Oct 26th, 2017
ADB Annual Meeting, Yokohama Youth Event

Toward "Livable Smart City"

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ADB's vision for Livable City

- Archetypical chaotic
- Polluted
- Inequitable

- Competitive
- Equitable
- Environmentally sustainable

Key issues mentioned by ADB

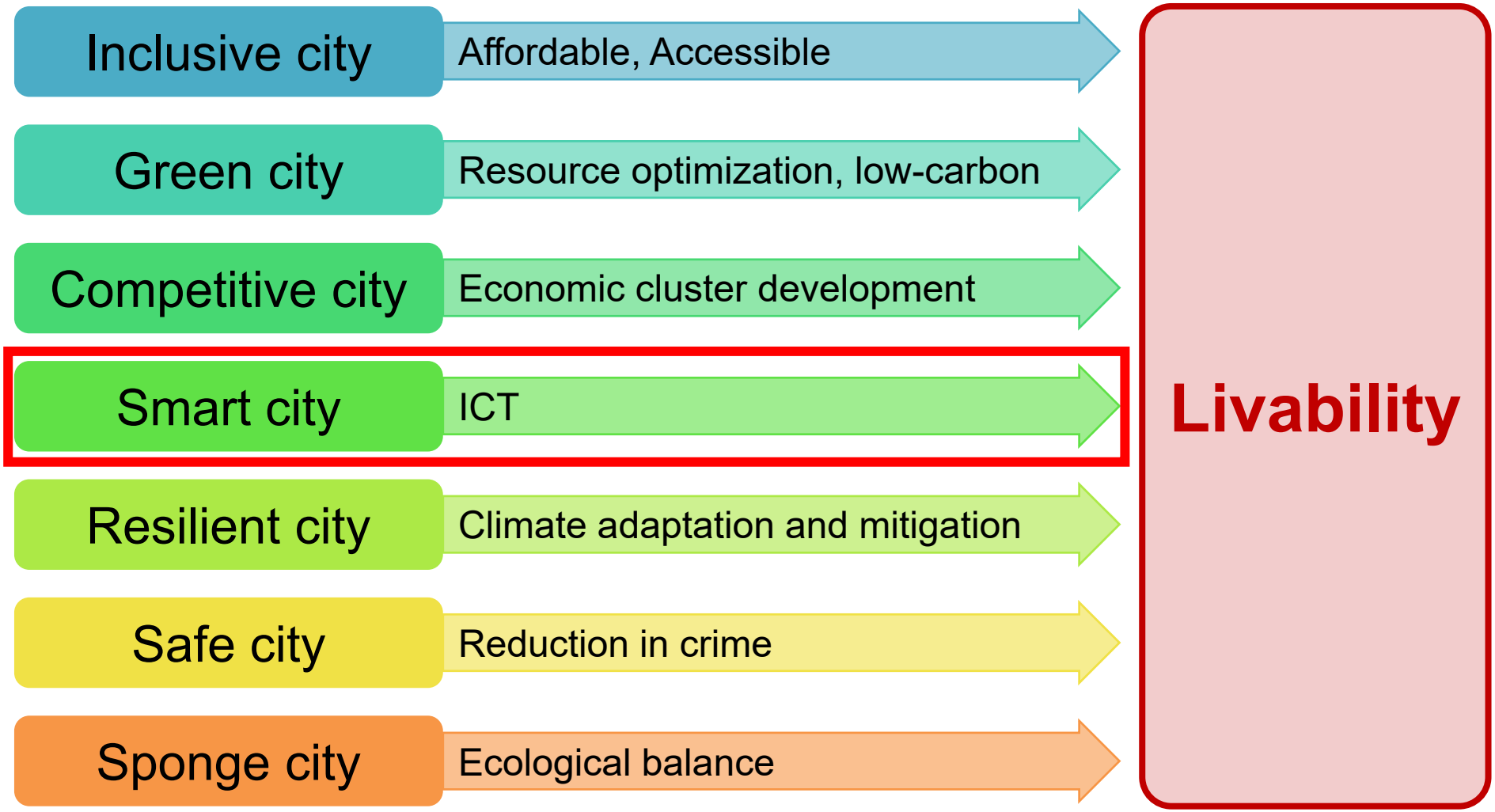
- Environmental degradation
- Traffic congestion
- Inadequate urban infrastructure
- A lack of basic services
  - water supply
  - sanitation
  - waste management

