

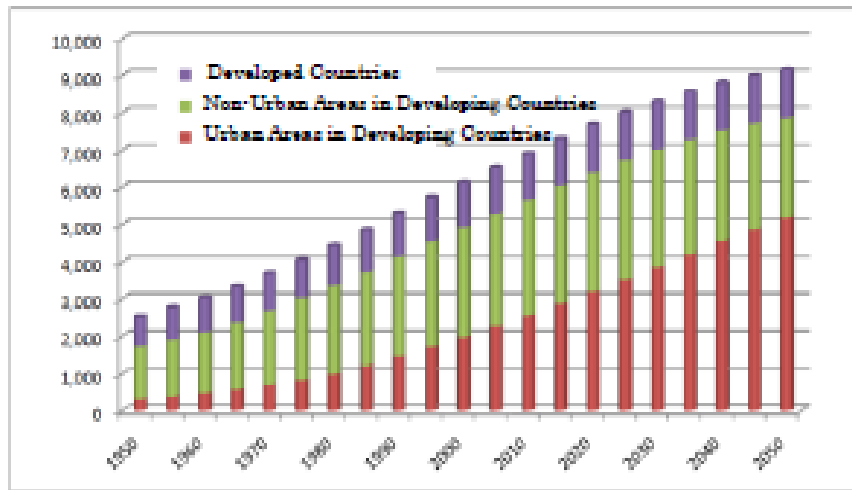
Spatial dynamics and decarbonization: A question of development patterns

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Toward Sustainable Urban Growth -Background Contexts (1)

Fig. 1: Growing urban population in developing countries



Source: Prepared by JICA based on "World Population Prospects: The 2008 Revision" and "World Urbanization Prospects: The 2009 Revision", United Nations Population Division

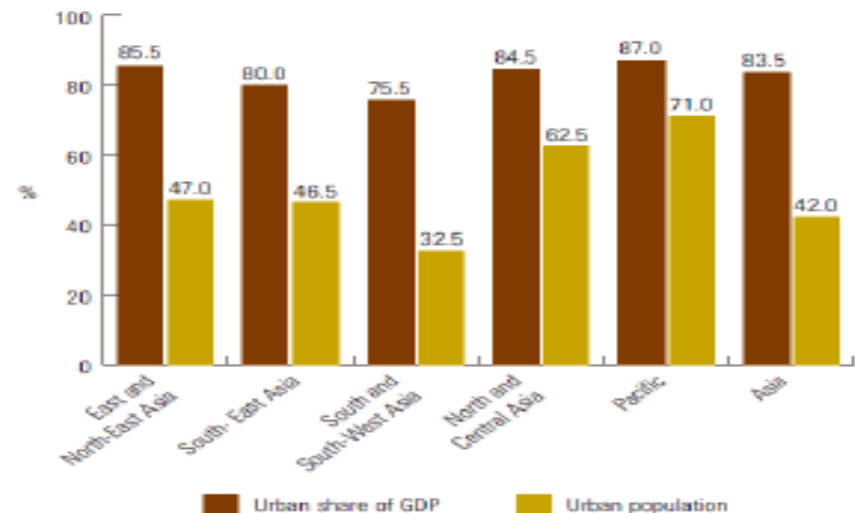
Cities play a leading role in economic development.

Future sustainable development depends on sound urban growth and maximization of the benefits of urbanization.

Nearly 40% of the world's population lives in cities in developing countries.

In 1970, 18.4% of world's population lived in urban areas of developing countries. Now the figure is 37.0%.

Fig. 2: GDP share of urban areas exceeding population share (Asia and Pacific region, 2008)

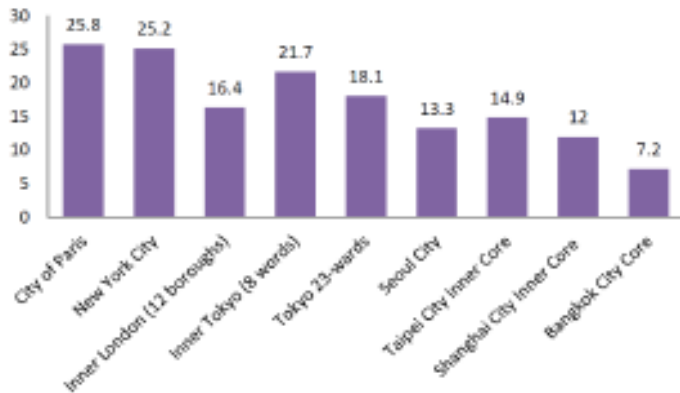


Source: "The State of Asian Cities 2010/11", UN-Habitat (2010)

