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**One World One Water Center**

Metropolitan State University of Denver | Denver Botanic Gardens

**Today's Topic**

**Water Resources Management  
and Urban Planning**

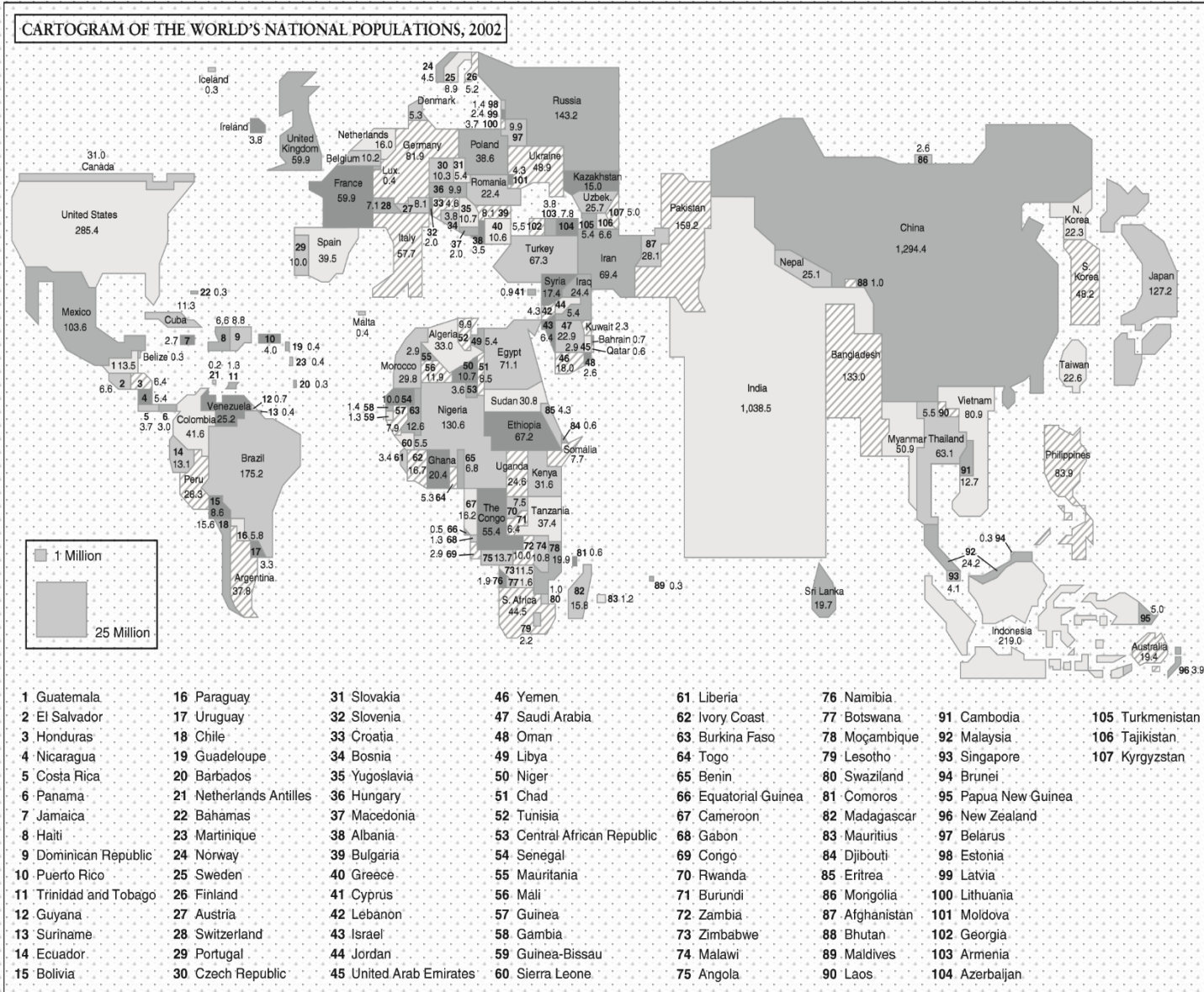


An aerial view of housing developments near Markham, Ontario—a suburb of Toronto, Canada. Too often, the goal of a housing developer is to see how many homes can be crammed into a limited amount of space—a tragedy of the commons if you live nearby.



