

# *The Living City*

*Mike Bennett & Vinay Gupta*

*Buttered Side Down.co.uk*  
we solve your real problem

## *city as rain forest*

- **biodiversity**
- **complexity**
- **synergy**

## *the great fires*

- **Chicago**
- **London**
- **Edo / Tokyo**

## *how we beat fire*

- **changed behavior**
- **building better**
- **public fire brigades**
- **building codes**

## *fire took systems level changes*

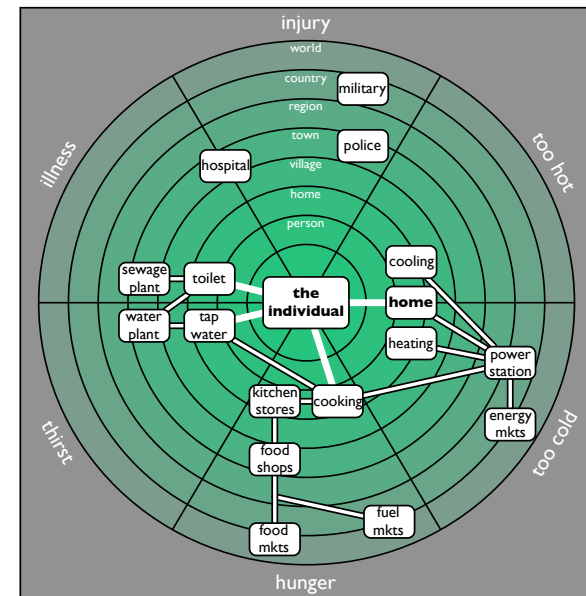
- **individual, group, organization, state**
- **all buildings / code**
- **brigades / business**

## *risks: new, point and systemic*

- **climate: new and systemic**
- **earthquakes: point**
- **pandemic: systemic**

## *defining risks*

- **six ways to die**
  - hot, cold, hunger, thirst, illness, injury
- **economic risk**
- **population leaves**



## **scenario one pandemic**

- **H1N1 2009 / 1918**
- **not if but when**
- **quarantine / supply chains**

## **the unexpected**

- **how do you move supplies?**
- **what about food?**
- **what about insulin?**

## **six ways to die revisited**

- **flu hits people *and* supply chains**
- **interdependencies are the hardest part**

## **mitigating risks**

- **stockpile / backup**
- **plan to do without**
- **training**
- **change systems**

## **who handles risks?**

- **FEMA, CDC, FDA, EPA do their risks**
- **local responders**
- **including citizens!**

## **rational response is cross-level**

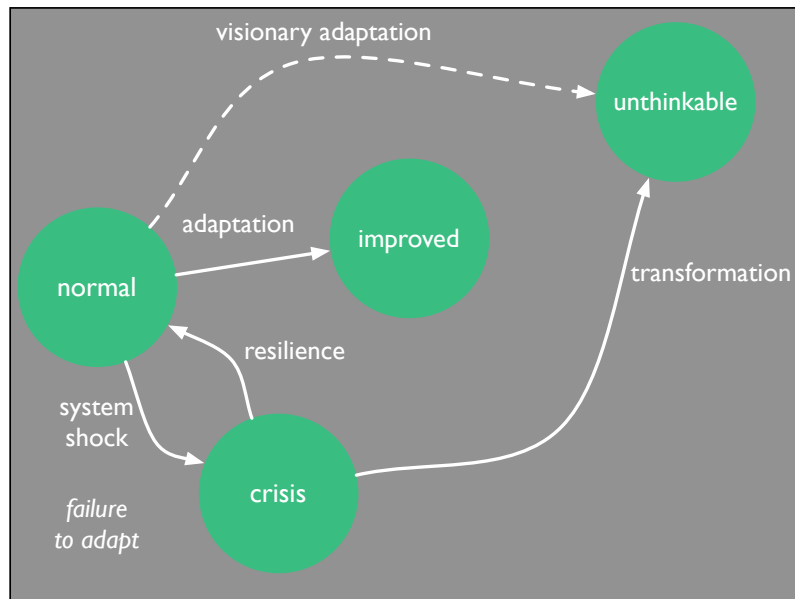
- **individual, group, organization, state**
- **good individual choices help a lot**

## **scenario two cold katrina**

- **fragile grid “brittle power”**  
[http://www.natcapsolutions.org/publications\\_files/brittlepower.htm](http://www.natcapsolutions.org/publications_files/brittlepower.htm)
- **terrorist engineers**  
<http://www.nuff.ox.ac.uk/users/gambetta/Engineers%20or%20had.pdf>
- **prolonged winter grid failure**

## **beyond resilience**

- **CK requires change**
- **change our models**
- **unmake the risk**
  - **not just hardening**



## *how the mind understands risk*

- **probability/impact**
- **risk estimation**
- **complex scenarios**
- **UNDER REACTION**

## *change the system one brick at a time*

- **everything changes**
  - **like beating fire**
- **buildings and cars**
- **we make, they buy**

## *imagine if we had not fixed fire*

- **6.5 bn, half urban**
- **the environment is like fire once was**
- **policy backs tech**

## *it is an engineer's future*

- **we made this mess**
  - **buildings and cars**
- **and now we fix it**

## *recommendations*

- **investigate systems transformation**
- ***resilience now!* plans**
- **pilot project: Arup?**

***Buttered Side Down.co.uk***  
we solve your real problem