Toward Sustainable Urban Growth

-Background Contexts (2)

Fig. 3: Low road ratio in cities of developing countries compared to cities in developed countries (as % of administrative district area; 2004)



Source: Prepared by JICA based on "Developing Sustainable Transport System in Asian Megacities: Challenges and Prospects" (Asia Pacific Weeks in Berlin: Urban Transport and Mobility Conference (Workshop II, September 12-14), Raj Acharya, S.R. (2007).

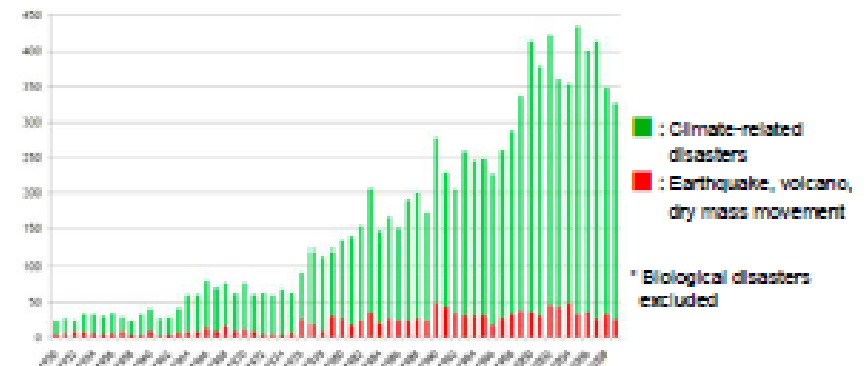
Climate change increases disaster risks

Enormous damage may occur when the scope and intensity of abnormal weather conditions exceed the capacity of urban infrastructure (e.g., rainwater drainage channels to prevent flood)

Shortages of urban infrastructure hindering sustainable development.

In many developing countries, the speed of rapid urban population growth often overtakes urban infrastructure development. Numerous problems associated with shortage in urban infrastructure have emerged (e.g., severe traffic congestion, flood during rains, public spaces piled with garbage, etc.)

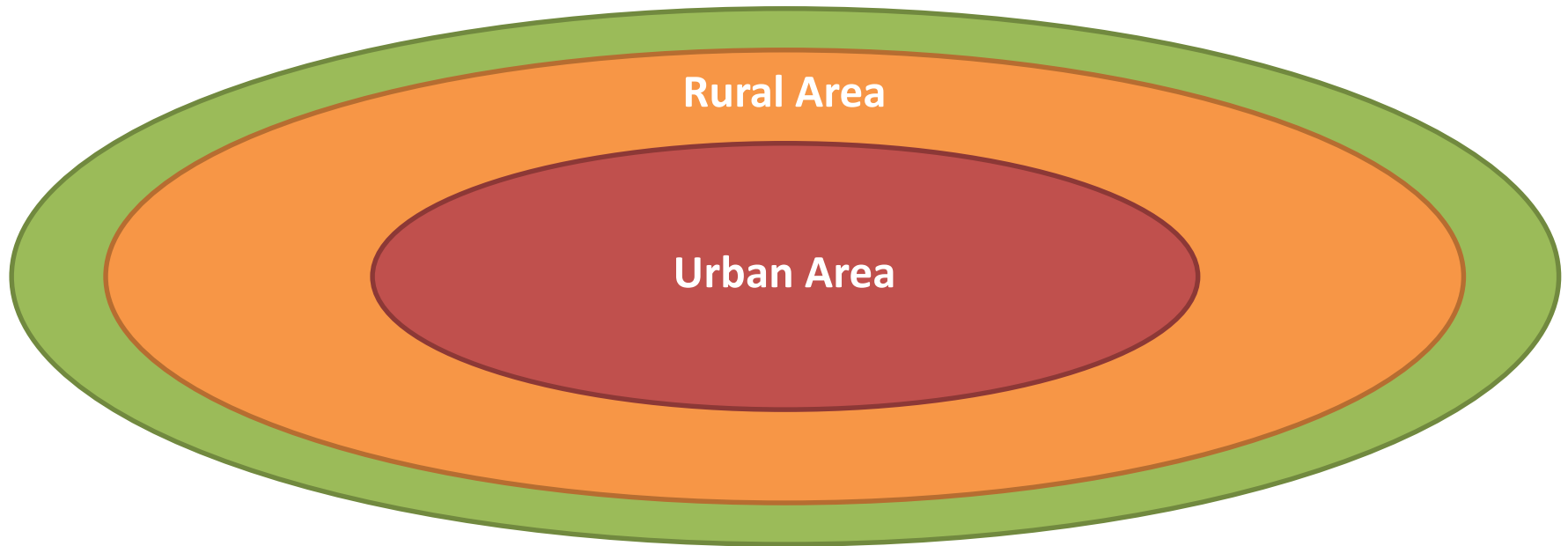
Fig. 5: Growing risk of natural disasters* (1950-2009)



