

Bridge to Future Livable and Green City Clusters, Cities, Towns and Villages in the People's Republic of China

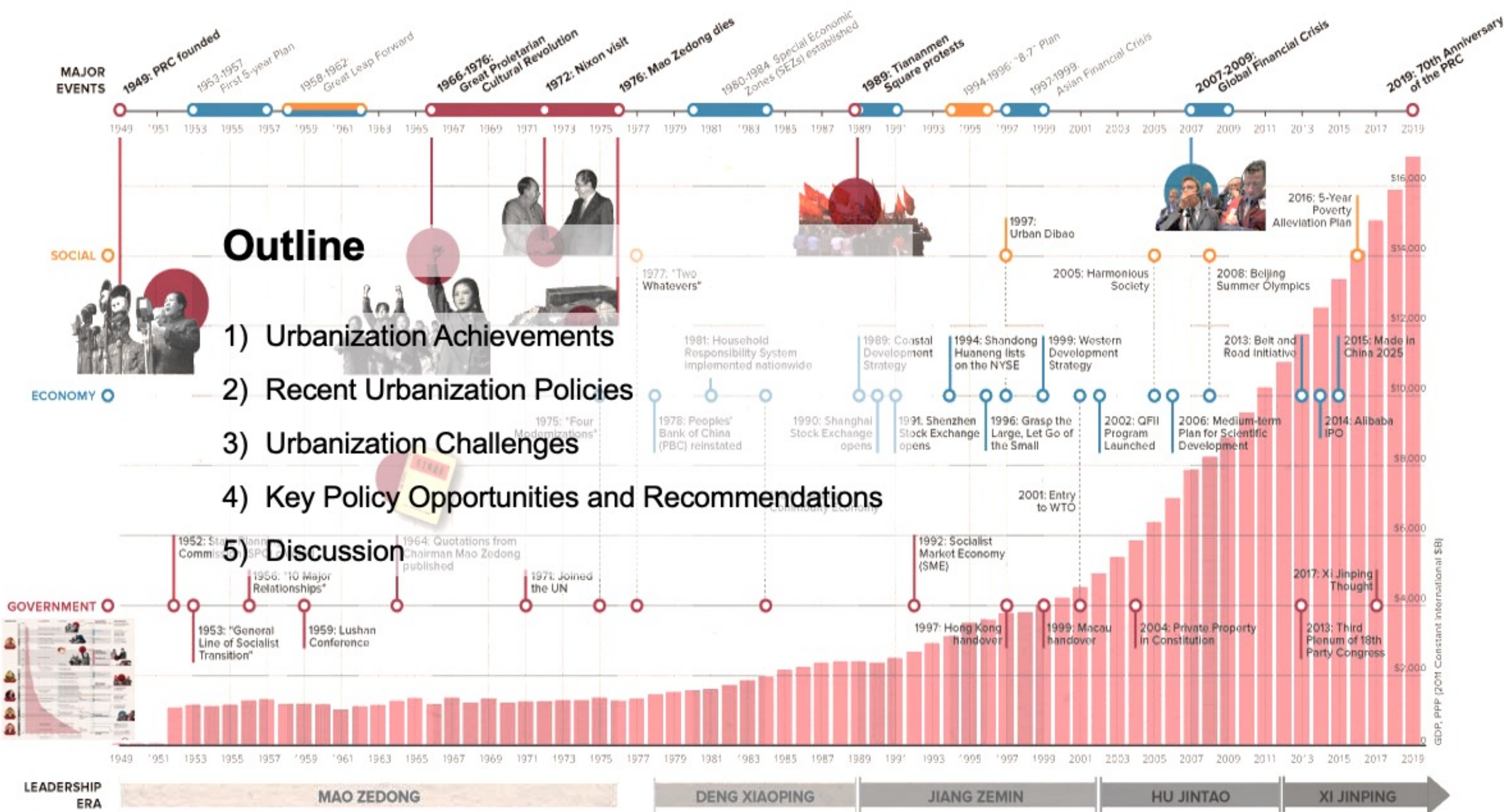
**Policy Options for Urbanization in the New Era
Aiming at Wellbeing and High-Quality Development**

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ADB EARD Working Paper Series





Source: Bert Hofman (2019), CNBC, World Bank

Outline

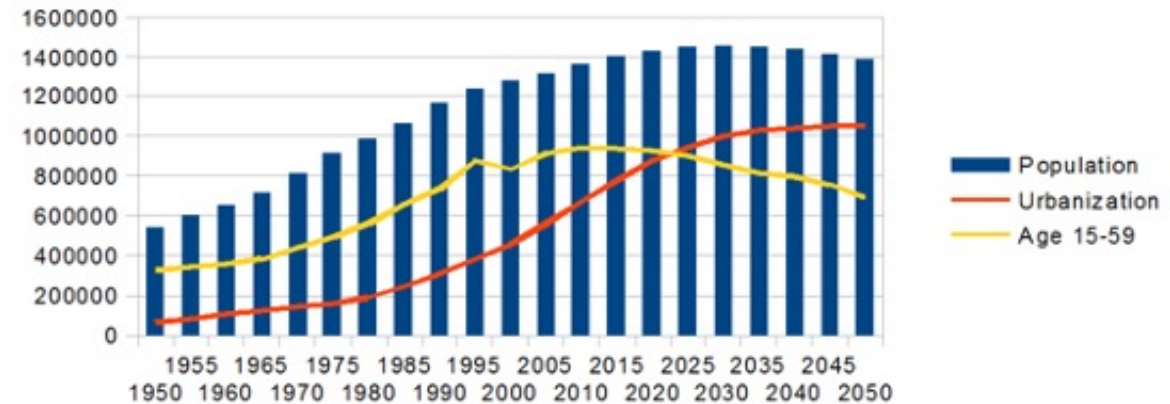
- 1) **Urbanization Achievements**
- 2) Recent Urbanization Policies
- 3) Urbanization Challenges
- 4) Key Policy Opportunities and Recommendations
- 5) Discussion



PRC's Key Urbanization Achievements

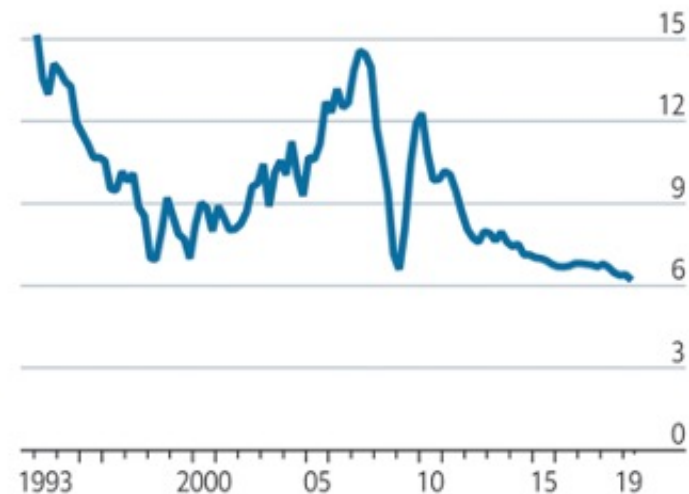
Rapid industrialization and urbanization - lifting millions out of poverty

- Urbanization + industrialization = key to economic growth
- Urbanization: 19% in 1978 -- 60.6% in December 2019
 - Urban residents: 848.43 million + 17.06 million YoY
 - Rural residents: 551.62 million - 12.39 million YoY
- 850 Million people lifted out of poverty
- Massive investments in urban expansion, infrastructure and public services with effective industrial policies, i.e. between 2000 and 2012: water supply from 63.9% to 97.2%, wastewater treatment rate from 34.3% to 87.3%, urban per capita road area from 6.1m² to 14.4 m².
- Demand for infrastructure and services remain high, especially in less-developed northeast, central, and west.
- Needed links into towns and villages and better integration
- Local governments increased debt, limited tax/revenue base, and limited options to finance infrastructure (high dependency on revenue from new urban land lease).
- “Rapid urbanization supported increased density and proximity. There is still room to increase pace and efficiency of urbanization, with China still 8% less urban than typical for its level of income.” (WB, 2019)



Ever more normal

China, GDP, % increase on a year earlier



Source: Haver Analytics

The Economist

Top: Rapid urbanization:

