



PORTUGAL'S WICKED PROBLEMS AND STRATEGIES TO COPE WITH THEM

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WICKED PROBLEM TERRITORY

- “Wicked problems” describe a certain type of problem that is difficult to solve because of incomplete, contradictory information and design parameters (Churchman, 1967).
- “Wicked problems” cannot be definitively described nor definitely and objectively answered (Horst Rittel and Melvin Webber, 1973)

ISSUE

- The jobless rate in Portugal, adjusted for seasonal factors, was little changed in March at 15.2 percent, where it has been since January.

ISSUE

- Around 2/3 of the Portuguese coast has a significant risk of erosion, with coastline sections between Foz do Douro and Nazareth receding on average 7 meters per year.

ISSUE

- Two popular Algarve beaches in Quarteira and Loulé were forced to close to the public for a few days after a problem with a local sewerage treatment station.

ISSUE

- The number of companies with overdue credit instalments rose in March to 31 percent, the highest proportion since 2009, the Bank of Portugal (BdP) has revealed.

ISSUE

- Portugal has seen its gold reserves lose almost five billion euros since the onset of the financial crisis.

ISSUE

- A park in Carnide, Lisbon, used by the authorities as a deposit for hundreds of seized vehicles has been described by the Portuguese Association of Public Health Doctors as an “open-air dump” that presents “clear risks to public health.”

ISSUE

- Resident population in Portugal will decrease until 2060 in any of the projected scenarios. In the central scenario, population decreases from 10.5 millions of people in 2012, to 8.6 million in 2060 (INE).
- Changes in the age structure of the population will result in a continued and strong demographic aging. Between 2012 and 2060:
 - the aging index increases from 131 to 307 elderly for every 100 young people;
 - the sustainability index changes from 340 to 149 persons of working age for every 100 elderly persons.

ISSUE

- According to today's forecasts, Portugal's public debt is going to continue rising at least until 2015, when it will reach 131.8 percent.

PORTUGAL'S ISSUES:

**DO THESE PROBLEMS LAND US IN
WICKED PROBLEM TERRITORY?**

**IF THEY DO, WHAT ARE WE DOING
TO DO ABOUT IT?**

RITTELL & WEBBER'S CHARACTERISTICS OF WICKED PROBLEMS 1973

- There is **no definitive formulation** of “the problem.”
 - Portugal has seen its gold reserves lose almost five billion euros since the onset of the financial crisis.
- Every wicked problem is **unique**.

RITTELL & WEBBER'S CHARACTERISTICS OF WICKED PROBLEMS

- Every wicked problem can be considered to be a **system of problems**.
 - According to today's forecasts, Portugal's public debt is going to continue rising at least until 2015, when it will reach 131.8 percent.