**China has over 100 cities with populations over 1 million people, and 6 megacities with populations over 10 million people.**

**Shanghai – 24 million, Beijing – 22 million.**



**FIG. 14.1** Cartogram of the world's national populations, 2002. Note how India and China dominate this figure. From *Geography: Realms, Regions, and Concepts*, 10th Edition, by Harm de Blij and Peter O. Muller. Copyright © 2002 H. J. de Blij and John Wiley & Sons, Inc. This map was originally produced in color. Adapted and reprinted by permission of John Wiley & Sons, Inc.



<https://www.bing.com/videos/search?q=water+population+growth&&view=detail&mid=DCC8D42051477B5A557EDCC8D42051477B5A557E&&FORM=VRDGAR>

# Population and Clean Water Challenges in Haiti.



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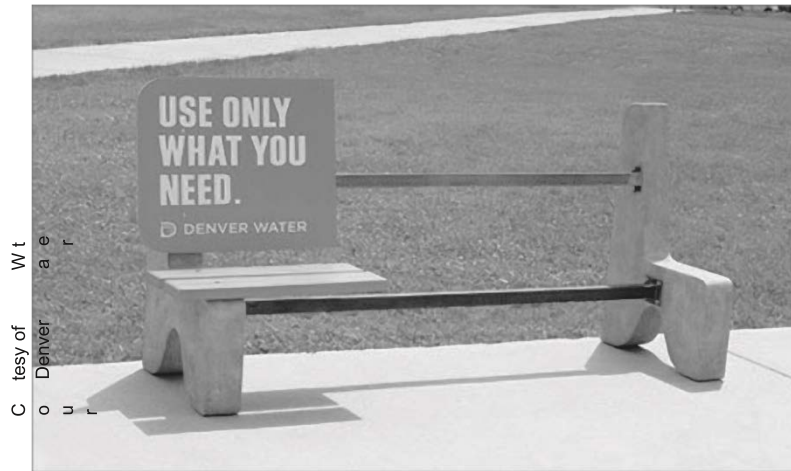
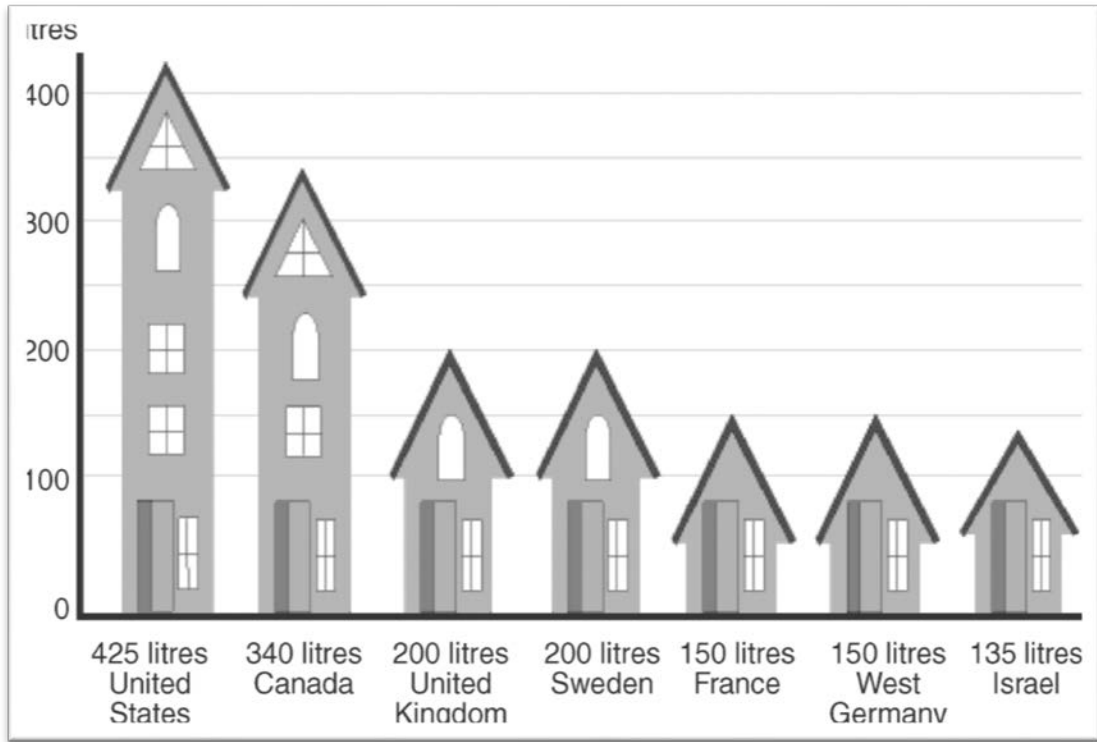
Photo Resear