- 11% in 1949
 - 18% in 1978
 - 50% in 2010
 - 60.6% in 2019
- 300 million migrant residents without hukou

Left: Double-digit GDP growth affected by global crises, and recent slow-down: “New-Normal”



Outline

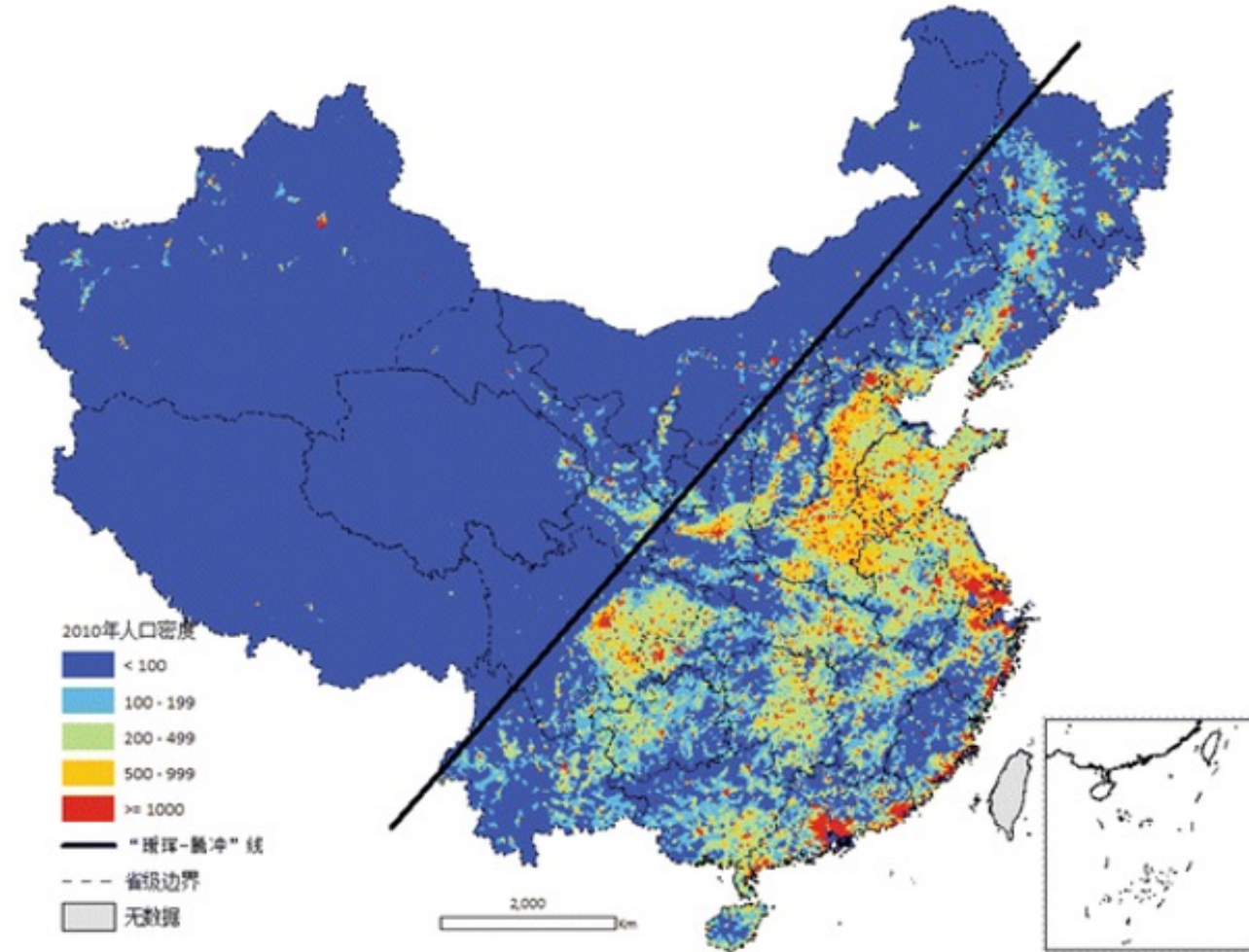
- 1) Urbanization Achievements
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PRC's Key Urbanization Recent Policies

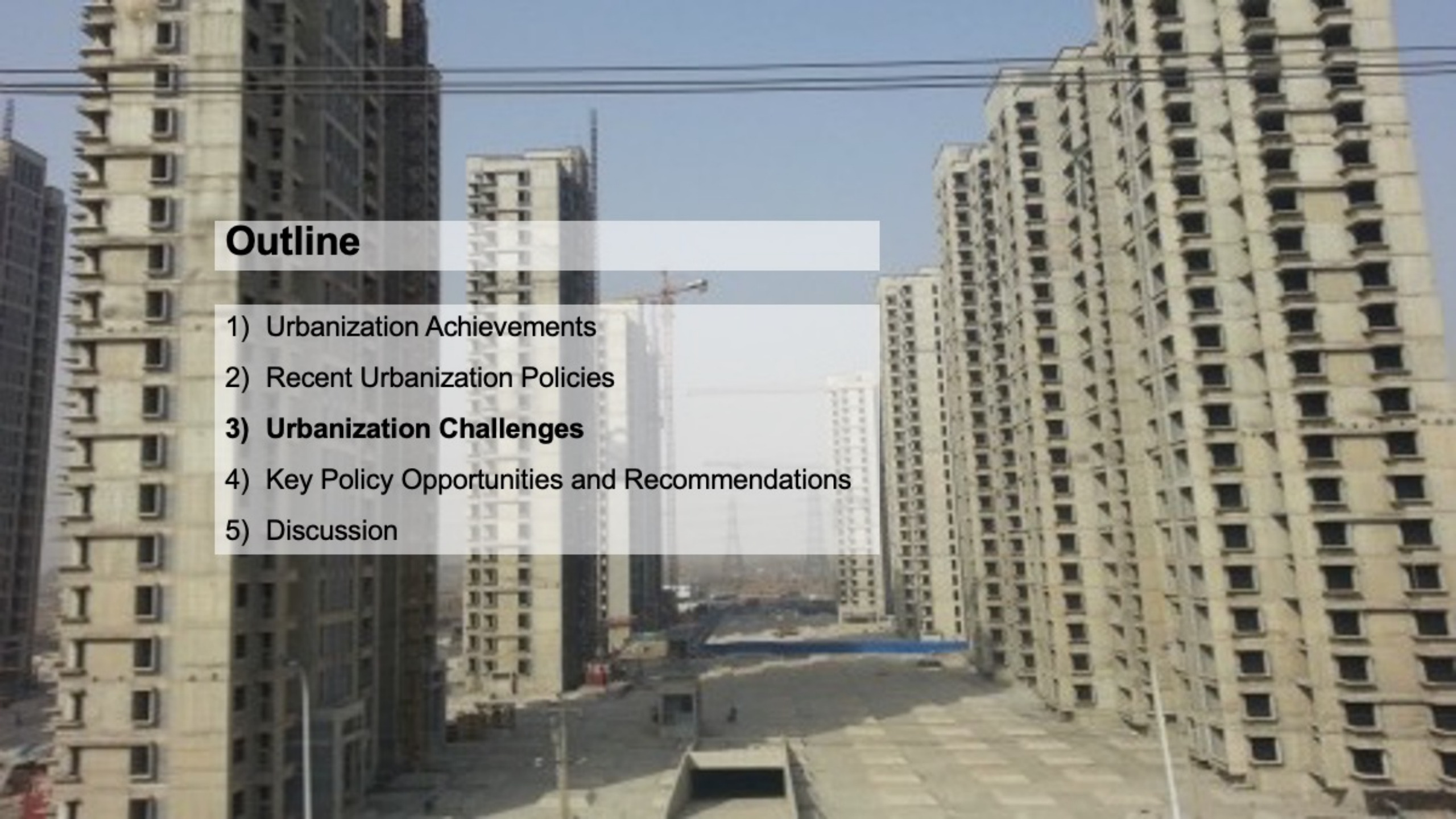
From GDP-growth to quality development

- Paradigm shift: from GDP-growth to quality-centered development model in 13FYP (2016-2020) and National New-Type Urbanization Plan (2014-2020)
 - Continued urban infrastructure support
 - Inclusive and environmentally sustainable principles
 - Hukou reform and issue of 100 million urban hukous
 - City cluster coordination of 19 clusters
 - Environmental red line (national and urban-rural)
- National urban programs:
 - development of western and central regions
 - northeastern revitalization
 - circular economy industrial parks
 - highlighting city cluster development
 - urban-rural integration
 - eco-cities
 - sponge cities, urban adaptation pilots
 - low-carbon city pilots
 - industrial transformation, relocation, and economic upgrading, resource-depleted cities
- PRC aims at becoming moderately modern society by 2035 (New Era) and high-income by 2049



