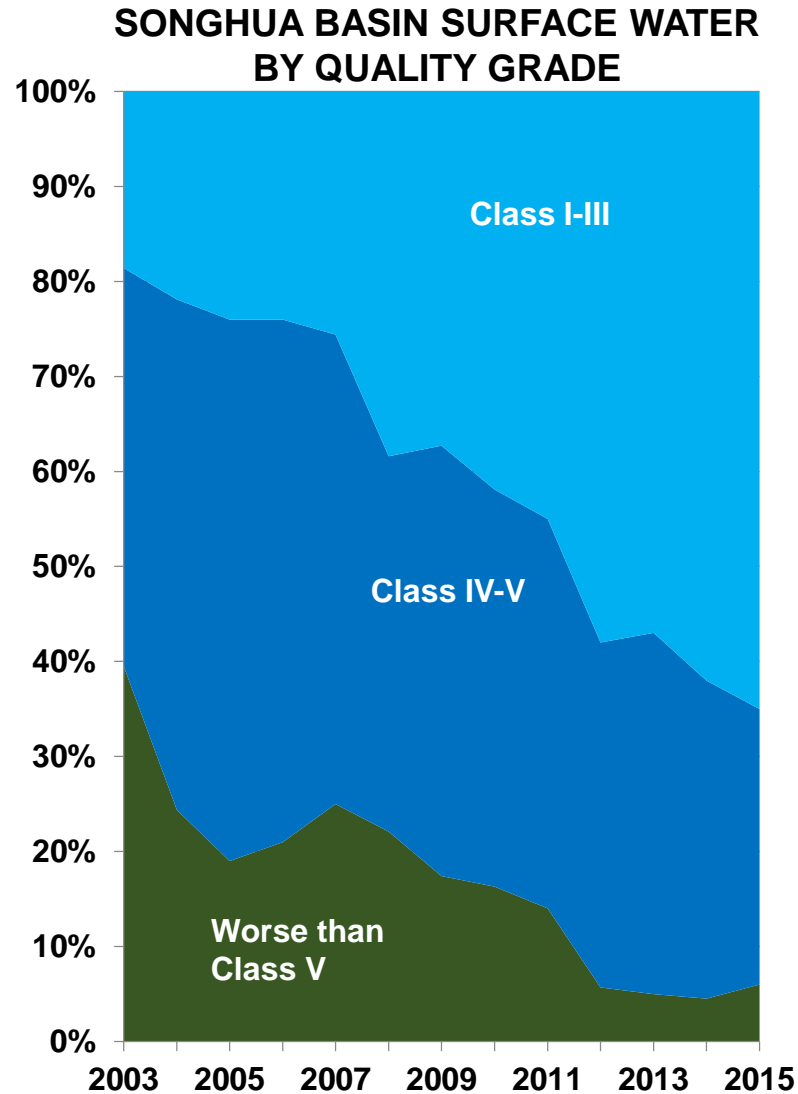
## SUBPROJECTS IN OPERATION



- ✓ **65 subprojects**  
47 Sov./18 NS
- ✓ **\$3 billion total investment, including \$1.2 billion ADB financing**
- ✓ **Capacity added: WWT 2.9 million m<sup>3</sup>/d; Water supply 1.1 million m<sup>3</sup>/d; Solid waste treatment 4,571 t/d**
- ✓ **Beneficiary reuse of the WWT sludge**



# RESULTS



- ✓ **From 34% to 80% of wastewater treated**
- ✓ **All municipal urban drinking water sources met national standards**
- ✓ **About 10 million people directly affected**
- ✓ **Impact on more than 60 million people and the whole Songhua River ecosystem**

# Lessons Learned

**Comprehensive strategic approach** (including high quality strategy, strong partners, long term engagement) **combined with targeted investment program**

Upstream conditions should be well established and synergies anticipated (especially with private sector)

**Replicability for other river basins in PRC**  
(Yangzi, Pearl, Yellow...)

Need to be upgraded to promote **advanced environmental and urban development concept** such as “sponge city”, “zero waste city”, “circular economy”, “smart city”

# **Wuhan Wastewater and Stormwater Management Project (Loan of \$100 million, completed in December 2014)**

## **Key components**

- **The project includes nine major activities grouped into four components or outputs:**
  - (i) municipal wastewater management in urban Wuhan;**
  - (ii) municipal wastewater management in suburban Wuhan;**
  - (iii) stormwater management; and**
  - (iv) institutional development involving targeted capacity building and training in wastewater and stormwater management.**

