



Harmonization on the urban environment development linked to sustainability and population health

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ABSTRACT The world's urban population densities have increased rapidly over the past six decades. Urban living has a crucial impact on people's health and well-being. However, rapid and unplanned urban growth can also threaten sustainable development when the necessary infrastructure is not well-developed or when policies are under-evaluated after their implementation. This study followed a systematic review of the literature to assess linkages and initiatives between environmental sustainability and its effect on the ecosystems and people's health. Continued increases in urbanization are driving more exposure to air pollution, water shortages, and waste-related risks of the population. The high population density in most cities account for more than 70% of global greenhouse gas emissions because of their heavy use of non-renewable energy, primarily transportation, building workload, and industrial settings. Cities can also be particularly vulnerable to climate change influences as the urban heat island effect and increased coastal flooding due to rising sea levels. The economic sustainability crisis reveals that a strong per capita gross national product (GDP) indicator does not necessarily indicate that an economy is 'healthy' or that the quality of life for individuals is improving. Even though growth in GDP per capita is a critical driver of average household disposable income, it does not provide policymakers with a sufficiently detailed picture of other indicators of progress like human development and human living costs, among other factors. Health is the determining attribute of human development in a universal and inclusive pathway. The 2030 SDGs emphasize that social, economic, and environmental factors influence human health and inequalities in health. Consequently, broadening the adoption of sustainability actions across multi-sectorial and interconnected landscapes might improve the health of humans and our world ecosystems in the short, mid-, and long term.

Rationale

There is consensus that environmental trends such as global environmental degradation, excessive energy consumption, and the threat to healthy water and food production emphasize the importance of pursuing the planet's ecological sustainability. Health is the determining attribute of human development in a universal and inclusive pathway.

Key Findings

- Urbanization is felt through its "footprint" on land and resource uses.
- Greenhouse gases concentrations—carbon dioxide, methane, and nitrous oxide—are highest in the past 800,000 years.
- Cities account for up to 70% of global greenhouse gas emissions.
- Mass migration can also impact the urban environment.
- Human morbidity and mortality risks increase from climate-sensitive threats.
- Humanity has become a key determinant of Earth's biophysical conditions: the Anthropocene geological epoch.



Figure 2. Greenhouse gas emissions in the urban environment.

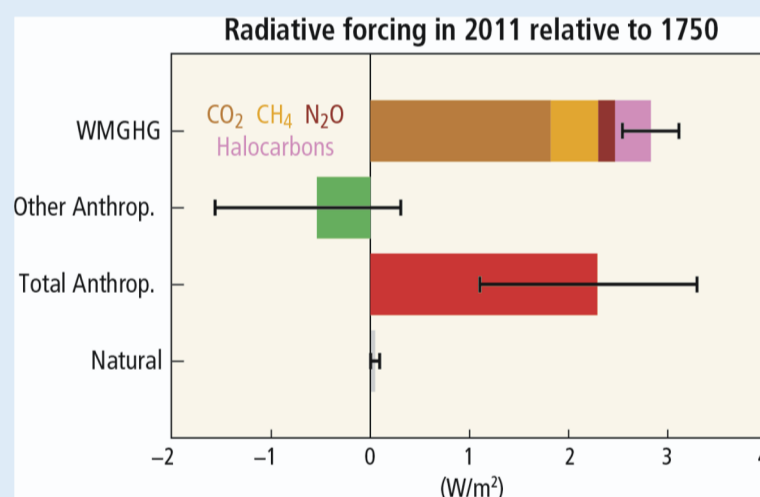


Figure 3. Radiative forcing of climate change.



Figure 4. Transformation of a parking lot into a landscaped area at the Medical Sciences Campus.

Recommendations

- Urban planning and green spaces management are means both for environmental mitigation and adaptation.
- Access to natural environments can offer multiple benefits to people's physical health, mental and social well-being.
- Urban infrastructure can contribute to flooding management, among other sustainable actions.
- There is potential for linking the two and supporting quality of life for the urban population.

