Week 2

“Super wicked problems and complicated solutions”

MoT1452: Inter- and Intra-Organizational Decision-Making

April 29th, 2024

Teaching team

Module manager:

Dr. Jenny Lieu

The amazing co-teaching facilitation team:

Aditya Chhetri, Anggi Paramitha Siregar, Devano Yehezkiel Adipradhana, Giovanni Nian Gani Meghana Kotha, and Pavlo Topalli

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Update groups & workshop rooms

- Class D (Group 1 - Group 5): **TPM-Hall D (31.A0.250) - w/ Meghana & Aditya**
- Class E (Group 6 - Group 11): **TPM-Hall E (31.A0.290) - w/ Pavlo**
- Class H (Group 12 - Group 17): **TPM-Hall H (31.A1.210) - w/ Devano**
- Class I (Group 18 - Group 22): **TPM-Hall I (31.A1.250) - w/ Giovanni**
- Class F (Group 23 - Group 27): **TPM-Hall F (31.A1.020) - w/ Anggi**

Agenda

9:45-9:55: Introduction to teaching team, lecture format & overview of assignments by

9:55- 10:30: Lecture on “Super wicked problems and complicated solutions” Dr. Jenny Lieu & Dr. Natalia Prozorova (Q&A)

10:30-10:45 Assignment 2 explanation & attendance quiz; Questions / break

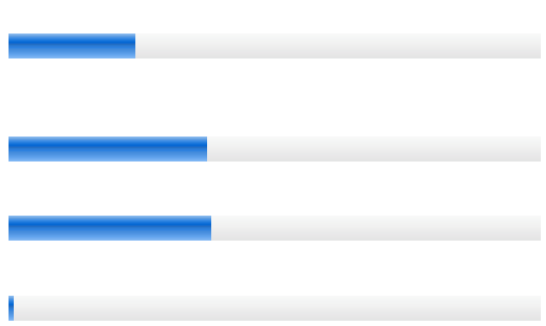
11:00-12:45 In-class group work & self reflection: run by facilitator (groups listed on bright space)

Survey results from last week:

97 attempts have been completed

Question 1

Which materials did you resonate with the most during the lecture today?



