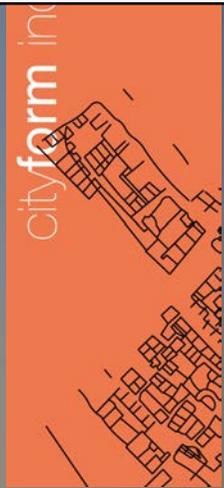


cityform india  
**conference 2012**

Jan 9<sup>th</sup> New Delhi



# Research framework & methodology

Dr Shibu Raman & Dr Nicola Dempsey

# Contents

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi

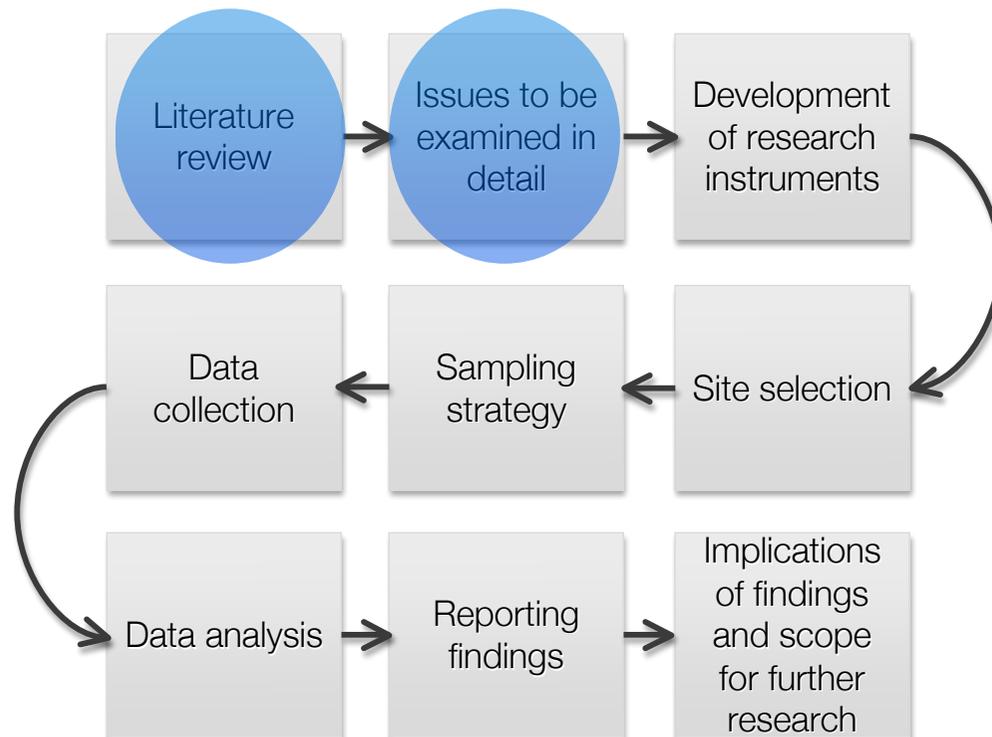


- ◎ The overall research framework
- ◎ Methodological approach
- ◎ Defining urban form
- ◎ Literature review: some key findings



# Overall research process

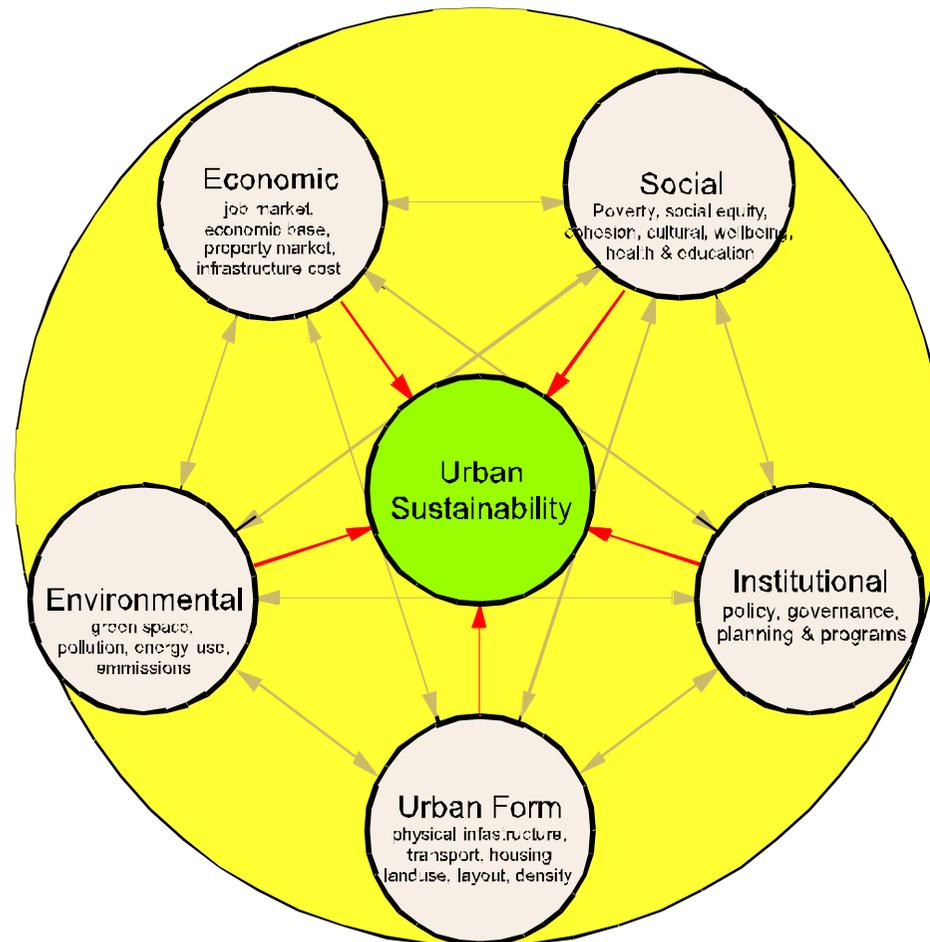
cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