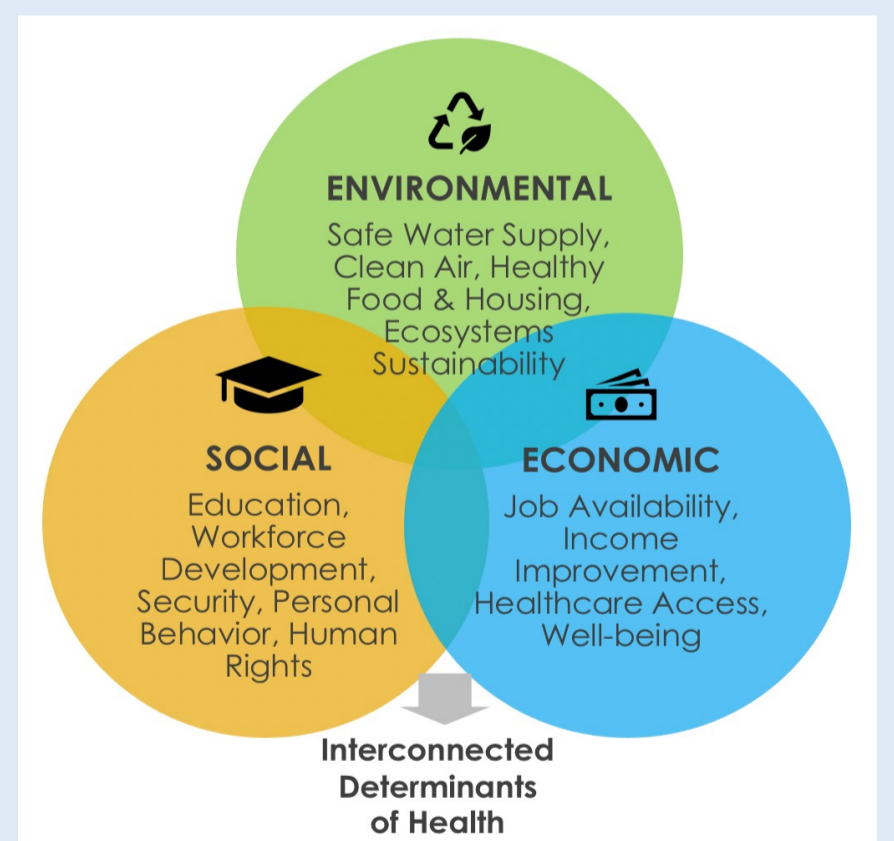


Figure 5. Benefits of sustainability on population health.

Acknowledgment

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Reference

Negrón, E. L. (2018). *Public Health and the Environment (2nded.) - Uncovering Key Social, Ecological, and Economic Connections*. San Juan, PR. ISBN: 978-1-7329754-3-9 (EPUB)

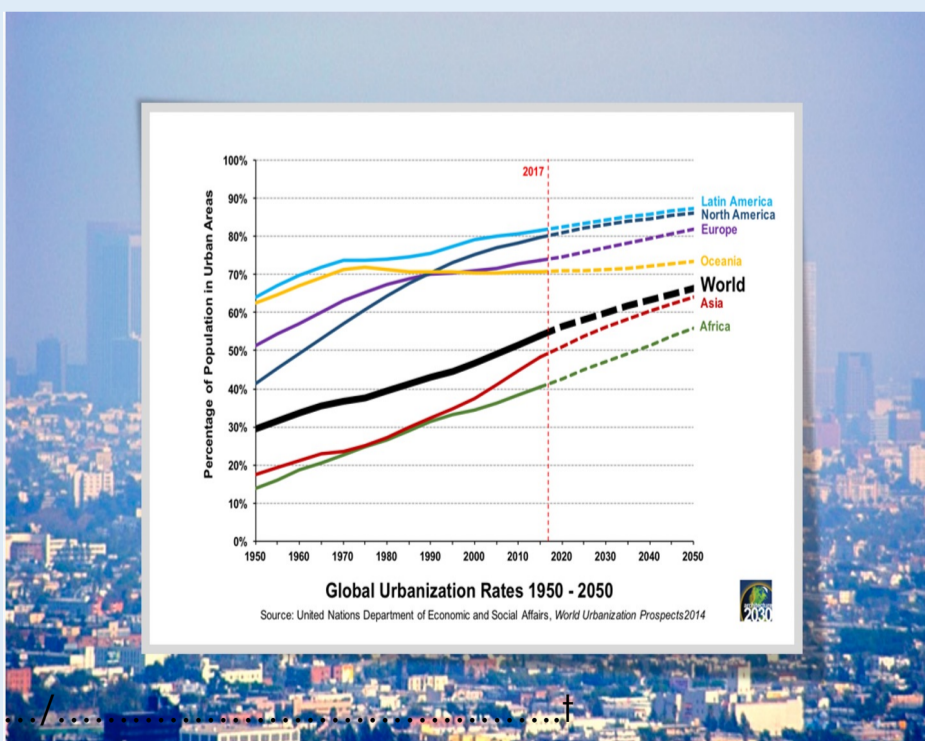


Figure 1. Trends of urban population by major areas.

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