

# Urbanization & Health

## Reducing NCDs by better design of urban space and services

Graham Alabaster

Department of Public Health and Environment

# Urbanization trends

- Globally 54% or the world's population reside in urban areas compared to 30% in 1950. By 2050 the world will be 66% urban
- Today the most urbanized regions include North America (92%) LAC (80%) Europe (73%)
- The least urbanized regions are Africa and Asia with 40% and 48% respectively and by 2050 this will change to 56% and 64%



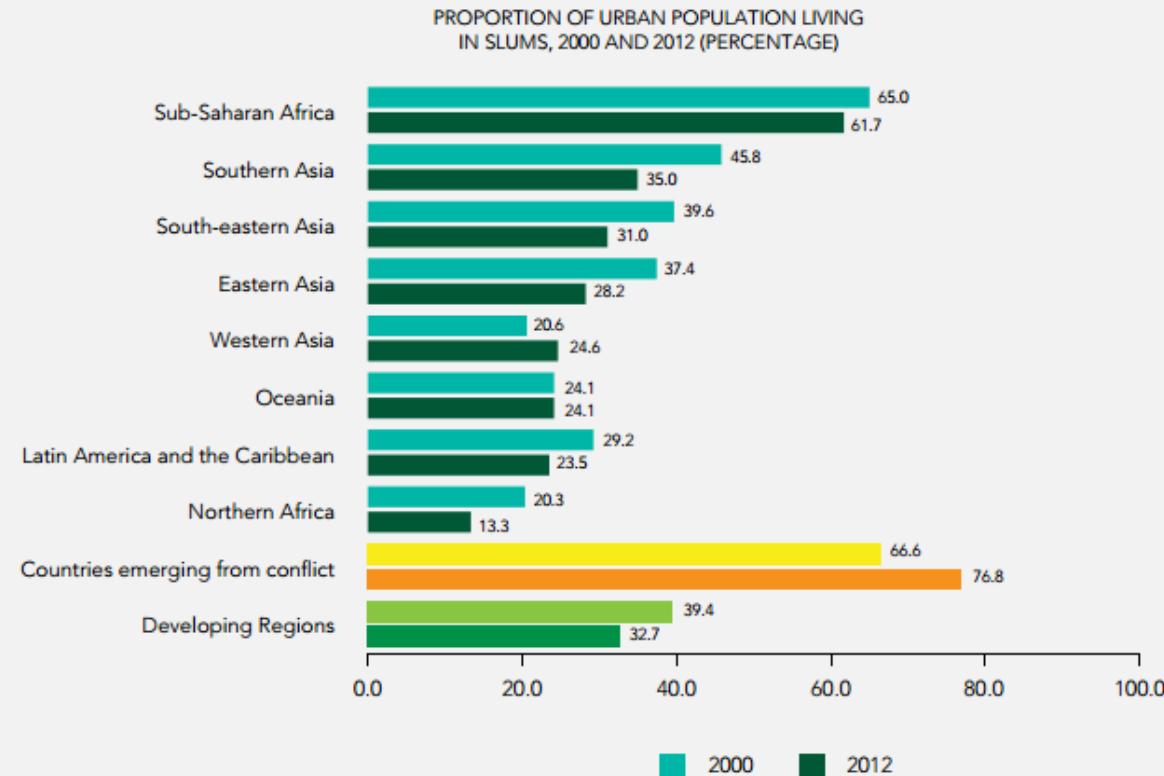
# Urbanization trends: where is it happening ?

- Most megacities are In the global south (China, India, Brazil)
- One in five urban dwellers live in medium sized cities or 1-5 million
- In 2014 close to half urban residents live in settlements smaller than 500,000
- The fastest growing agglomerations are medium sized cities and cities with less than 1 million in Africa and Asia
- Some cities have experienced a population decline since 2000



# Urbanization trends: where is it happening ?

FIGURE 1.5 PROPORTION OF URBAN POPULATION LIVING IN SLUM AREAS, 2000 - 2012



Note: Countries emerging from conflicts included in the aggregate figures are; Angola, Cambodia, Central Africa Republic, Chad, Democratic Republic of the Congo, Guinea-Bissau, Iraq, Lao People's Democratic Republic, Lebanon, Mozambique, Sierra Leone, Somalia and Sudan