Source: Prepared by JICA based on "Disasters in Numbers 2009 and the Decade" (CREG - UNISDR Press Conference, 28 January, Geneva), Guha-Sapir, D (2010)

Externality matters

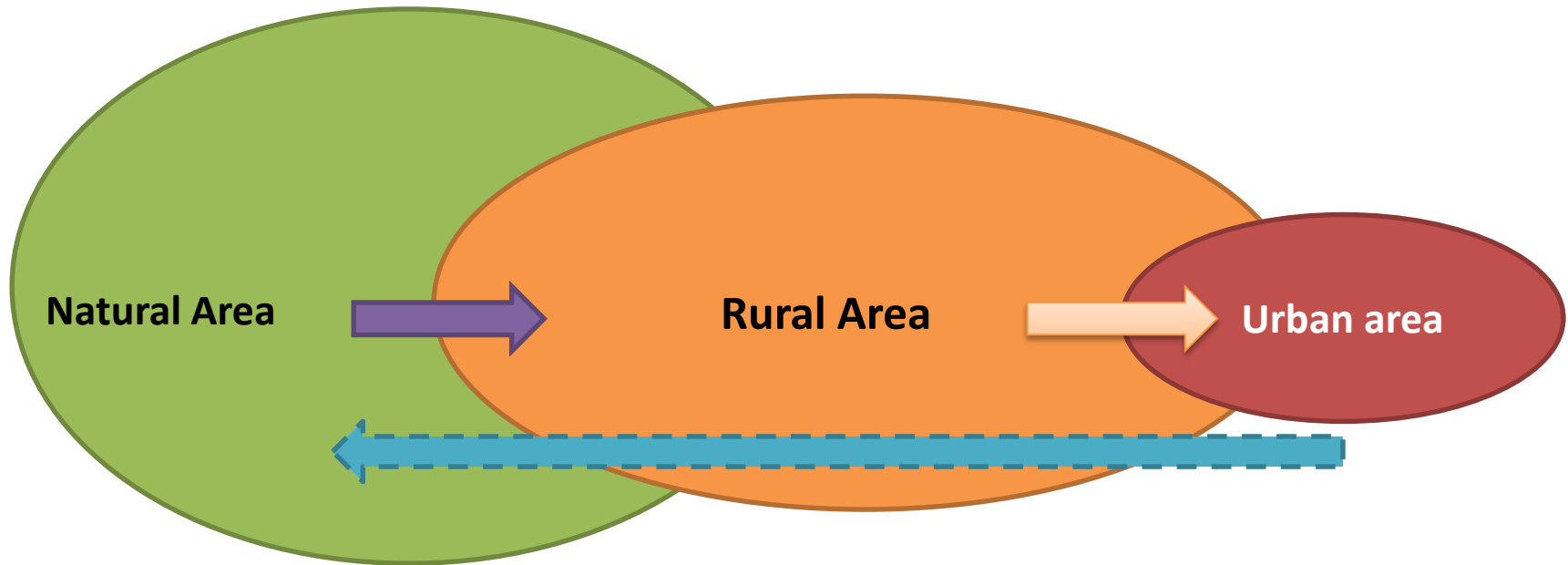
- Urban and Rural relations in change of land use -



Expansion of urban area may lead to expansion of rural area, in turn, degradation of natural capitals.