Year	Northwest of the "Hu Huanyong Line"		
	Area Proportion (%)	Population Percentage (%)	Population Density (People/km ²)
2015	57.25	6.12	15.34

Year	Southeast of the "Hu Huanyong Line"		
	Area Proportion (%)	Population Percentage (%)	Population Density (People/km ²)
2015	42.75	93.88	314.85



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PRC's Key Urbanization Challenges

Population decline and demographic transition, aging (long-term challenge)

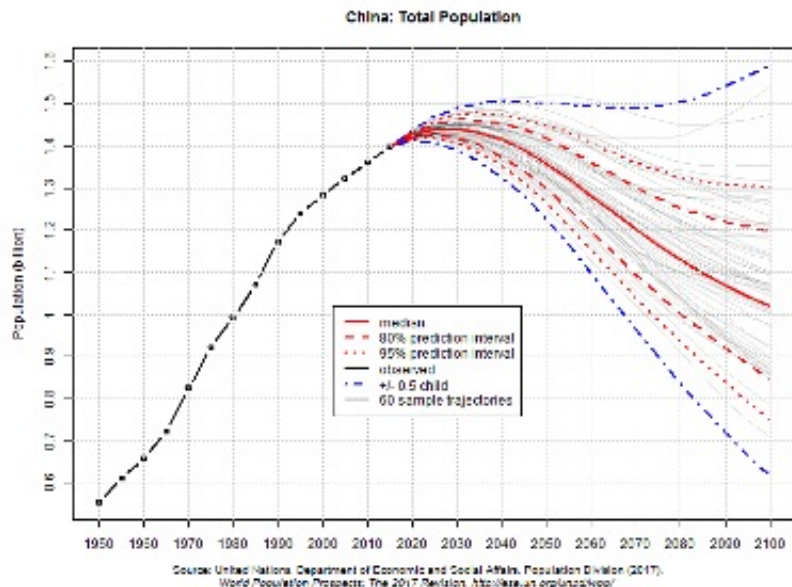
PRC population expected to drop by half from about 1.41 billion today to about 700-800 million by 2100 (UN)

Impact every sector and everyone and has regional and global impacts.

Urbanization will slow down

Challenge of aging and associated emerging four-generation urban society is massive and multisectoral

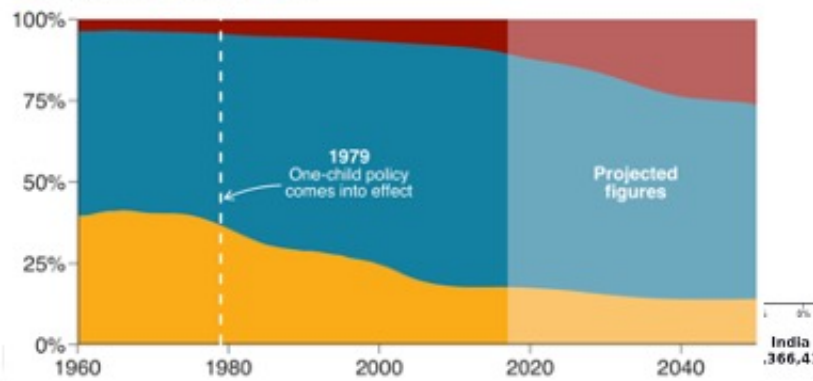
Urban planning perspective: The year 2100 is **only** 80 years from now - urban planning decisions and investments last even much longer.



Breakdown of China's population by age group

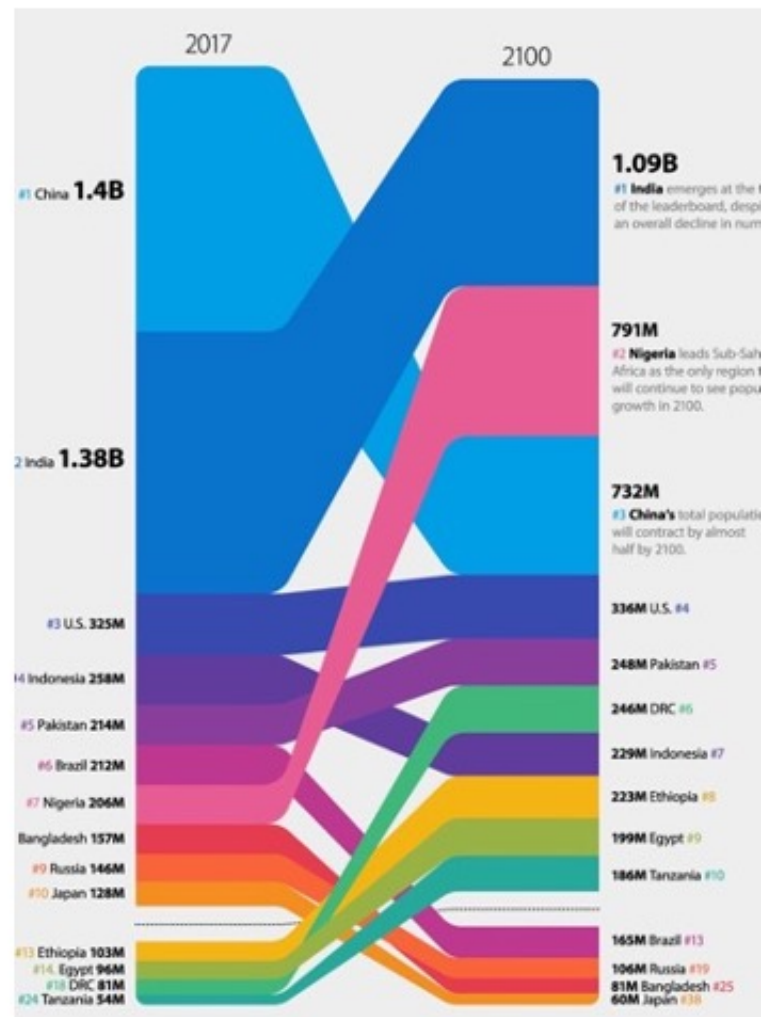
Proportion of total population (1960-2050)

0-14 years 15-64 65+



Source: The World Bank

BBC





PRC's Key Urbanization Challenges

Regional and local imbalance, demand / supply mismatch, shrinking cities

Regional and urban-rural disparity

Continued growth in coastal region focusing on urban centers

Within coastal region shrinking of more peripheral micro-locations

Continued out-migration from western, central and northeast region, shrinking cities, focus on regional centers

Oversupply in peripheral locations: industrial land and structures, infrastructure, residential and commercial