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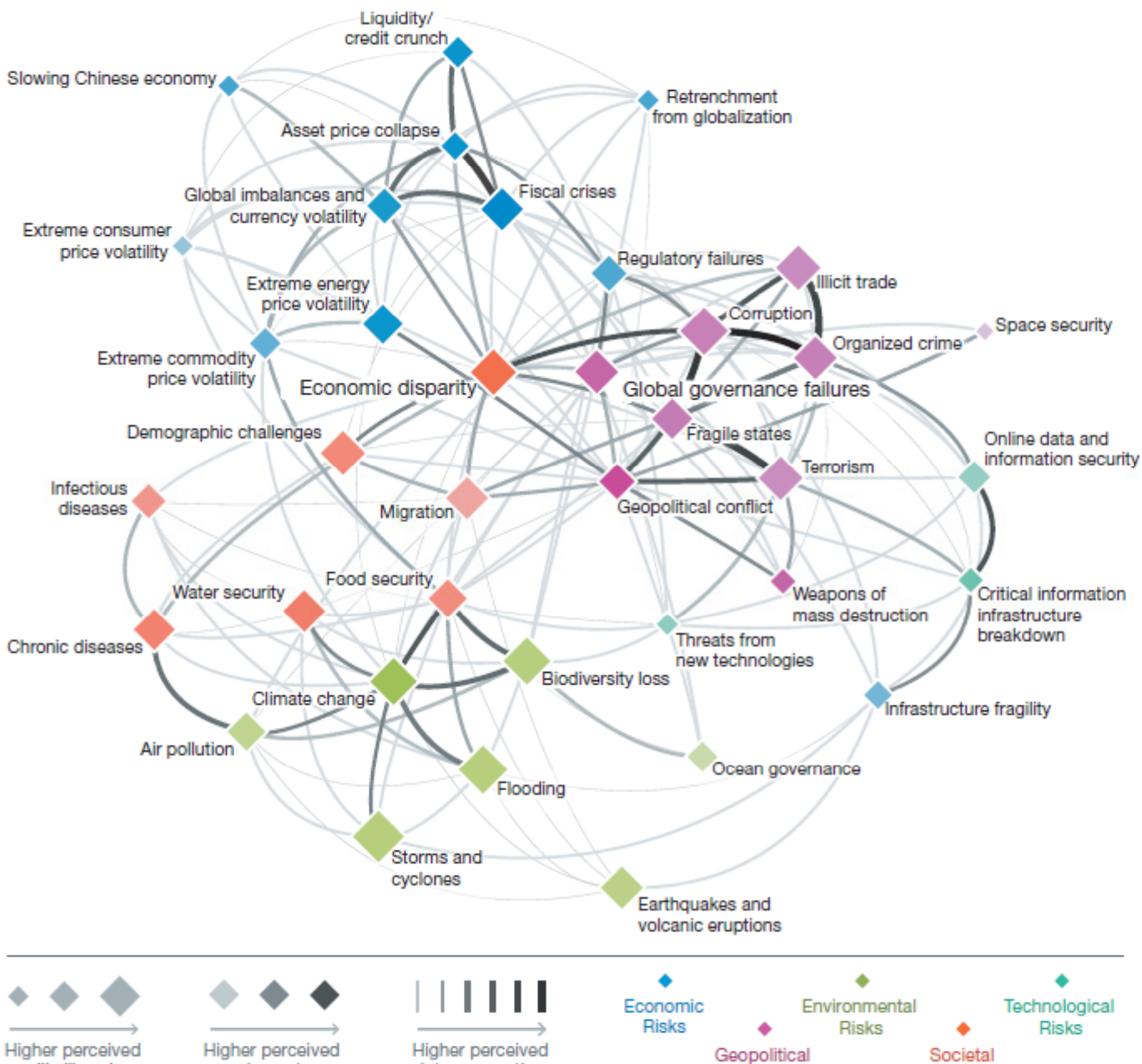


Figure 1 | Risks Inter Map 2011 illustrating interdependencies in connected world we live in. Reprinted from ref. 82 with permission of the WE

PROBLEMS IN WICKED PROBLEM TERRITORY

- Climate change
- National debts
- Species and plant extinction, deforestation
- Pollution
- Water and food shortages
- Poverty, unemployment
- Corruption and crime
- Terrorism

RITTELL & WEBBER'S CHARACTERISTICS OF WICKED PROBLEMS

- **No set of potential solutions** to a wicked problem exist **nor are there criteria** to establish that all solutions have been identified and considered.
- There is no stopping rule to determine when wicked problems are **solved**.
- No ultimate test of a **solution** to a wicked problem exists.

RITELL & WEBBER'S CHARACTERISTICS OF WICKED PROBLEMS

- Solutions to wicked problems are **not true-or-false, but good-or-bad, better or worse.**
- There is little opportunity to learn by trial-and-error since **every attempt to solve a wicked problem counts significantly.**
- The problem solver/planner has **no right to be wrong.**

RITTELL & WEBBER'S CHARACTERISTICS OF WICKED PROBLEMS

- The **problem solver's world view is the strongest factor** in explaining which solutions are favored and promoted to deal with a wicked problem.

LANDING IN WICKED PROBLEM TERRITORY?

