



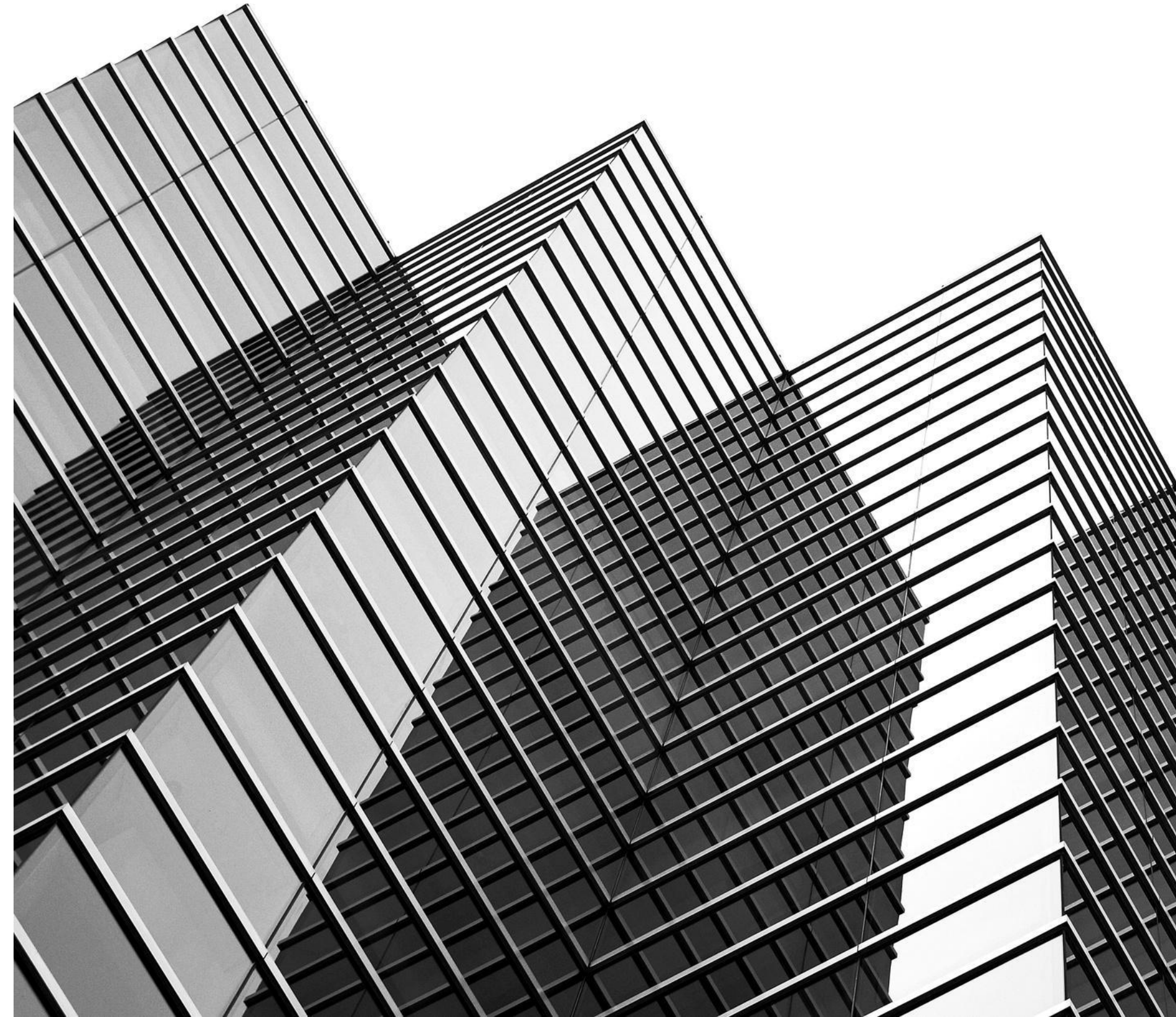
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# Sustainable Urban Development

UAPP225 ~ Dr. Kauffman

# What is it

Planning actions and guiding principles to improve and build our cities with the use of renewable resources. There are three aspects that urban sustainability relies on: environmental eco sustainability, economic sustainability, and **social sustainability.**



