Technology uncertainty and urban resilience

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ABOUT RESILIENCE
Fat tails – dragons of uncertainty
What do we mean with resilience?

- **Awareness** – Organization is aware of potential shocks and their impact
- **Adaptation** – Organization is fast to change the operations in order to improve the fit with the markets
- **Agility** – Speed of seizing new opportunities
- **Active Learning** – Use a shock as a trigger for improvement

*Capability to succeed in the environment that is dominated by uncertainty.*
Resilience is degree of:

1) disturbance the system is able to absorb and still maintain its purpose and operations
2) system is capable of self-organization
3) system can build and increase the capacity of learning and adaptation

Folke (2006 p. 259-260)
Resilience emerges from energy

Dalziel and McManus 2005
Theory behind our proposition for definition

- **Ecosystems theory**
  - Resilience Alliance [www.resalliance.org](http://www.resalliance.org)

- **Complex Adaptive Systems theory**

- **Innovation theory**
  - [Reinmoeller and van Baardwijk (2005)](http://sloanreview.mit.edu/article/the-link-between-diversity-and-resilience/)
Three scenarios and urban resilience

Methodological experiment
Portfolio Process

1. Shock environments
   Descriptions of shocks environments

2. Success strategies for every shock environment
   List of activities, capabilities or development items that produce success in the shock environment

3. Assessment of activities’ benefits
   Web enquiry

4. Potential portfolio that will produce success what-so-ever happens
Pragmatic List of Actions

Portfolio

- **New**
  - New activities that seem to be relevant in many extreme situations
  - Watch List

- **Current**
  - Activities that are valid in many extreme situations
  - Current activities that are sensitive for change

**Core**

**Contingent**

*List of potential actions derived from uncertainty > leading criteria: resilience and fit with current development activities*
What should city planners do now in order to be successful in all of these futures?
TASK 1

- You are the Mayor of Tokyo
- Generate examples of policies that, if implemented within 2014, would make your city succeed in the extreme situation given to you.

Use 15 minutes

- Select three examples you will present to all of us.
Price of energy drops by 90%

New energy technologies are implemented. People are able to produce their own energy with only 10% of the 2014 production cost. Energy replaces other raw materials; artificial food, thin insulation of buildings, mobility increases dramatically.
No need to work

80% of production is take care by automatized processes that use robotics. City people have all of their time to entertainment, consumption, social networking... State pays to citizens in order to support demand.
Japanese population

Source: OECD population projections
Japanese population had dropped to 80 million people. New life sciences have prolonged lifetime, life expectancy is for men 100 and for women 120. All of the cities are fighting about new inhabitants....
Solutions

1. Robots rule
   1. More Disneylands x x
   2. Decide goals and communicate to people > what should I do xxx
   3. Subsidise travelling around the world x
   4. Establish self-organizing community clubs x

2. Free energy
   1. Build completely ecological city by using energy (Abu Dhabi) x
   2. Exercise center to burn the cheap food x
   3. Support dispersed energy systems -

3. Old peoples town
   1. More marriages – remarriages subsidized x
   2. New university hospital with PhD courses for old ladies
Task 2

- Assess the utility of all of these actions in your environment.
- Choose 5 most useful.