Maintaining Vital economic growth
while creating sustainable livable cities for all

source: https://www.adb.org/themes/urban-development/adb-vision-livable-cities

“Smart City” as a component of “Livable City”

“Path to Livability” by ADB



http://www.adbleadership.asia/sites/default/files/images/rn_singru_sustainableurbandev_23may2016.pdf

Our Key Issues

Not only from the technical points of view,

also discussing on smart city

To Achieve Livability

will be important

- **Settlement**
- **Environment**
- **Mobility**
- **Disaster prevention**

Settlement

https://www.flickr.com/photos/asiandevelopmentbank/19970359640/in/album-72157632635221753/

Keywords for Sustainable Settlement

ADB's Projects for Settlements

Infrastructure Sanitation Community

Aging Society Land development Finance System

Housing and settlement upgrading etc.

Discussion on

Upgrade of Settlements

Aging Society

+

Food Habits

For upgrading settlement from tangible side

- ADB's project（Transforming Poor Communities, Changing Lives in Bangladesh）

Constructing infrastructure

concrete drains, paved roads, electricity, running water and toilets

＋

Required perspective is

Architecture

space / structure / equipment

Considering user perspectives,

Comfortable, Healthy, Eco-friendly, Durability

will be significant.

Slum

Ex) Slum Rehabilitation

Build low-cost housing

- Variable space in view of future family type
- Equipment is easy to replace
- Ecological footprint（ex. Making use of the rooftop, Using of local materials）

Investment for Elderly Poor People

Asian countries will become **the aging societies** in the near future.

Discussion about Aging Society by ADB

- Economy: the effect on the society in general, the pension
- Health: Universal Health Coverage

https://www.adb.org/publications/impact-population-aging-asias-future-growth
https://www.adb.org/news/speeches/promoting-universal-health-coverage-aging-asia-takehiko-nakao

➡ **Hardware such as slums** is not mentioned much for elderly people.

The proposals for

elderly poor people living in slums

are necessary in the future.

Our Idea: Conditional Cash Transfers

Joining the seminar about universal design ➡ Education

▼

Cash Transfers for reforming housings (removal of barriers) ➡ Improvement

This project needs cheaper cost, and provides better environment and interests in barrier-free.

https://pixabay.com/en/poverty-man-sadness-means-tested-2075922/

ADB's Vision

ADB's projects

ADB supports many infrastructures

Developing City

support

Economic Transport City Gateway ICT

Smart City

Utilities Livability Safety Government

Habits

Because life style is not considered, it may not accompany the city change

Asian Food Habits

Street stalls support many people

Apprehension

- Declining street stalls
- Raising cost of living
- Increasing the gap between the rich and poor

Food street in Malaysia

Smart City

ICT + Asian Food Habits → Livable Smart City for Asia

the Environment

https://www.adb.org/themes/environment/main


http://maxpixel.freegreatpicture.com/Karabash-Air-Pollution-Plant-Damage-Ecology-948037


https://c2.staticflickr.com/6/5635/22874298714_b9265478a5_b.jpg

Issues connected with “Livable Smart City”

Urban Heat Island phenomenon

Air pollution

Renewable energy resources

Environmental protection

Environmental education


https://commons.wikimedia.org/wiki/File:Renewable_Energy_on_the_Grid.jpg

Issues connected with “Livable Smart City”

Air pollution

Environmental protection

Renewable energy resources

Smart Energy Model in China

Qingdao Smart Low-Carbon District Energy Project

https://www.adb.org/news/adb-help-prc-s-qingdao-cut-coal-create-smart-energy-use-model

Jimo in Qingdao

ADB's Vision

- Heavily polluted air
- Emitting CO_2 heavily

▶ Solve problems by introducing renewable energy use

ADB's Efforts

Creating smart renewable energy networks in Qingdao by ADB's loan and consulting. (2015-2020)

Suggestions

- Why Qingdao has chosen for this project?
  - ▶ Like Beijing must be chosen for this project. **More air polluted cities are in China must be chosen**.
- During construction of similar project, **existing environment may be destroyed**.