# Research framework

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi

cityform india



# Methodology

## literature review

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



Indian urban context – social – environmental – economic

- Sustainability:
  - social – economic – environmental
- Elements of urban form
  - density
  - land uses (and extent of mix)
  - housing/ building type
  - infrastructure (inc. transport)
  - urban layout

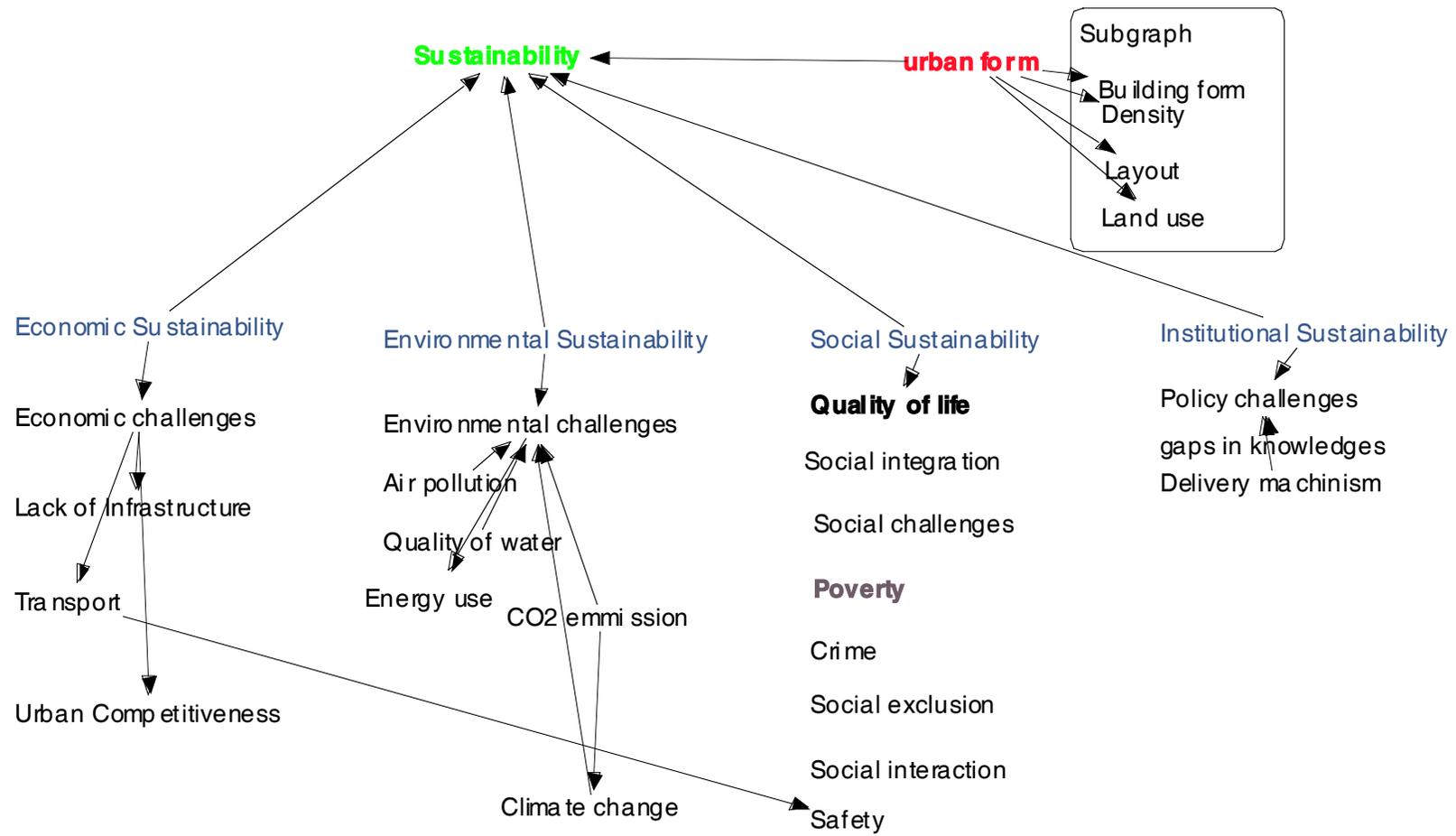
Indian urban context – local – political – governance – culture