## **B. Some of ADB's Ongoing Green City Development Projects in the PRC**

### **Xinjiang Integrated Urban Development Project (Loan \$200 million, approved in August 2013)**

#### **Key components**

- **The project took a multisector approach to urban development where water availability is the critical constraint to economic development and improved living conditions. The project had three outputs:
  - (i) improvement of Kelamayi's urban infrastructure;**
  - (ii) improvement of Kuitun's urban infrastructure; and**
  - (iii) project management and capacity building.****

# PRC: Heilongjiang Green Urban and Economic Revitalization Project



**ADB regular OCR loan \$310 million**  
**Additional Financing OCR \$150 million equivalent**  
**Total Investment \$1.021 billion**

Approval Date	:	5 Dec. 2017/26 Sept. 2019
Commitment Year	:	2018 / 2020 (AF)
Completion Date	:	2027
Modality	:	Project                      Loan/Additional
Financing	:	
Total	:	\$1,011 million
ADB	:	\$310 million/150 million (AF)

- Project takes strategic and comprehensive approach, lessons from other Rust-belt regions around world
- Catalyze economic transformation towards a non-coal economic future of four coal-based cities in East Heilongjiang and an urban transformation from dirty coal-mining cities to livable, green and clean and attractive cities.
- Non-coal economic diversification roadmap and support to non-coal SMEs with BDS and SME financing through FIL promoting women-owned and/or managed SMEs.
- Key SME facilities and infrastructure in industrial parks, promoting cluster development in selected pillar industries.
- The project prepared mining remediation strategies and supports pilot projects cleaning up and make available for reuse environment polluted from more than 60 years of coal-mining.
- The project supports urban infrastructure improvement providing basic services and image transformation from dirty coal cities to clean and well-serviced cities, making the cities livable and attractive for current and future residents and companies.
- Urban transformation towards more livability includes urban infrastructure improvements that integrate across sectors: water supply, wastewater management, flood risk management and river rehabilitation, solid waste management, central heating energy efficiency improvements, sustainable urban transport with road rehabilitation, bus priority lanes sidewalk widening and greening, bicycle lanes, clean energy buses

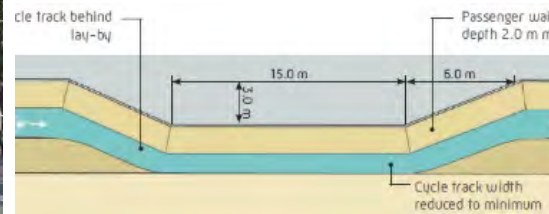
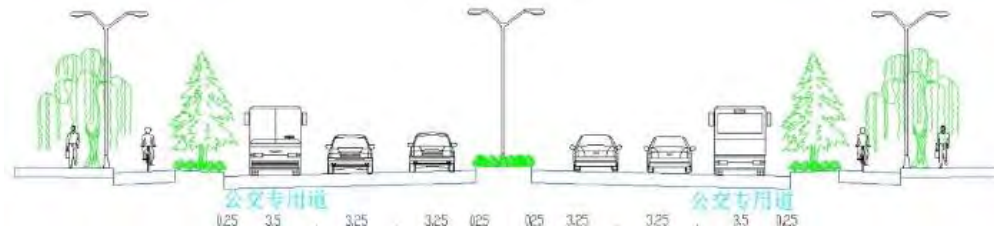
## Key Infrastructure and Environmental Challenges



# Mining Remediation



# Sustainable Urban Transport and Road Rehabilitation





# C. Some of ADB's Future Green City Development Projects

## PRC: Jilin Yanji Low-Carbon Climate-Resilient Healthy City Project

Support first bus rapid transit (BRT) line and connect major urban functions following principles of transit-oriented development (TOD) with higher density mixed-use and pedestrian-friendly center areas around BRT stations. Integrate improved pedestrian and bicycle networks along and across the BRT corridor in form of small roads and river greenways promoting low-carbon urban mobility and physical activities that enhance public health. Greenways are “sponge city” green infrastructure, enhancing climate resilience and livability. The project also improves water supply and wastewater management systems.