Issues connected with “Livable Smart City”

Environmental protection

Environmental education

Human resource development

STRATEGY2020

- Energy efficiency improvement
- Clean energy source expansion of use
- Reduction of greenhouse gas emissions
- Modernization of public transportation system
- Inhibiting the progress of deforestation

https://www.adb.org/ja/documents/strategy-2020-working-asia-and-pacific-free-poverty

ADB's policy

ADB promotes sustainable infrastructure and manages natural resource.

http://www.undp.org/content/undp/en/home/ourwork/development-impact/innovation/resources-for-innovation/innovation-blog-series-.html

https://www.adb.org/themes/environment/issues

Environmental education in Asian country must be needed.
Adults : To cultivate professional
Children : To know about environmental

This will lead to ADB's purpose of "leadership"

Mobility

“Sustainable Transport Initiative” by ADB

Sustainable Transport Initiative (2010)

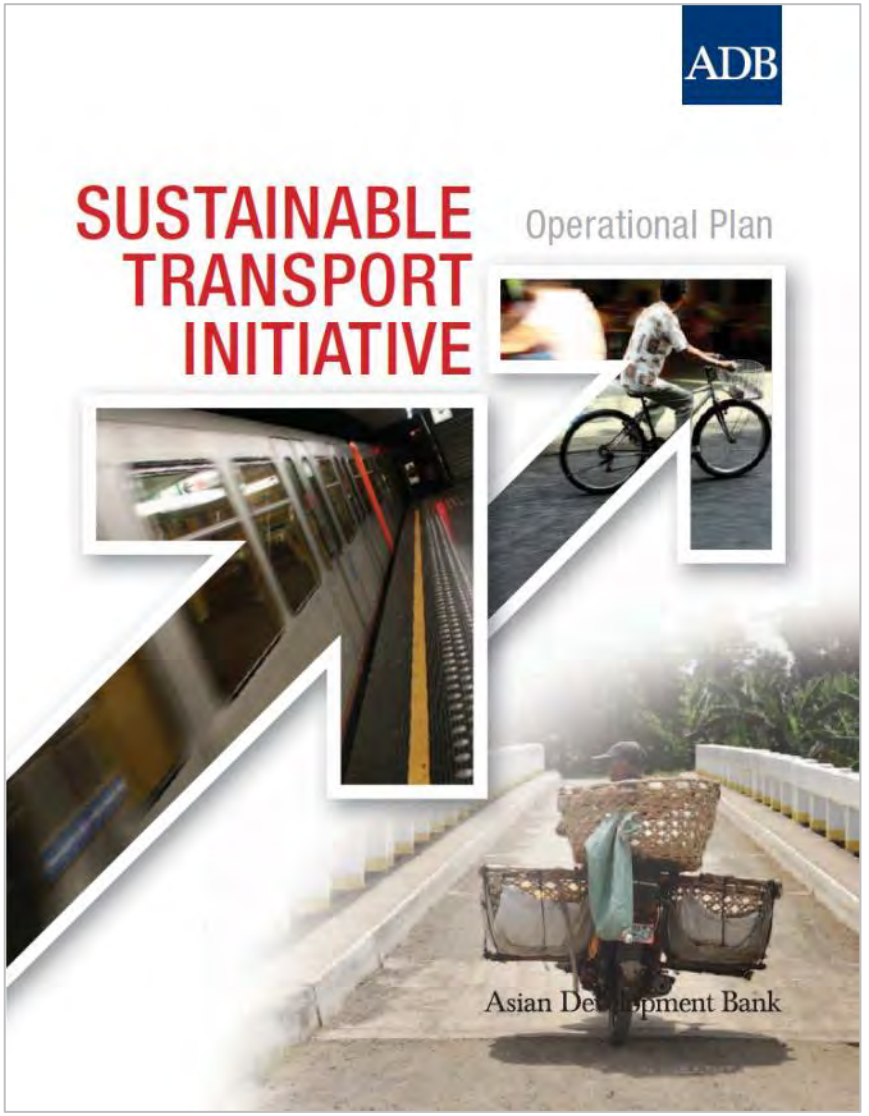
For the development of
- Accessible
- Safe
- Environment-friendly
- Affordable

transport systems

For sustainable transport,
- Urban Transport
- Addressing Climate Change in Transport
- Cross-border Transport and Logistics
- Road Safety and Social Sustainability

