

# The potential of urban and peri-urban agriculture in Asia

Investment opportunities for food security, poverty reduction and city resilience

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# What is urban and peri-urban agriculture?

## Location/scale



Urban garden



Urban rooftop



Urban roadside



Peri-urban



Urban off-plot

## The Peri-urban

- A dynamic, extended **interface** with the urban core
- An inner edge receiving the **immediate impacts** of the city
- An outer edge mainly a **market-related zone of influence**

## Type/variability

### Contribution to the urban food system

- Variable orientation to subsistence and market
- Opportunities for direct marketing
- Focus on high value products



Livestock raising



Aquaculture



Institutional gardens



Specialty agri-business



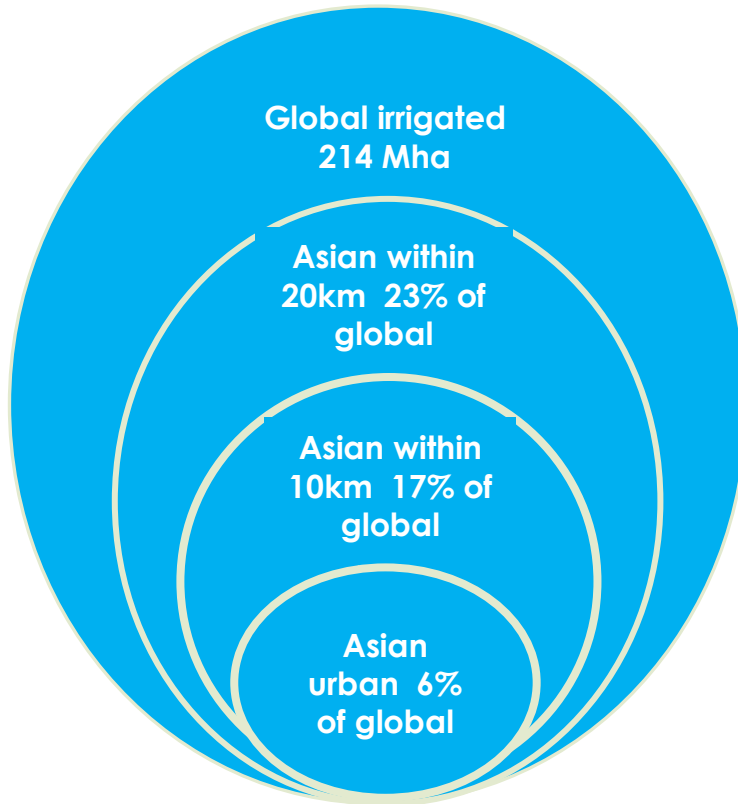
# Cities and agriculture in space

- Complex network of actors, processes & relationships
- Rural-peri-urban-urban linkages
  - Food
  - Labor
  - Inputs and contaminants
  - Ecosystem services
  - Knowledge
- City regional food systems
  - Social and economic Interdependences
  - Policy interdependencies