Approval Date	:	28 November 2019
Commitment Year	:	2020
Completion Date	:	2027
Modality	:	Project Loan
Total	:	\$260 million
ADB	:	\$130 million

**Issues and Problems:** Yanji is affected by the regional economic decline of the northeastern PRC, and suffers from inadequate urban infrastructure and services that cause inconvenience and disruptions to daily life including inefficient public transport, urban and river flooding, and inefficient water supply and wastewater management.

**Approach and Project design:** Integrated solution to make Yanji City more livable and promote healthier lifestyles through improved public and non-motorized transport, green open space network designed as sponge city green infrastructure improving flood resilience; and reducing non-revenue water and improve wastewater management.

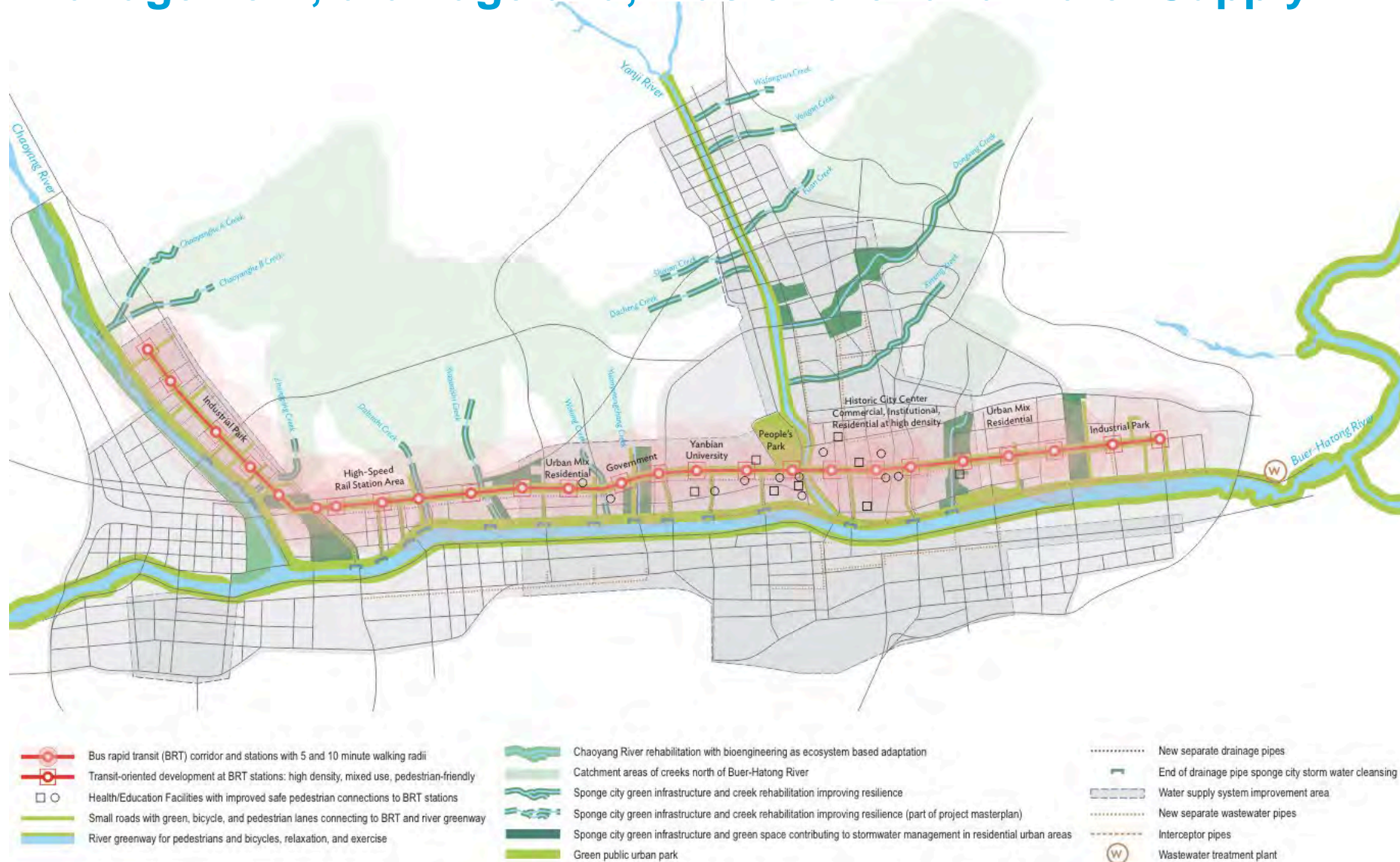
**Sponge cities** are designed to reduce water related climate risks and manage water resources, capture and detain stormwater, promote natural infiltration, reduce flood risk and reuse stormwater for landscape irrigation and industrial use.)