Source: Source: UN-Habitat, 2013. Global Urban Indicators Database 2013

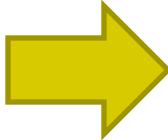
# Cities: people, pollution, policies, opportunities for co-benefits



# Policies to fulfill multiple social goals

## Focus: main sources of air and climate pollutants

- Transport
- Waste burning
- Home energy
- Buildings
- Land use plans
- Industry



### 1. Health benefits from improving

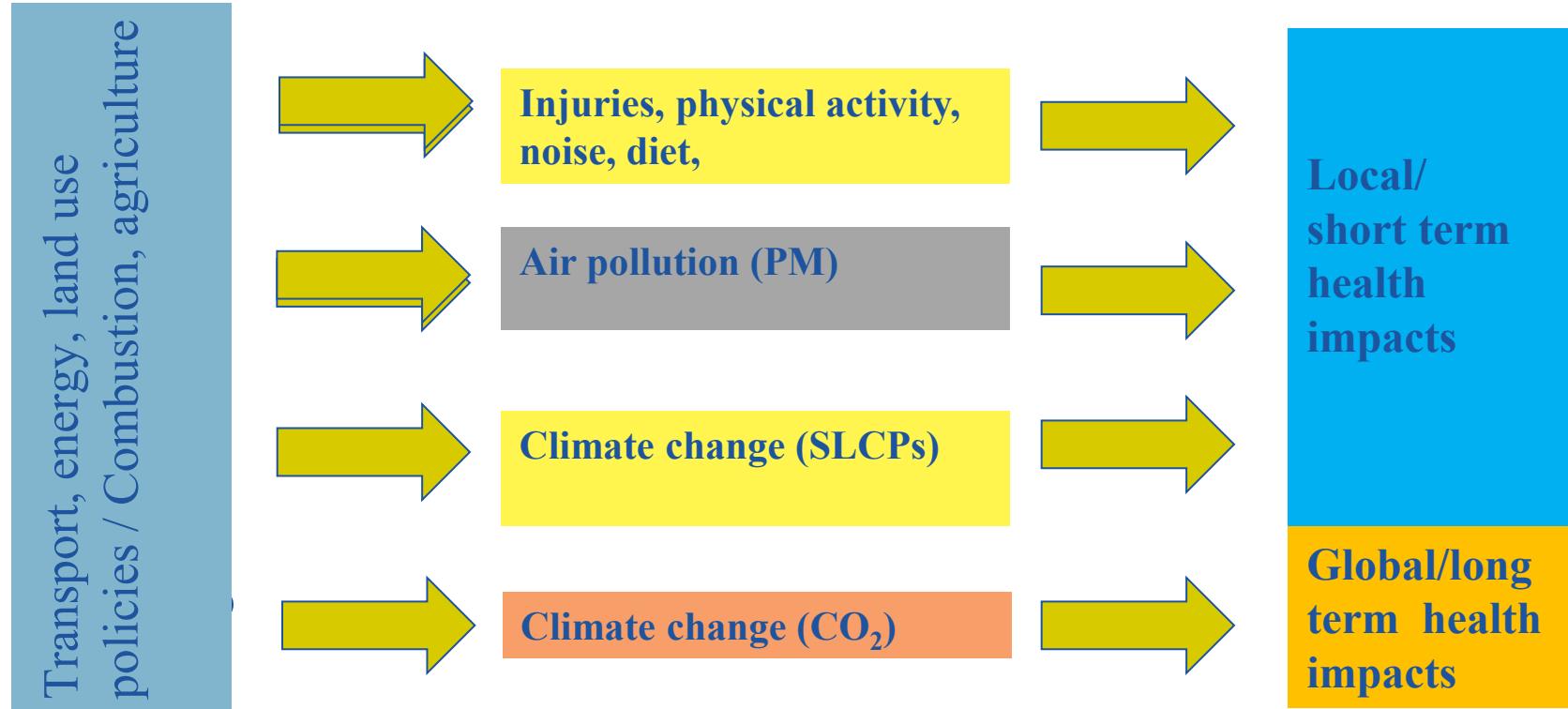
- Air pollution
- Injuries,
- Physical activity,
- Noise,
- Diets...