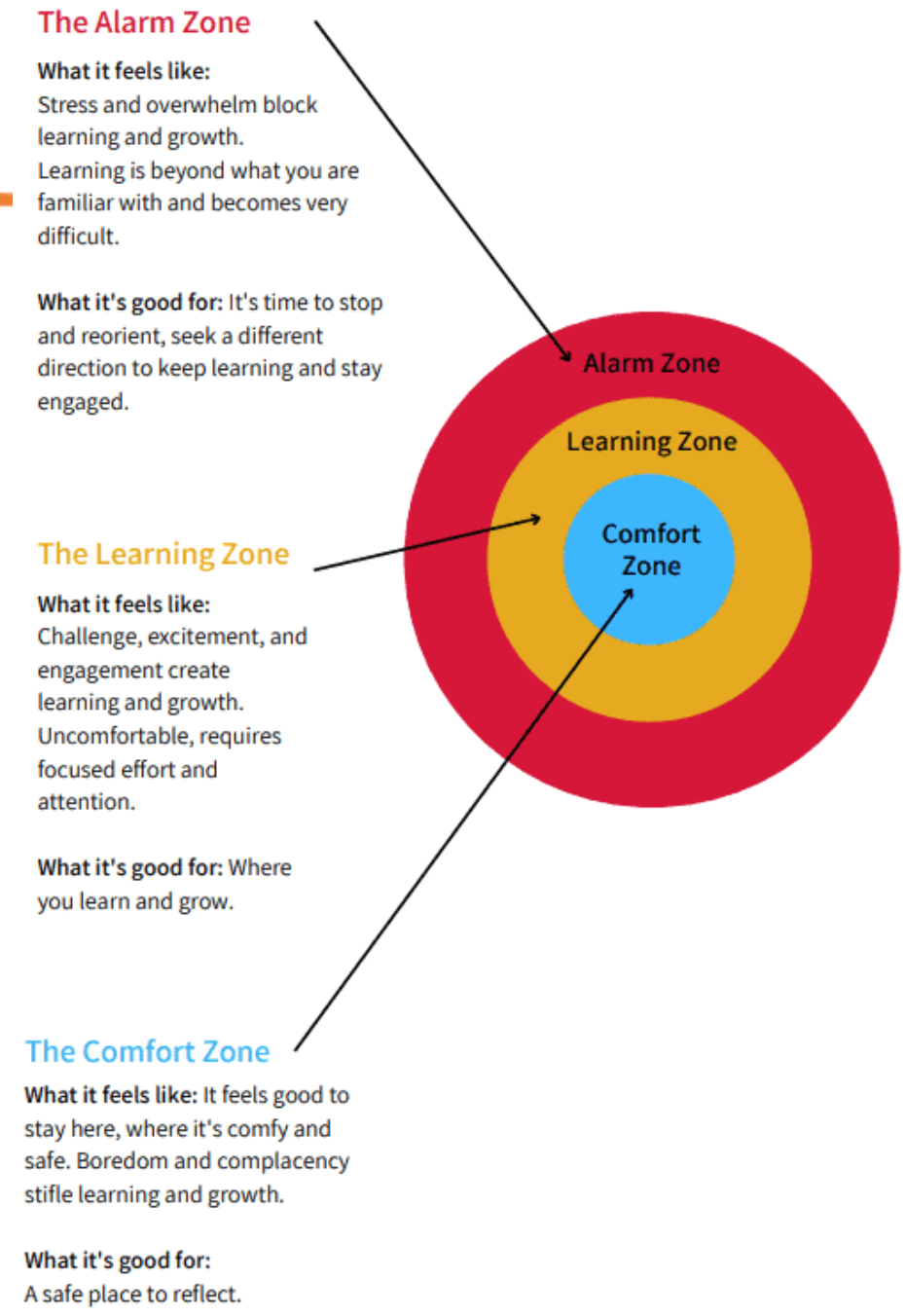
I resonated the most with the individual perspectives on positionality and intersectionality	23	(23,71 %)
I resonated the most with the intraorganisational perspectives on team conflicts and resolution	36	(37,11 %)
I resonated with both individual and team perspectives	37	(38,14 %)
Neither one of the perspectives really resonated with me today	1	(1,03 %)

Checkpoints/submission dates reminders:

- Team Contract: Frist draft submit by May 1st *(required for group report)*
  - Fill in buddy check (May 1st) – short questionnaire on Brightspace (not anonymous so both parties are accountable for their comments)
- 1st submission group paper topic proposal 1-2 pager (May 21st) *(required for group report)*
  - Fill in buddy check (May 21st)
- 2nd presentation & feedback of nearly final draft (June 10th)
- 3nd submission of draft plagiarism check (June 11th)
- 4th final submission (June 17th)
  - Fill in buddy check (June 18th)

Description: summary of what you wrote without adding my perspective to it

- Of the reflections submitted by April 23rd, all responses were either/and: positive, optimistic, enthusiastic, excitement, and hopeful regarding their teams and/or the project ahead
- Some expressed their discomfort in being placed in a group with people they didn't know but this feeling went away after working on the contract
- Many of you acknowledged that the process of going through the team contract was more important than the contract itself
- A few felt that that a contract/signature was a bit 'immature' while others felt that a contract was needed to formalise expectations
- Some of you want this to be applied in all team projects and will use it for future projects
- Some of you wanted to know about the content of the assignment while others thought working on the content could distract from discussing the way of working
- A number of you mentioned the importance of positionality and intersectionality in having an inclusive starting point in a group where you do not know each other



Source: Maxwell Smith, director of the Community Organising Fellowship in 2022 has adapted this handout from Mindtools, The Learning Zone Model: Moving Beyond Your Comfort Zone [Accessed 1 July 2022].

