Dr Maria Neira

Director of the Department Public Health, Environmental and Social Determinants of Health

World Health Organization
+ 60 million new urban residents / year

Since 2008, for the first time ever, a majority of the world's population is living in urban areas.

One in four people in urban areas lives in informal settlements or slums.

Rapid unplanned urbanization exacerbates

Health Inequities

A lower social or economic status often relates to worse health outcomes.

These health inequities can be reduced by a right mix of policies and actions.

2008

2050

(United Nations projections)

3.3 Billion in urban areas
0.8 Billion in urban slums
3.3 Billion in rural areas
6.4 Billion
2 Billion
2.9 Billion
Global population relying on clean and polluting fuels from 1980 to 2014

![Graph showing population reliance on clean and polluting fuels from 1990 to 2015. The graph indicates a decrease in reliance on polluting fuels and an increase in reliance on clean fuels. The source is the WHO Household energy database 2016.]
Air Pollution

6.5 million deaths a year

Sense of urgency – political issue, demand for action

6.5 million people per year die from air pollution related diseases. Air pollution, traditionally thought of as an environmental issue, has become an urgent public health crisis.
Breathe air toxic for their health

Women are obese in LMIC

Live in slums

Source: United Nations, WHO
Increase of NCDs in children

Age-standardized prevalence of overweight in children under 5 years of age, 2014

Resulting in the recent increase of Type 2 diabetes of children
Enhancing reliability of electricity access in district hospitals in Africa

- Rationale
- Linkages with energy, climate change, and maternal and child survival
- Project overview

Photo credit: Partners in Health/Haiti
Update on estimate of total preventable health impacts linked to environments
WHAT IS THE BIG PICTURE?

FACT: 23% of all global deaths are linked to the environment. That's roughly 12.6 million deaths a year.

WHERE IS IT HAPPENING?

- 3.8 million in South-East Asia Region
- 3.5 million in Western Pacific Region
- 2.2 million in Africa Region
- 1.4 million in European Region
- 854,000 in Eastern Mediterranean Region
- 847,000 in the Region of the Americas
TOP 10 CAUSES OF DEATH FROM THE ENVIRONMENT

8.2 million out of 12.6 million deaths caused by the environment are due to noncommunicable diseases

1st
STROKE
2.5 million

2nd
ISCHAEMIC HEART DISEASE
2.3 million

3rd
UNINTENTIONAL INJURIES
1.7 million

4th
CANCERS
1.7 million

5th
CHRONIC RESPIRATORY DISEASES
1.4 million

6th
DIARRHOEAL DISEASES
846 000

7th
NEONATAL CONDITIONS
270 000

8th
INTENTIONAL INJURIES
246 000

9th
RESPIRATORY INFECTIONS
567 000

10th
MALARIA
259 000

World Health Organization
#EnvironmentalHealth
Diseases with the highest preventable disease burden from environmental risks, in DALYs – a combined measure of years of life lost due to mortality and years of life lived with disability, 2012

<table>
<thead>
<tr>
<th>Disease Type</th>
<th>DALYs</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Respiratory Infections</td>
<td>51 million</td>
<td>35%</td>
</tr>
<tr>
<td>Diarrhoeal Diseases</td>
<td>57 million</td>
<td>57%</td>
</tr>
<tr>
<td>Malaria</td>
<td>23 million</td>
<td>42%</td>
</tr>
<tr>
<td>Neonatal Conditions</td>
<td>26 million</td>
<td>11%</td>
</tr>
</tbody>
</table>

- **Lower Respiratory Infections**: Household and ambient air pollution, second-hand tobacco smoke.
- **Diarrhoeal Diseases**: Water, sanitation, hygiene and agricultural practices.
- **Malaria**: Environmental management to reduce vector proliferation and contact between vectors and humans.
- **Neonatal Conditions**: Air pollution, mothers’ exposure to second-hand tobacco smoke, water and sanitation in birth settings.
HOW THE ENVIRONMENT IMPacts OUR HEALTH

People are exposed to risk factors in their homes, work places and communities through:

- Air Pollution
- Inadequate water, sanitation and hygiene
- Chemicals and biological agents
- Radiation (ultraviolet and ionizing)
- Climate change
- Built environments (including housing and roads)
- Agricultural practices (including pesticide-use, waste-water reuse)
- Community noise
- Occupational risks

World Health Organization
#EnvironmentalHealth
WHO IS MOST IMPACTED BY THE ENVIRONMENT

Environmental impacts on health are uneven across age and mostly affect the poor.

Low- and middle-income countries bear the greatest share of environmental disease.

Children under five and adults between 50 and 75 years old are most affected by the environment.