## Tragedy of the Commons

<https://www.bing.com/videos/search?q=tragedy+of+the+commons&&view=detail&mid=64A3D886845528FAB6D764A3D886845528FAB6D7&&FORM=VRDGAR>

3.46





Denver, Colorado – Water Conservation, Use Only What You Need







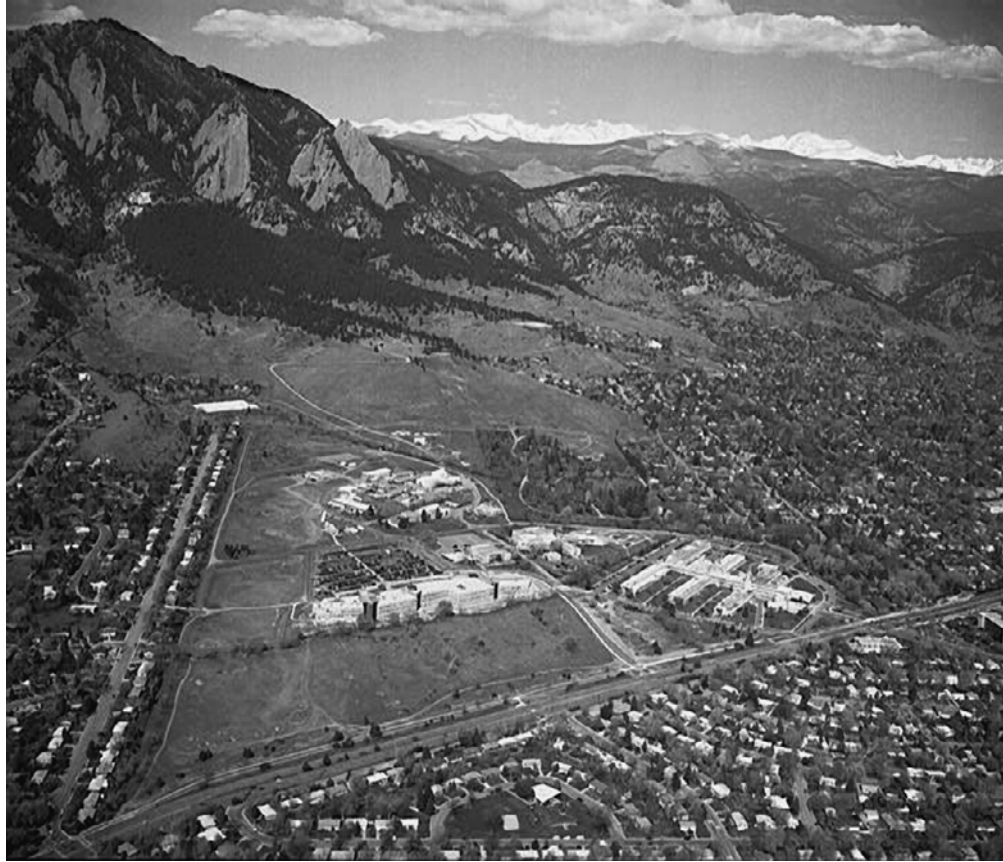
This desalination plant is located at Doha, Qatar.

<https://www.bing.com/videos/search?q=desalination&&view=detail&mid=5AA0D778EA571B18797E5AA0D778EA571B18797E&rvsmid=8E8FD9F4247E7A1D14BA8E8FD9F4247E7A1D14BA&FORM=V DQVAP>