Sustainable urban form in the Indian urban context

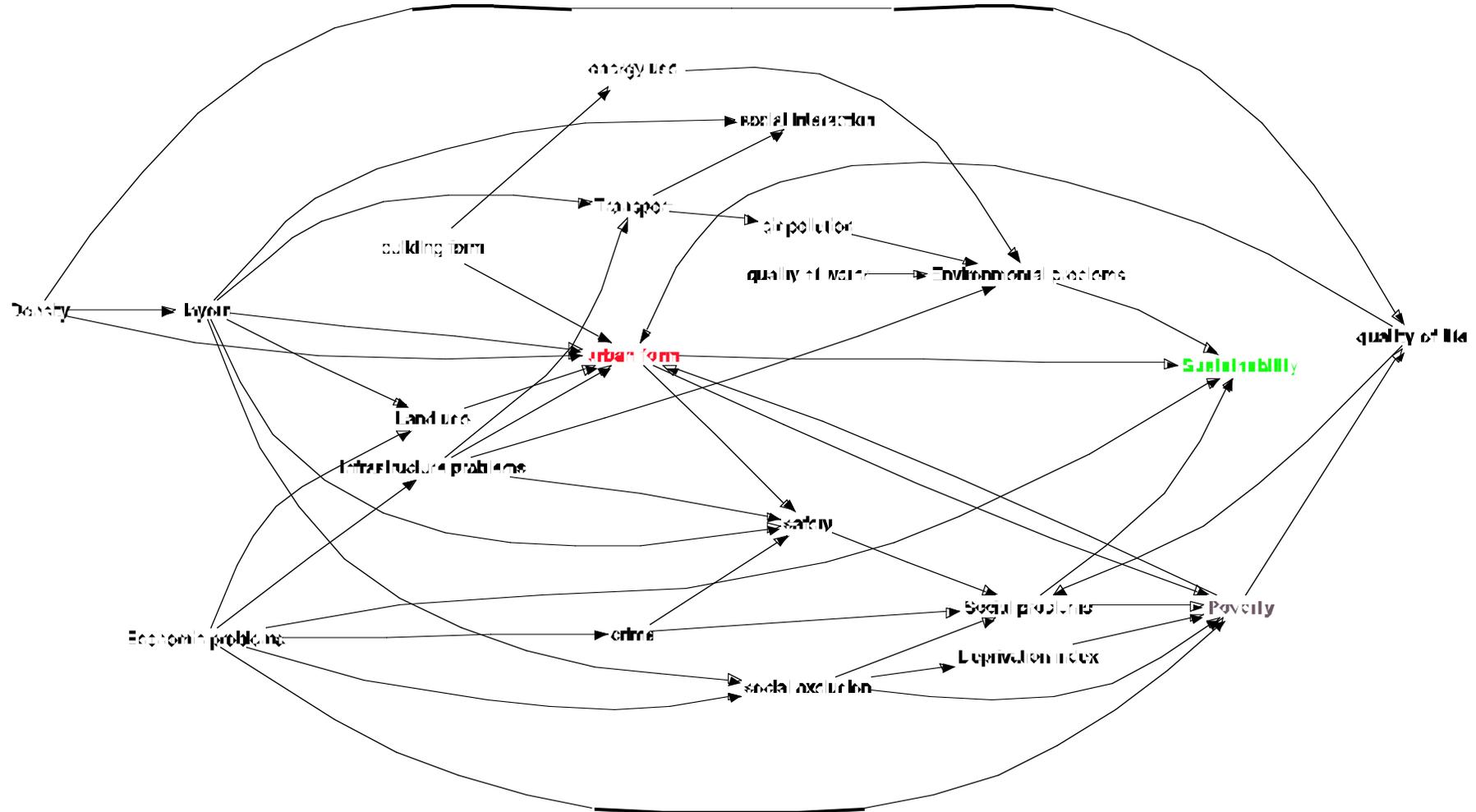
# Research framework

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



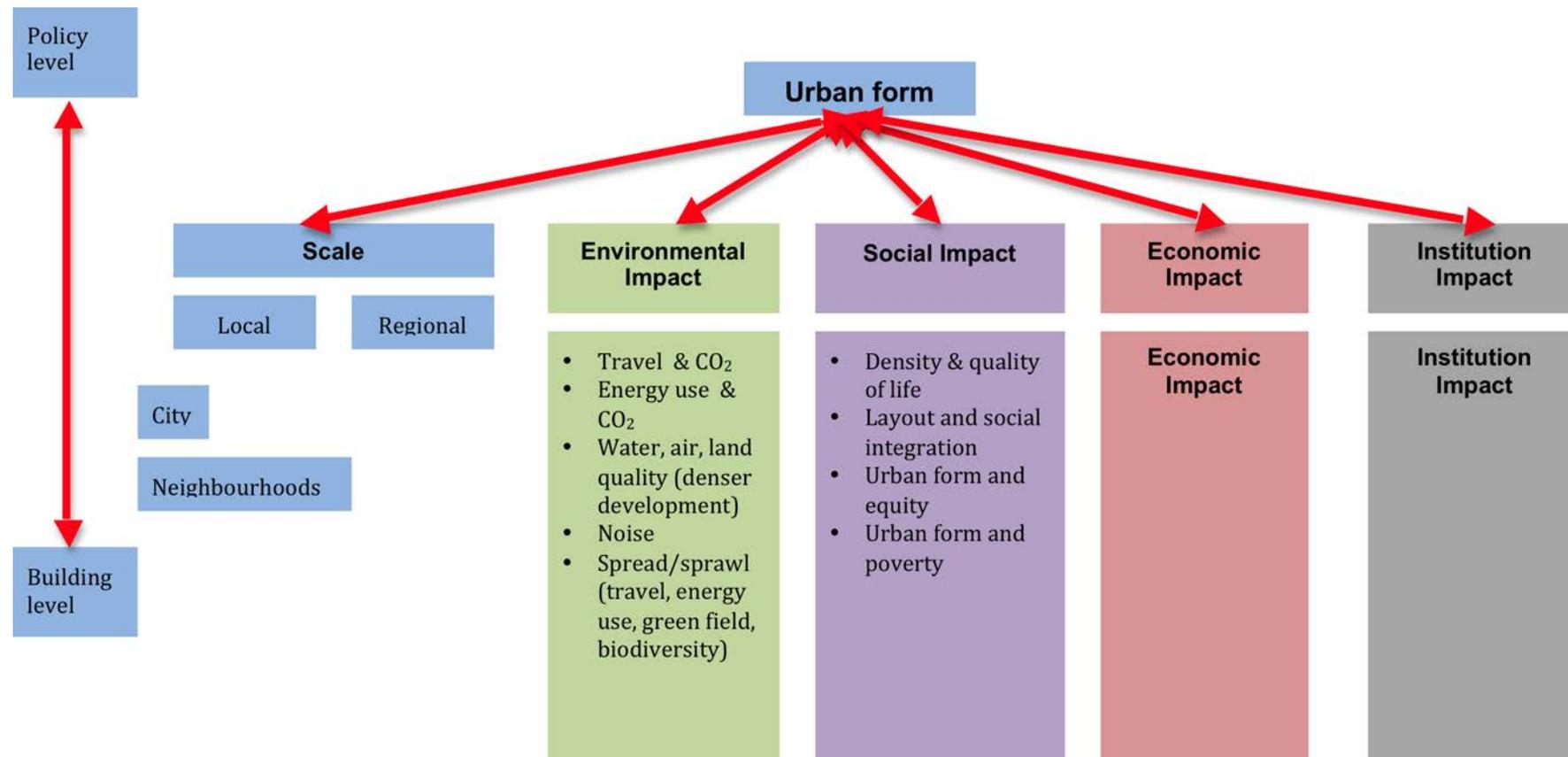
# Research framework

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



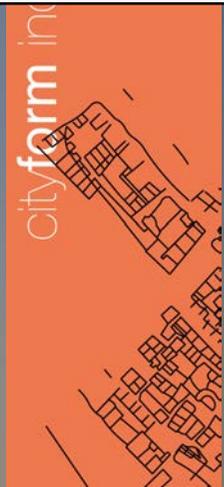
# Research framework

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



cityform india  
**conference 2012**

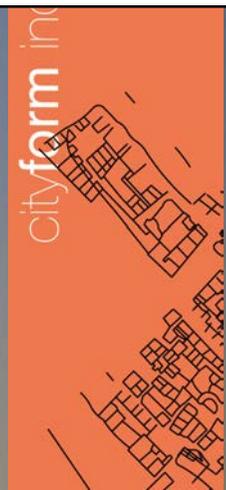
Jan 9<sup>th</sup> New Delhi



## Key findings from the literature review

cityform india  
conference 2012

Jan 9<sup>th</sup> New Delhi



Sources include:

- National Institute of Urban Affairs (2011). *Sustainable Urban Form for Indian Cities*. New Delhi, National Institute of Urban Affairs.
- Raman, S. and N. Dempsey (in press). Cultural Diversity and Spatial Structure in the Indian Urban Context. Journal of Urban Design, forthcoming.
- Dave, S. (2010). High Urban Densities in Developing Countries: a sustainable solution? *Built Environment* **36**(1): 9-27.
- Jenks, M. and Jones, C. (eds.) (2010). *Dimensions of the Sustainable City*. London, Springer.
- World Bank (2010). *India's Urban Challenges*, World Bank, <http://go.worldbank.org/C6H9E76S60>
- Han, J., K. Bhandari, et al. (2010). Assessment of Policies toward an Environmentally Friendly Urban Transport System: Case Study of Delhi, India. *Journal of Urban Planning and Development* **136**(1): 86-93.
- Marshall, F., L. Waldman, et al. (2009). *On the Edge of Sustainability: perspectives on peri-urban dynamics*. Brighton, STEPS.
- Mitchell, R. and Popham, F. (2008). Effect of exposure to natural environment on health inequalities: an observational population study. *The Lancet* **372**(9650): 1655-1660.

# Literature review focus

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi

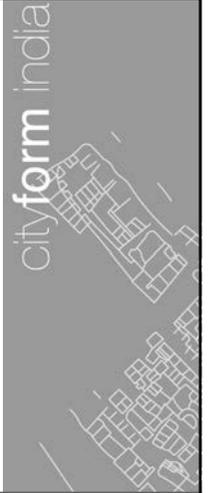


- ◎ Context of rapid urbanisation and decentralised urban governance and increasing importance of market sector and NGOs in service provision
  - Urban form elements at various scales
    - Infrastructure
    - Density
    - Land use
    - Transport

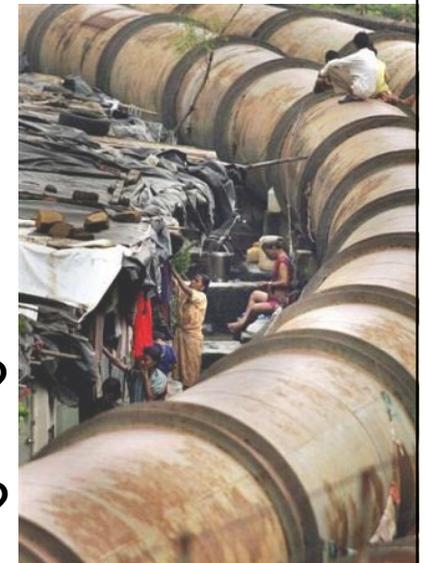


# Infrastructural needs

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



- ◎ Basic service provision, particularly in high-density areas
  - Incl. water drainage and sanitation, solid waste management
- ◎ Affordable housing
  - Appropriate social and built form mix
    - How is neighbourhood formed
      - socio-demographically/ socio-economically?
    - What is the mix of high/ low-density built form?
    - Location/ accessibility of housing → work?



# Density

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi

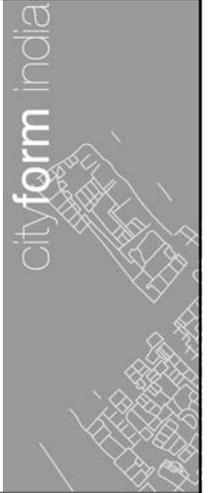


- ⊙ A measurement tool? An instrument to control development?
  - Can spatially limit horizontal development and contain sprawl
  - Reducing infrastructure costs & travel times, increasing equitable access to services
- ⊙ Multiple dimensions of density are underexplored
  - How high is 'too high'?
  - Perceived versus actual
    - What is acceptable? When is high-density overcrowding?
    - When is privacy lost?