Lack of affordable housing in central places

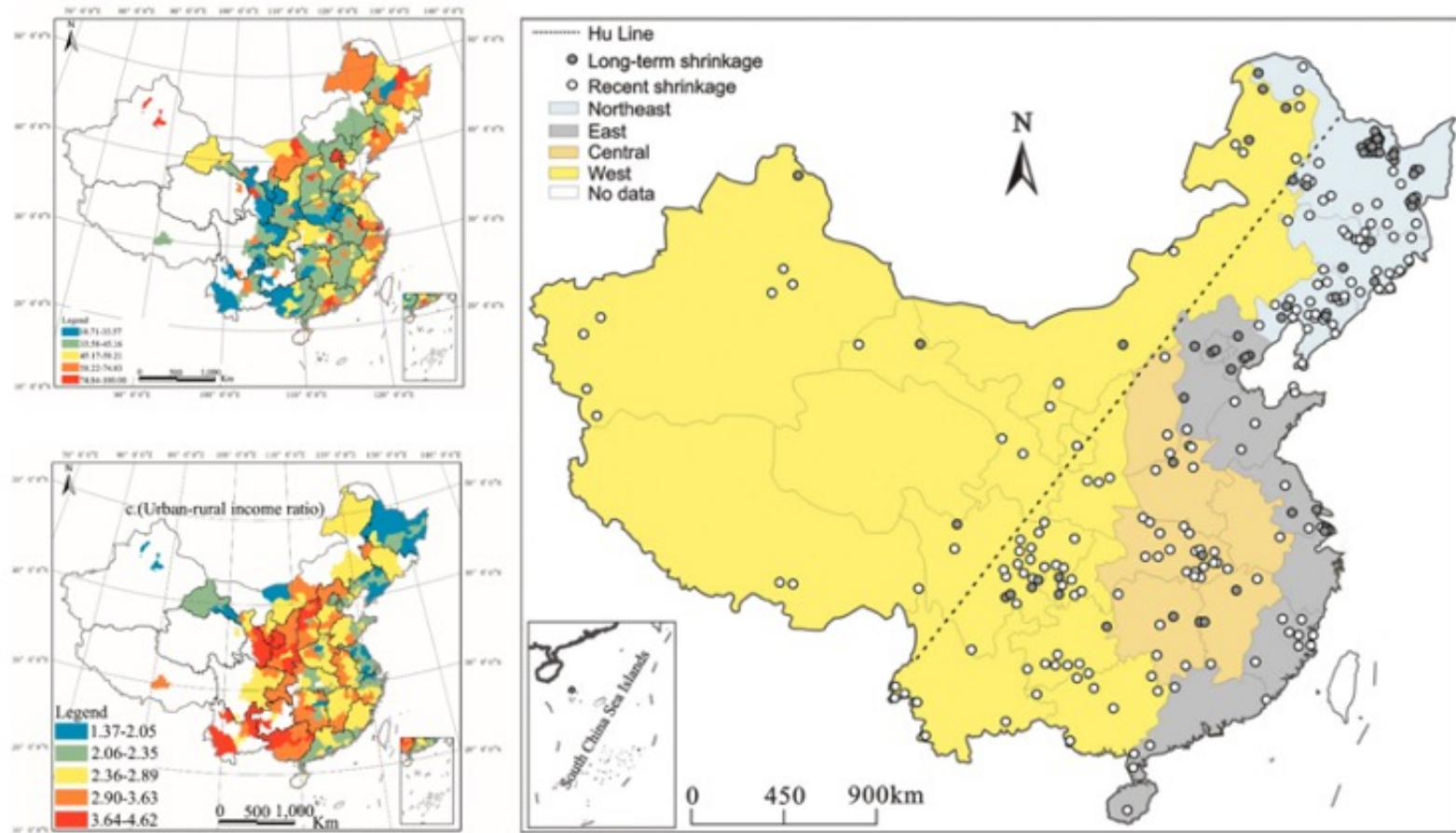


FIGURE 4 China's shrinking cities: long-term (1990-2010) and recent (2000-2010) urban shrinkage patterns.



PRC's Key Urbanization Challenges

Linear GDP-growth model not sustainable

Economic and urbanization model largely followed industrialized countries' linear model of extraction of resources, consumption, and disposal, which also applied to land.

PRC produces large waste amounts

Recent practices led to sprawling and polluting land- and resource-extensive urban and industrial development resulting in environmental loss, pollution, ecosystem fragmentation.

Once mining and industrial land has become economically exhausted, it is often abandoned.





PRC's Key Urbanization Challenges

Unsustainable land-based development model – Fiscal unsustainability

Greenfield expansion-based development led to significant oversupply and mismatch of supply and demand, i.e., industrial land, commercial and housing and assets tend to be in oversupply in remote locations while affordable housing is in demand in big cities.

There is an urgent need to reform local government finance and generate sustainable local public revenue as currently local governments remain highly dependent on income from leases of new urban expansion.

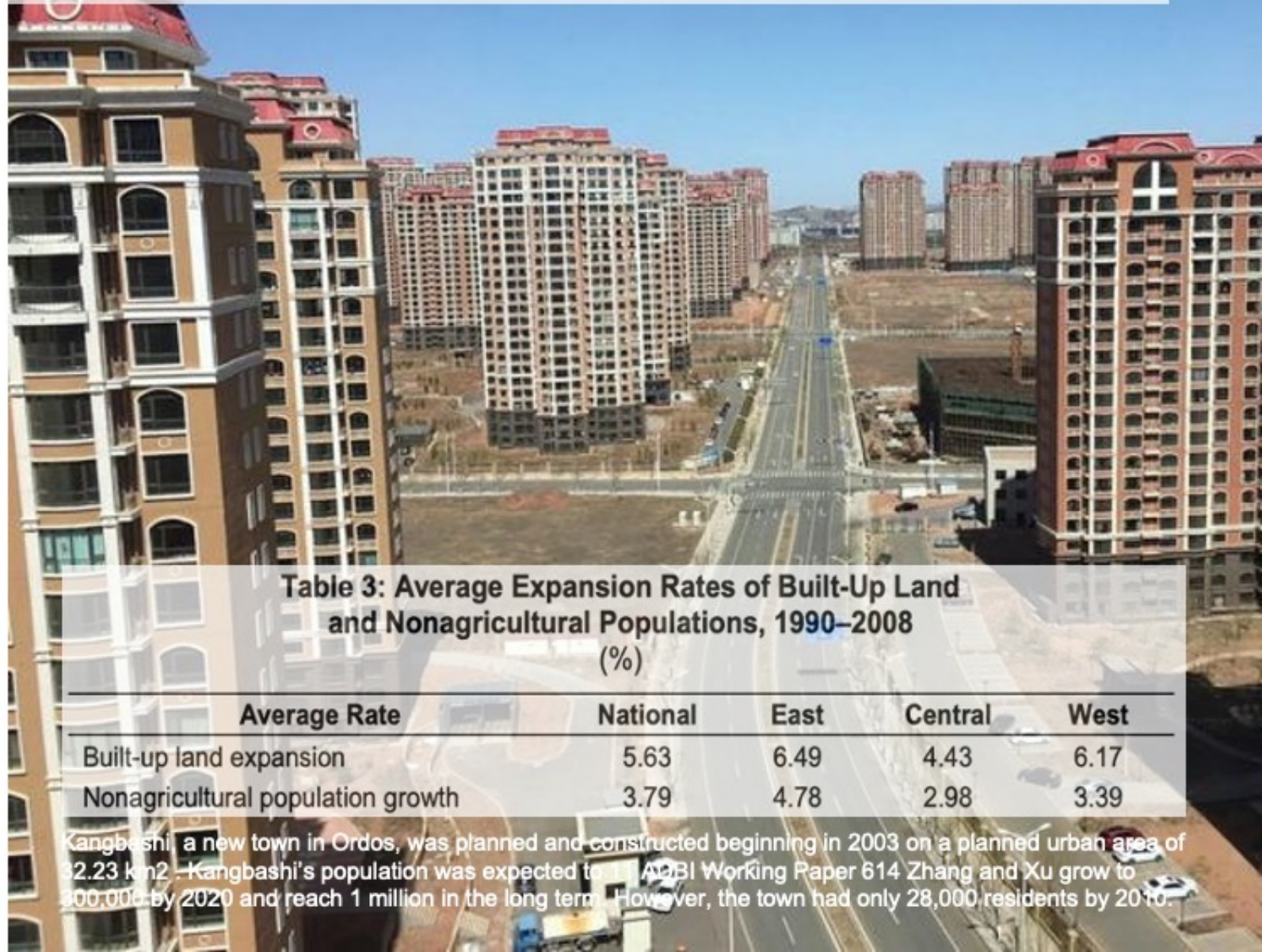


Table 3: Average Expansion Rates of Built-Up Land and Nonagricultural Populations, 1990–2008 (%)

Average Rate	National	East	Central	West
Built-up land expansion	5.63	6.49	4.43	6.17
Nonagricultural population growth	3.79	4.78	2.98	3.39

Kangbashi, a new town in Ordos, was planned and constructed beginning in 2003 on a planned urban area of 32.23 km². Kangbashi's population was expected to reach 1 million by 2020 and reach 1 million in the long term. However, the town had only 28,000 residents by 2010. (ADB Working Paper 614 Zhang and Xu)



PRC's Key Urbanization Challenges

Cities lack livability, are energy-extensive, exposed to climate change risks.