Consensus on Problem

		YES	NO
<i>Consensus on Solution</i>	YES	Simple Problems	Complex Problems Conflict on Solution
	NO	Complex Problems Conflict on Problem	Wicked Problems Conflict on Problem & Solution

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COPING WITH WICKED PROBLEMS?

- Simple ←-----▶ Wicked
- A continuum of problems from simple to wicked.

WHAT ARE OUR ALTERNATIVES WHEN TRAPPED IN WICKED PROBLEM TERRITORY?

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STRATEGIES IN WICKED PROBLEM TERRITORY

- Be rational-analytic
- Be an incrementalist—satisfice
- Be an authority, expert
- **Be an entrepreneur, an innovator**

STRATEGIES IN WICKED PROBLEM TERRITORY?

- **Be rational!**

State the problem

Do a **complete search** for solutions.

Identify your **criteria**.

Select **optimal solution** based on criteria.

Implement solution.

STRATEGIES IN WICKED PROBLEM TERRITORY?

○ **Satisfice! (Herbert Simon)**

- State the problem
- Do a **limited search** for solutions.
- Find and select one solution that is **good enough**.
- Implement solution.

STRATEGIES IN WICKED PROBLEM TERRITORY?

○ Be an authority, an expert!

- Experts and those in authority **define the problem**.
- Experts and those in authority **pick a solution** based on their knowledge, skills, and competencies.
- Create new policy and execute it from the **top down**.

STRATEGIES IN WICKED PROBLEM TERRITORY?

- **Be entrepreneurial, be innovative!**
 - Frame the problem at the **local level**
 - Develop **innovative ideas** to address the problem
 - **Prototype** the ideas as potential solutions
 - **Test the prototypes** to see what works and what doesn't
 - Scale from the **bottom up**.

EXAMPLES OF ENTREPRENEURIAL/INNOVATIVE APPROACH

○ Willie Smits

- Problems of deforestation, fires, species extinction, water shortages, etc.
- Recreated a rain forest in Samboje Lestari, Indonesia.
- See: http://www.ted.com/talks/willie_smits_restores_a_rainforest

UNIQUE FEATURES OF THE ENTREPRENEURIAL/INNOVATIVE STRATEGY

- Problem solving begins with an **interdisciplinary team** of people who **collaborate** to address a problem.
- The team builds an **ecosystem of support**—a network of social, human, financial capital.
- The team explores the **problem from a systems perspective**.

UNIQUE FEATURES OF THE ENTREPRENEURIAL/INNOVATIVE STRATEGY

- The team focuses on **how people living with the problem experience it: human-centered design.**
- The team, together with people living with the problem, generates **new ideas as solutions** to address the problem.
- The team **prototypes and experiments with the new ideas/solutions** and **makes iterative changes** when needed.

UNIQUE FEATURES OF THE ENTREPRENEURIAL/INNOVATIVE STRATEGY

- The team **implements the solution**, collects data to monitor the results, and **makes any necessary changes**.
- If successful, the team **scales up the solution from the local to the regional-national level**.

PUBLIC POLICY AND SOCIAL RESPONSES?

- **Education:**
 - ***Introduce New Courses and Curricula:***
 - ***Coping with Wicked Problems***
 - ***Design Thinking Approach to Problem Solving:***
 - ***Stanford Design School Example:***
<http://dschool.stanford.edu/>

PUBLIC POLICY AND SOCIAL RESPONSES?

- **Encourage entrepreneurship and Innovation in Business and Government**
 - IDEO: Innovation in Business, Government
<http://www.ideo.com/>
 - Ashoka's Social Entrepreneurs
<https://www.ashoka.org/>
 - Skoll Foundation's Social Entrepreneurs
<http://www.skollfoundation.org/>

CONCLUSION

- Our complex, interconnected, and interdependent world is pushing us into wicked problem territory.
- Traditional problem solving strategies are not working and often make problems worse.
- We will not solve our wicked problems, at least in the short term.
- However, with creativity, entrepreneurship, innovation, and design thinking we may find ways to tackle wicked problems for the long term.

THANK YOU!

Professor Nancy Roberts