# Density

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



1988 National Commission on Urbanization recommended:

⊙ Low-rise high density built form will contribute to **protecting green spaces, reducing travel distances, reducing construction material usage and promoting economies of scale.**

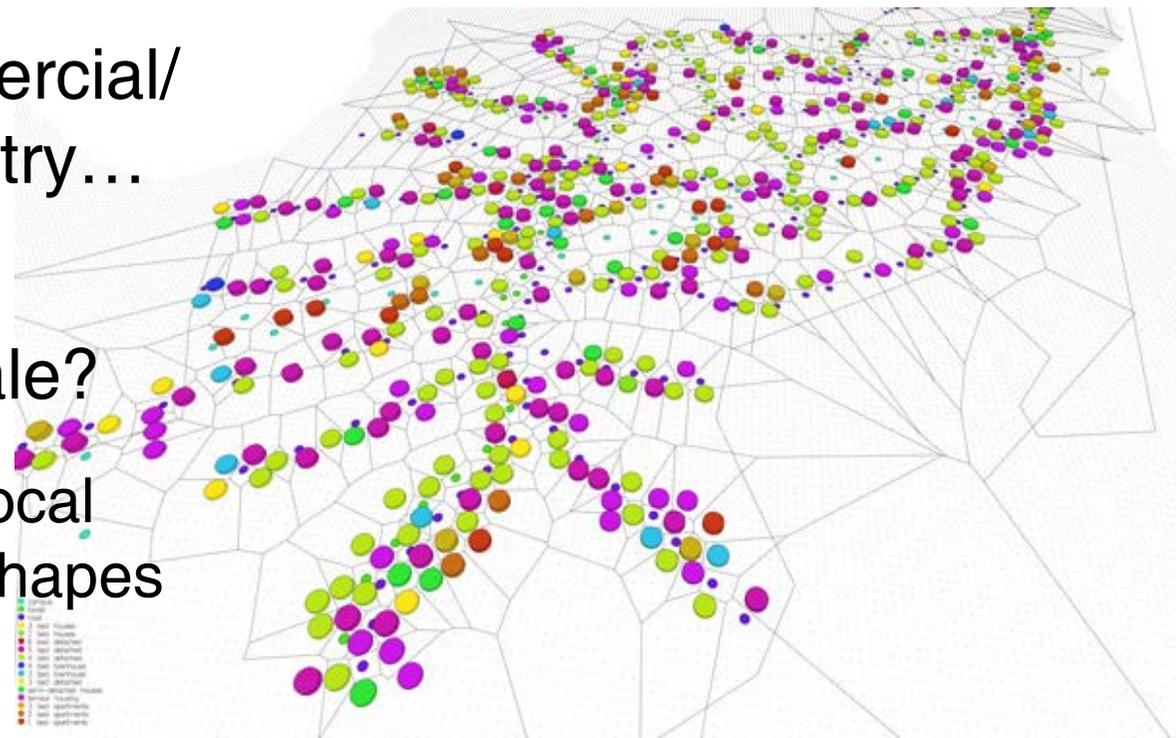
⊙ Many cities did not follow this advice



# Land use



- ◎ The nature and extent of land use mix?
  - Residential/ commercial/ light + heavy industry...
- ◎ What needs to be available at what scale?
  - Cultural dimension: local context and market shapes land use