**Impact and Value addition:** (i) Low-carbon, climate-resilient, healthy city planning, and infrastructure investment optimizing cobenefits across sectors; (ii) best practice BRT and transport management planning; (iii) detailed digital hydraulic model integrates under-ground drainage pipe network with at-grade sponge city infrastructure; (iv) healthy City

## Yanji City: Typical Development Challenges of Such City



# BRT, NMT, Sponge City, River rehabilitation and flood risk management, drainage and, Wastewater and Water Supply



# Sponge City Green Infrastructure Masterplan



# PRC: Jiangxi Pingxiang Integrated Rural-Urban Infrastructure Development

## KEY DEVELOPMENT CHALLENGES POVERTY, RURAL-URBAN GAP, NEED FOR ECONOMIC REVITALIZATION

### 1. Flooding, increased frequency and severity

1998, 2001, 2002, 2010, and 2014 floods affected 496,000 people and caused collapse of 2,682 houses and significant loss in agriculture

### 2. Surface- and groundwater pollution

Much domestic wastewater is discharged untreated and runoff from mines into rivers, often are water sources

### 3. Limited Rural-Urban linkages

Lack of opportunities of rural residents to sell produce, access jobs, training and education, health services. Lack of roads and public transport is major constraint to improving rural opportunities, incomes, and livelihoods.

### 4. Lack of institutional capacity and awareness

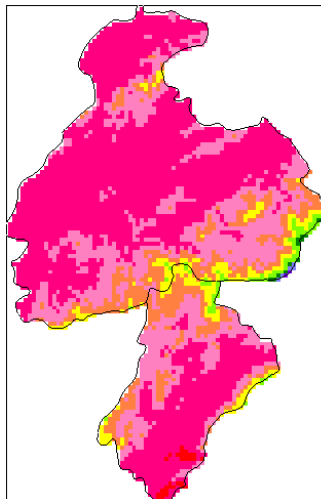
Environmental and financial management capacities are low, as is public awareness of environment



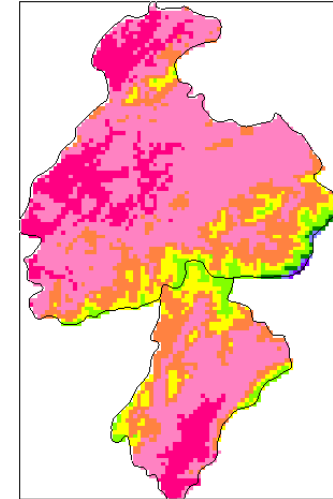
Approval Date	: 2015, September
Commitment Year	: 2016
Completion Date	: 2021
Modality	: Project Loan
Total	: \$361 million
ADB	: \$150 million



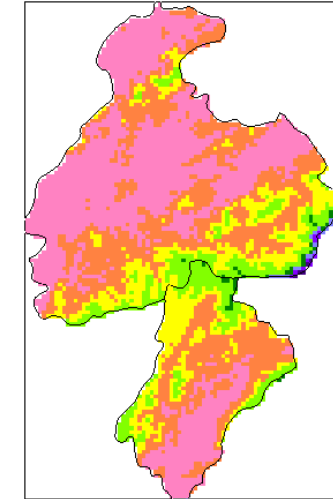
## Future Climate Risk: Flood season (Apr-Oct) rainfall distribution (mm)



