Urban environment and health

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Urban and rural populations of the world, 1950-2050

Source: UN, World Population Prospects: 2007 Revision
# Causes of chronic disease (WHO)

<table>
<thead>
<tr>
<th>UNDERLYING SOCIOECONOMIC, CULTURAL, POLITICAL AND ENVIRONMENTAL DETERMINANTS</th>
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<tr>
<td>Globalization</td>
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Lessons from ongoing successes

Figure 1: Global Risks Landscape 2009: Likelihood with Severity by Economic Loss

Source: World Economic Forum 2009

ECONOMIC
1. Food price volatility
2. Oil and gas price spike
3. Major fall in US$ 4. Slowing Chinese economy (6%)
5. Fiscal crises
6. Asset price collapse
7. Retrenchment from globalization (developed)
8. Retrenchment from globalization (emerging)
9. Regulation cost
10. Underinvestment in infrastructure

GEOPOLITICAL
11. International terrorism
12. Collapse of NPT
13. US/Iran conflict
14. US/CPRK conflict
15. Afghan instability
16. Transnational crime and corruption
17. Israel-Palestine conflict
18. Violence in Iraq
19. Global governance gaps

ENVIRONMENTAL
20. Extreme climate change related weather
21. Droughts and desertification
22. Loss of freshwater
23. NatCat: Cyclones
24. NatCat: Earthquake
25. NatCat: Inland flooding
26. NatCat: Coastal flooding
27. Air pollution
28. Biodiversity loss

SOCIETAL
29. Pandemic
30. Infectious disease
31. Chronic disease
32. Liability regimes
33. Migration

TECHNOLOGICAL
34. CIt breakdown
35. Emergence of nanotechnology risks
36. Data fraud/loss

Based on the assessment of risks over a 10-year time horizon by the Global Risk Network.

Key: Boxes indicate change since last year's assessment
- Increased
- Decreased
- Stable
- New risk for 2009

Likelihood: 1-5% 5-10% 10-20% above 20%

Severity: below 1% 1-5% 5-10% 10-20% above 20%
Projected deaths by major cause and World Bank income group, all ages, 2005

- **Low income countries**
  - Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
  - Chronic diseases*
  - Injuries
- **Lower middle income countries**
  - Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
  - Chronic diseases*
  - Injuries
- **Upper middle income countries**
  - Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
  - Chronic diseases*
  - Injuries
- **High income countries**
  - Communicable diseases, maternal and perinatal conditions, and nutritional deficiencies
  - Chronic diseases*
  - Injuries

*Chronic diseases include cardiovascular diseases, cancers, chronic respiratory disorders, diabetes, neuropsychiatric and sense organ disorders, musculoskeletal and oral disorders, digestive diseases, genito-urinary diseases, congenital abnormalities and skin diseases.
SRI LANKA

7/9 provinces
Excludes Northern & Eastern

5,000 (RR>99%)

INDIA

Tamil Nadu

Six rural villages
One urban town

3,705 participants (97% RR)
Daily smoking - males

Prevalence (95% CIs)

Urbanicity

Low       Medium      High

Male (SL)

Male (IND)
High BMI - females

Prevalence (95% CIs)

Urbanicity

Low  Medium  High

Female (SL)
Female (IND)
Results summary – urbanicity scale is associated with

<table>
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<th>Females</th>
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<tr>
<td>• drinking</td>
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</tr>
<tr>
<td>• BMI &gt; 23 Kgm⁻²</td>
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</tr>
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<tr>
<td>• smoking</td>
<td></td>
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<tr>
<td>• hypertension</td>
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<tr>
<td>• ECG changes</td>
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## Regulation potentials, gaps, and opportunities

**Targeted** – specific elements of the urbanising environment

### Physical activity
- The built environment
- Land use and zoning
- Safety and aesthetic value

### Nutrition
- Cost and availability
- Arable land
- Food labelling
- Food marketing

### Smoking
- Taxation
- Social marketing

### Generic
- Clean affordable housing
- Access to primary health care
- Communicable disease control
- Safe roads
- Better education and assistance for women
- Climate change
Critical policy needs and challenges at the city/region/country/global levels

Collaboration between diverse experiences and approaches

Application of methods and tools in developing country settings

Maintain the positive elements of development process

Evaluate possible policy approaches
1. Develop EB & realistic policy options
2. Assess Cost Effectiveness
3. Trial policy intervention

1. Systematic reviews
2. Model current burden
3. Model future burden

Socio-ecological (upstream) approach
- Policy actions that shape the economic, social and physical (built and natural) environments

Lifestyle (midstream) approach
- Policy actions that directly influence behaviour (reducing energy intake and increasing physical activity)

Health services (downstream) approach
- Policy actions that support health services and clinical interventions

MAIN CHRONIC DISEASES
- Heart disease
- Stroke
- Cancer
- Chronic respiratory diseases
- Diabetes

UNDERLYING SOCIOECONOMIC, CULTURAL, PHYSICAL AND BEHAVIOURAL DETERMINANTS
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- Urbanization
- Population ageing

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Heredity
Urban environment and health

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Viswanathan Mohan