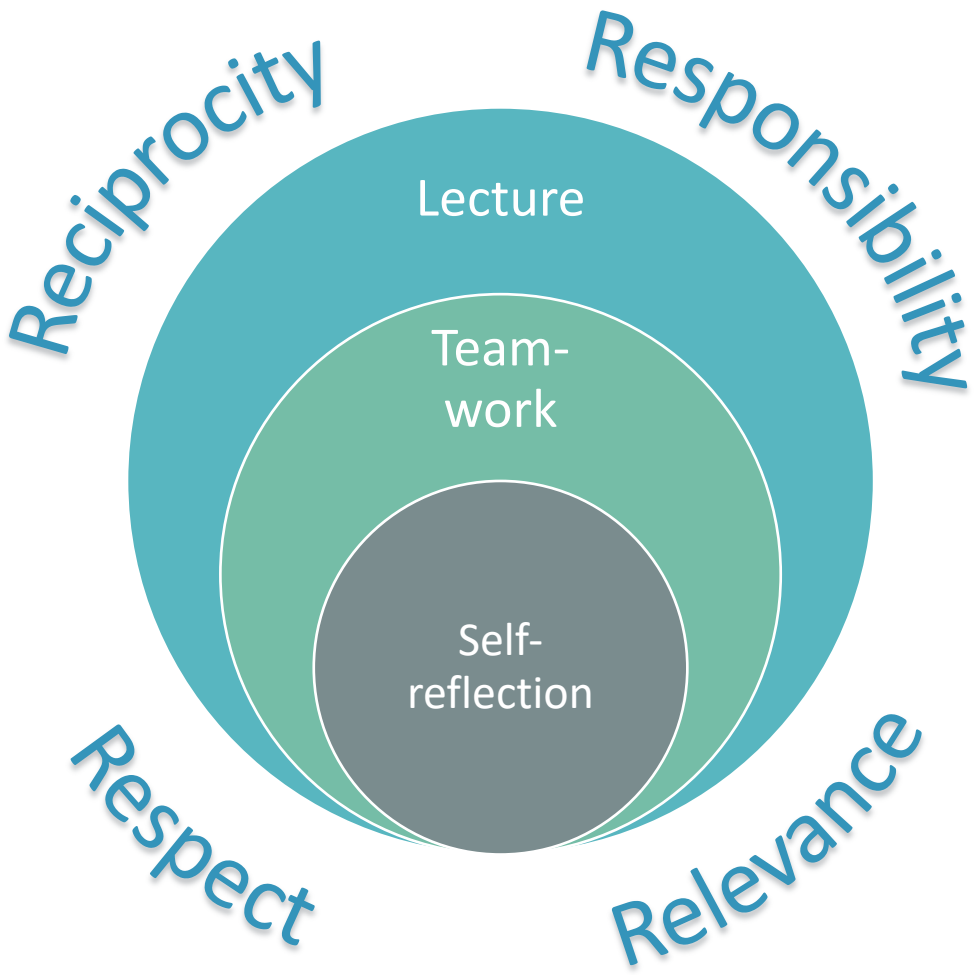
Learnings from your group project

- New role created: ‘wellness advocate’ ‘safety coordinator’
- Any other ideas?
- Use of ChatGPT as part of group norms, quality, content
- Can I send your reflections to the researcher who developed it?

General lecture format

- The self reflection submission is dependent on the group work
- The group work is dependent on the workshop assignment
- The workshop assignment is dependent on the concepts introduced in the lecture

Layered learning



Reflection *and* Reflexivity

Reflection: exploring how "I" felt and perceived the events. It goes beyond a description- e.g.., thinking about how I felt when I read what you wrote)

- **I was surprised** that there were no negative comments on the teamwork experience and **I think** you seemed to show openness and vulnerability in a way that made your other team members comfortable
- **I felt** that there was little/no judgement in the positionality and intersectionality introductions **and I think** this means that there was a collective effort to create an inclusive environment

Reflexivity: going beyond 'I think' and 'I feel to' what's behind my thinking? How can my understanding contribute to personal growth

- Some of you wanted mentioned some gaps in my instructions e.g. buddy check, group assignment content. I realized that I skipped the details at the end of the lecture because I was thrown off when I saw the next lecturer waiting for me- standing and staring there for some time. I was thrown off guard- I didn't want to be 'inconsiderate' because I understand that preparing for a lecture take times. I avoided conflict by 'accommodating' that person's need and diminishing my own. Thinking too quickly on the spot. I as unable to finish the lecture as planned and as a result created some confusion for the class. My thoughts for the next time- if I still have 5 minutes left, I can use up my time and that I don't worry about someone else's lecture before I finish my own! Its also surprising to me because my automatic response was to accommodate. Time to kick in systems 2 thinking. Also, it makes me appreciate my teaching team - they did a great job communicating the gaps.