# Principles of Urban Sustainability



## Biophysical Limits

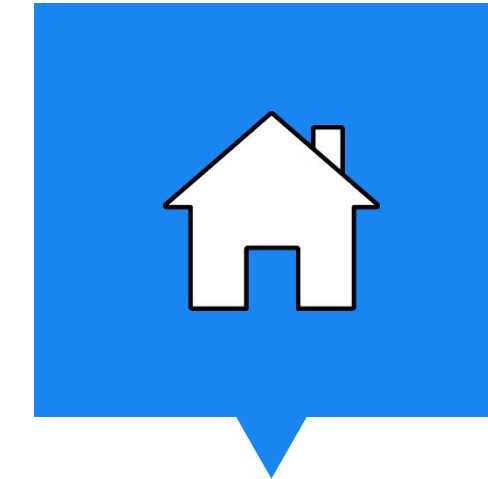
Everything on the planet is limited

Ex: resource depletion, land-use change, habitat and biodiversity loss



## Urban Inequality

Need to reduce economic, political, class, and social inequalities in a diverse and inclusive environment to achieve true urban sustainability



## Human and Natural systems

These systems are intertwined as human cultures are connected globally and have large constant interactions. Need to sustain these cultural differences and allow for them to thrive in a city environment

# Sustainable Development Goal 11

Focus on making human settlements inclusive, resilient, safe, and sustainable to minimize global warming and climate change

Cities are a large contributor to climate change

- large carbon footprint and consumer of energy/resources
- urbanization effects
- cover <2% of earth's surface
- consumer 78% of world's energy
- produce 60% of all ghg through energy consumption and burning of fossil fuels



# How to do this: Regional Planning

1.

Integrate urban and rural settlements

- decentralized planning/achieve integration
- prevent disasters



2.

Infrastructure optimization between neighboring cities/rural settlements

- minimize local competition and conflict



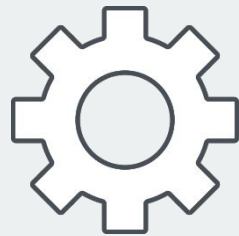
3.

Minimize migration

- promote cooperation and collaboration



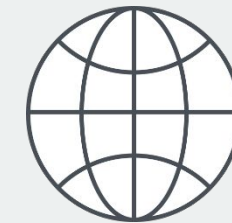
# Effects of Regional Planning



Promotes synergy  
between rural and  
urban areas



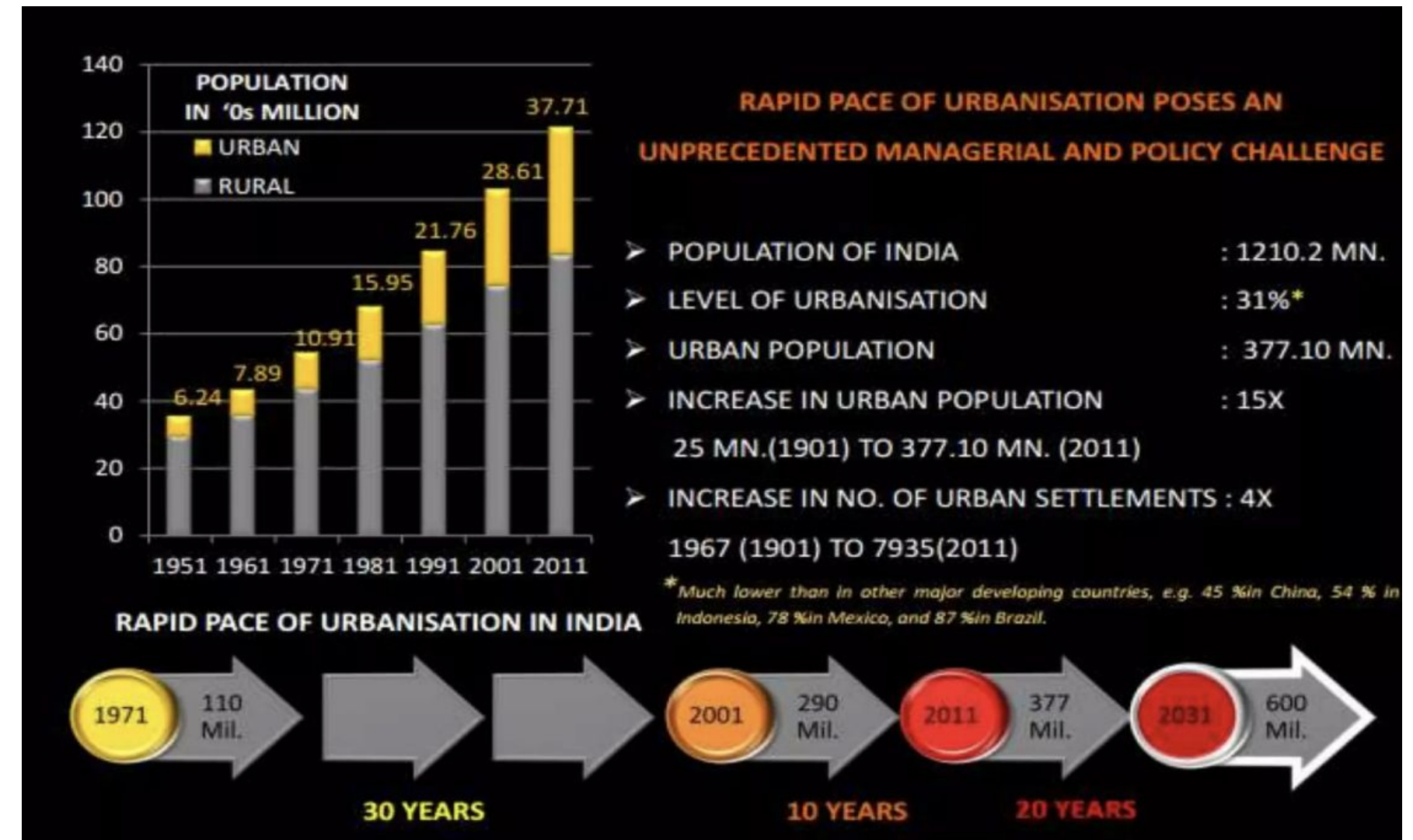
Connecting through  
a well defined  
settlement hierarchy