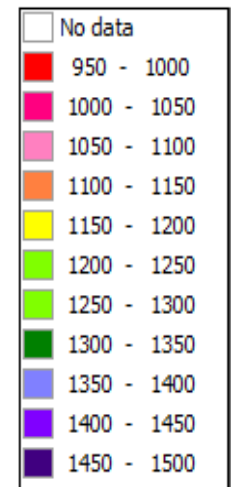
Baseline



2050 Median



2100 Median scenario

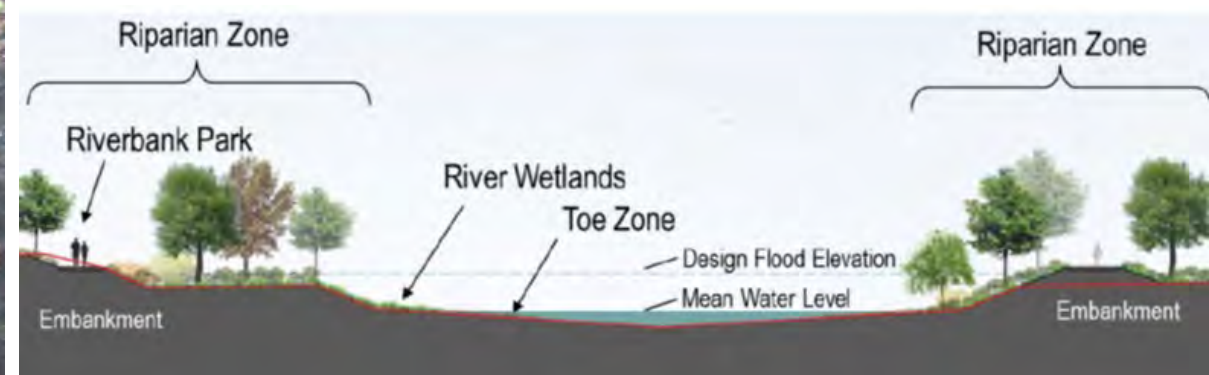
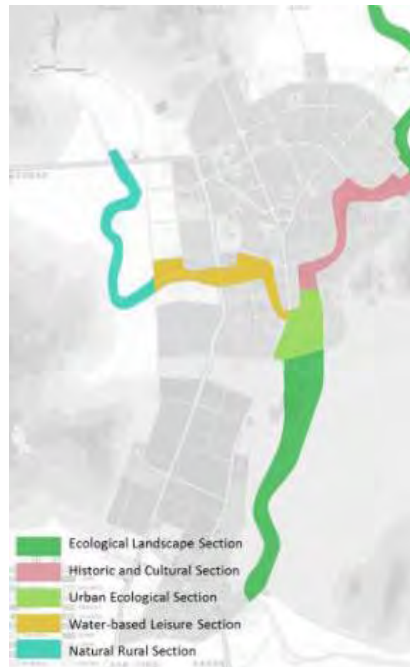
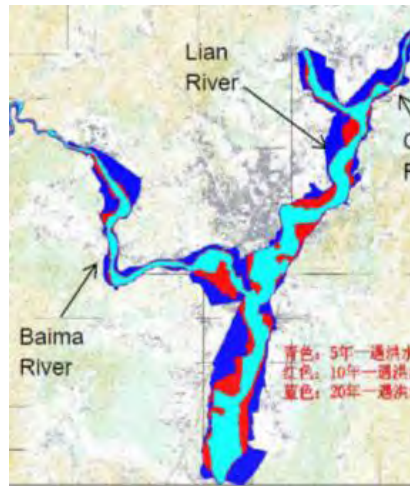


# PRC: Jiangxi Pingxiang Integrated Rural-Urban Infrastructure Development



## PROJECT APPROACH AND KEY CONTRIBUTIONS

1. Improved flood risk management contributing to a Sponge City Pilot, applying a nature-based solution approach to adaptation
2. Wastewater management and sewer pipe system improvements
3. Rural-urban road
4. Capacity Development



# PRC: Jiangxi Pingxiang Integrated Rural-Urban Infrastructure Development

## KEY BEST PRACTICES AND INNOVATIVE FEATURES

1. Urban-Rural integration through support to four sub-centers within rural areas, bringing services closer to rural people
2. Ecological river management supporting sustainable urban-rural sponge city development
3. Urban-rural flood risk management and climate resilience partnerships.



# ADB's Ongoing and Future Green City Projects in Mongolia

## ULAANBAATAR PERI-URBAN AREAS SUB-STANDARD CONDITIONS

**Ulaanbaatar:** 1.4 million population (Mongolia: 3 million)

**Ger areas:** 840,000 population; 60% of the City; 30% of the country

- Open pit latrines system leading to severe soil pollution especially when temperature rises
- Limited access to water, supplied by water kiosks
- Poor drainage, absence of green buffer zone, and dirt roads exacerbating flood events in summer
- Lack of public space; sport, cultural, education and health facilities; and business opportunities
- No heating network, inefficient individual stove burning low quality coal, and low energy efficient shelters cause vulnerability to low temperatures and high emission and extreme air pollution in winter

▶ **Continue to grow (migration + natural growth) due to lack of sustainable strategy, infrastructure, and affordable alternative**

