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2.500 Desalination and Water Purification
Spring 2009

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2.500 Desalination

March 5, 2009

Water Issues

- 1.7 billion people without access to safe drinking water
- 10 million deaths annually
- 90% of infant deaths in developing countries



Water Issues



- Surface water sources are extremely polluted

Water Issues



- Ground water provides a safer alternative
- Chemicals leach into the water supply
 - arsenic
 - nitrites and nitrates
 - salts

Health Impacts

- High blood pressure
- Kidney stones, gall stones etc.
- Vision disorders

Phaeton, Haïti



Phaeton and Paulette



Courtesy of the CIA Factbook.

Some facts about Haïti

- Poorest country in the Western Hemisphere
- 148th in HDI (of 179)
- Second oldest republic in the Western Hemisphere (1804)
- Only successful slave revolt leading to independence
- Defeated Napoleon

Haití

U.S.

- 53% have access to safe water...
- 54% live on less than \$1/day
- GNI/capita = \$440
- Rural population density = 664 (/km²)
- Annual deforestation rate = 5.7%
- Energy use/capita = 270 (kg oil equiv)

- 100% have access to safe water...
- <1% live on less than \$1/day
- GNI/capita = \$35,400
- Rural population density = 37 (/km²)
- Annual deforestation rate = -0.2%
- Energy use/capita = 7,996 (kg oil equiv)

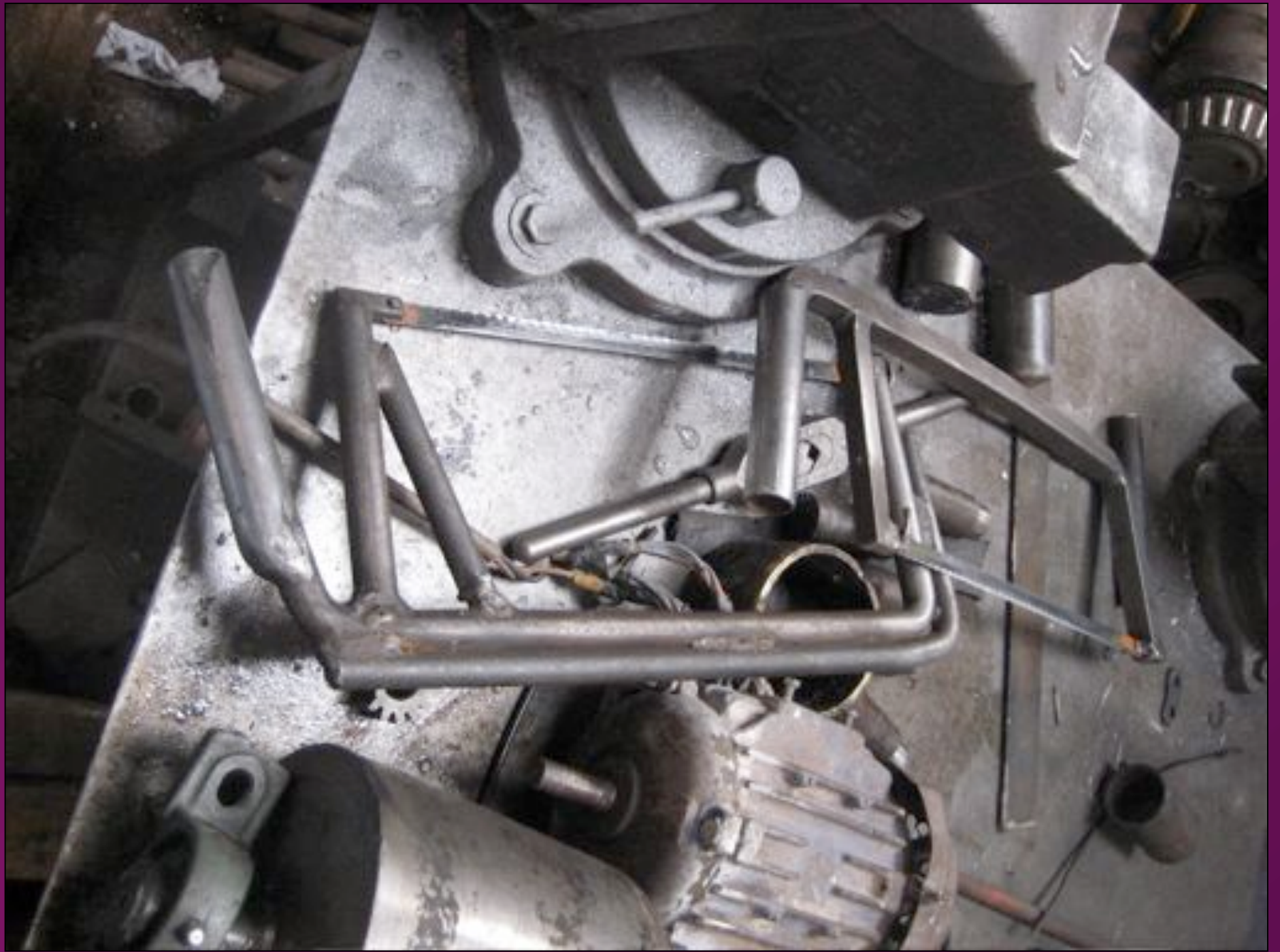
Workshops of the World...



















McMaster Carr??









Don't overestimate the
availability of materials

Don't underestimate the skill
of the craftsmen

Questions...