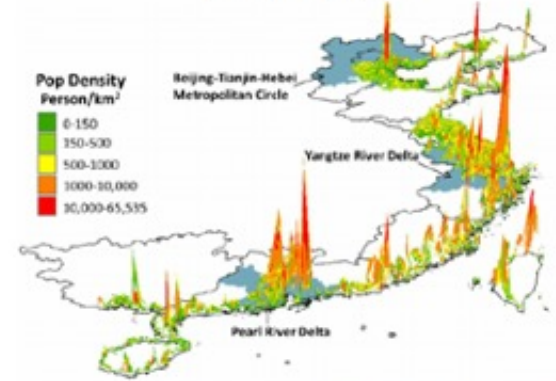
Physical urban arrangements characterized by land use separation, large blocks, and wide streets, fenced and gated large entities, lack of livability and walkability promote consumptive lifestyles.

Overall WEF competitiveness ranking (28); urban livability rankings highest is below 100 (Shanghai, ranked by cities not nations)

Floods, droughts and desertification, cyclones and sea-level rise have become more severe and frequent, and urban residents, areas, infrastructures and assets are increasingly exposed to related risks



Figure 31: The PRC's Low-Lying Coastal Region at Risk from Climate Change Impact





PRC's Key Urbanization Challenges

Environmental loss, degradation and pollution

Environmental loss, degradation and pollution caused by urbanization and urban and industrial production has been causing significant ecosystem fragmentation and soil-, surface- and groundwater pollution.

Air quality on many days in larger cities reached levels beyond WHO thresholds, i.e. PM2.5 (industry, mining, traffic, household use of coal.)

Surface water quality in many cities below suitability for human contact.

Impacts livability and public health.



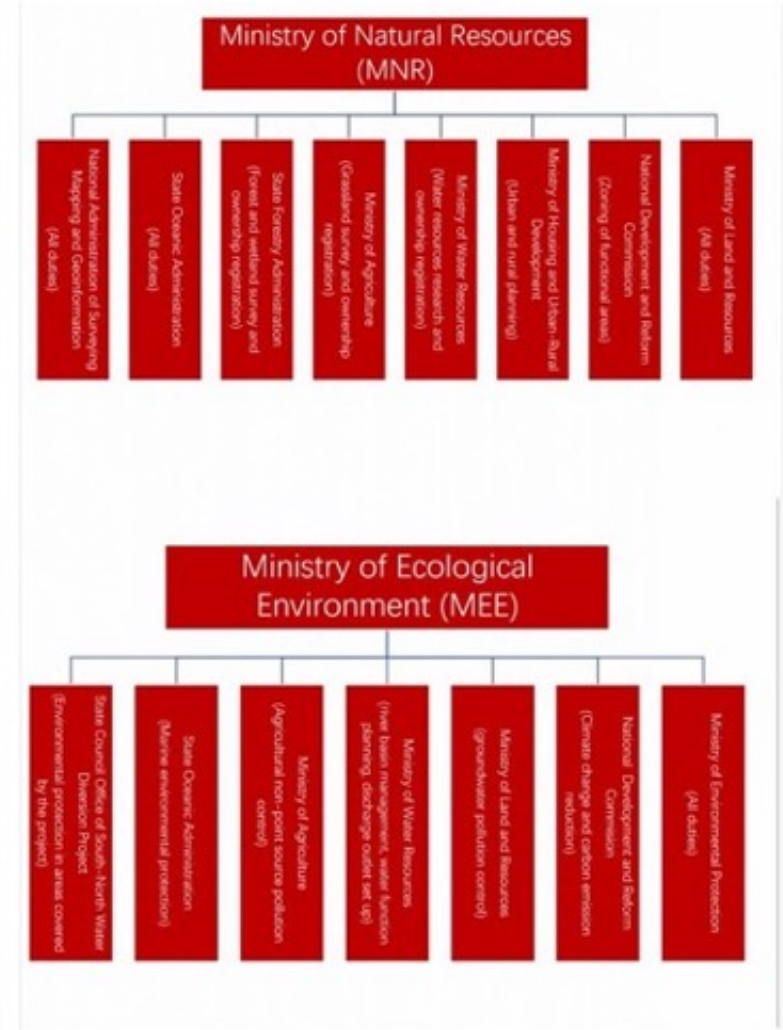


PRC's Key Urbanization Challenges

Silos, overlapping and contradicting policies and administrative authorities

There are some examples in the areas of finance and fiscal transfers, land, water and environment policies, and authorities where objectives diverge between the different line agencies.

This makes working together across sectors and levels of government challenging in the PRC where reducing the departmentalization and promoting closer collaboration among the agencies would bring a whole range of benefits.





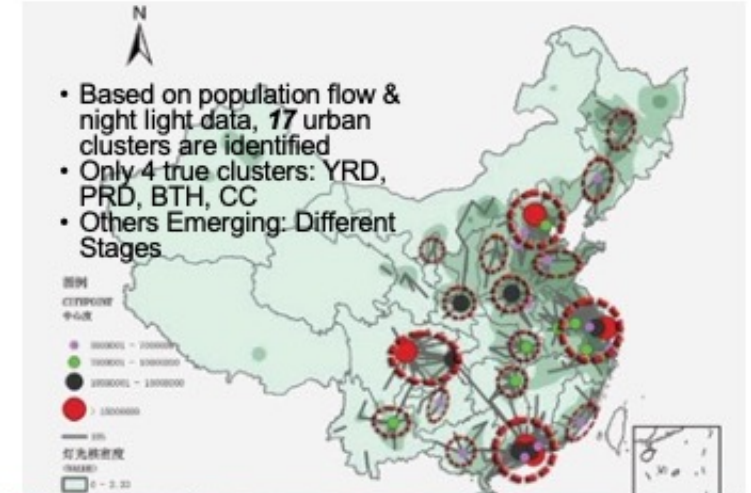
PRC's Key Urbanization Challenges

Inefficiencies, fragmentation of boundaries, lack of city cluster coordination

Fragmentation of administrative boundaries and lack of institutions and mechanisms to coordinate planning, management and operation and portability of social protection systems

Constrained from systemic gap between strong national systems and strong municipal authority, planning and infrastructure systems.

Inadequate subnational cluster-wide institutions and coordinating mechanisms exist across local boundaries and within clusters that reinforce local boundaries.





PRC's Key Urbanization Challenges

Impacts from COVID-19 pandemic and associated containment policies

Improvements in urban environment sanitation, water supply, wastewater and solid waste management including medical waste

Surface water and soil pollution reduction and remediation.

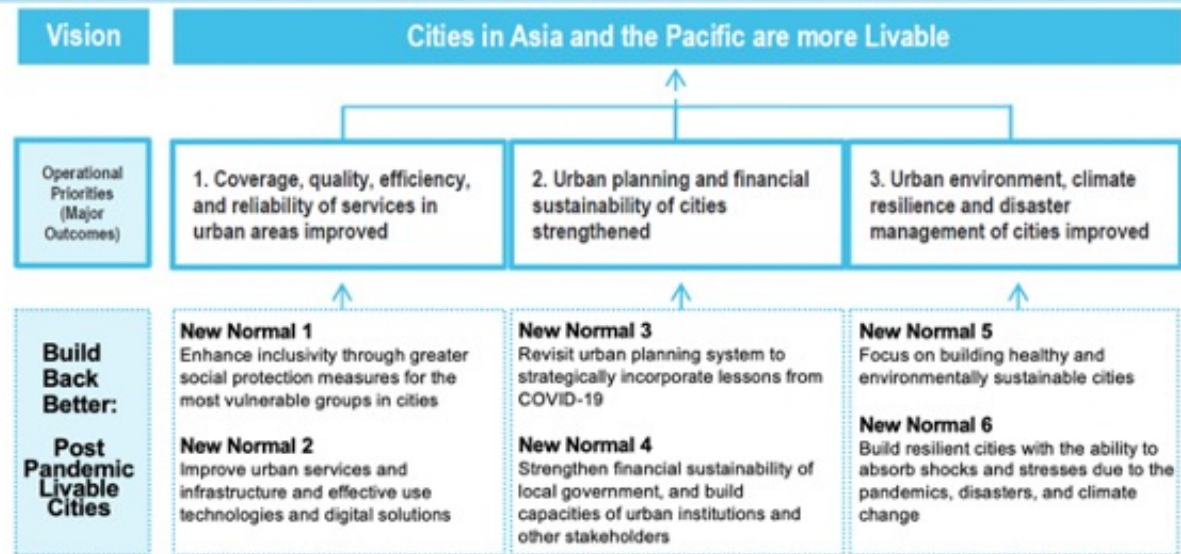
Social impacts may be severe people may lose formal and informal jobs affects ability to maintain livelihoods.