Issues mentioned by ADB
- Safety on road traffic
- Shift to railways, mass transit, NMT etc...
- Improvement of rural services & NMT
- Integration of urban transport & land use

etc…



> various important issues are mentioned

Keywords for mobility in smart cities

The strategy for the less dependence on cars

Utilizing & Improving the Existing Systems

Safe & Secure Pedestrian Spaces

Developing Livable Mid-size Cities

The strategy for the Less Dependence on Cars

Too much car use causes

air pollutions, heavy traffic jam, and traffic incidents

Modal shift from car to public transportation is necessary

Construction of new public transportation

Increasing the number of new public transportation user

from walk or non-motorized transportation

Not decreasing the number of car user

from private car or motorcycle

Decreasing the number of car user

Points for Less Dependence on Cars

- **Faster than car** : priority strategy, exclusive lane
- **Security**
- **Comfortable access** : environment to the station

Utilizing & Improving Existing Systems

For **Affordable Cost** & **Quick Improvement**,

Utilizing existing systems will be essential in Mobility Field,

Utilizing Paratransit

- widely used in Asian Cities
- various & flexible services
- intermediate system of bus & taxi
  - As a feeder of MRT, BRT…
  - For mobility in CBD

Jeepneys in Philippines

Rickshaw in Thailand

Photos courtesy of Dr. Pattamaporn WONGWIRIYA

"Sustainable transport initiative" by ADB (2010)

- Mentioned paratransit system
- not mentioned detail & not linked to practical projects

Utilizing & Improving Paratransit

- Embodying the utilize of paratransit
- Considering Connection with other modes (MRT, BRT…) in planning
- Improvement present systems with ICT > for the "smart" system

Safe & Secure Pedestrian Spaces

Difficulty in using door-to-door modes (cars, motorcycles) for all trips

- Special Limitation
- Safety (accidents)
- Environment
- Social exclusion

> Necessity of utilizing public transportation

> Walking should not be ignored

- To / From station or bus stop
- Short trip in district to houses, offices or facilities