Change at the individual level: reflection *and* reflexivity

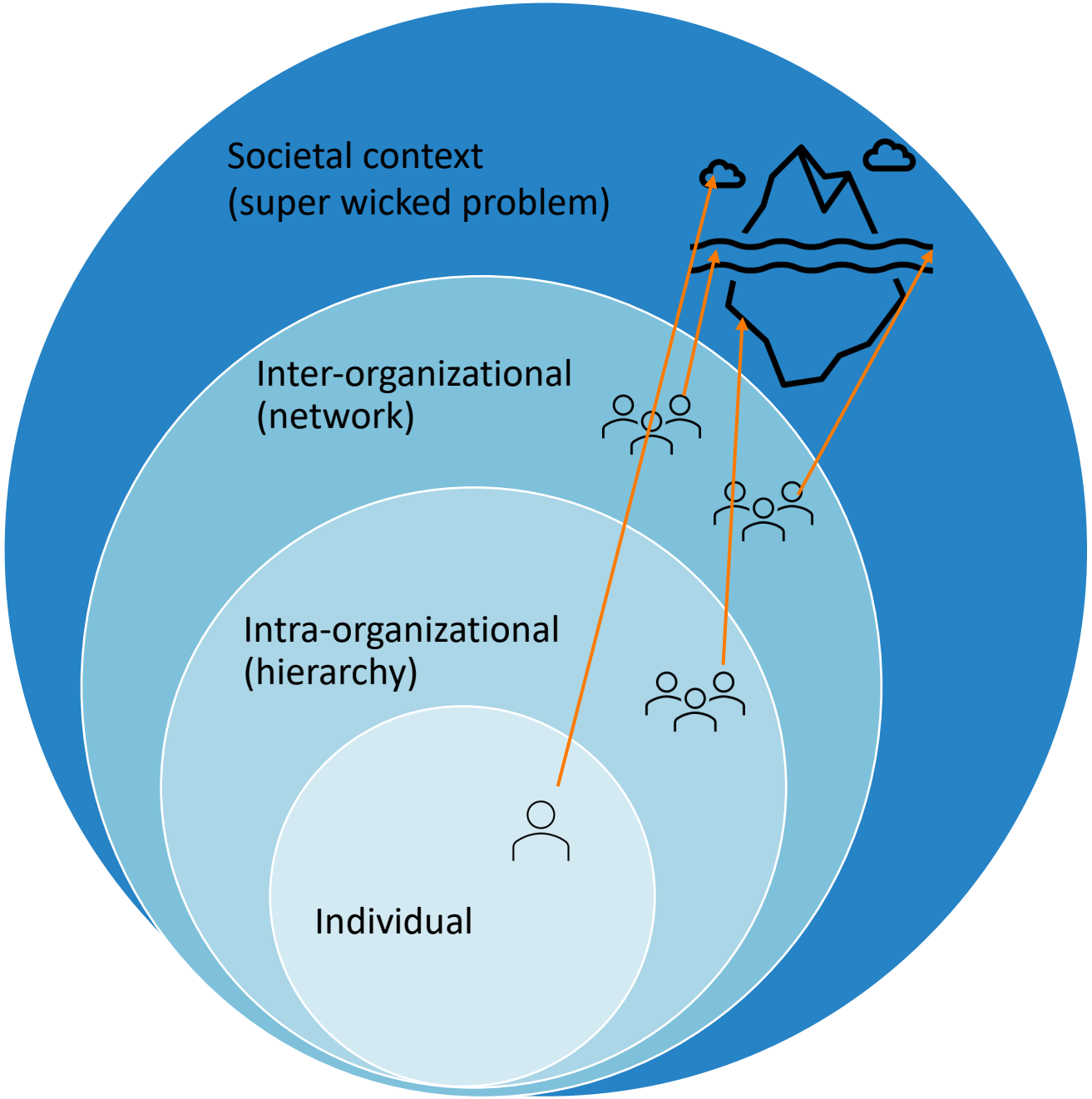
Reflection: an on-going practice of **self inquiry**, learning from experiences of oneself in relation to others, challenging assumptions, exploring what you know, don't know, and want to know *(important for take home exam).*

