



## Food Security in Asia

Food security in Asia has traditionally been defined as having stable prices for rice in the major urban markets of a country (ADB, 2010)

*“The unprecedented food crisis of 2007-2008 has compelled the entire world to attach high priority to food security. Particularly it has proven the international market as an unreliable source of food at times of crisis and reminded us the need to exploit whatever comparative advantage we have in food production. In Bangladesh, the crisis has signalled a policy shift from self-reliance to self-sufficiency.”*  
(Sheikh Hasina, 2010)

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## Major Challenges Facing the Region

1. Population growth
2. Impact of climate change
3. Urbanization
4. Water
5. **Food security**

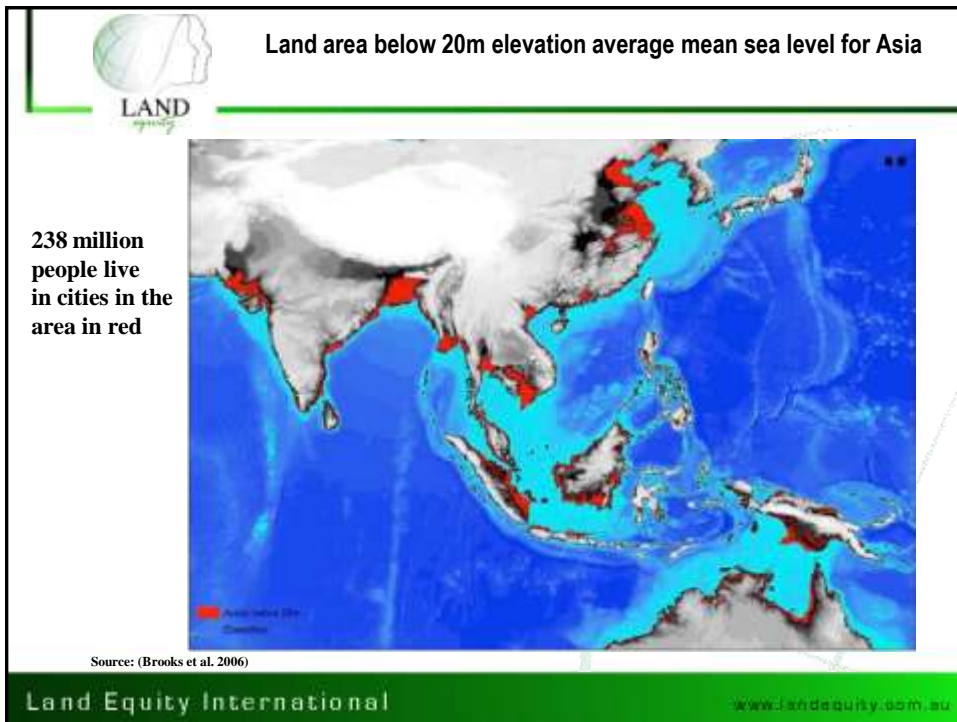
(UNHabitat, 2011)



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**Food for the Cities - Regional Workshop – Bangkok**  
**Ensuring Resilient Food Systems in Asian Cities – 17-18 November 2011**  
**The Challenge of Feeding Asian and Pacific Cities**



	GDP per capita (PPP, \$) 2003	Population (million) 2005	Urban Population (million) 2005	Proportion Urban			Estimated Increase in Urban Population	
				(%) 1950	(%) 2005	(%) 2030	(million) 2005–2030	(%) 2005–2030
World		6,453.6	3,172.0	29	49	61	1,772.7	56
Asia		3,917.5	1,562.1	17	40	55	1,102.2	71
Malaysia	9,512	25.3	16.5	20	65	78	10.8	66
Thailand	7,595	64.1	20.8	17	33	47	14.6	70
PRC	5,003	1,322.3	536.0	13	41	61	341.6	64
Philippines	4,321	82.8	51.8	27	63	76	34.8	67
Sri Lanka	3,778	19.4	4.1	14	21	30	2.4	59
Indonesia	3,361	225.3	107.9	12	48	68	80.0	74
India	2,892	1,096.9	315.3	17	29	41	270.8	86
Viet Nam	2,490	83.6	22.3	12	27	43	24.5	110
Pakistan	2,097	161.2	56.1	18	35	50	79.3	141
Cambodia	2,078	14.8	2.9	10	20	37	5.8	197
Bangladesh	1,770	152.6	38.1	4	25	39	48.4	127
Lao PDR	1,759	5.9	1.3	7	22	38	2.3	177

GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, PPP = purchasing power parity, PRC = People's Republic of China.  
 Sources: United Nations, *World Population Prospects: The 2002 Revision*; *World Urbanization Prospects: The 2003 Revision*; and United Nations Development Programme, *Human Development Report 2005*.

