

Sustainable Urban Development

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“Our Common Future”

- World Commission on Environment and Development (WCED) [1987]
- Earth Summit (1992, Rio de Janeiro)
- Cities in developed countries are using more than their fair share of resources and producing too much pollution.
- *It has been estimated that London requires 50 million acres of land to sustain its population – the food and timber requirements as well as the vegetation necessary to absorb carbon dioxide emissions. This area is roughly 125 times the actual surface, a vivid example of how unsustainable a city can be*

Approximately 16 million more people are
expected to be in urban areas of West Bengal
by 2030

(from 26 million in 2011 estimated)

Sustainable Development

- Sustainable development is all about minimizing this impact and ensuring we keep the planet green and alive
- People are increasingly choosing areas on the basis of quality of life

LUDCP - Raghunathpur

- **Vision: To develop Raghunathpur as a well-planned, state of the art industrial Hub of Purulia District**



LUDCP - Brada

- Constituted in 2005
- 24 mouzas of North & South 24 Parganas
- 74 applications received for development
- New LUDCP being drawn up

PPP Eco Park

- 5 Acre Eco Resort*



“Any city is divided into two, one
the city of the poor, and the other
of the rich”

-Plato, 429 BC

Notification 1448 dt 20 July 2011

- “Earmarking at least **25% developed land** in all housing projects (both public and private agencies) for EWS/LIG category “
- 5000 sq m or more: 25% for EWS/ LIG
- Questions:
 - USO-like solution?

4P

- Public, Private, People Partnership
- Shared Economic Returns
- Co-operative partnership & Land Pooling with facilitator

“Chapatti Cities”

- The ‘solution’ to the unsustainable nature of cities throughout the world has been frequently referred to as making these cities more ‘compact’, to make better use of the resources currently available
- Chapatti cities a British Legacy
- 5.9 in Sector 5 for IT, Parking

Densification of Cities

- ‘Compact city’: to achieve more sustainable urban form.
- Benefits of the compact city over ‘urban sprawl’,:
 - less car dependency thus lower emissions, reduced energy consumption
 - better public transport service
 - shared infrastructure & amenities
 - Innovation centre

National Seminar on 14th July 2012

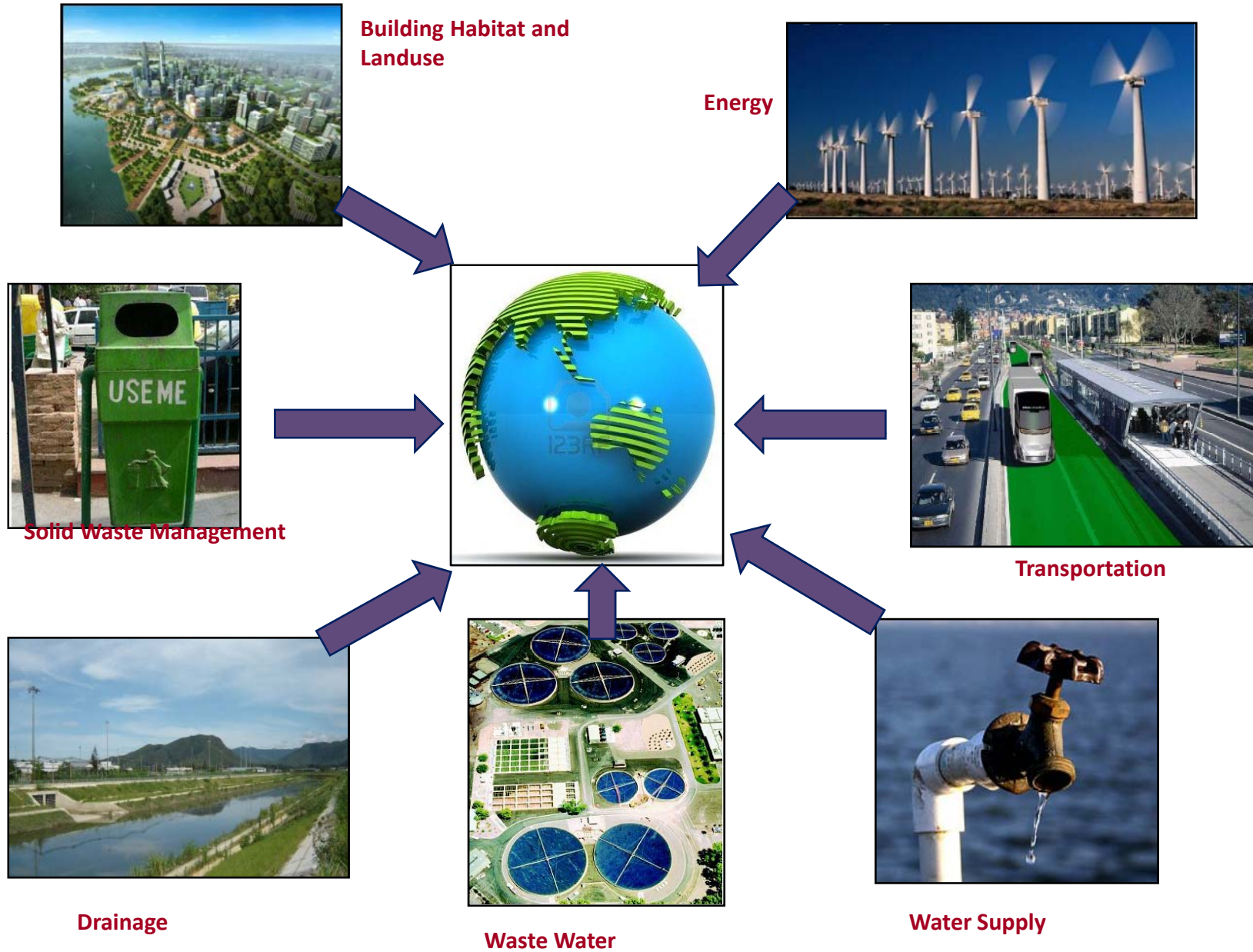
With land being a limited resource, urban sprawl is engulfing agricultural areas at an alarming rate – affecting our food production facilities.