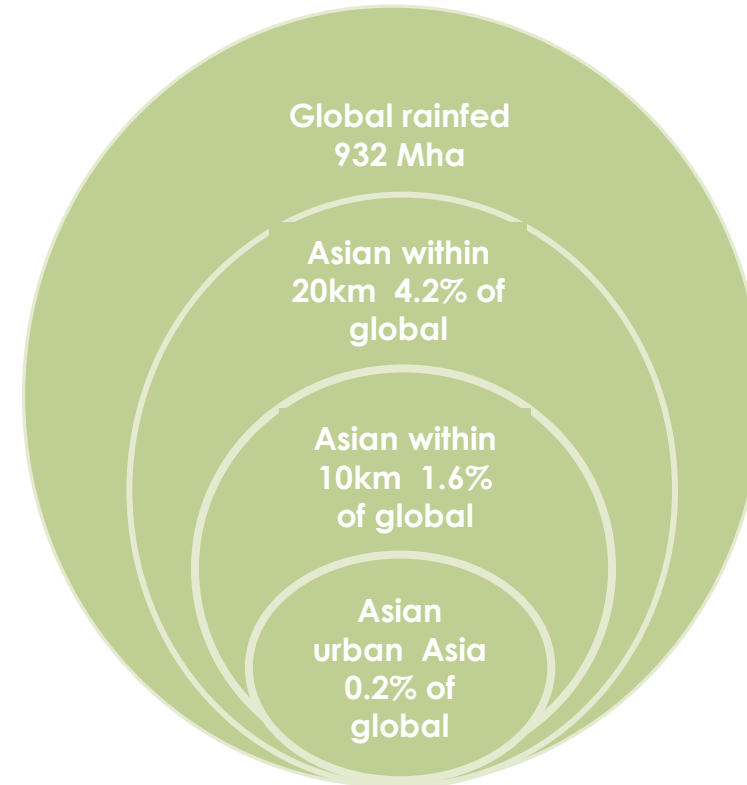


# Agricultural production within and around cities

Irrigated cropland within urban clusters and within 10 and 20km radii, as proportion of global total

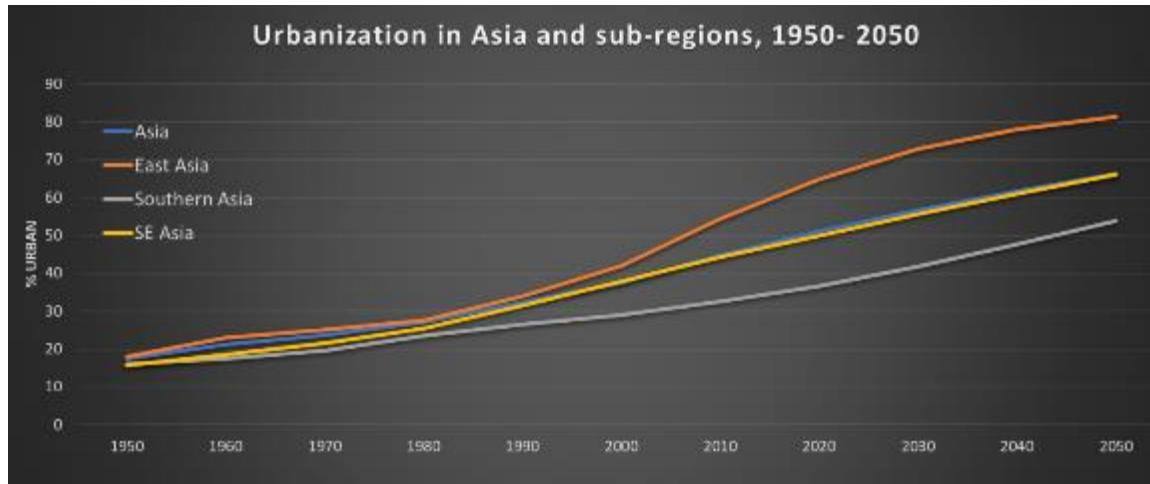


Rainfed cropland within urban clusters and within 10 and 20km radii, as proportion of global total

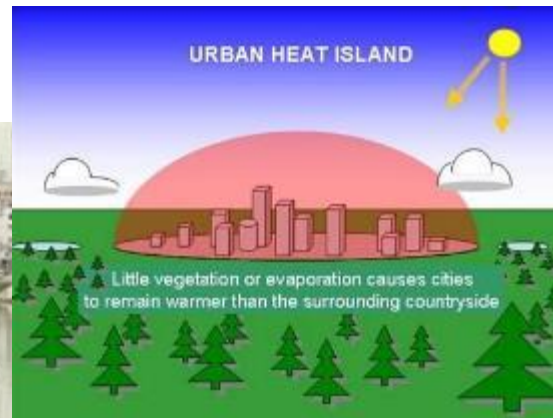


# Challenges facing urban and peri-urban agriculture in Asia

## Urbanization



## Climate change



## Food culture



- Nutrition transition
- Market failure in high consumption of sugar, fats and salt