Households may become unable to repay mortgages severely affecting life savings and real estate economy

Market demand and supply reduced, domestic and international supply chains and trade interrupted/reduced



Making Cities More Livable: Post-COVID-19 Short and Medium Actions for the New Normal



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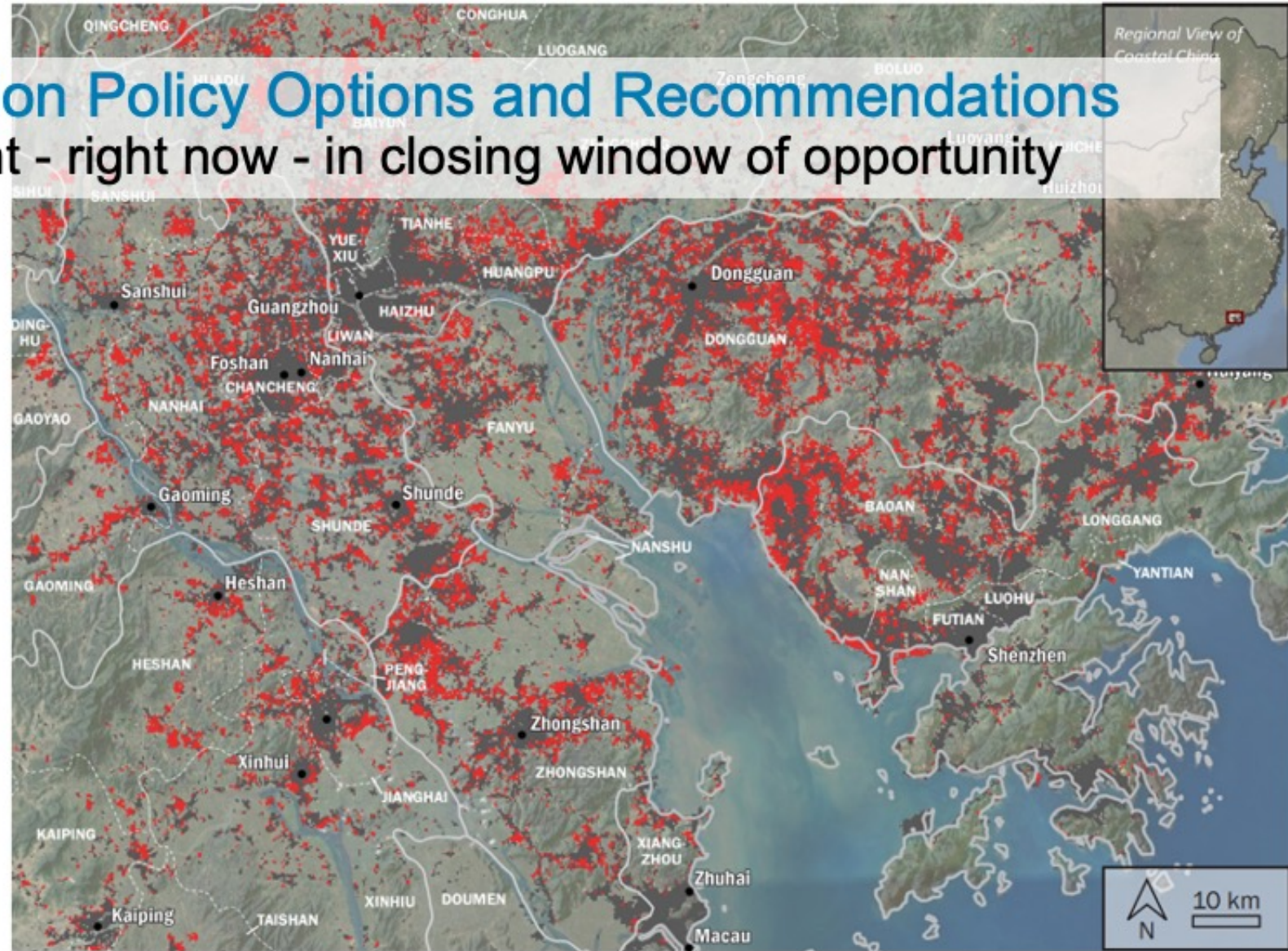


PRC's Key Urbanization Policy Options and Recommendations

It is essential to get it right - right now - in closing window of opportunity

PRC's urbanization is at decisive crossroads and this may be last stage of significant urbanization through rural-urban migration.

Urgent need to get urbanization *right* to place it on a sustainable path in this closing window of opportunity, and policies in the very short term should be aligned to achieve this important objective.



MAP 3: URBAN EXPANSION IN THE PEARL RIVER DELTA, CHINA 2000-2010

■ URBAN EXTENT c 2000 ■ URBAN EXTENT c 2010

China's Pearl River Delta urban area has surpassed Tokyo.

Source: Maps produced by University of Wisconsin-Madison, Sept. 2013; Administrative boundaries from University of Michigan - China Data Center



PRC's Key Urbanization Policy Options and Recommendations

Livable, green, inclusive and competitive city clusters, cities, towns & villages

“Livable Cities”: people first, accessible green environment, integrated land-use, transport, infrastructure, green, services, public goods.

Pedestrian-friendly and safe environments, universal design

Balanced urban, rural and integrated urban-rural development

Alignment of policies and institutional responsibilities to ensure cross-sector and cross-jurisdiction cooperation.





PRC's Key Urbanization Policy Options and Recommendations

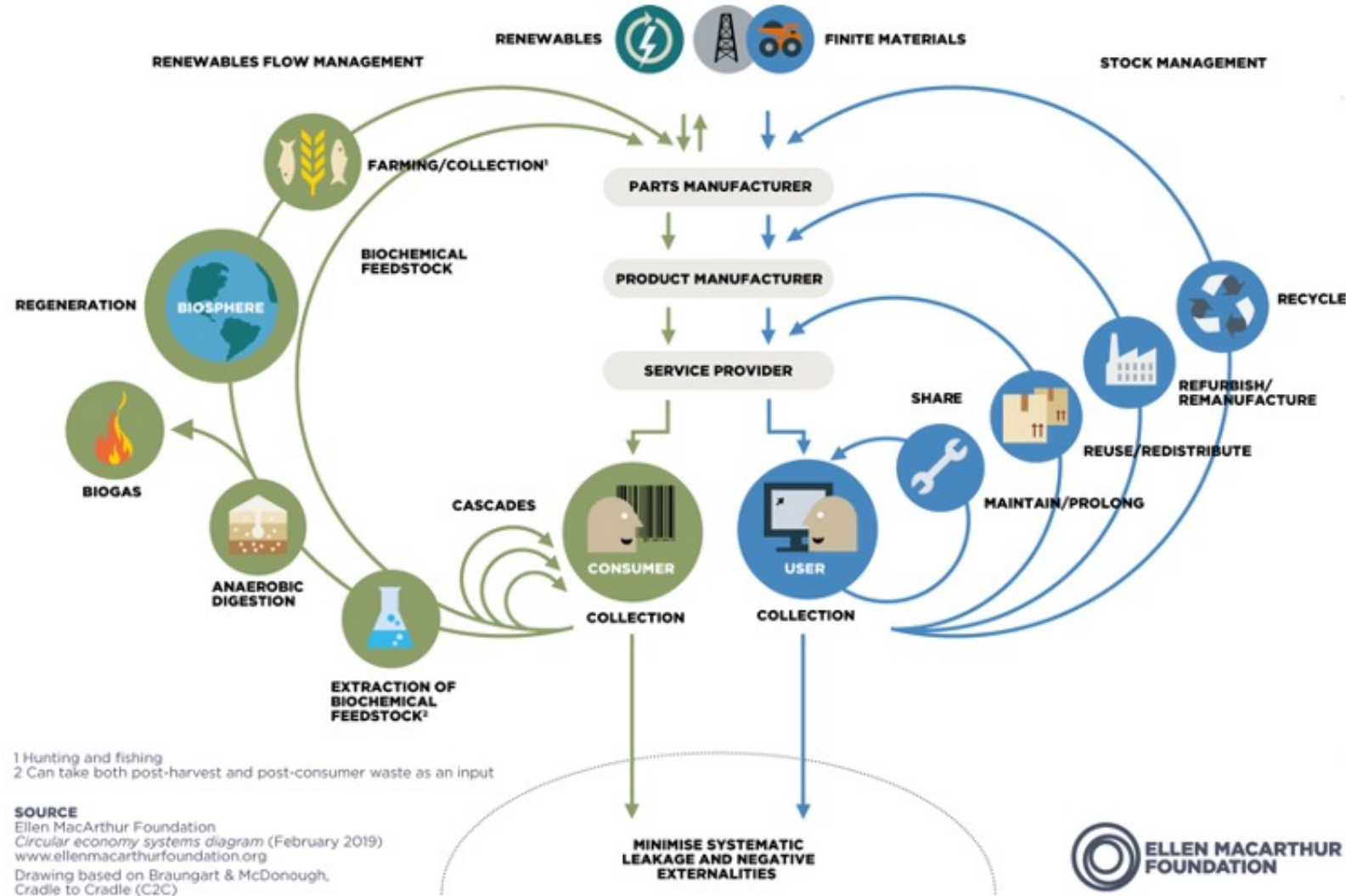
Green Circular Economy and Zero-Waste Cities