▶ **High vulnerability to climate change, highly emitting, highly polluting**

### TWO STEPS APPROACH

- 1- Extension of main truck infrastructure, and basic urban and social services
- 2- Affordable Housing and Eco-District Solutions



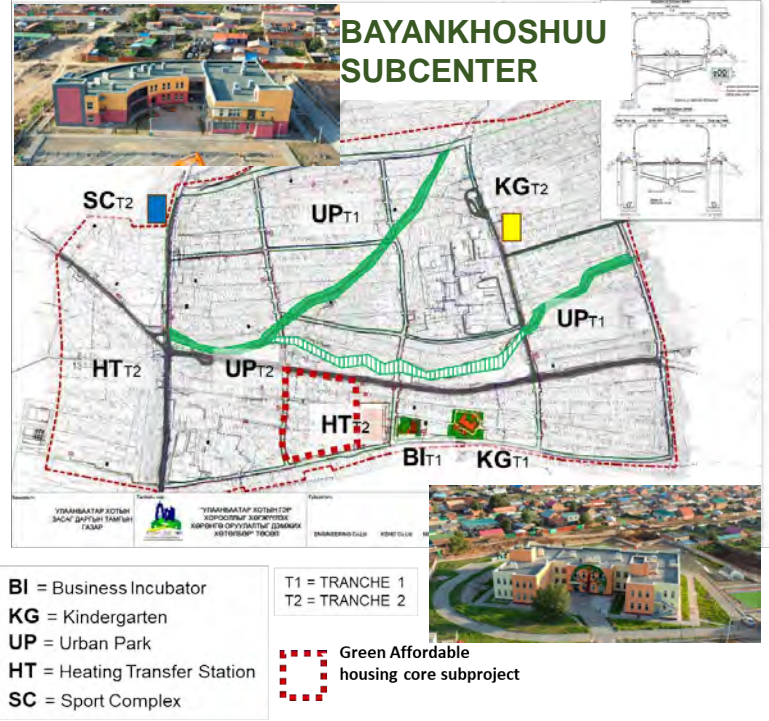
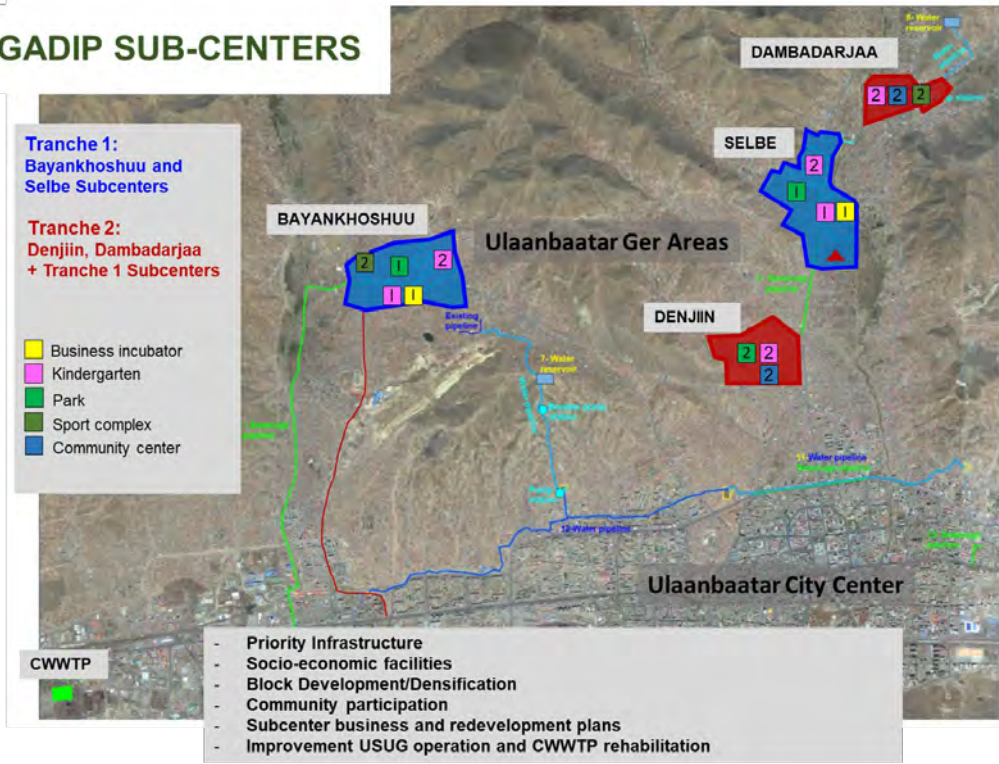