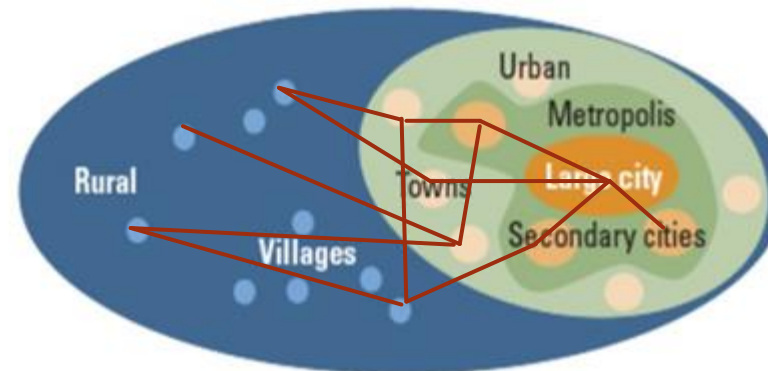


# Responding to challenges and opportunities: 1. City region food systems governance

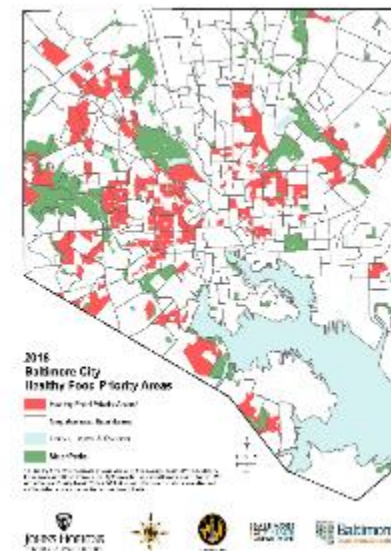
- Supporting cities to become more 'food smart'
- Helping change perceptions and actions about local food systems through mapping
- Building multi-sectoral and multi-stakeholder food system networks

8% of Asian cities are proactive, integrative and inclusive according to WB study

**LEARN FROM THOSE 8%!**



Food environment mapping in Baltimore



# Responding to challenges and opportunities: 2. Food security and diets

## Urban food production and income

- On average 31% of urban residents in Asia producing food (5 countries)
- Multi-country study –among producers 25% of income from farming
- Wide variability in importance for different countries and food types (Dhaka 10% of fish; Hanoi, 50% of pork)



## City recognition of agriculture (171 Asian cities)

- 65% with extension programs for farmers
- 62% zoning for agriculture in plans
- 41% with funds/subsidies for urban farms

## Investment opportunities

- Expanding access to/protection of agricultural land: zoning incentives, land trusts, financing (implementing plans)
- Technical innovation – selective intensification and investment
- Innovative use of wastewater for agriculture
- Diet-sensitive food marketing





# Responding to challenges and opportunities:

## 3. A safer, more inclusive informal food sector

### Informality in cities

- About 515 million in informal employment in urban Asia Pacific
- About 130 million (25%) in informal sector **agri-food system**

### Informal sector food marketing

- Main employment option for women, but also greater safety issues
- Women's limited access to markets in some countries
- Distinction between survival enterprises and commercial enterprises – 70-30%?
- Key economic and social role of wet markets where most food bought and sold
- Key role of public-private partnerships between markets and vendors





# Investment opportunities in urban food marketing

- Renovating wet market infrastructure for equity and inclusion – ‘village super markets’
- Decentralization of marketing
- Diversification of markets – farmers/green markets
- Local food markets as knowledge centers for healthy diets
- Institutional markets purchasing from local producers
- Through micro-finance and training, make urban food marketing promoter of decent work



# Responding to challenges and opportunities: 4. Urban resilience

## Climate change mitigation/adaptation through multi-functional UPA

- Diversity of food and income sources, but increased local contribution to reduce food miles
- Green spaces reduce heat island effects
- Buffer role on risk-prone lands to prevent construction
- Ecosystem services to regulate flooding, nutrient recycling and biodiversity
- Cultural services to enhance livability of cities