### 2. Air and Climate pollutant reductions



World Health Organization

# Synergies: health, air quality and climate change mitigation



# Energy efficient housing reduces air pollution and provides other co-benefits

Energy-efficient heating, cooling and natural ventilation can reduce **strokes and respiratory illness as well as TB and vector-borne diseases;**

A focus on **slums /sub-standard housing** - where needs are greatest/benefits could be multiplied



*Solar hot water heating - India*



*Slum in Mexico City*



**World Health Organization**



# Sustainable transport reduces air pollution and provides other health co-benefits

---

- Reduce air pollution
- Increases physical activity
- Reduces traffic injury
- Frees urban road/parking for green /public space
- Facilitates more equitable access to goods and services
- Eases movements of elderly, children, disabled, women
- Promotes social cohesion in local communities



# Land use & transport policies to shape urban growth as energy “trim” not “obese”



Suburban USA



Coyoacan, Mexico City





**Redistribute street space**

# The Planning of Manhattan

The Plan of Manhattan was originally formulated when the City Council in February 1807, with State help in planning future Streets. The Council said its Goal was «laying out Streets..... In such a manner as to unite regularity and order with public convienience and benefit and in particular to promote the health of the city»

In March 1807 the council appointed a 3 member commission to establish the comprehensive street plan (Morris Rutherford and De Witt). A month later state legislature gave the commissioners exclusive power to lay put streets, roads and public squares

There was much hostility but the plan was published in March 1811. It was based on goals of «free and abundant circulation of air to stave off disease». Right angles were also favoured as straight-sided and right-angled houses were the most cheap to build. Each Avenue was to be 30m wide





# Neighborhood Housing Upgrades

# Integrated Slum Upgrading: Kibera

- 7 sanitation facilities now accessible to 21,000 residents of Soweto East (showers and toilets) cost US \$ 8 per capita) Each Facility Management Group collects on average – Kshs 46,800 (US \$ 600) per month
- Construction of the 1.5 km tarmac ring road across Soweto East completed, 600m of improved drains constructed
- The youth-organized door to door garbage collection for 400 homesteads
- Waste recycling has become a source of income with the youth recycling waste paper for resale



drape



A photograph of a cable car system, likely the Metrocable in Bogotá, Colombia. The central focus is a white cable car with large windows, displaying the "Metrocable" logo and the number "28". It is suspended by cables from a tall, yellow metal tower. The background shows a steep hillside covered in lush green vegetation and numerous small, simple houses (barrios) built on the slope. Other cable cars are visible in the distance and on adjacent towers. The sky is clear and blue.

**Access to all**

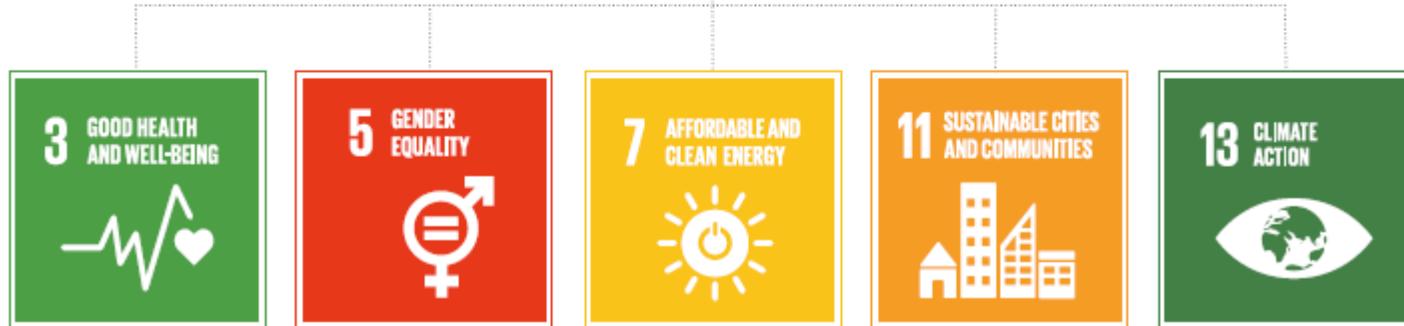
# Urban Health Initiative

To strengthen capacity of health system & urban stakeholders to integrate health into urban policies so as to support prevention of AP-related diseases