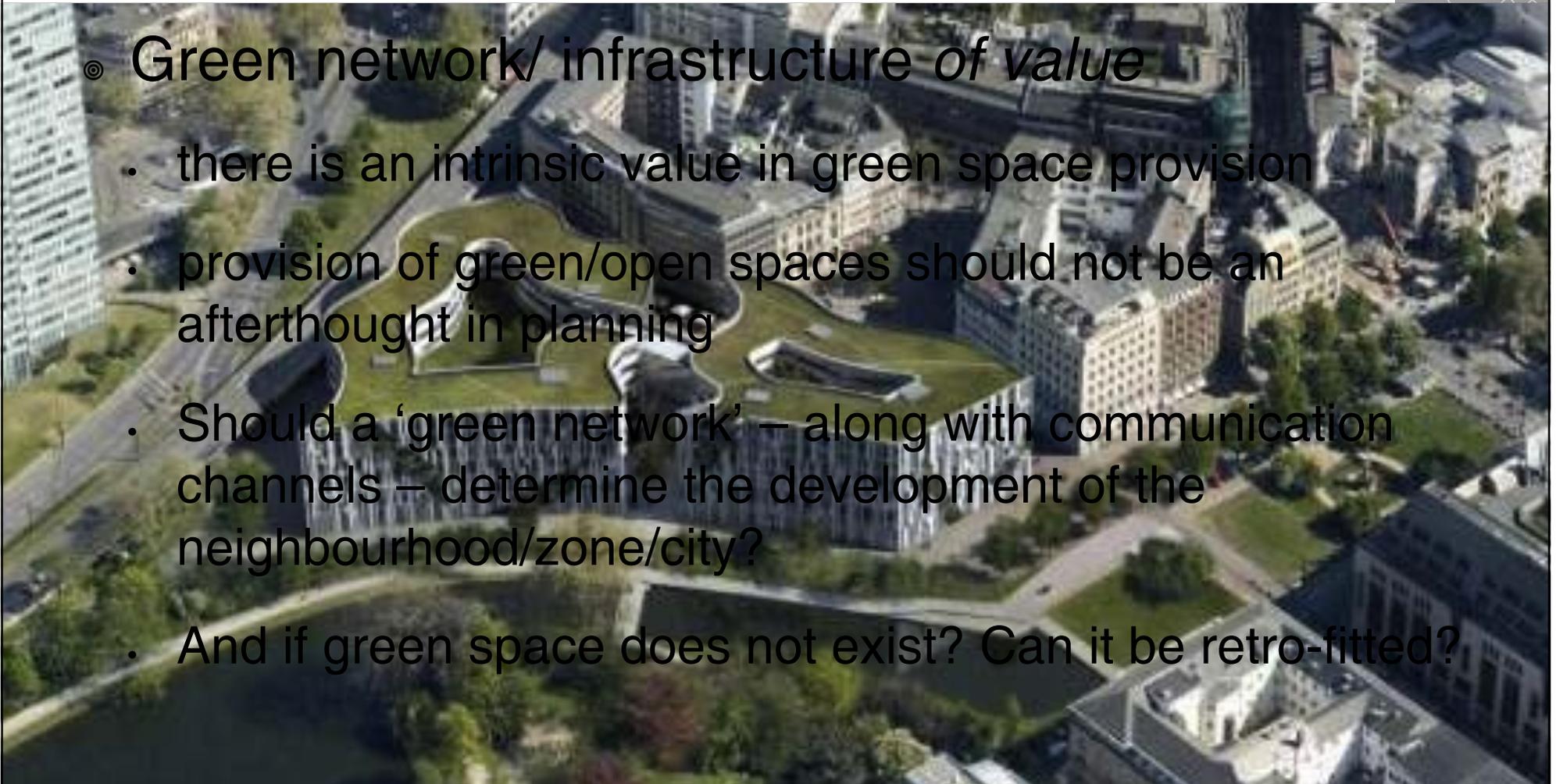


# Land use

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



- ◎ Green network/ infrastructure *of value*
  - there is an intrinsic value in green space provision
  - provision of green/open spaces should not be an afterthought in planning
  - Should a 'green network' – along with communication channels – determine the development of the neighbourhood/zone/city?
  - And if green space does not exist? Can it be retro-fitted?



# Land use

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



- ⊙ Traditionally demarcated in Masterplan
  - Zonal planning – not favoured in recent ‘sustainable’ plans
- ⊙ Limitations of masterplans
  - No account of land supply/ market forces regulating land availability
  - Artificial shortage of urban land
  - Housing becomes unaffordable and can contribute to slum development
- ⊙ Move towards mixed-use and vertical development



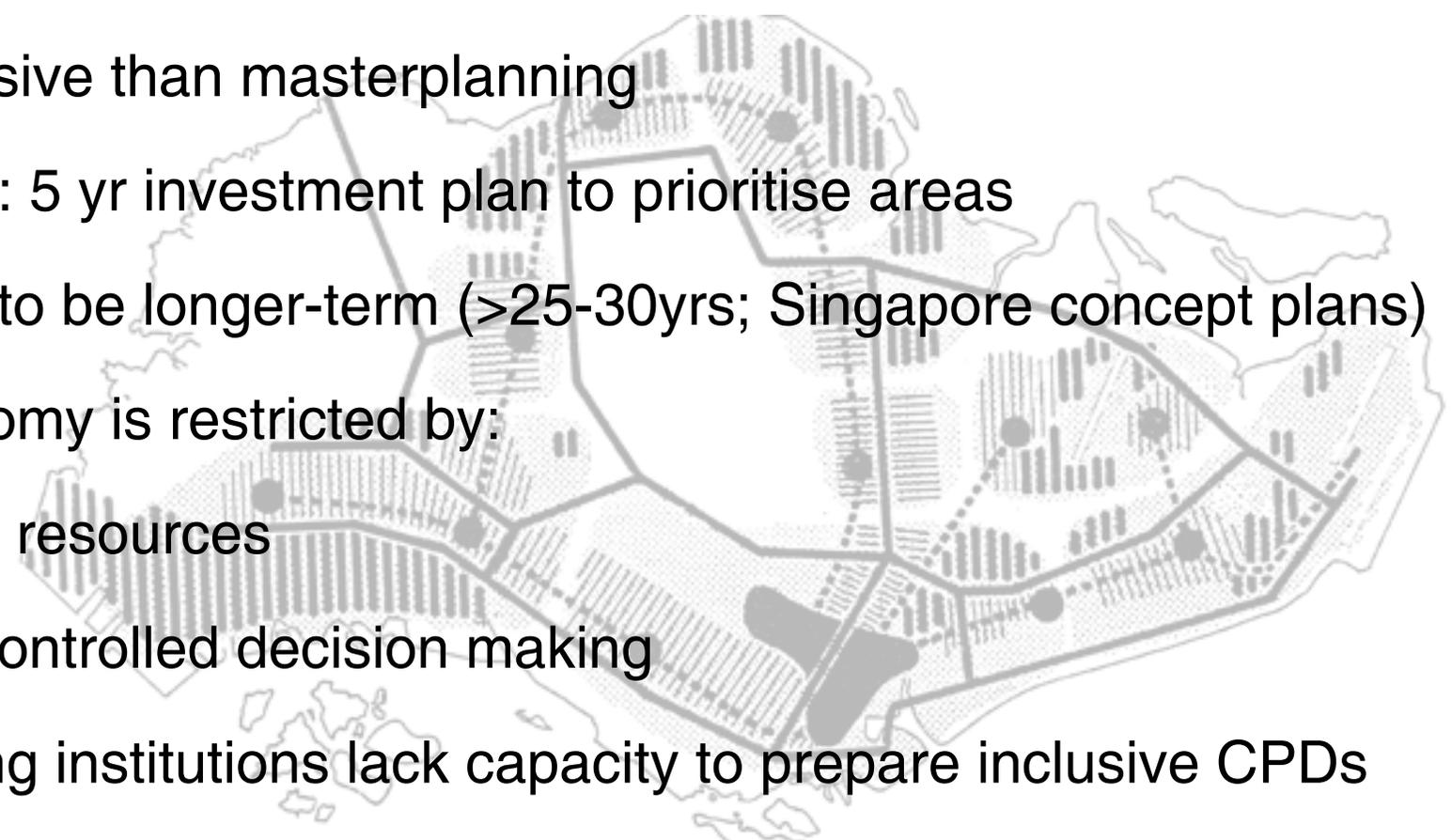
# Land use: masterplan alternative?