Sidewalk in Bangkok

"Sustainable transport initiative" by ADB

- Mentioned pedestrian space
- not mentioned detail & not linked to projects

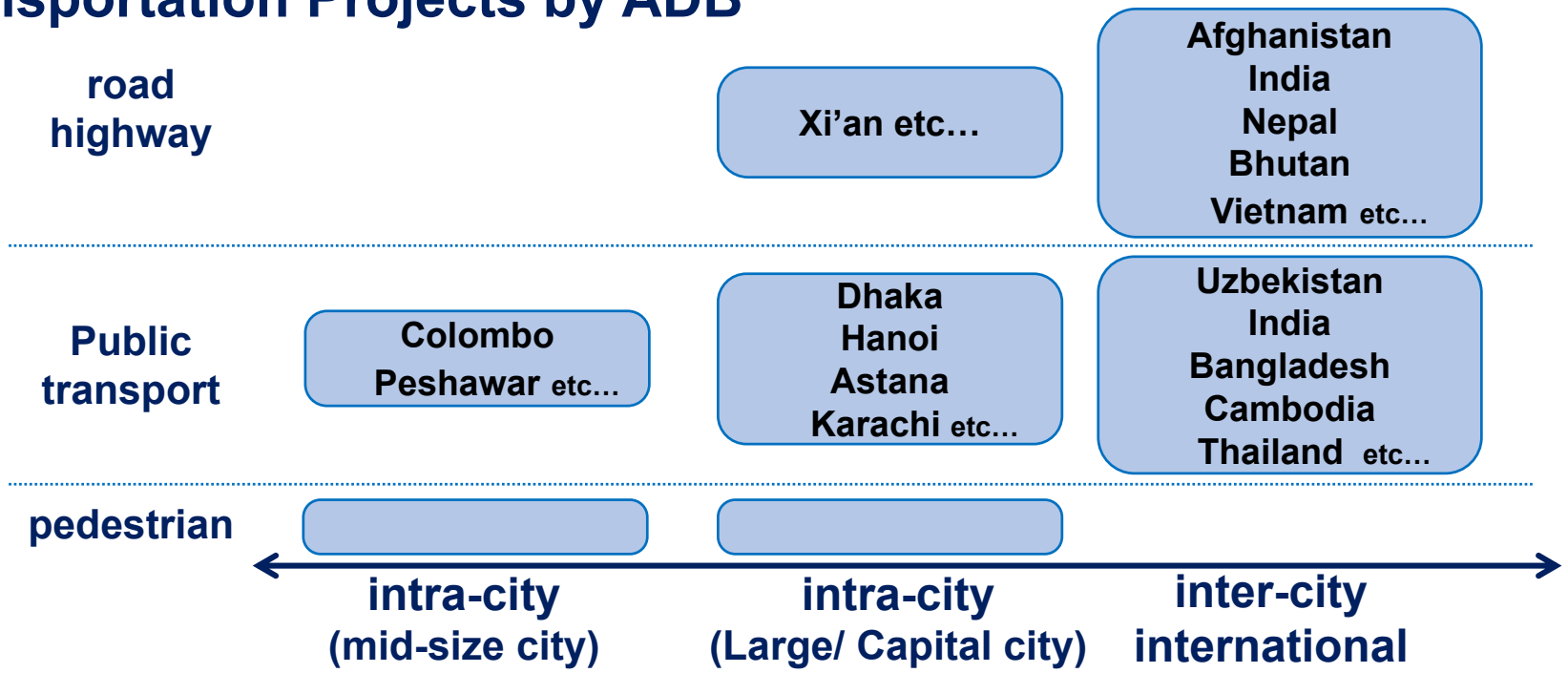
Safe & Secure Pedestrian Spaces

- Embodying the improvement of pedestrian spaces
- Considering pedestrian spaces in road construction or improvement PJ
- Safety & Security should be first priority

> toward walkable cities > toward livable cities

For Livable Mid-size Cities

Transportation Projects by ADB



Most Projects > for Large cities, Capital cities or inter-city scale

"Livable Mid-size cities

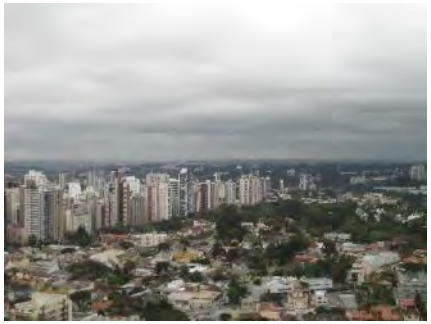
Improving livability only in large/ capital cities > migration from mid-size cities
> lead problems in large/ capital cities like overpopulation
> to relieve this trend, **improving livability in mid-size cities** is essential

Learning from Good Practices

ADB's learning from Good Practice / e.g. Curitiba, Brazil

Inducing high-rise building along bus corridor	Hierarchic bus network centering Bus terminal with community facilities
Plan by municipality & consigned operation to private sector	PDCA (1974~around2000) Pay in advance, bi-articulated vehicle






Worse comfort due to diminished quality of driver	Gentrification along bus corridor & high-income residents do not use bus
Inefficient controlling due to delayed installing of telecommunication technology	Easing of regulation for parking lot installing in CBD (2004)
Less emphasis on PDCA since 2000	Promotion of car owning & usage by government

- **What should we learn from good practice?**
- **How should we tell it?**

Disaster Prevention

https://www.flickr.com/photos/asiandevelopmentbank/17337409823/in/album-72157681959955955/

Urban Infrastructure and Communities

&

Preparation for Disaster Prevention

Problems in South-East Asia Countries

https://www.adb.org/projects/49378-001/main#project-pds

ADB's Vision

Urban Functions can't catch up the increase of population.