Externality matters

- Urban and Rural relations in resource flows-



Life in Rural area relies on the resource supply from natural capital

Lives in Urban area relies on the resource supply from rural area

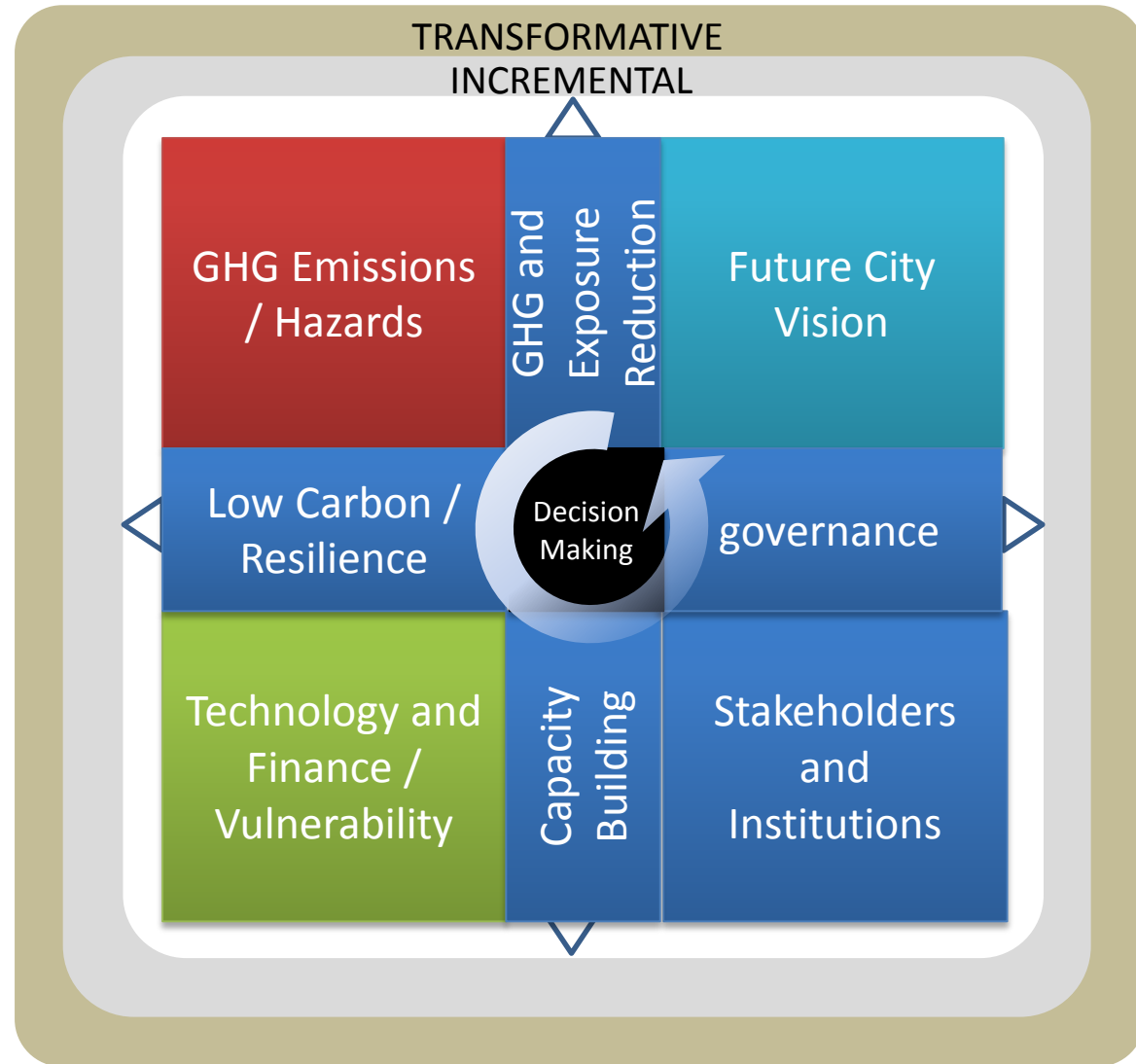
Value generated at urban area does not necessarily transferred/invested in Rural area and natural capital