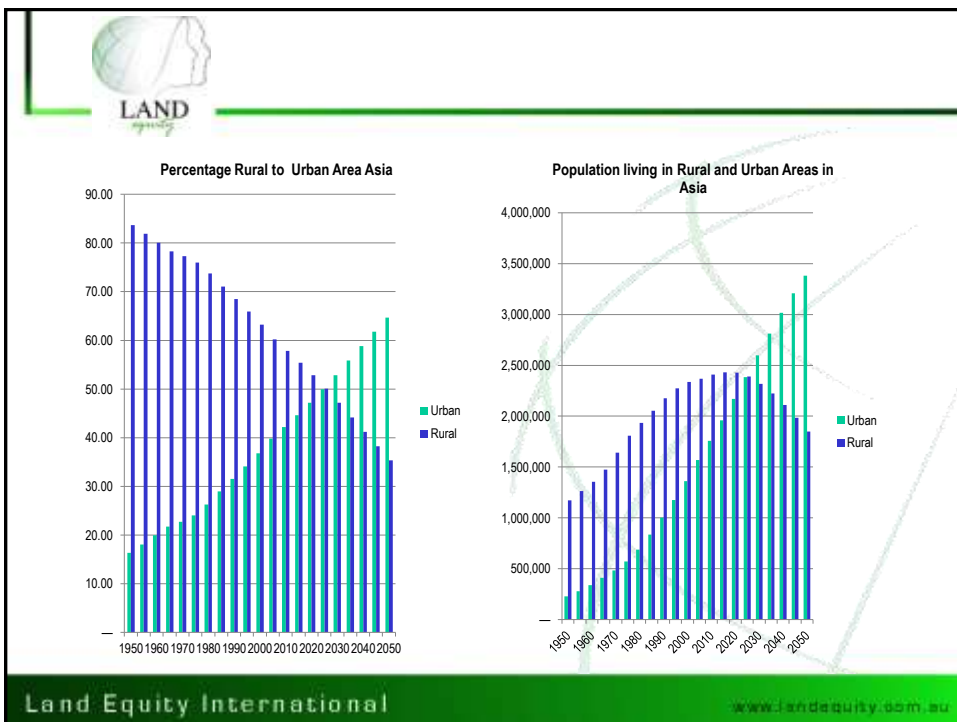
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## What affects is Urbanization Having on Asia Cities

- By 2020 more than half the population of Asia will live in cities. By 2050 more than 65% of Asia's and the Pacific's population will live in cities.
- The area of cities in Asia is growing at more than twice the rate of population (5.1% to 2.6%) consuming somewhere between 12 -15 km<sup>2</sup> of mainly agricultures land a day.
- By 2030 We will lose more than 100,000 km<sup>2</sup> of land to urban development even if we stabilise urban densities at around 8000 ppkm
- Each year over 44 million people are added to the population of Asian Cities
- An additional capacity of 6 ML of water per day ( 2GL/y) is required to augment urban water supply systems.
- By 2025 there will be a net loss of jobs and populations in rural areas.
- Skill shortages to maintain a highly efficient rural economy will become a serious problem in rural areas in the future forcing changes in agriculture practices to meet the demand for food. More food will need to be prodcued in cities

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## Challenges to Food Security

<b>Rural Sector Supply Problem</b> <ul style="list-style-type: none"><li>• Security of land tenure</li><li>• Fragmentation of land ownership &amp; underutilisation of land</li><li>• Access to capital</li><li>• Access to markets</li><li>• Farming practices</li><li>• Transport costs</li><li>• Quality Assurance</li></ul>	<b>Urban Sector Demand Problem</b> <ul style="list-style-type: none"><li>• Demand for greater range, specialization and choice of food</li><li>• Change to consumption of more processed foods</li><li>• Food wholesale and distribution industry</li><li>• Food quality and hygiene</li><li>• Management of food waste</li><li>• Demand for land</li></ul>
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**Rural-Urban Linkages**

