The Millennium Development Goals

CVEN4700L08
1.2 billion lack clean water
2.4 billion lack adequate sanitation
2.4 billion are at risk with malaria
29,000 children die from hunger daily
1.1 billion overfed vs. 1.1 billion underfed

Planet Earth Circa 2007

- 1.2 billion lack adequate housing
- 1.6 billion have no access to electricity
- 4.2 billion are unable to read
- 1.8 billion live in conflict zones, in transition, or in situations of permanent instability
UN Millennium Development Goals
(09/18/2000)

- Eradicate Extreme Poverty and Hunger
- Achieve Universal Primary Education
- Promote Gender Equality and Empower Women
- Reduce Child Mortality
- Improve Maternal Health
- Combat HIV/AIDS, Malaria and Other Diseases
- Ensure Environmental Sustainability
- Develop a Global Partnership for Development

http://www.youtube.com/watch?v=ReRx12QUv54
MDGs

- Poverty
- Capacity Building
- Development
- Appropriate Technology
Poverty

“Poverty relates primarily to the limited access of poor people to the knowledge and resources with which to address their basic human needs and promote sustainable development in such areas as water supply and sanitation, food production and processing, housing and construction, energy, transportation and communication, income generation, and employment creation.” (UNESCO, 2003)
Capacity Building

- ".. the building (or strengthening) of human, institutional and infrastructure capacity to help societies develop secure, stable and sustainable economies, governments and other institutions through mentoring, training, education, physical projects, the infusion of financial and other resources, and most importantly, the motivation and inspiration of people to improve their lives" (Hatch, 2004).

- If sustainability is the goal, capacity building is the way to reach that goal.
Capacity Building

- Issues faced by all communities: social, economic, cultural, political, ethical, environmental, religious, etc.
- At different scales:
  - time scale (short, medium and long term range). Things don’t happen overnight
  - physical scale (household, family, entire community)
  - what works at one scale may not work at another scale.
Capacity Building

- **Caution**
  - Stop promising miracles
  - Be patient, humble, and accept mistakes (or lessons learned)
  - Keep asking questions and do not rely on past decisions only

- Unpredictability: Communities are systems and systems of systems that are interacting and changing. We do not comprehend all possible What works for one community may not work for another, therefore there is no single solution that fits all, and fits all the time and at all scales.
Community Development

A “green village” is a community that allows all of its members to enjoy a quality of life where basic human needs and rights and meaningful work are fulfilled. It is a community that has access to resources and knowledge, thus capable of sustaining itself economically, socially, and environmentally.
Community has vision for itself
Community has access to resources (capital) and knowledge (skills)
Community emphasizes responsibility, partnership, co-creativity, inclusion, equity, and participation
Community uses a production-consumption model that makes sense
Community is willing to be open to outside influences but is fully conscious of what it needs and what it can contribute.
Appropriate & Sustainable Technologies

- Helps protect the environment
- Uses local skills & materials
- It meets people's needs
- It paves the way for a better future
- Helps people earn a living
- It is affordable
Appropriate Technologies for Development

- What represent appropriate and sustainable technologies?
- Can these technologies provide solutions to current problems and avoid (or minimize) irreversible long-term negative environmental, economic, and social consequences?
- Who should such technologies serve?
Evolution of Technologies for Development (from B. Hazeltine)

- Approach 1: Deliver technology
- Approach 2: Pay more attention to users needs and supply training to accompany technology
- Approach 3: Offer business training, addressing such issues as: Does a market exist (local and global)? Can a profit be made? Can the profit making be predicted?
- Approach 4: Create entrepreneurs
**MDGs**

- For each millennium goal, identify (i) the various professions that could help meeting the goal, and (2) how engineering could meet each goal.

- Focusing on engineering only, identify how various engineering disciplines could help meeting each goal: civil, environmental, aerospace, chemical and biological, electrical, mechanical, and industrial engineering.
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