# Ulaanbaatar Urban Services and Ger Areas Development Investment Program - Multitranche Financing: 3 Tranches



## GADIP SUB-CENTERS

- Tranche 1: Bayankhoshuu and Selbe Subcenters
- Tranche 2: Denjiin, Dambadarjaa + Tranche 1 Subcenters
- Business incubator (Yellow)
- Kindergarten (Pink)
- Park (Green)
- Sport complex (Light Green)
- Community center (Blue)



Source	Amount (\$ million)
Investment Program	
ADB	163.7
MUB	96.0
EIB	60.3
<b>Total program</b>	<b>320.0</b>

**Subcenters** as the backbone of peri-urban developments to unlock economic potential

**Infrastructure** where growth potential is high, to encourage densification, and initiate a change in the urban fabric

**Outcome:** a network of livable, competitive, and inclusive subcenters in Ulaanbaatar's ger areas providing economic opportunities and urban services, leading to a healthier urban environment.

- Outputs:**
- (i) roads and urban services are expanded within priority subcenters, and connectivity between them is improved;
  - (ii) economic and public services are improved in targeted areas;
  - (iii) service providers become more efficient; and
  - (iv) institutions and capacity are strengthened for program management, detailed design, community engagement, urban development, and service delivery.

# Ulaanbaatar Green Affordable Housing and Resilient Urban Renewal

**Large scale demonstration project and complete solution,** leveraging private sector investment, to deliver **affordable and green housing stock**, and establish policies, mechanisms, and standards for sustainable affordable housing and green urban development.