Use full developmental  
potential of each  
settlement with least  
consumption of  
resources/energy

This method optimized regional resources by connecting people and their homes to make their land and resources last further than individual operation and self-sufficiency alone can have on the overall betterment of an urban society

# India Urbanization Issues





# Tianjin Eco-City China

Sustainable City

City of 350,000 population → total area of 30 sq. km

Made of saltpans, barren land and polluted water-bodies

- work toward being a series of self-contained/self-sufficient eco-cells
- Green transport (Eco-city)
  - ◆ increased trips via public transport and non-motorized modes of transport (bicycles, walking)
- Water bodies transformed for multitude of beneficial purposes



# Design Green Buildings

Developed environment has a large impact on environment human interaction and consumption of resources within this system  
40-45% of global warming is the outcome of built environments

## Designing Green Buildings Accounts For:

50% of Ozone depleting CFC's still in use



50% of global energy consumption

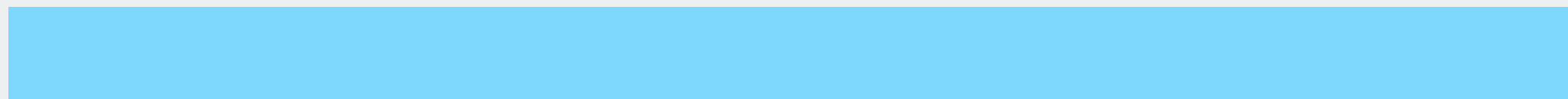


16% of world's fresh water withdrawal





**thanks for  
listening!**



# Sources

- [-https://diversity.social/urban-sustainability/](https://diversity.social/urban-sustainability/)
- [-https://academy4sc.org/video/sustainable-development-goal-11-sustainable-cities-and-communities/?hsa\\_acc=2755491261&hsa\\_mt=b&hsa\\_grp=122316101978&hsa\\_src=g&hsa\\_ver=3&hsa\\_cam=12767971389&hsa\\_net=adwords&utm\\_campaign&hsa\\_kw=11%20sustainable%20cities%20and%20communities&hsa\\_ad=593194502057&hsa\\_tgt=kwd-582516065682](https://academy4sc.org/video/sustainable-development-goal-11-sustainable-cities-and-communities/?hsa_acc=2755491261&hsa_mt=b&hsa_grp=122316101978&hsa_src=g&hsa_ver=3&hsa_cam=12767971389&hsa_net=adwords&utm_campaign&hsa_kw=11%20sustainable%20cities%20and%20communities&hsa_ad=593194502057&hsa_tgt=kwd-582516065682)
- [-https://www.slideshare.net/JITKUMARGUPTA/strategies-for-promoting-urban-sustainability-90814937](https://www.slideshare.net/JITKUMARGUPTA/strategies-for-promoting-urban-sustainability-90814937)