Mindset change needed to transform PRC to green circular urban economy.

Recent development followed linear “take-make-waste” model of extraction of natural resources, processing into consumable products, their use and disposal, even applied to land.

Need effective enablers to implement existing laws and programs for developing a green circular economy with zero-waste cities internalizing in the valuation of resources and products, including land.

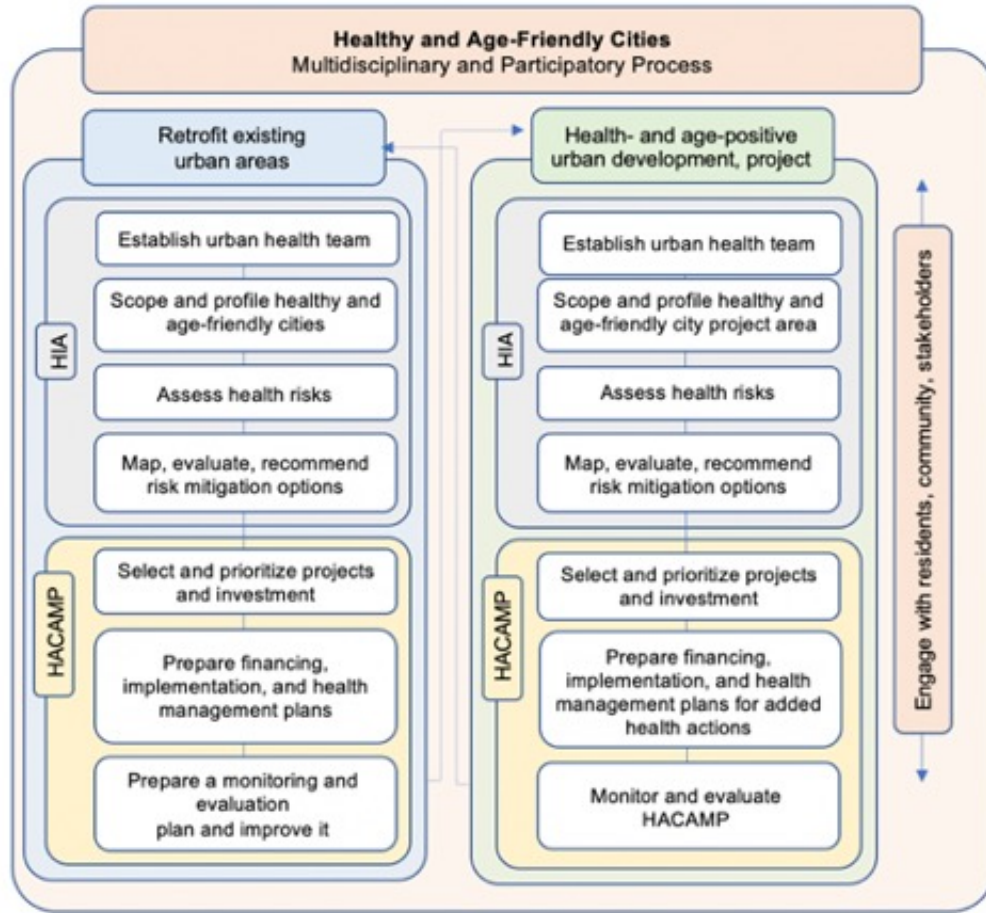
Pilot “cradle-to-cradle” concept. PRC can be global green economy leader.





PRC's Key Urbanization Policy Options and Recommendations

Healthy and Age-Friendly Cities



HACAMP = healthy and age-friendly city action and management plan, HIA = health impact assessment.
Source: Authors.

Integrating Sustainable, Healthy and Age-Friendly City Planning in Europe promoting healthy lifestyles and healthy vibrant communities for all generations



PRC's Key Urbanization Policy Options and Recommendations

Smart Cities - ICT infrastructure and applications integrated in all activities

Policies should enable smart city ICT systems and applications

Engage both the public and the private sectors

Accessibility of big data make them open data for the private sector to develop smart applications and services

Linking people with urban governance, infrastructure and services real time in planning, infrastructure management, traffic management and transport services, commerce, public service provision including in health and education, disaster early warning and management





PRC's Key Urbanization Policy Options and Recommendations

Rehabilitate and retrofit urban areas from last forty years into livable, sustainable and attractive places for knowledge-jobs and -workforce

Paramount task of profoundly physically and institutionally transforming existing carbon- and energy extensive urban areas, many built in past forty years

Correct land use separation, large-blocks and wide roads and fenced-in compounds - make pedestrian and bicycle-friendly

Add small roads and paths and include buildings to add density and mix of functions and make areas more livable and urbane