## Contribution to a circular bioeconomy

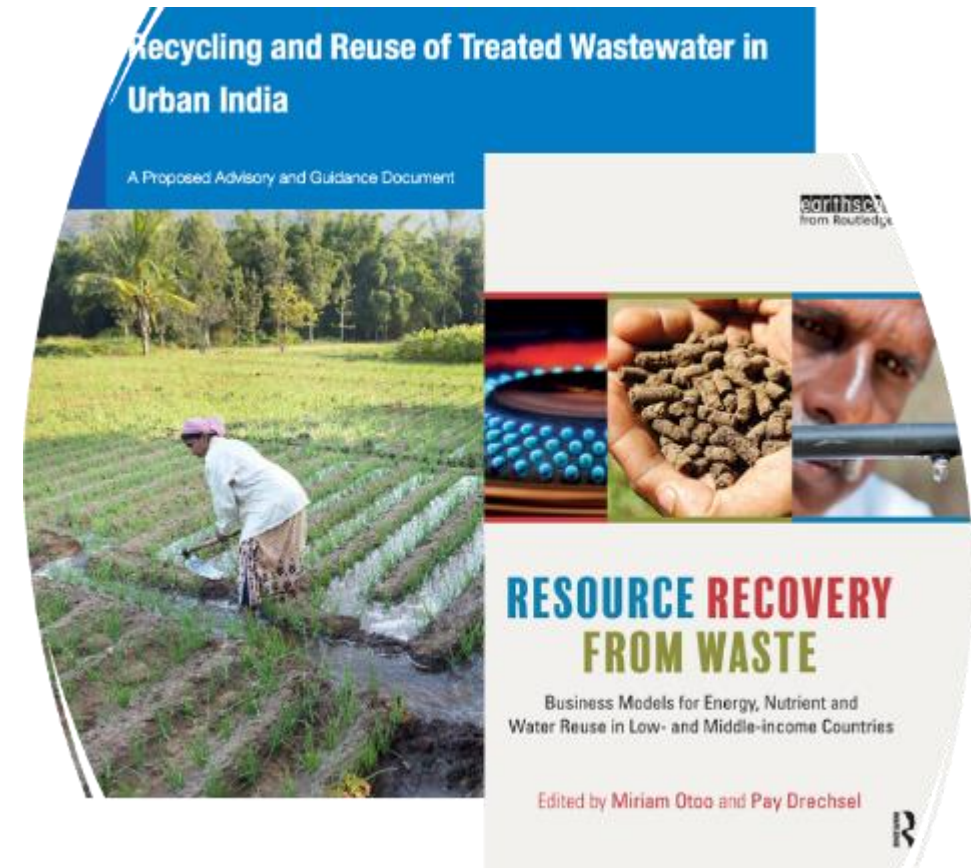
- Reducing waste through short value chains
- Safe recovery of waste through crop-livestock systems
- Safe reuse of wastewater
- Recycling of sold wastes as compost





# Investment opportunities for resilient cities

- Strengthening the ecosystem services provided by UPA
- Promotion of safe use of urban organic wastes as animal feed
- Use of solid wastes as feedstock for mushroom insect rearing enterprises
- PPPs for composting of solid wastes
- Massive recover and resuse of urban wastewater



# Local, national and international collaboration opportunities involving UPA



“a profound reconfiguration of earlier conceptions of cities in international development” (Abdullah 2018)

- Cities at the center of sustainability and climate resilience involving urban agri-food systems
- Learning and sharing through a wide range of city networks (ICLEI, C40, MUFPP, others)
- Backstopped by existing agri-food R&D organizations (RUAF)
- Increasingly supported by multilaterals like FAO Green Cities Initiative, ADB Green Cities, WB, UNEP, WFP
- A new Global Initiative by the CGIAR: ‘Resilient Cities through Sustainable Urban and Peri-urban Agri-food Systems’



# Thank you



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