

***Free science and  
engineering in the  
global public interest***

Vinay Gupta  
<http://hexayurt.com>



The Pentagon

open source Hexayurt.com shelter

yes  
rly



stoves, wind  
solar, etc

<http://star-tides.net>  
October 2009

GATR inflatable  
satellite dish

open source has no ideology, gets everywhere



# Is it working?

- 6.5 billion people
- 60 million die per year
- 25% to 50% from poverty
- *preaching to the choir*

# Poverty cluster

- water, fire smoke, food
- infant mortality, birth rate
- gordian knot of the world
- different way to see it?

# **Kinshasa on the Clyde**

- Glasgow Calton: 54 (m)
- Congo: avg life 54 (all)
- Dole \$10/d+health/ed/etc
- Congo income: \$8/day

# Kerala India (60m)

- 76y life expectancy
- 91% literacy on \$1/day
- democratically elected  
market communist govt.\*

\* not currently in power, but did land reforms

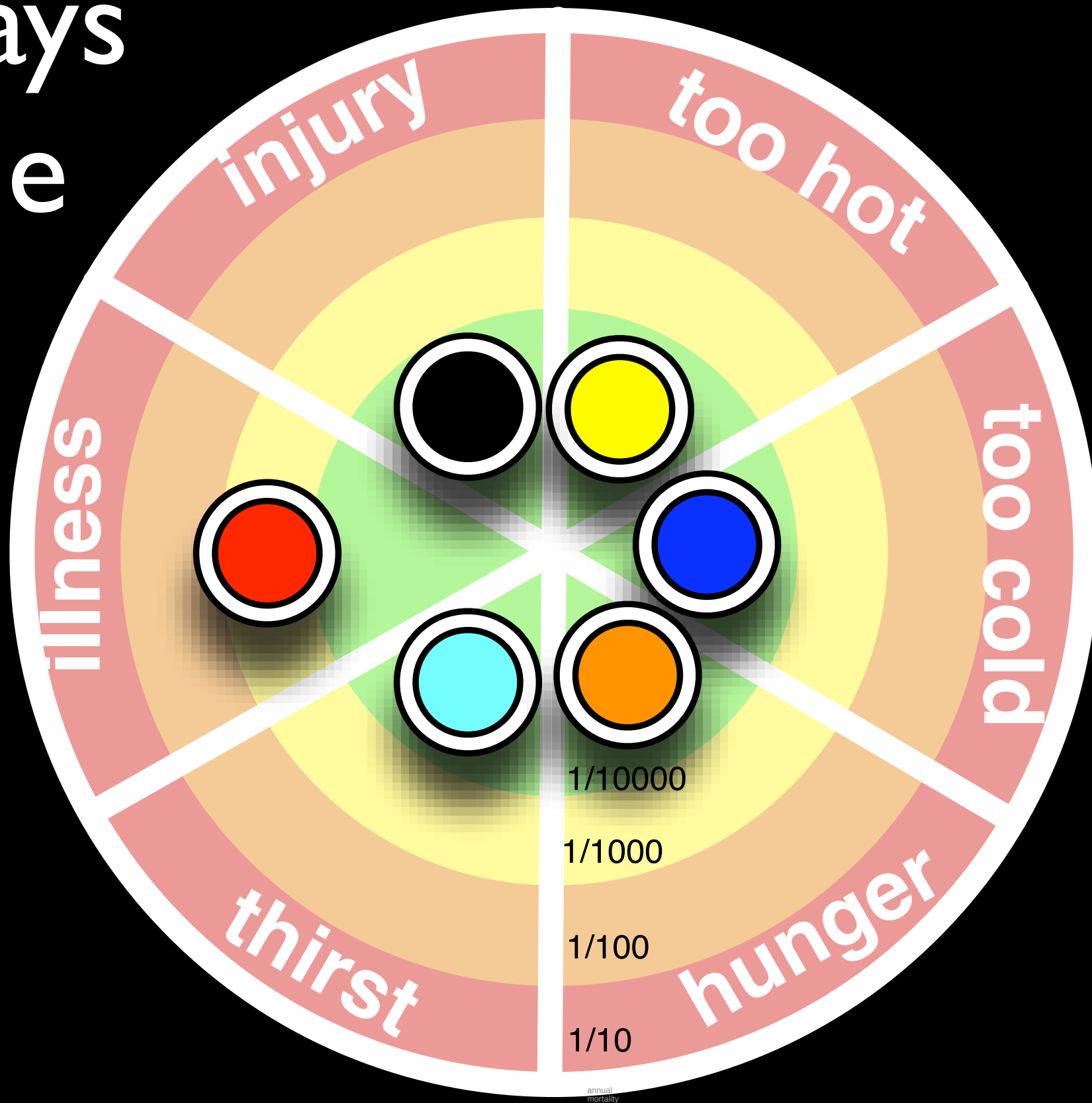
***Milton Friedman***  
***where is your god now?***

# Analytical tools

- mortality  $\leftrightarrow$  income
- mortality = infrastructure?
- *The Ghost Map* (London)
- Simple Crit Infra Maps