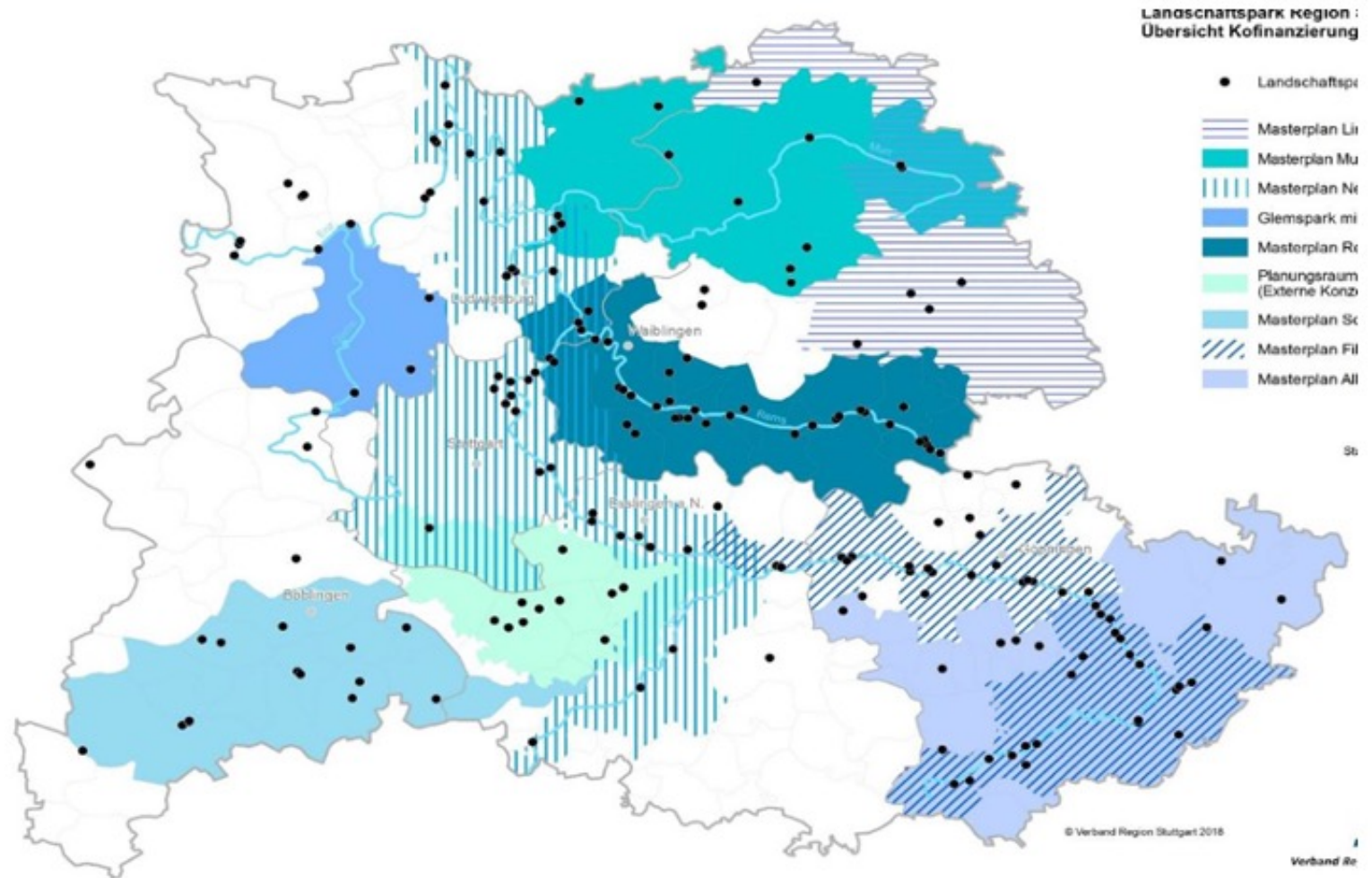


PRC's Key Urbanization Policy Options and Recommendations

Governance of city clusters and metropolitan circles, urban-rural integration

Develop city cluster / metro-region level institutions with authority and budgets to enable top-down planning, as well as facilitate horizontal cooperation:

- unified masterplans, infrastructure and services
- economic & industry clusters
- integration of labor markets
- connectivity and mobility (regional commuter rail)
- sharing of social services
- urban-rural links, value chains
- green space protection, regional parks
- ecosystems services
- ICT platforms including GIS





PRC's Key Urbanization Policy Options and Recommendations

Align policies, authorities across sectors and levels of government and enable sustainable local government finance

Continue institutional reform with clear responsibilities, formal and informal working arrangements across sectors, local boundaries

Reform fiscal and taxation systems to ensure sustainable local government finance

Align master planning, land management, urban land allocations, land use change, zoning codes, environmental protection, farmland protection, water resource quality and flood risk management, energy systems and grid authorities





PRC's Key Urbanization Policy Options and Recommendations

Long-term: Collective vision for the PRC's long-term future development

No obvious and simple solutions to harmonize near-term needs of (some) continued urban development as sustainable, social, spatial - with the long-term consideration of massive population loss and aging.

Urbanization planning is long-term, as cities, trunk infrastructure, land uses, parcels etc. are very long-term investments and structures, and getting them wrong would have severe adverse effects on economy, environment, society, and individuals.

Idea: pilot inclusive discourse for common long-term vision with wide participation across regions, ages and whole spectrum of society.





PRC's Key Urbanization Policy Options and Recommendations

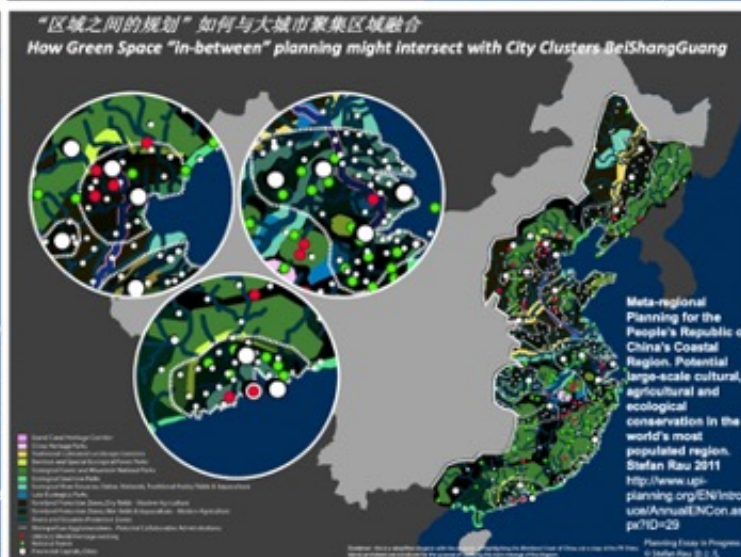
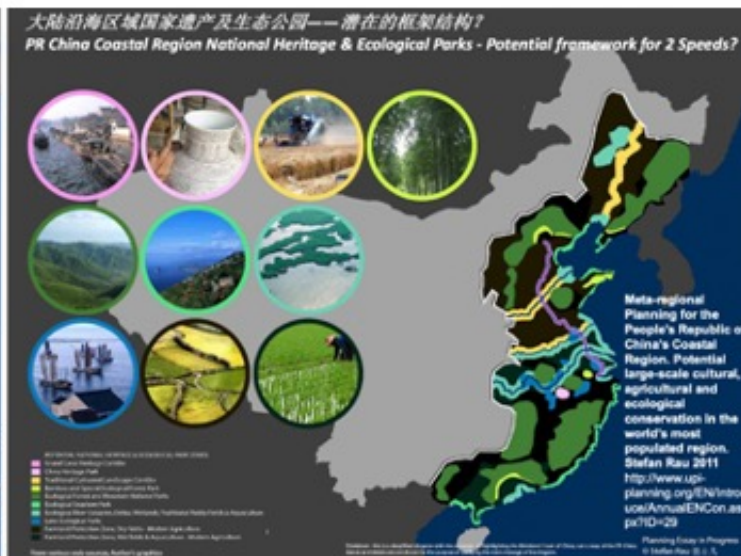
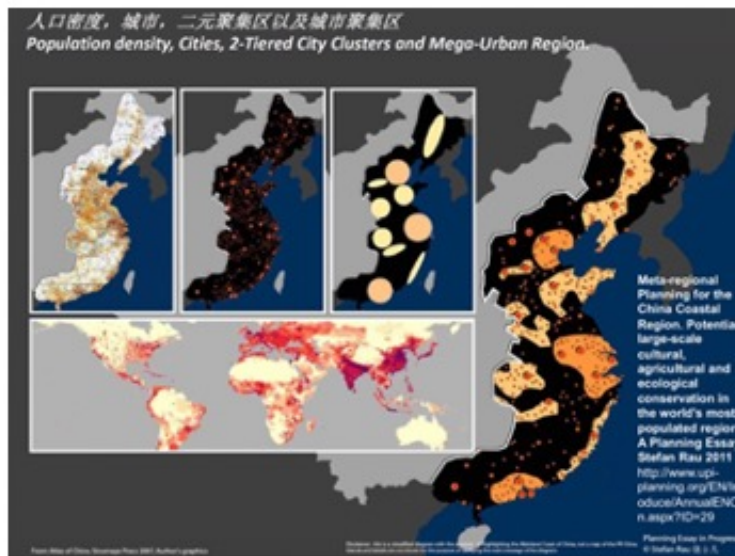
Large scale: Meta-regional and national planning with system of two speeds

PRC's coastal region most densely populated in the world.

Sprawl threat to environment, food security, ecosystems and resilience.

Proposal for strategic spatial planning and policies for entire area to enable system of "two speeds" as equally valuable development and protection models that are mutually reinforcing:

- (i) High-speed first- and second-tier city clusters with defined development areas, and
- (ii) large scale national parks to protect natural, agricultural and cultural land.





PRC's Key Urbanization Policy Options and Recommendations

COVID-19 and containment policies impact considerations


Recommendations hold, remain highly relevant (compact city...)

Implement programs for further water supply, wastewater and solid waste management (including medical waste)

clean up air, water and soil in both urban and rural areas.

Promote HIA and HACAMP (health impact assessment and healthy and age-friendly city action and management plan)





Discussion

Wuhan Tiandi Mixed-use Development (WHTD) is the first district-scale commercial development in China awarded the Leadership in Energy & Environmental Design Neighbourhood Development (LEED®-ND) Pilot Gold certification. With a site area of 48ha, WHTD embraces high quality retails, restaurants, hotels, grade-A offices, live-work residence and public amenities. The total gross floor area of approximately 1,500,000m² is planned to accommodate a population of 20,000.