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



## CDP: City Development Plan

- ◎ More inclusive than masterplanning
- ◎ Short-term: 5 yr investment plan to prioritise areas
  - Needs to be longer-term (>25-30yrs; Singapore concept plans)
- ◎ City autonomy is restricted by:
  - Limited resources
  - State-controlled decision making
  - Planning institutions lack capacity to prepare inclusive CPDs

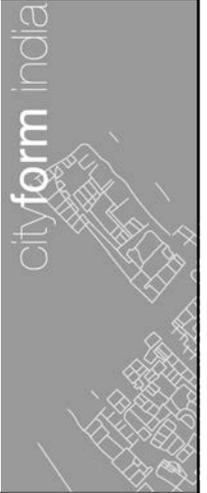


# Transport infrastructure

- ◎ Communication is fundamental
  - Integrated (public) transport development
  - New developments need to be better linked
  - Market-led development along communication routes
- ◎ Accessible facilities
  - Approaches to provide access to education, health care, recreation, retail to create hubs corresponding to market demands (e.g. transit-oriented development)

# Access/ transport/ layout

cityform india conference 2012  
Jan 9<sup>th</sup> New Delhi



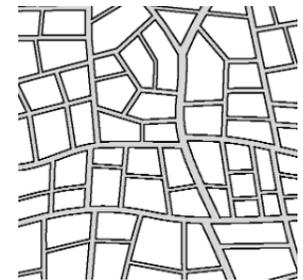
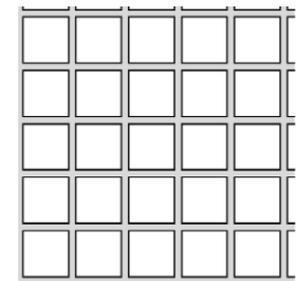
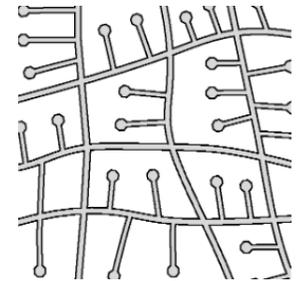
- ⊙ Spatial arrangement/ configuration of elements (street scale)

- Strong historical legacy

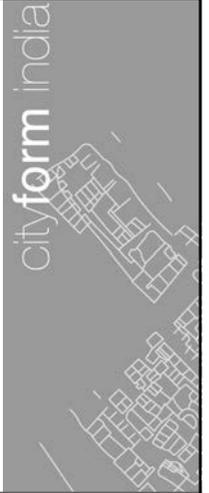
- ⊙ What is accessible at what scale (+ density)?

- By whom? Pedestrians/ vehicles?

- Quality of service is influential



# Summary



- ◎ LR highlights potential impacts of/ for urban form
  - Social/ economic/ environmental/ institutional/ local contextual
- ◎ Data collection in 2 Indian cities begins to shed light on the complex interrelationship between urban form and sustainability