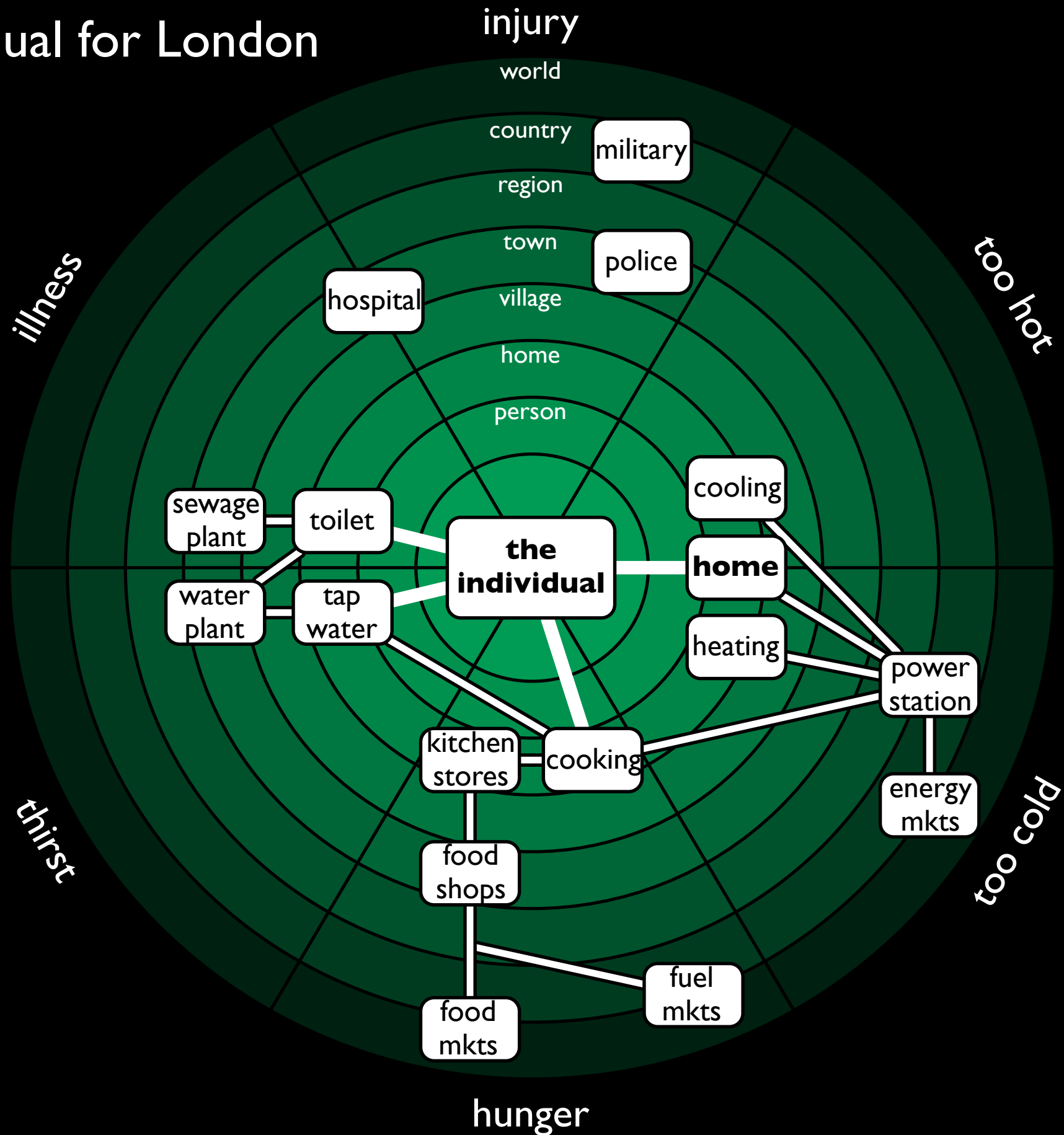


# six ways to die



those numbers are annual mortality rates

# simple critical infrastructure map / individual for London



# **Mortality-centric**

- design - who is saved?
- budgeting - \$/life
- planning - goal mortality
- evaluation - count dead

# INFRASTRUCTURE

- clean water & a toilet
- a cookstove
- better farming
- **10-20m lives a year**

# Who owns it?

- Gasification stove tech
  - Basic tech is public
  - Philips patent a tweak
- *Never reached the mkt :-)*

# Global Swadeshi

- *swa*: own    *desi*: land
- own knowledge own tech
- open source appropriate technology, like Linux



# Internet Peasants?

- \$20 iPhone in 2020?
- nearly 7bn on internet
- 2bn with no toilet
- download toilet plan!!!

# Today's examples

- rope pumps: design to fix
- one acre fund: learn 2x ag
- water filters: clay, biosand
- toilets: sulabh, compost

# and more...

- stoves: nearly all open
- shelter: the hexayurt etc.
- *open infrastructure ecosystem*
- **how to spread it?**

# Demo villages

- some already exist
- **live in your own gear**
- document, teach
- spread working examples

# Business models?

- nobody will fund
- needs phones to scale
  - phones are inevitable
- universal basic education?

# **infrastructure- centric politics**

- use objective measures
- tech transfer is hard
- inevitable with phone/net
- translation is the big issue



# Appropedia.org

- well over 15k articles
- translation is starting
- ready for global network
- support One Big Wiki!

# Resources

- <http://appropedia.org> - everything
- <http://akvopedia.org> - just water
- <http://hexayurt.com> - my house
- <http://butteredsidedown.co.uk/scim.html> - simple critical infrastructure maps (open)
- <http://globalswadeshi.net> - a social network for those developing appropriate solutions