The world is a very big place.

We share it with 3bn poor.

Open design can help.
Vinay Gupta
Hexayurt Project

- Hexayurt@Gmail.com - contact me
- http://Hexayurt.com - shelter
- http://LiveUnplugged.org - vision
- http://GuptaOption.com/ - policy
- http://GlobalSwadeshi.net - social network
Ending Poverty With Open Hardware

pic via http://flickr.com/photos/63138333@N00/2162447668/

thank you for sharing your work
Absolute poverty means dying from being poor.
Half Of All Death Is Death From Poverty

- Non-poverty deaths
- Poverty deaths

30 million people a year
• 60 million people die every year (WHO)

• All causes, all countries, not just the poor

• Two ways to see numbers
  • absolute cause, and
  • contributory effect

Hunger Data

- About 1 million people die directly from lack of proper food (WHO).
- However, FAO says hunger contributes to 36 million deaths each year.
- Some die directly, but masses are affected.
- This repeats for diseased drinking water, indoor air pollution and so on.

http://www.wantedinrome.com/articles/complete_articles.php?id_art=850
Death from poverty comes in many forms

- Lack of good food, disease from bad toilets and drinking water, breathing smoke from cooking fires, lack of vaccinations and so it goes - people die of many contributory causes

- This is the poverty cluster
open technology can reduce poverty cluster deaths to zero*

*or at least damn near it
Half Of All Global Death Is Preventable

30 million people a year can be saved with simple technology.
being poor does not have to mean dying from being poor
any more than it means not being able to afford an operating system
Solutions

• Londoners were dying of cholera in 1854

• Infrastructure to protect public health more-or-less defines the developed world

• But there’s a problem

  • you need stability to borrow money to pay for things like water treatment plants

  • that is hard to come by in poor places
Local Infrastructure

• Gather power on each roof (sun, wind)
• Purify water in each kitchen (SODIS)
• Dispose of human waste in each back yard
• Stability and a higher standard of living

• without massive borrowing to finance centralized infrastructure systems

http://smallisprofitable.org/
Population

• If 1 in 5 (20%) die before they are adults
• 90% odds of two adults needs 3 children
• 99% odds of two adults needs 5 children
• This is why the poor have large families
• But reducing infant mortality quickly reduces family size!
Open Appropriate Technology Systems

• Solar and clean-burning wood stoves (5m)
• Purify water in each kitchen (5m combined)
• Dispose of sewage in back yards
• Farming education to double food (30m?)
• Generate power in each household (education, connectivity)

http://www.aprovecho.org/
http://solarcookers.org/
http://www.worldtoilet.org/
http://www.ns.umich.edu/htdocs/releases/story.php?id=5936
Questions?

- Translation & literacy?
- Networks and devices?
- Why hasn’t this happened already?
- Political and economic indications?
- Effect on the global environment?
- Specific technologies?
- Source material?
Mapping Infrastructure
Six Ways To Die
Industrial Infrastructure
Apply Critical Technologies

- solar water pasteurization etc. (water)
- simple toilets (brick pits, composting)
- solar cooking and improved stoves (air)
- passive solar house construction (warm)
- improved organic agriculture (nitrogen)
- food preservation (zeer pots)
How Can You Help

- Appropedia - classic wiki volunteer tasks
- PhD students - thesis direction
- Sci / Eng types - system testing and design
- Multilingual? Translate, translate!
- Keep the software (and hardware!) coming!
- **Build bridges for the future**
A word on Gandhi

- Refined the design for the spinning wheel that is his “machine-logo”

- Self-reliance (swadeshi) is the only hope for most of the world’s poor - *at least for now*

- Vertically *and horizontally* integrated morality

- [http://globalswadeshi.net](http://globalswadeshi.net)
Open Appropriate Technology Projects

- [http://Appropedia.org](http://Appropedia.org) - the motherlode
- [http://Aprovecho.org](http://Aprovecho.org) - stoves
- [http://Akvo.org](http://Akvo.org) - water technology
- [http://SolarCookers.org](http://SolarCookers.org) - cooking, water
- [http://OpenFarmTech.org](http://OpenFarmTech.org) - open everything
- [http://Hexayurt.com](http://Hexayurt.com) - whole systems, emergency housing