▼

- Collapse of urban infrastructure
- Vulnerability on disaster

▼

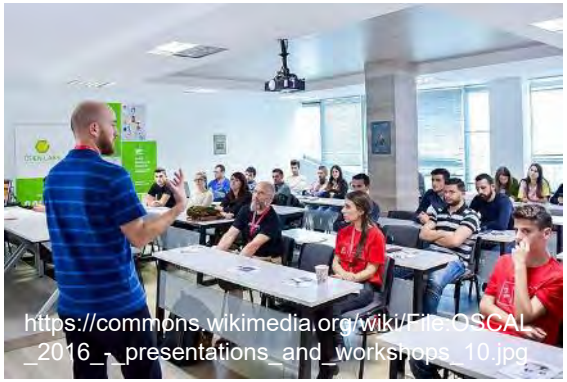
Solutions from ADB by Loan
Provide more advanced infrastructure to strengthen the city.

Chaos City in Bangladesh

Suggestions

Developing hardware are important, but we must think about software. There should be a gimmicks **connects infrastructures and area communities**.

Gimmicks?


https://commons.wikimedia.org/wiki/File:OSCAL_2016_-_presentations_and_workshops_10.jpg

Workshop on creating a city

http://www.445aw.afrc.af.mil/News/Article-Display/Article/998170/445th-aes-conducts-combat-water-survival-training/

Emergency and evacuation training


https://commons.wikimedia.org/wiki/File:US_Navy_090720-N-0807W-050_Sailors_from_Fleet_Activities_Sasebo_pick_up_trash_and_debris_during_a_community_service_beautification_project.jpg

Community Activities

Creating a City or Infrastructure together

Training
Self-help, Mutual-help, and Public help Spirit
and development on communities

Preparation for Disaster Prevention

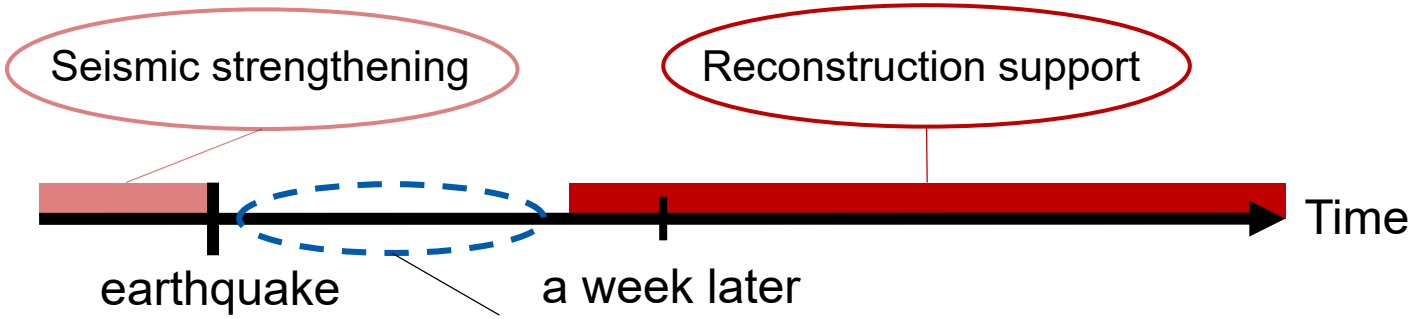
Problems in Asia

- Lack of enough shelter
- Slum vulnerability

Population growth + ⬇

Urban areas become more dangerous

ADB's projects



not supporting

How to survive until goods and supporters come?

If a huge natural disaster occurred ,
would enough emergency food be prepared ?

Views lead to “Livable Smart Cities”

Facilities Infrastructure	Settlement	• Building low-cost housing
	Mobility	• The Strategy for less dependence on cars • Utilizing & improving the existing systems • Safe & secure pedestrian spaces • Developing Livable mid-size cities
	Environment	• Site-choosing for projects • Care for existing environment
System Institution	Settlement	• Investment for Elderly Poor People • ICT + Asian Food Habits
	Disaster Prevention	• Stockpile of foods, materials
Human resource	Environment	• Environmental education
	Disaster Prevention	• Connecting infrastructures and Area Communities