Issues to be considered

- **Difference of Governance & management body**
 - National – City – Rural (Village) government
 - Level of autonomy of governance body may differ depending on the government system of each country
 - This may affect to its legal authority, budget management etc.
- **Difference of political priority**
 - Political priorities may differ depending on the circumstance of the area.
- **Difference of Level of Awareness by stakeholders**
 - Inequity
 - Asymmetry of / Unshared information

Decision-centric Process for Low carbon and Resilient Society Building

- Some keys
 - ✓ **Clear vision** developed through participatory approach
 - ✓ **Scientific data**
 - ✓ **Capacity and MOIs** (Technology, Finance)
 - ✓ **Governance and Institutions**



Performance in UD (1971~2013) [A]

(Urban Comprehensive Plan, Urban Plan System, Urban Transportation)

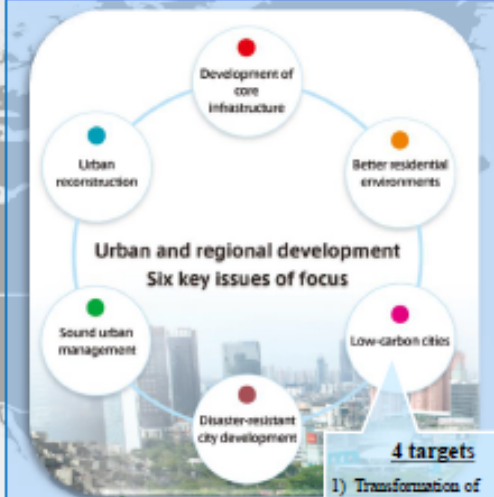
- Technical Cooperation for Development Planning (122)
- Technical Cooperation Project (15)
- Aid in Singular Form (expert) (3)
- Grant Aid Project (4)

Requisite for Sustainable City and Society (Vision) [B]

Urban development that benefits all, bringing about a virtuous circle of economic growth and poverty reduction



6 key issues of focus (What) [C]



4 targets

- 1) Transformation of urban structures
- 2) Promotion of low-carbon technologies in urban transportation
- 3) Creating recycling-oriented cities
- 4) Preservation and creation of green spaces

JICA Original Approach for Urban Development (How) [D]

JICA's Perspectives

Capacity development of counterparts
In order to improve city management, JICA proposes and technically supports the organizational strengthening and capacity development of implementing agencies.

A comprehensive vision
JICA's urban planning presents a vital vision for the urban future, accommodating spatial configurations in and around cities.

A wider scope of development
In addition to physical structure such as land use and infrastructure, JICA takes social dimensions into consideration, including poverty reduction and civic empowerment.

Making a plan into a project
In accordance with a Master Plan formulated with developing countries, JICA helps prioritize where to facilitate access to public goods and services.

JICA's Approach

Evidence-based planning
JICA's planning is built on a variety of available data sources. In addition to analyzing traffic surveys and other studies, socio-economic frameworks and traffic models are used as tools to anticipate trends.

Participatory planning
JICA values dialogue and coordination with citizens in urban planning. The planning process incorporates consensus-building by seeking public comments from various social groups or taking opinion polls in local communities. This participatory approach enhances the public's awareness as being stakeholders playing a role in the planning process. Also, communities informed of urban risks need to be more prepared to cope with natural disasters and other emergencies.

- Implementation of a plan
 - Infrastructure development through financial assistance
 - Development of legal and institutional frameworks
- Operation and maintenance
 - Improvement of management skills

[Case1] Surabaya × Kitakyushu City Cooperation MP [E]

- ① City Cooperation between Surabaya City and Kitakyushu City;
- ② Formulation of Master Plan for environmentally and socially sound development of Surabaya city;
- ③ Application of Kitakyushu City's experience and "know-how" to address environmental pollution problems in Surabaya.



[Case2] Capacity Development in UD Sector in Mongolia [F]

- ① City Cooperation between Ulaanbaatar City and Ashikawa City (Hokkaido) which possesses advanced technologies for cold-climate conditions.
- ② Assistance in capacity building and development of legislative platform for MP implementation.
- ③ Memorandum of technology exchange.



[Case3] Land Readjustment training for third countries in Colombia [G]



- ① JICA transfers land readjustment technologies;
- ② Colombia conducts training courses to spread land readjustment technologies to other Central and South American countries.