1-48

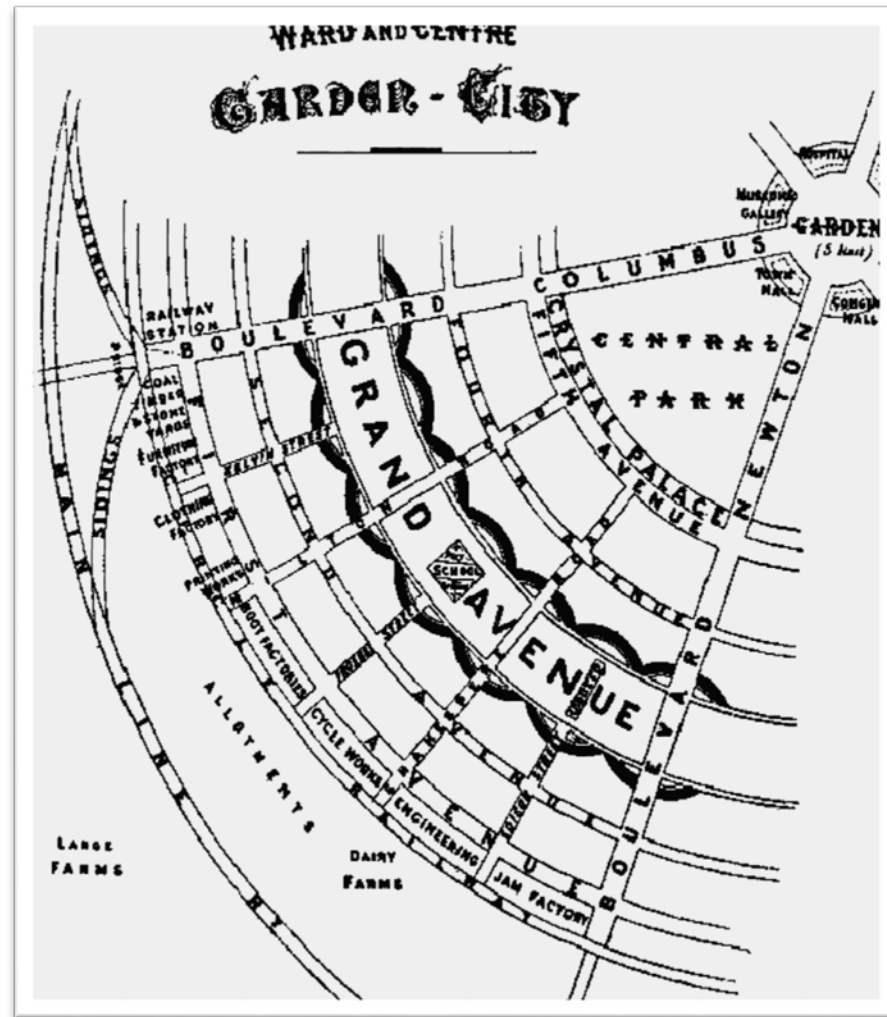
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1.23



The undeveloped open space at the base of the Flatiron Mountains provides a dramatic and beautiful view for residents and visitors of Boulder, Colorado.

The National Institute of Standards and Technology (NIST) is in the foreground of this remarkable image, which shows the positive results of Boulder's Blue Line on urban development pressures.



Sir Ebenezer Howard's classic plan for the “Garden City” included broad boulevards radiating out from the city center garden.

<https://www.bing.com/videos/search?q=garden+city+movement+howard+&&view=detail&mid=C34D3795BF668039C320C34D3795BF668039C320&&FORM=VRDGAR>