- **Responsibility:** avoid mere confessions and unloading your guilt and placing the burden (of learning) on someone else, the (flawed) system
- **Relevance:** Learning and developing oneself through our own understanding of what happen, being open to constructive criticism, searching for data and information from a broader context/bodies of knowledge

Reflexivity:

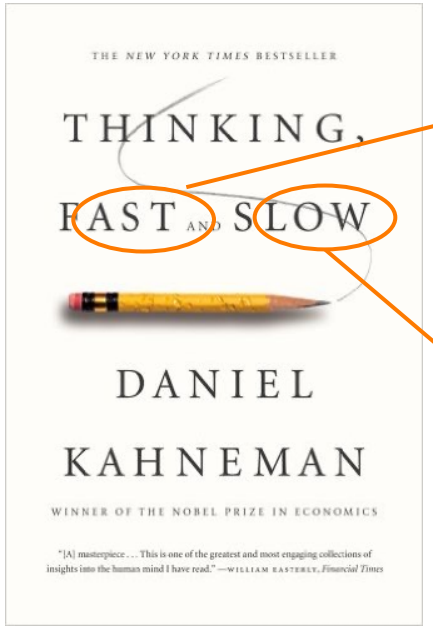
- **Changes based on reflection:** "Reflexivity is finding strategies to question our own attitudes, thought processes, values, assumptions, prejudices and habitual actions, to strive to understand our complex roles in relation to others".
- **Reciprocity & respect:** making explicit our context and relationships to "review and revise ethical ways of being and relating" to each other
- **Humility and perspective taking:** "It is becoming aware of the limits of our knowledge, of how our own behaviour plays into organisational practices and why such practices might marginalise groups or exclude individuals."

*Source: Bolton, G., Delderfield R. (2018) Reflective Practice Writing and Professional Development. Sage Publications.



Decision-making in a (super) wicked problem context considering a multi–level perspective

Two Type of Thinking:



"System 1"

- Automatic, effortless
- Associative, intuitive
- Generally accurate short-term predictions

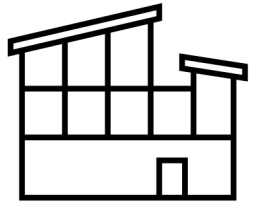
"System 2"

- Deliberate, effortful
- Conscious and logical
- Helping to 'solve' complicated problem

> *The automatic operations of System 1 generate surprisingly complex patterns of ideas, but only the slower System 2 can construct thoughts in an orderly series of steps.*
>
> – **Daniel Kahneman in** *Thinking, Fast and Slow*

Defined versus wicked problems

DEFINED

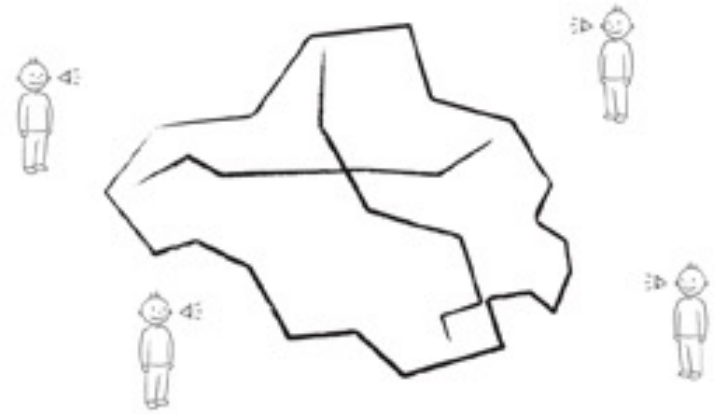


- Clearly-defined boundaries
- Project management

"optimal" solution

a more complex world

WICKED



- Unclear boundaries
- Process management

no "undisputable" good
=> fair solution

Source: adapted from https://vivifychangecatalyst.files.wordpress.com/2015/06/14_t_tamed-wicked.jpg

Wicked problem

- No definitive formulation

  -> Disagreement over problem and values

- No 'stopping' rule

  -> Problem symptoms of other problems

- No immediate test solution to addressing the problem and not easy to reverse

  -> no right or wrong solutions – it depends on who you ask….