Strategic Cooperation by JICA

Bangkok Master Plan on Climate Change 2013 – 2023 (Project Period: 2013-2015)

Bangkok Metropolitan Administration (BMA)

Steering Committee chaired by Deputy-Governor of BMA

Participants: Representatives from the participating departments of BMA, TGO, OTP, PCD, NESDB, ONEP, DEDE, etc.

Secretariat (Department of Environment, BMA)

5 Working Groups

- ◆ Environmentally Sustainable Transport
- ◆ Energy Efficiency and Alternative Energy
- ◆ Efficient Solid Waste Management and Wastewater Treatment
- ◆ Green Urban Planning
- ◆ Adaptation Initiatives

Inter-Organizational Coordination

Yokohama-City ('Future City Initiative')

Experiences of Low-Carbon Policy-Planning and Implementation in JAPAN

Japanese Expert Team

Local Consultants

Project Purpose : The Bangkok Master Plan on Climate Change 2013-2023 is prepared with strengthened capacity for implementation.

Output 1 : Preparation of Bangkok Master Plan on Climate Change

- Assessment of the Bangkok Action Plan on Global Warming Mitigation 2007 – 2012
- Improvement of Data Collection, Methodologies for Estimation and Monitoring of GHG Emission
- Development of Sectoral Strategies
- Public consultation, Workshops and Seminars
- Dissemination of the Master Plan

Output 2 : Strengthened Capacity of BMA officials

- Training Programs for BMA officials
- Seminars/Workshops for Related Stakeholders
- Development of Educational Materials



Strategic Cooperation by JICA

(broad lineup of JICA low carbon infrastructure investment in India)

Urban Transport

Prime Minister

Dr. Manmohan Singh:

“Delhi Metro is a shining example of Japan-India partnership”



- ✓ JICA metro projects already in 4 cities (Delhi, Bangalore, Kolkatta, Chennai)
- ✓ Knowledge sharing by Tokyo Metro on operational safety

- ✓ Wide range of renewable technology eligible for financing thru IREDA
- ✓ Technical cooperation to transfer solar power technology to IREDA

Medium to long term finance provided through IREDA (Indian Renewable Energy Development Agency Limited.)

Renewable Energy



Energy Efficiency

Increasing energy access and efficiency by helping India construct a pro-poor power network



Recent ODA loan projects include:

- ✓ Rural electrification in southern and western India (accessing 3 million)
- ✓ Upgrading transmission and distribution system (urban and rural)

- ✓ “Energy Saving Equipment List”
Locally available energy saving equipment
- ✓ Enhancing capacity of intermediary bank and raising awareness of SMEs

Supporting SMEs using Sustainable Finance thru SIDBI (Small Industries Development Bank of India)

Sustainable Finance



Increased vulnerability to Flood Risks in Urban Areas

- Major Adaptation Challenge for Asian cities

Increased vulnerability to Flood Risks in Urban Areas

- ◆ Heavy Rainfall Events
- ◆ Rise in Groundwater Level
- ◆ Multiple factors Related to Rapid Urbanization
- Decreased Permeability of the Ground
- Habitation in Depressed zones
- Lack in Rainfall Drainage and Sanitary Management ,etc.



