Environmental health in the BRICS – linking health, equity and climate

Findings from the WHO Health in the Green Economy initiative

Dr Carlos Dora, Coordinator/IHE
Department of Public Health & Environment, WHO
Key Messages

1. Climate mitigation has significant health and social equity co-benefits.

2. BRICS countries have many successful examples of innovation in climate-friendly and healthier housing, transport, and energy.

3. Scale up of the most effective policies require more strategic support from climate policies and investments.
This Presentation

1. Global health equity, development and climate challenges

2. Health & equity co-benefits of greener growth
   - Health in Green Economy: Rationale & Methods
   - Key Findings – Housing/Energy & Transport
   - Innovations and Experiences in BRICS

3. Opportunities and barriers to implementing healthy and green policies
I. Global health equity, development & climate challenges
Emerging economies: NCDs & diseases of poverty – a double burden

2 in 3 deaths are from NCDs – 80% of burden is in low and middle income countries

- Cardiovascular disease, mainly heart disease, stroke
- Cancer
- Chronic respiratory diseases
- Diabetes
- Injuries

Diseases of poverty: TB, VL, Chagas, Malaria, HIV/AIDS remain major problems in BRICS
Climate Change impacts on health
- Greater in Africa and Asia

Cumulative emissions of greenhouse gases, to 2002

WHO estimates of \textit{per capita} mortality from climate change, 2000

Health Equity

- Most urban growth in low and middle income cities – 40% is slums.
- **Extreme weather** – impacts of heat, energy outages, and storms greatest on poor neighborhoods; coastal flooding increasing by a factor of 10.
- **Water quality and quantity**: doubling of people living in water-stressed basins by 2050.
- **Food security**: Prices rising globally; crops diverted to biofuels and cattle; rainfed yields declining in parts of Africa.
Unsustainable urban growth: fuels health inequities

- Physical inactivity - 3.2 m deaths yr
- Urban air pollution - 1.2 m deaths yr
- Traffic injuries - 1.3 m deaths yr (mostly pedestrians)
- Heat-stress, cold-related respiratory illness, injuries - from unsafe, unhealthy housing.
Environment: 25% of health risks
Prevention <5% health investment

Each year from 2000-2008:

• Life expectancy rose 0.5%
• Health costs rose 6%

Factors influencing health

- Environment
  - Illicit drugs
  - Physical Inactivity
- Tobacco
- Alcohol
- Unsafe Sex
- Other

World-wide health expenditures

US $ 5.3 Trillion

Prevention < 5%

Treatment & Overhead

Source: Estimated from OECD, WHO, and Prevention Institute data
II. Health & equity co-benefits of CC mitigation
Health in a 'Green Economy' initiative

- WHO assessing policies to mitigate climate change for health impacts
- Identifies those policies/investments most beneficial to health and equity
- Many experiences identified in BRICS
- Opportunities and barriers to better policies identified
Transport - Findings

- Climate & transport investments prioritize road transport, improved vehicles and fuels. These threaten development of more sustainable modes (BRT-rail, electric bicycles, 'walkable' cities).

- Investment in public transport, walking/cycling & compact urban land use would yield more health & equity benefits.
Transport – Experiences in BRICS

- Latin America has the highest public transport patronage of any developing region. China has high, though diminishing, cycle use. South Africa experimenting with urban rail.

- Experiences in Brazil, Colombia, China & South Africa need to be studied and supported by global policies.
Housing – Findings

- Energy-efficient heating, cooling and natural ventilation can reduce strokes and respiratory illness as well as TB and vector-borne diseases;
- BUT climate policies are not well designed for needs of developing cities and slums - where needs are greatest
Cleaner biomass/biogas stoves can avert 1 million deaths from COPD, mostly poor women + nearly 1 million deaths/yr from childhood pneumonia and reduce climate-changing Black Carbon emissions.
Housing & Household Energy – Experiences

- **China** is mass marketing solar homes. On left: new homes near Beijing with passive "combi" solar water/space heating replaced coal stoves and raised night-time winter temperatures (from 6-8°C lows)

- **India & China** both have clean cookstove initiatives. On right: India's "Light a Billion Lives" replaces kerosene lamps with solar-charged lanterns – reducing indoor air pollution & injuries
Housing & Household Energy – Experiences

- Cape Town, South Africa's Kuyasa neighborhood slum upgrade: First to be financed by UN Clean Development Mechanism (CDM). Solar hot water systems, sewage and insulation (below) will help reduce heat-related, respiratory and waterborne diseases.