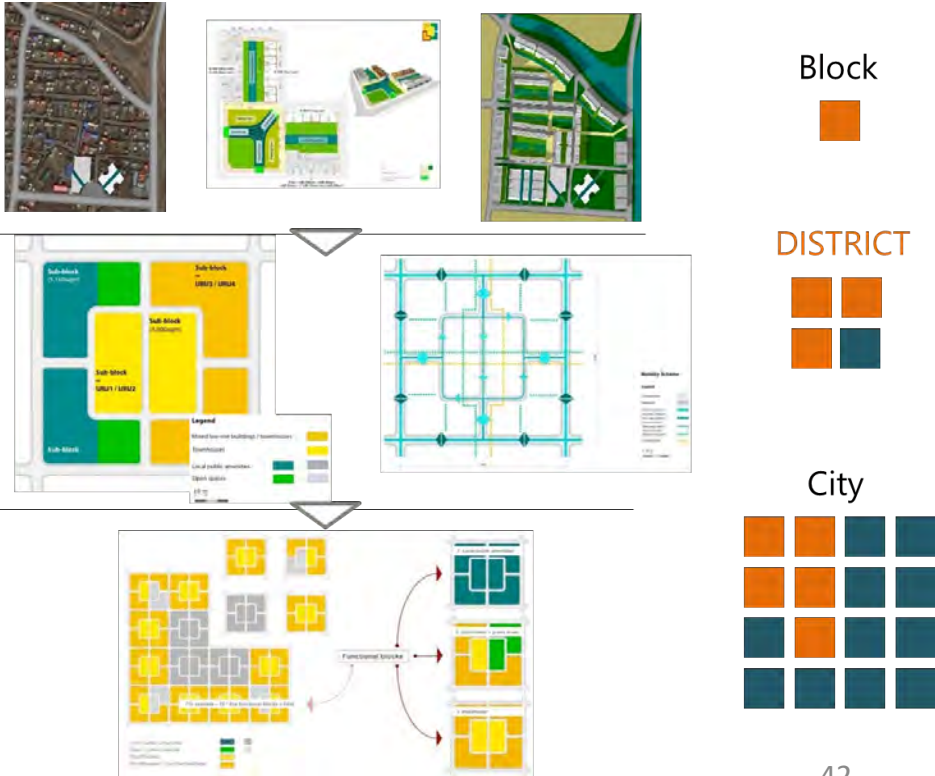


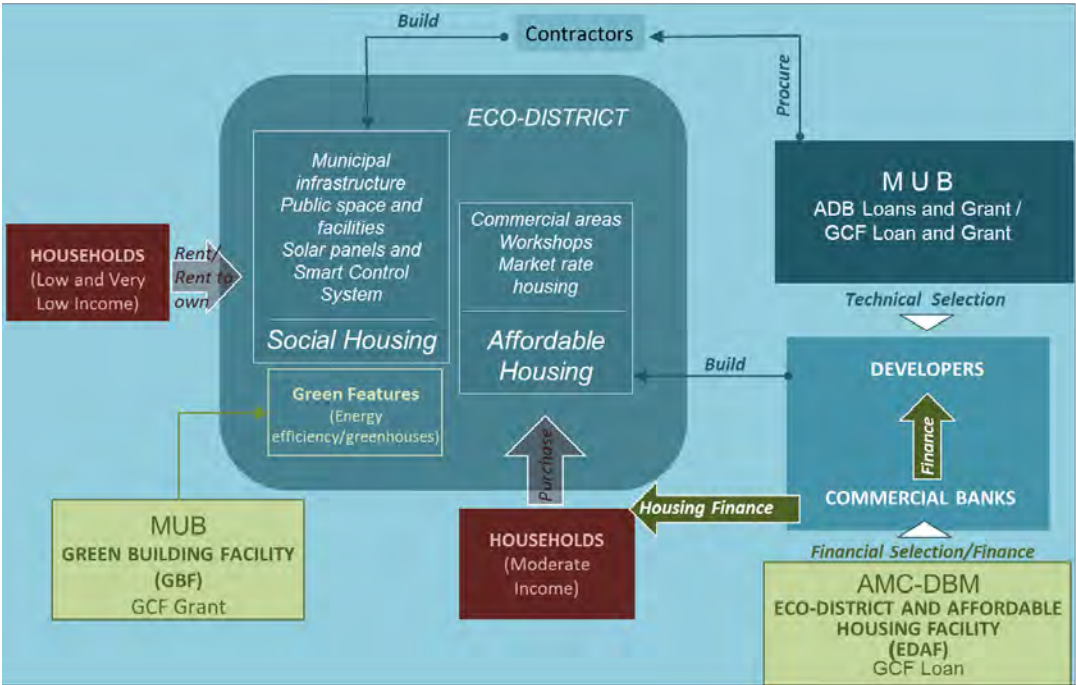
**10,000 housing units** (55% affordable, 15% social, and 30% market rate units) and redevelop **100 hectares** of *ger* areas into **eco-districts** that are:

- (i) mixed-use with ample public space and public facilities,
- (ii) mixed-income with at least 65% of combined affordable and social housing units,
- (iii) Resilient, resource efficient, and maximizing the use of renewable energy
- (iv) Improve the regulatory and enforcement framework for climate responsive urban planning, green building, and affordable housing.

## ECO-DISTRICT

**Integrated** planning and development process, and **complete solution** at the neighborhood level to build up **citywide sustainability** and **green development**





Source	Amount (USD million)
Asian Development Bank	80.0
Green Climate Fund	145.0
GCF (grant)	50.0
GCF (concessional loan)	95.0
HLT Fund (grant)	3.0
Commercial banks/DBM	111.4
Developers	131.8
Beneficiaries	63.9
Municipality of Ulaanbaatar	35.0
<b>Total</b>	<b>570.1</b>

- **Designed Based PPP (Public Private People Partnership):** Community participation, financial, and institutional integrated mechanism involving public sector, beneficiaries, commercial banks and real estate developers to deliver eco-district urban solution.
- **Financial intermediary:** Long-term financing to developers for low-carbon affordable housing, market rate housing, and economic facilities in ger areas, and to households for green mortgages, with revolving mechanism, to leverage private sector resources (leveraging \$307.1 million from private financing commercial banks, developers and beneficiaries).
- **Green Building facility:** Performance-based grants to qualified private developers for climate change mitigation and adaptation features.
- **Effective community participation:** (a) community participation, social, and gender action plans including skills training and livelihood improvement opportunities; and (b) community-based urban farming and solid waste management.
- **Voluntary Land Swapping Mechanism:** that will provide housing solution to all residents for in situs redevelopment and through which the ger area population can move up to more climate resilient, low carbon, modern apartment buildings.
- **Renewable energy** in buildings and smart renewable energy and building performance control and monitoring system .
- **Sector and Policy reforms**



# Green Cities

**Livable, Inclusive, Competitive Places following 5-E Principle:  
Equity, Environment, Economy, Enablers and Engagement**

**Thank you.**

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