## Florence 1966 Flood

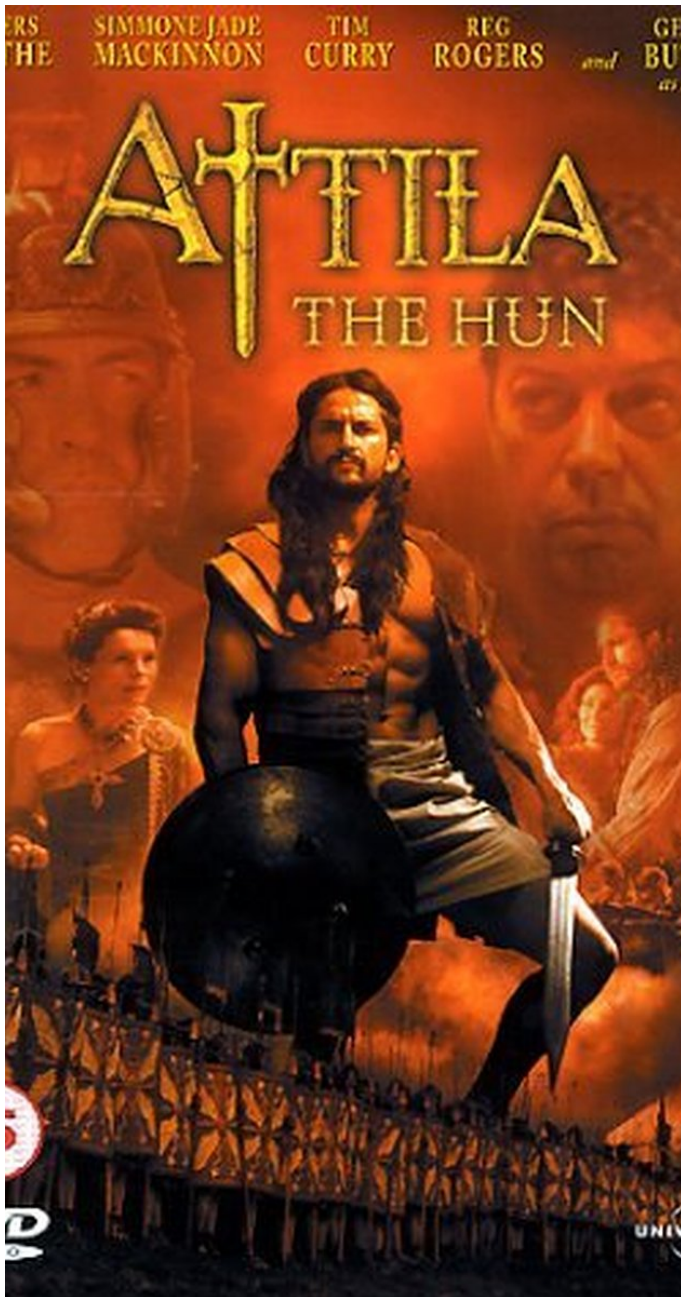
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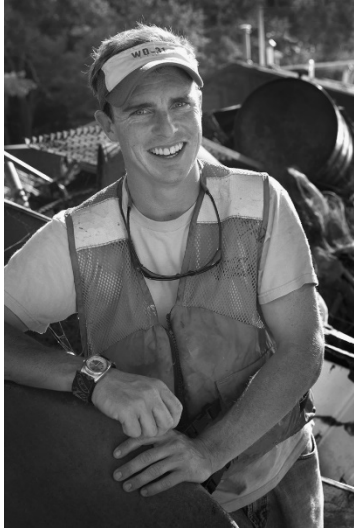


In his book *Leadership Secrets of Attila the Hun*, Dr. Wess Roberts describes one of the world's greatest, though most ruthless, leaders.

Around 450 A.D., Attila, leader of the nomadic Eurasian Huns, set himself the goal of conquering the world, which he pursued by heading up a marauding band that was brutal, barbaric, and wild.

Even so, the group followed unwritten laws, customs, and traits that provided a degree of cooperation and ethics that others came to envy and fear.

- \* Do not consider all opponents to be enemies. You may have productive, friendly confrontations with others inside and outside your tribe.*
- \* Time is your ally when you're negotiating. It calms temperaments and gives rise to less-spirited perspectives. Never rush into negotiations.*
- \* Honor all commitments you make during negotiations lest your enemy fail to trust your word in the future.*
- \* We must refrain from charging prematurely and furiously into unfamiliar situations.*
- \* Huns may enter war as the result of failed diplomacy; however, war may be necessary for diplomacy to begin.*
- \* Huns never take by force what can be gained by diplomacy.*



Chad Pregracke – Mississippi River, U.S.



**Here is some of the junk Chad  
Pregracke has pulled from the Mississippi  
River:**

105 bowling balls

15 car engines

28 bathtubs

70 air conditioners

12 motorcycles

78,386 tires

1,105 refrigerators

4 pianos

57 lawn mowers

110 freezers

14 cars/trucks/vans

69 dishwashers

447 coolers

312 hot-water heaters

115 bicycles

143 sinks

1. Start with yourself and where you live.
  - A. Inside your home
    - Be aware of your water use—showers, laundry, and dishwashing. Use only what you need.
    - Check for and repair leaky faucets and toilets. That will save a lot of water.
    - Install water-saving devices. Many utilities have cash rebates.
    - Do not dispose pharmaceuticals and other contaminants down the drain.
    - Reduce in-home energy use.
  - B. Actions outside your home
    - Rethink outdoor lawn/landscape watering
    - Cycle-soak turf grass (8 minutes on,10 minutes off) to allow water to soak into the soil.
    - Install a rainbarrel
    - Replace some turf grass with more water efficient and native plants
    - Install porous paving
    - Install water-efficient landscaping
    - Don't pour waste into gutters
2. Make a difference in your community
  - Start or participate in a club
  - Pick up trash
  - Preserve a wetland
  - Organize and help install a rain garden
  - Volunteer to create a rooftop garden
3. Empower other people
  - Organize a water music and art festival
  - Speak to local volunteer organizations
  - Volunteer at a non-profit organization
  - Create a trash pick-up day<sup>11</sup>
4. Start Now

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