- However CDM requirements are generally too complex for low-income communities and don't adequately consider "whole house" approaches. Among 4,500 CDM proposals (2009), only 14 were for building efficiencies.
Health care facilities: Findings

- **Large urban hospitals victims of energy blackouts:** on site clean energy generation improves reliability and resilience in emergencies.

- **Health care waste a growing problem in emerging economies:** New autoclave technologies can replace incineration. But need investment.

- **170,000 hospitals & clinics** worldwide have no reliable electricity. **Access** can be improved through renewable/solar electricity for basic lighting, refrigeration, and medical equipment.
Health Care Facilities – Experiences

India:
- **National assessment** of hospital energy efficiency potential
- **Innovation in:** climate friendly/solar design; rainwater harvesting & water reuse (to right Bhopal's Sambhavatha clinic).

**Chinese cities** launched "green and safe hospitals initiatives."
- **Energy** efficiency and alternative energy generation
- **Mercury-free** measuring devices
- **Water** conservation

**Brazilian scientists** estimated that combined heat and power systems (CHP) in hospitals could save up to 25% energy costs.

These need more study and support for scale-up
III. Building a common vision of the future
### Green Economic development: net savings for health sector

<table>
<thead>
<tr>
<th>Program</th>
<th>Savings for every dollar spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunizations (reference value)</td>
<td>$27</td>
</tr>
<tr>
<td>Cleaner, improved biomass stoves</td>
<td>$4.2- $61</td>
</tr>
<tr>
<td>Improved water &amp; sanitation</td>
<td>$3 - $34</td>
</tr>
<tr>
<td>Sustainable/active transport</td>
<td>$3 - 30</td>
</tr>
</tbody>
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Each of these environmental interventions gives ~ 200% or more return on investment.
Growing recognition in BRICS of climate & health challenges – but…

- CDM finance not well suited to green housing, energy and transport systems in low income cities.

- Health co-benefits of mitigation are not recognized in CDM finance.

- Synergies between climate change adaptation and mitigation (e.g. climate friendly housing) not optimized.

- Health adaptation projects comprise just 1% of international climate finance
Need: integrated approach to climate, development & health

- We have proven, cost-effective interventions
- All are "win-wins": saving lives now, reducing vulnerability to climate change; and reducing future GHGs.
- Response to climate change is integral to a preventive public health – not a distraction.
  BRICS can be leaders in innovation.
- Global community needs to support clean development in BRICs as a win-win approach to controlling GHG emissions
How Health Sector can support health & equity in a green economy

1. Ensure that health receives Climate Finance support
2. Use health impact assessment (HIA) to identify policies with best health performance
3. Mainstream health into existing environmental and social safeguard frameworks e.g. those used by countries for strategic assessment and by development banks for project finance
4. Economic valuation of health co-benefits of green investments
5. Monitor-report-verify (MRV) health impacts from investments using valid indicators
6. Support innovation and build capacity in cities and countries
7. Build a coalition to advocate for health in sector policies
Example: Strategic Health Impact Assessment (oil and gas)

1. **Strategic application of safeguards** at level of industry and sector level for investments in oil and gas sector

2. Piloting WHO approach for **building country systems to manage health risks** associated with growth industry (pilot in Ghana)
Example: Health in development finance

- **Development banks** use safeguards to mitigate negative environmental and social impacts where country systems are weak.
  - **WHO** is working with development banks to mainstream health criteria into their policies and lending practices.

- **Major opportunity** to promote and protect health especially when co-financing a project with a donor without a culture of safeguards.