

# Hexayurt Project

*from sheds to sustainability*



vinay gupta [hexayurt.com/plan](http://hexayurt.com/plan) @leashless

# All the People

- 2 billion Urban Rich (US, EU etc)
- 1 billion Urban Poor (slums)
- 0.5 billion Rural Rich (small towns)
- 3.5 billion Rural Poor (1 acre farm)

Worst standards of living are for rural poor – they lack infrastructure etc.

# Where are we now?

- US roughly 8x consumption
- EU roughly 4x consumption
  - (Peter Head of Arup)
- Breakthrough technology on solar fairly certain, batteries likely, farming etc. are much, much harder

# Sustainability?

- 9 billion people (7+ here now)
- Earth produces only so much – overuse reduces future yield
- Sustainable yield / 9 bn shares
- What standard of living can you achieve within this constraint?

# Big job for a small shed



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# Big job for a small shed



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# Big job for a small shed





# Big job for a small shed



# Big job for a small shed





# Bigger on the inside



# Big job for a small shed





# Big job for a small shed



# Big job for a small shed





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# Alternate manufacturing





# Large scale deployment



# Exponential growth

- First built 2003, I built until 2006
- Test units in Haiti & Sri Lanka
- 2010 50 units at Burning Man
- 2011 500 units at BM
- 2012 750+ units at BM  
(counted from sat by @thejaymo)





# a Shed – so what?

- Honeycomb cardboard with shredded newspaper insulation
- Coke-can thick aluminium outside
- Or just spray the damn thing with concrete and be done with it
- 45 sq m for \$1000 to \$3000
- Modular reuse of components

# Free Hardware

- 8+ designers (H13, dome etc.)
- *Many* documenters (Julie Danger)
- <http://appropedia.org> as well
- *Thousands* of builders (BM)
- 2013 first year of friendly commercial ventures



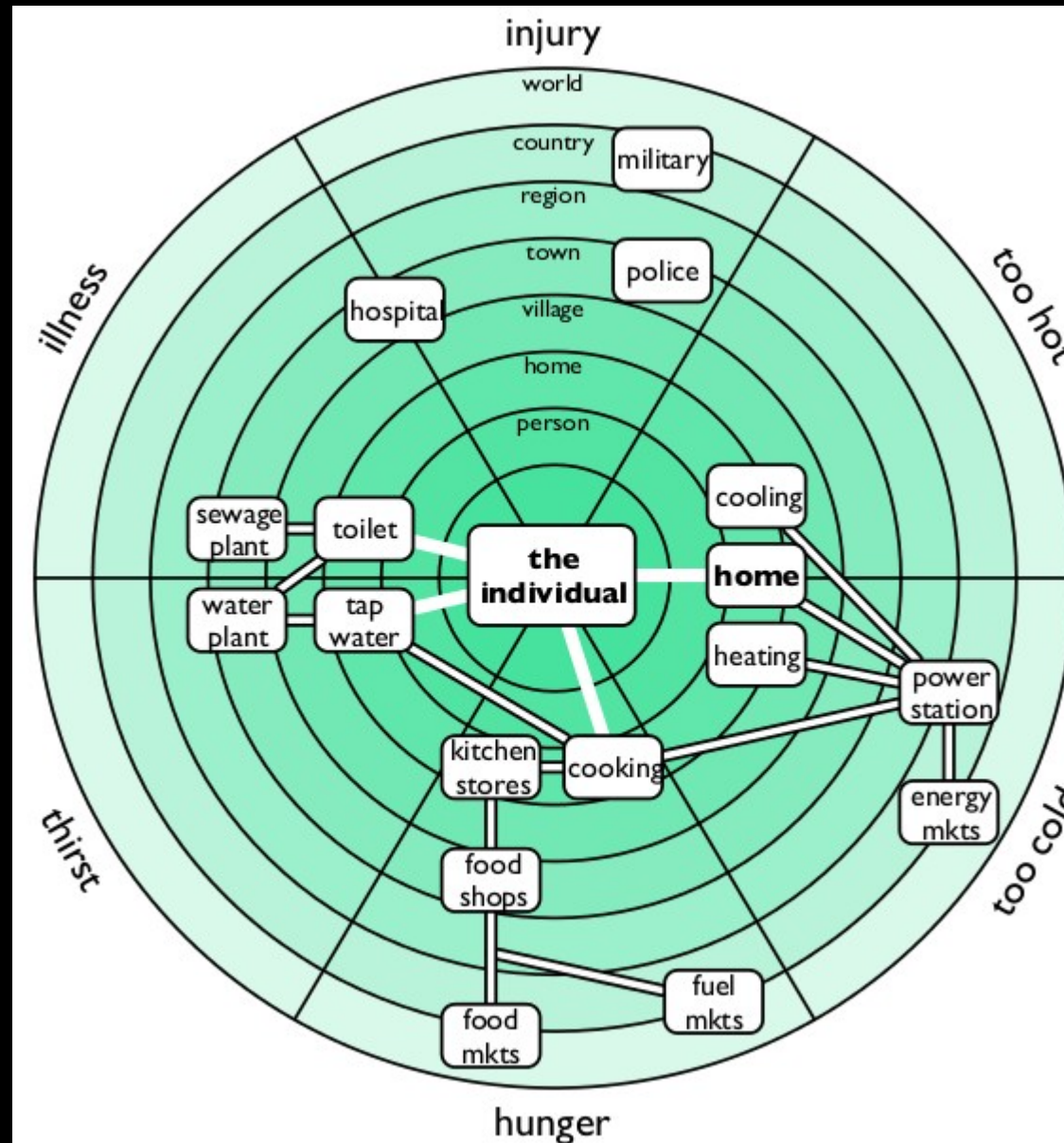
# Kill the mortgage

- Builders want your house to be expensive – *and so do banks*
- Homebuilders want cheap housing – *but not when they sell*
- Building is the last truly inefficient global industry
- Hippies in *permayurts* already!

# The Pentagon loves it



# STAR-TIDES & SCIM



# Building infrastructure

- *<http://resiliencemaps.org>*
- A simple language for designing infrastructure systems
- Composting toilet, solar panels, mesh networks, biosand filters etc. for \$200 - \$500 per house
- Slowly, slowly (avoid beatdown!)

# Flexible disaster relief

- Ply hexayurt:\$87 of materials
- Tent: \$350 + \$100 air freight
- Buy materials locally (nearest unaffected city) and truck in
- Train local builders to make units
- Money stays in the local economy

# One billion new homes

- Owner-build from cheap parts
- Parts are reusable in new bulids
- Tiny environmental footprint
- *But* low rise = low density slums
- In cities, density is what you want
- So we're talking Global Villages



# Stay on your land

- We are landless peasants: *work!*
- Robot manufacturing = no jobs
- Land access = at least you eat
- 1 acre farmers are very close to 1.0 planets of consumption
- Sustainability by ground up?

# What about the cities?

- Ultra-cheap midrise construction?
- Personal Rapid Transit (PRT)
- Packet-switched self-driving pods
- 40% more urban density (no roads, parking lots, driveways)
- <http://podaris.com> hiring in LDN

# Thank you!

- <http://hexayurt.com>
- <http://resiliencemaps.org>
- <http://appropedia.org>
- <http://podaris.com>
- @leashless
- **see one at Hackney City Farm**

# TODO

- Charge camera
- Clear SD card
- take tripod
- thinkpad HDMI cable