Technical Solutions to Water Problems

ENSC 407 Global Water Issues
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Lecture 8 – October 25, 2004

70% of earth’s water is saline (~35,000 ppm Na)

Technology is simple, but energy-intensive and therefore expensive

Reverse Osmosis

Distillation

Brackish (partially saline) water is less expensive to desalinate

But all desalinated water is more expensive than conventionally treated water

Environmental cost:
For every 100 litres of seawater desalinated, 75 litres of highly saline waste water are produced
**Long-range transport of water**

- Large diversion schemes
- Towing icebergs
- Medusa Bags

**Water Conservation**

- Efficient irrigation (e.g. drip)
- Efficient appliances (toilets, showerheads)
- Infrastructure upgrades – repairing leaky pipelines

**Water Harvesting**

- Rainwater capture
- Fog farming (Lauren)
- Mining non-renewable water from deep aquifers

**Recycling wastewater**

- Is water a consumable or a recyclable?
- ADVANTAGES: no transport needed, water only slightly modified during use, not vulnerable to drought
- DISADVANTAGES: may require treatment and conventional treatment may miss some contaminants (pharmaceuticals)