- Every problem is unique with multiple explanations of the problem

  -> dominant explanation = solutions

Source: Rittel, H.W.J., Webber, M.M. Dilemmas in a general theory of planning. *Policy Sci* **4,** 155–169 (1973). https://doi.org/10.1007/BF01405730

Super wicked problem

- Time is Running Out

-> The problem can soon become acute or too late to stop/ reverse

- Weak central authority

-> Public decision makers do not control all the choices to address the problem

- Those seeking to end the problem are also causing it

-> individuals and organisations all contributing to the problem

- Policies “discount the future irrationally

-> more emphasis to current policy/political interest and delaying behaviour change and policies to reduce greenhouse gases significantly

Source: Levin, K., Cashore, B., Bernstein, S. et al. Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change. Policy Sci 45, 123–152 (2012).

Innovation systems in wicked problem context

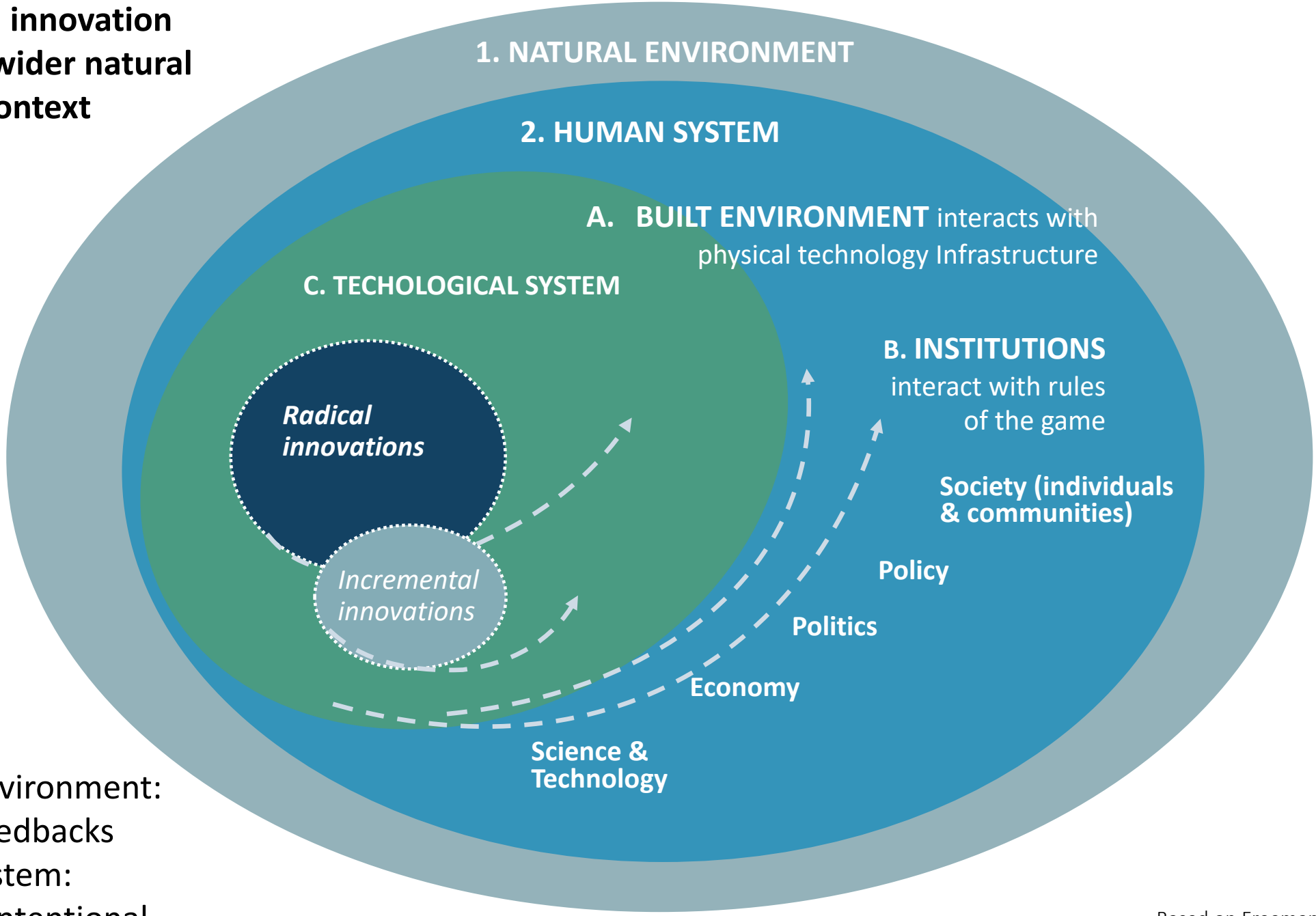
When approaching (super) wicked problems with 'technological solutions' consider:

1. **The natural environment:** current changing climate
2. **Human systems made up of:**
   a. Technological systems:
      - From incremental to radical innovations, causing whole scale shifts in the organisation of society, economy, labour the institutional arrangements of power

   a. The built environment: cities, power stations, transport facilities, factories, farms and other infrastructure

   b. The institutional environment (i.e. the (in)formal rules):
      - science & technology: science and inputs into technology for society
      - technology & economy: profitability selection (influenced by politics)
      - economy & society: social power of (large) organisations culture
      - community-based innovations: behavioural changes

Technological innovation systems in a wider natural and human context



- Natural environment: cyclical, feedbacks
- Human system: arbitrary, intentional

Based on Freeman's concepts

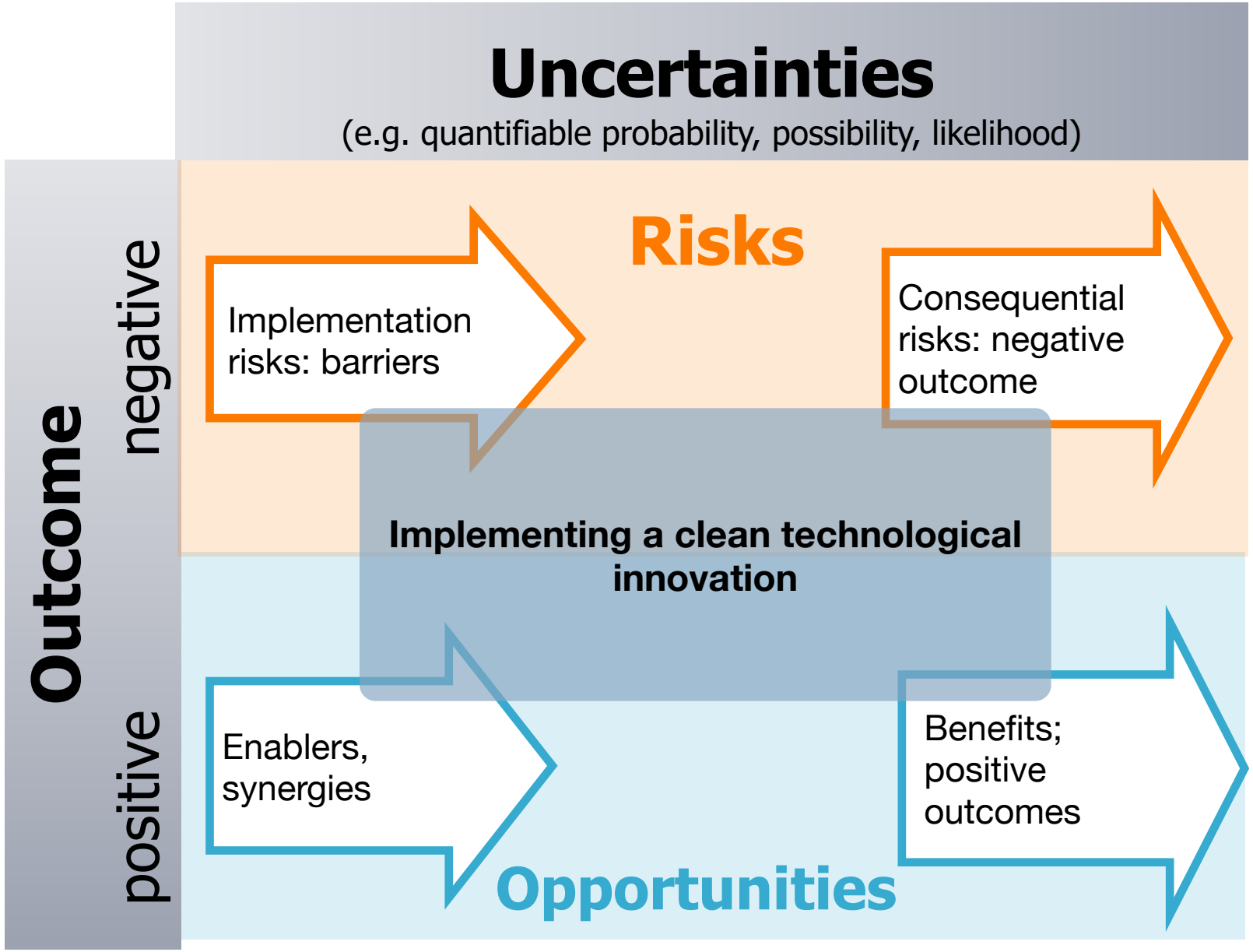
'Solutions' in a (super) wicked problem context