- Supply chain management
- Transport systems
- Market intelligence

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## Rural Sector- Supply Challenges

- Security of land tenure- in many rural areas farmers lack **clear land rights**. Legal evidence of assets are a precondition to formal lending.
- Most farmers are poor with **small landholdings**. Small parcel sizes result in the underutilisation of land. **Economies of scale** are not realised and fixed costs for farmers remain high.
- Access to capital is hampered by **lack of local formal credit facilities** for farmers.
- **Greater competition on food producing land** for bio-fuel, urban development, carbon sequestration and environmental services.



## Rural Sector- Supply Challenges

- Small farmers feed local supply chains. **Access to competitive markets** is restricted to larger producers.
- **Unsustainable farming practices** including use of mineral fertilizer causing land degradation;
- **High transport costs** and food waste due to infrequent, poor quality and expensive service;
- Little access to food export markets, because of a lack of **regulatory quality assurance**;



## Urban Sector Demand Problems

- Demand for **food variety**- rising share of meat, milk, and other animal products in the daily diet.
- “**Urban**” **eating patterns** such as reliance on street food, pre-prepared and processed food.
- **Urban food markets** suffer from inadequacies including poor hygiene and waste management
- **Lack of clean water for washing** fruit/vegetables, contamination of foodstuffs by dust and airborne pollutants, poor hygiene, improper storage.

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## Urban Sector Demand Problems

- **Waste generation** is increasing and organic waste is the major contributor to this problem.
- Urbanisation will mean the **loss of agricultural land** to residential, industrial development, and a decline in the number of farm workers.



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## Urban-Rural Linkages

- Producing, processing, and marketing domestically grown food requires urban-rural linkages of **infrastructure, handling, packaging and storage.**
- **Market intelligence-** the inability of the market to ensure that farmers have access to adequate
- information about the quality of agricultural inputs like fertilizers and machinery;
- Chaotic markets, higher food costs and poor food quality are associated with more **traffic congestion, improper food transport storage and handling.**

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Feeding cities will require policies, initiatives and substantial investment by governments, business and communities to address rural and urban supply and demand side issues. The problem is not a country or city one: but rather enhancing the efficiency and effectiveness and capacity of the food industry supply chain

## **SOLUTIONS**

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## Solutions

**Short Term Strategies**

- These need to be focused on better planning, logistics management and the reduction of waste in the food industry supply chain



**Long Term Strategies**

- These need to be focused on enhancing the capacity of the food industry supply chain to grow food in a more sustainable way for changing markets and consumption patterns.

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## Short Term Strategies

- **National and Regional Food Security Plans-** the process of strategic thinking by governments about being more self-sufficient with food. To include improved quality assurance (products to be graded at source, rather than having mixed products)
- Public/private **freight transfer** and **cold storage & food warehousing** could reduce food waste by 10%.
- **Improved logistics management systems** for tracking food collection and distribution

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## Long Term Strategies

- **Land Reform-** systems to better support land administration and management are needed. This is a difficult but necessary activity.
- **Defining Property Rights-** critical to planning for food security, property rights provide the catalyst for investment in agricultural technology, seeds, crop diversification, etc.
- **Amalgamation-** economies of scale are necessary for reducing fixed costs, better access to markets. This will occur through commercialization and amalgamation of land holdings.

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## Long Term Strategies


- **Improving long-haul and food bulk handling facilities:** improvements to rail and long haul road and local shipping freight handing. Most of this investment is required in cities.
- **Improved soils Management and Farming Practices**
- **Urban Farms-** systems to grow food in cities, including vertical and roof top farming, hydroponic basement farming, street trees, and farming waste fill sites.
- **Using Industrial Ecology** to support agriculture and food production. Using grey-water and heat energy for glass house production of food in cities in cold and temperate climates of Asia
- **Changing Nutritional Habits** in cities to reduce waste, consumption and Obesity.

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**CONCLUSIONS**

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**Conclusions**

- Agriculture Reform Policies
- Reducing Waste
- Improved Handling Systems
- Raising the Income of Farmers



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