Rural areas can scarcely accommodate this increased population, as they do not have the economy of scale to make the key infrastructural facilities viable.

Accommodate more people in limited spaces



Way Forward



Energy

Urban Ventilation:

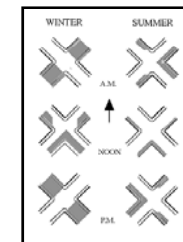
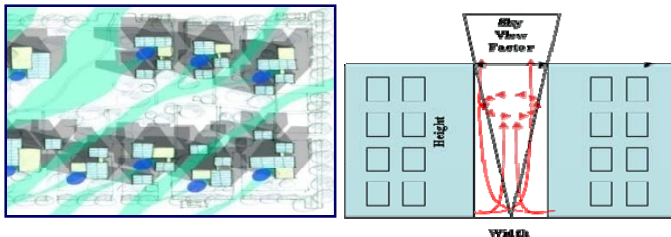
- Street orientation to capture breezes
- Varied building heights for air flow
- Dual-aspect living and working quarters for cross-ventilation
- Adequate "sky view factor"

Vegetation:

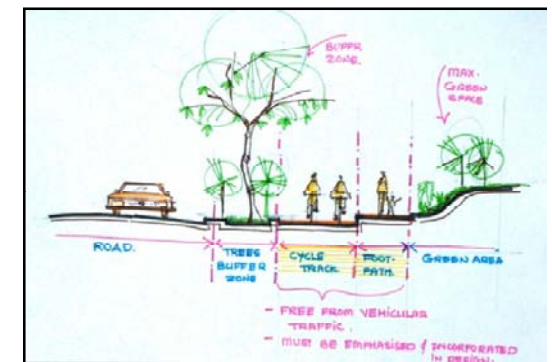
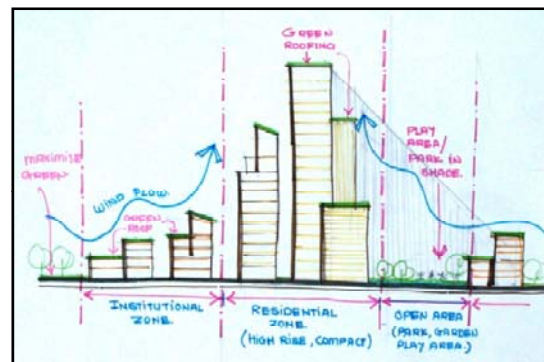
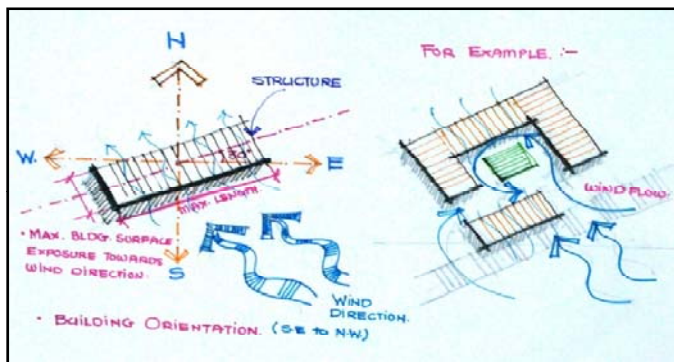
- Water bodies for thermal storage and evaporative cooling
- Contiguous green corridors and open space networks
- Maximizing green roofs and living walls

Solar Design

- Street and public space orientation to mitigate solar gain
- Shading through adjacent vegetation
- Maximizing cool surfaces and reflective roofs



New Town, Kolkata



➤ **Natural light and ventilation -**

➤ **Direction of Wind Flow -South-East**

➤ **Proportion of Built-up mass to Open space and height of buildings -wind flow to reach all the buildings.**

➤ **Drainage** - Minimising the use of conventional piped system; perforated storm water pipes; Green Roofs; permeable paving/ paver block at car park areas;

City Level Tools

- City level/ township level green tools are yet to be explored
- Development of codes and standards
- Legislation
- Econometric modelling:
 - eg, congestion tax for subsidy for bi-cycle

KEY Indicators

Carbon emission

Preservation of Natural resources in land use design

Quality of air and water for use

Green Transportation

Proportion of green and smart buildings

Usage of renewable energy

Focus on affordable public housing and proportion of subsidized social housing for the low income and the poor groups

Judicial use of critical resources & general of employment through innovative economic activities

Targeted reduction of waste, reuse and recycling



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Thank You