- Estimate health benefits from AP reduction measures
- Document the cost of inaction in prevention on health systems, health expenditure, deaths and disease
- Scenarios – compare health consequences of different courses of possible action
- Equip clinicians & nurses to advise on AP protection measures as part of prevention of NCDs and child pneumonia
- Engage & contribute to urban decisions (regarding AP&Health benefits)
- Pilots starting in Africa in cooperation with Norway, CCAC, World Bank



# Reducing Household and Ambient Air Pollution contributes to SDGs



# Demand

## SDG 3: Health

### Goal 3

Ensure healthy lives and promote well-being for all at all ages

### Target 3.9

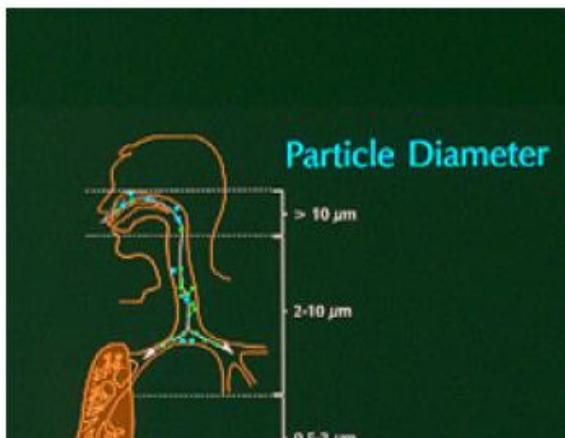
By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution from contamination.

#### Target

#### Indicators

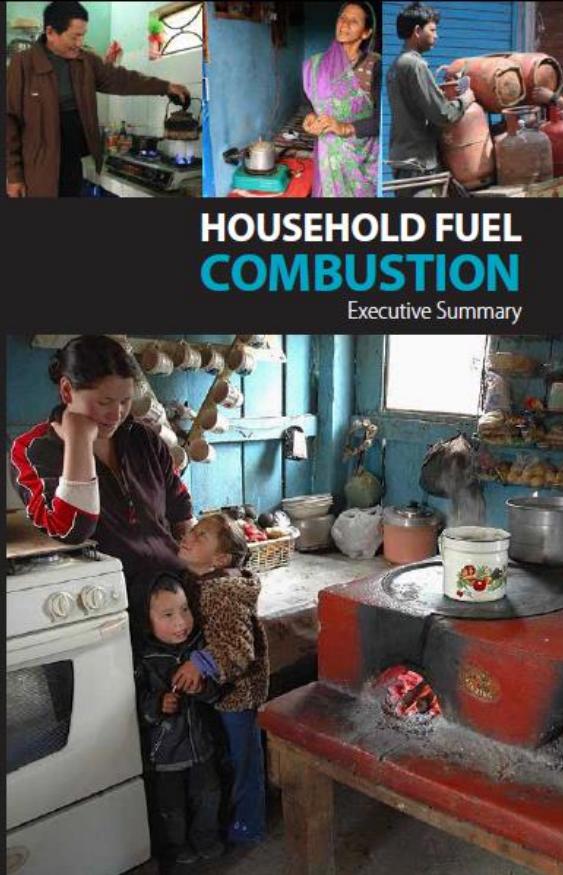
3.9

3.9.1. Mortality rates attributed to air pollution outdoor and to indoors



# SDG 7: Energy

Goal 7	Ensure access to affordable, reliable, sustainable, and modern energy for all
Target 7.1	By 2030, ensure universal access to affordable, reliable and modern energy services



## HOUSEHOLD FUEL COMBUSTION

Executive Summary

Target	Indicator
7.1	7.1.1 Percentage of population with electricity access  7.1.2 Percentage of population with primary reliance on clean fuels and technologies at the household level*