**YEARLY**

- **4.9 MILLION**
  Deaths in adults between 50 and 75 years. The most common causes are noncommunicable diseases and injuries.

- **1.7 MILLION**
  Deaths in children under five. The most prominent causes are lower respiratory infections and diarrhoeal diseases.

**Men**
are slightly more affected due to occupational risks and injuries.

**Women**
bear higher exposures to traditional environmental risks such as smoke from cooking with solid fuels or carrying water.

World Health Organization
#EnvironmentalHealth
Risk of chemical exposures is increasing with projected growth of chemicals production, particularly in non-OECD countries.

Source: OECD Environmental Outlook to 2050: The Consequences of Inaction, (Chapter 6: Health and Environment)
Health opportunities
1-Primary Prevention

Expenditure on Prevention and Public Health Services accounted for an estimated 3.6% of total health expenditures worldwide in 2013.

Source: WHO GHO, OECD, UK NHS, EIU, PHE Estimates
2-Health in all Policies

1. Apply low carbon strategies in energy generation, housing and the industry.
2. Use more active and public transportation.
3. Introduce clean fuels for cooking, heating and lighting and clean technologies.
4. Reduce occupational exposures and improve working conditions.
5. Increase access to safe water and adequate sanitation and promote hand washing.
6. Change consumption patterns to lower the use of harmful chemicals, minimize waste production and save energy.
7. Implement interventions that can increase sun protective behaviour.
8. Pass smoking bans to reduce exposure to second-hand tobacco smoke.
9. Always use a health in all policies approach to create healthier environments and prevent disease.
Health impact assessment of projects and policies
3-SDG's 2030

• A plan of action agreed by Member States

• The SDGs are "unprecedented in scope and significance"
  – cover the economic, environmental and social pillars of sustainable development, as well as peace and security

• The SDGs are about "Leaving no one behind"
  – strong focus on equity, addressing the needs of disadvantaged populations wherever they may live
SDG’s
Ensure healthy lives and promote well-being for all at all ages

3.4 By 2030, reduce by one third premature mortality from non-communicable disease through prevention and treatment and promote mental health and well-being

3.9 By 2030, to substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

6.3 By 2030, to improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

361 000 preventable child deaths from diarrhoea each year.
Ensure access to affordable, reliable, sustainable, and modern energy for all

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services

Over 170,000 under five child deaths due to ambient air pollution per year

500,000 under five child deaths due to household air pollution
11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.7 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management

Safe roads, buildings and public spaces can prevent injury and encourage healthy activity among the young.
Ensure sustainable consumption and production patterns

12.4 By 2020, to achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
4-Climate Change, The Paris Agreement
Climate Change Mitigation

Outdoor air pollution has grown 8% globally in the past five years, with billions of people around the world now exposed to dangerous air, according to new data from more than 3,000 cities compiled by the World Health Organisation (WHO).

Annual mean concentration of fine particulate matter (2.5 micrometres or less) in micrograms per cubic metre for 3,000 towns and cities around the world.
Importance of energy to health services (in particular access to electricity)

- Easier recruitment and training
- Better staff morale
- Continued medical education

- Prolonged opening hours
- Wider range of services
- Better functionality of medical devices

- Improved cold chain
- Laboratory testing
- E-health

- Better communication
- Improved records management

- General hygiene improved
- Enhanced safety
- Staff and patient sense of security and safety

Opportunity associated with sustainable energy solutions

Off-grid Solutions

Hybrid Solutions

Grid Extension

Energy Efficient Equipment
Opportunities to finance "green energy" infrastructure in health facilities.
<table>
<thead>
<tr>
<th>Mitigation measure</th>
<th>Co-benefit for health</th>
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</thead>
<tbody>
<tr>
<td>Generating electricity from renewable sources and using clean fuels for cooking</td>
<td>Reduction in air pollution (outdoor &amp; indoor) and its damaging effects on cardio-</td>
</tr>
<tr>
<td>and lighting</td>
<td>respiratory health</td>
</tr>
<tr>
<td>Improving urban planning, building and housing design</td>
<td>Reduction in exposure to temperature extremes and disease-spreading vectors</td>
</tr>
</tbody>
</table>
5-Urban Health

Sustainable Cities and Communities

- Transport
- Environment, Water, Sanitation
- Communicable Disease
- UHC
- Air Pollution
- NCDs
- Housing
- Nutrition

Good Health and Well-Being
Healthy Urban Planning
How to finance Health

1. Evidencia científica
   - Estudios Coste/E

2. Reforzar sistema de Salud
   - Evaluación

3. Co-beneficios para la salud de políticas sectoriales

4. Liderazgo global en Salud Pública

5. Creación de redes y divulgación.
La Salud puede ser el mejor motor para el desarrollo sostenible