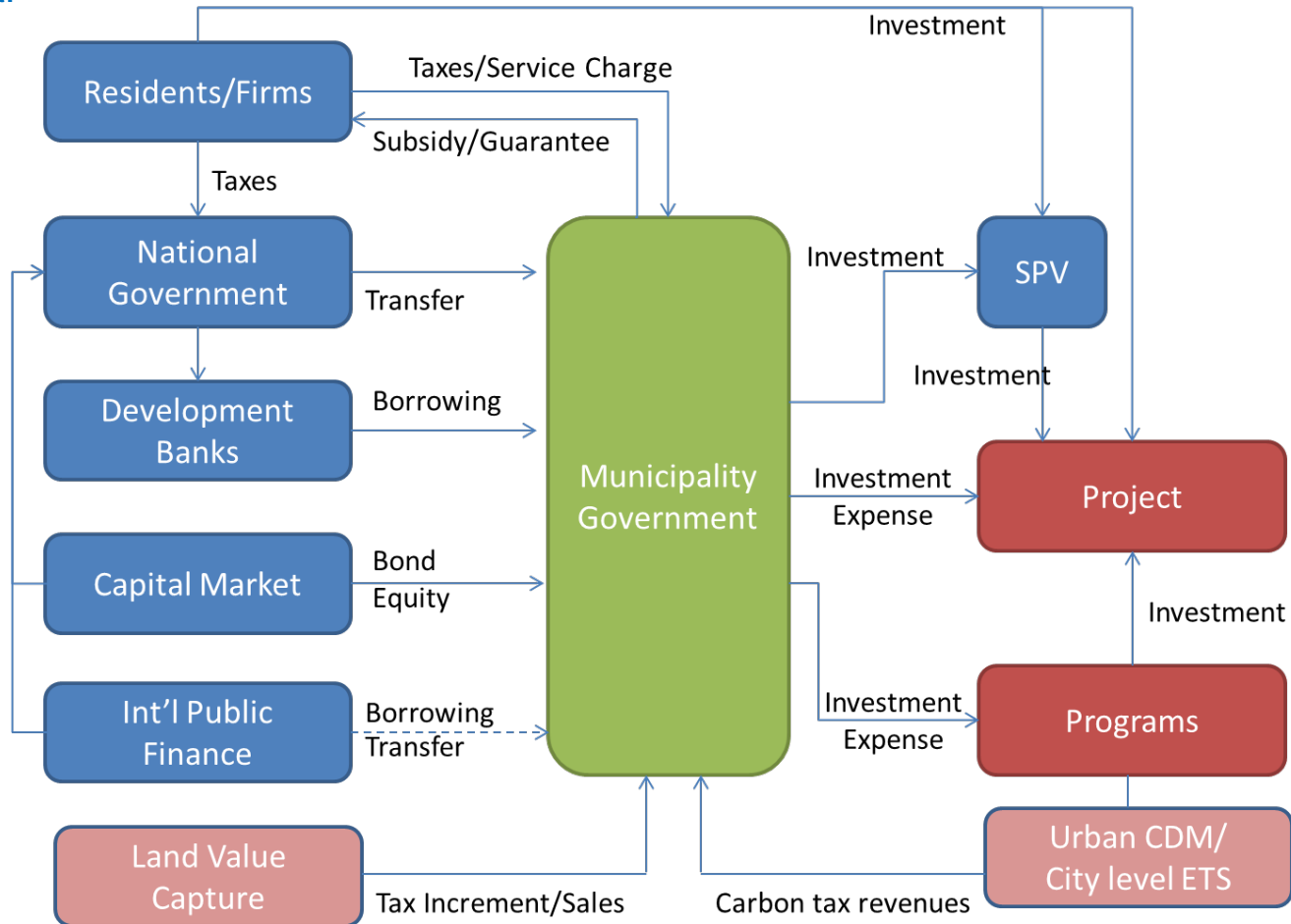
Adaptation measures

- Structural Measures
Construction of Dikes, Improvement of Rainwater Drainage, etc.
- Non-Structural Measures
 - Risk Mitigation Measures at Household/Community Levels
 - Early Warning and Evacuation System
- Appropriate City Planning
- Environmental Management
 - Sewage System
 - Waste and Sanitary Management

Necessity of a 'Long-term Resilient City Development Plan'

Need for a diversity of finance sources

- The limits of international public funding imply that most of the funding of CC action will have to be mobilized by local governments themselves with support from their national government.
- Public funding are most effective if they help overcome key problems of access to finance (e.g. creditworthiness) and support the development of capacities at the city level to improve access to diverse sources of funding. Innovative sources (e.g. City ETS) important.



Some conclusions so far

- **Urban area plays an important role to high generate economic value, but its economy relies on the resource supply from rural area.**
 - Most of resources, such as food and water, are supplied from rural area.
 - Rural economy mainly relies on the supply from natural capital.
 - That may indirectly cause degradation of natural capital. But, benefit generated at urban area does not necessarily returned to rural and natural capital.
- **Better coordination among different level of governments within the country is indispensable.**
 - Better guidance from national government to local government along with the National policy and international commitment
 - Consultation among local government and involvement national government as advisory – Need to respect autonomy of each local government
- **Better resource allocation system led by national government will assist local government actions towards low carbon society.**
 - At least, National government should make effort to limit inequity among the local government in terms of resource availability
 - Coordinated information sharing system among local governments and national government
 - National Development Bank may plays an role to assist resource allocation for local government

Thank you very much for your
attention!

Your comments and suggestions are highly appreciated!

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