Also reporting to the Global Tracking Framework of SE4All

# Goal 11

## Make cities and human settlements inclusive, safe, resilient and sustainable.

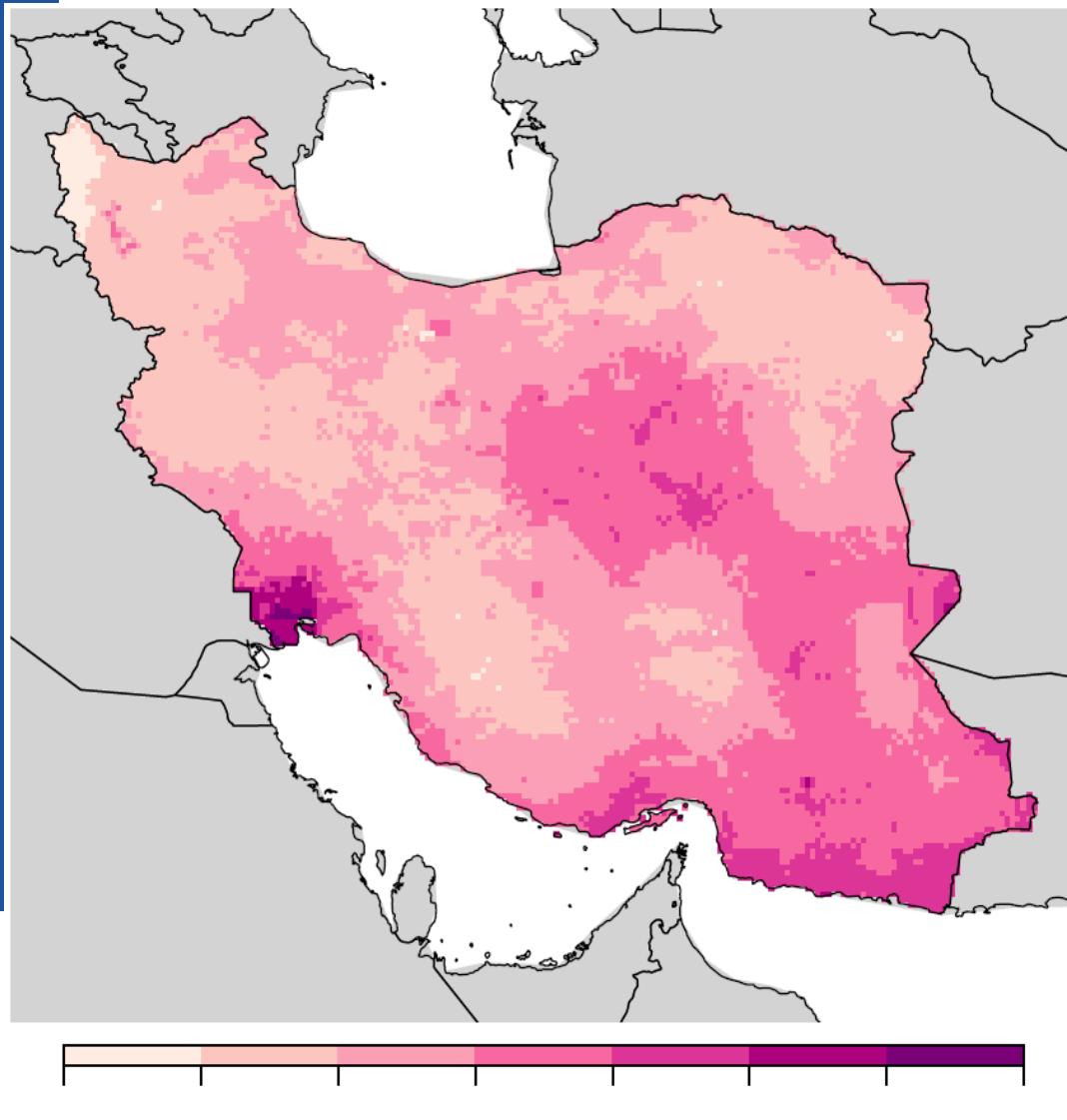
# SDG 11: cities

**Target 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.

Target	indicator
11.7	Annual mean levels of fine particulate matter (i.e. PM <sub>2.5</sub> ) air pollution in cities (population weighted)



# New estimates on exposure to AP and BOD for countries and the world Upcoming 2016



Improved modelling  
using data integration:  
Satellite sensing,  
chemical transport  
model and ground  
measurements

Modelled AAP exposure, Iran, 2015 (draft  
for country consultation)

# Conclusions

- Understanding urbanization patterns is critical to design effective interventions
- We need disaggregated data to ensure equity issues are addressed
- Focus on the synergies – other sectors' investments delivering health co-benefits
- Equip the health sector to contribute HiAP & inter-sectoral action for health (and vice versa !)
- Demonstration projects – methods, tools and experience – cities and homes
- Track progress on policies, health risks and outcomes– using the SDGs
- Many of the interventions are low-cost
- If we do not take preventative approaches to NCDs existing health systems will collapse for future generations