When considering incremental or radical technological solutions in a (super) wicked problem context:

- Consult diverse stakeholders that to better understand their perspectives of the problems as well as the solutions (next lecture)
- Better understand the (un)intended consequence of the problem from an (innovation) systems perspective:
  - Risks (negative uncertainties)
  - Benefits (positive uncertainties)

Source: Freeman,C. (1991). Innovation, changes of techno-economic paradigm and biological analogies in economics, Revue Écon. 42 (2).211–232, https://doi.org/10.2307/3502005.

Solutions: consider risks in social-technological innovations



Source: Lieu J, Hanger- Kopp, and Sorman H A (2020). "Assessing risks of low-carbon transition pathways". *Environmental Innovation and Societal Transitions*. https://doi.org/10.1016/j.eist.2020.04.009

References to explore risks and uncertainties in different contexts

- TRANSrisk was part of a 4-year European Union project that explored risks & uncertainities
- Case studies risks and uncertainties in low carbon transitions: Hanger-Kopp S, Lieu, J, and Nikas A (eds) (2019).
  - Book on “Transitions narratives towards a Low-Carbon Future: Assessing Risks & Uncertainties”. London. Routledge. https://doi.org/10.4324/9780429458781
- Papers on inter and transdiscisiplinary approaches to studying risks and uncertainties (models and stakeholder engagement) around the world:
  - Special issue series in a journal “Assessing risks and uncertainties of low-carbon transition pathways”. Environmental Innovation and Societal Transitions (2020). Elsevier. See: https://www.sciencedirect.com/journal/environmental-innovation-and-societal-transitions/special-issue/10WRR56KFM8

War in Ukraine as a (super) wicked problem

Lecture guest: Dr. Natalia Prozorova

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War in Ukraine as a wicked problem

What do you know about Ukraine?

Total area - 603,628 km2 (233,062 sq mi)

The local war started in 2014 in West: Luhansk, Donetsk and Crimea

Today is the 795th day of the war since February 2022

Impact of the war globally:

Share

Ukraine: what's the global economic impact of Russia's invasion?

Russia's brutal invasion has driven millions into poverty and debilitated – but not quite destroyed – Ukraine's economy. Meanwhile, sanctions are straining the Russian economy, but they are yet to end a war that has sown financial turmoil and personal hardship in the region and across the globe.

It was clear from the start that Putin's war in Ukraine would be a global economic disaster. Its economic impacts may be insignificant next to the suffering and loss of life on the battlefields. But they do present critical challenges that leaders must resolve to limit yet more suffering through poverty, food shortages and the cost of living crisis.

To illuminate these challenges, Economics Observatory has been publishing expert insights on the war's economic implications ever since Russia fired that first set of missiles at Ukraine in February 2022.

Here, we round up analyses from these articles and elsewhere to help answe
questions about how the conflict has affected the economies of Ukraine and
magnified hardship, and harmed households and businesses across the glob

How has Ukraine's economy been affected by the war?

Ukraine was once one of the poorest Soviet republics. The war is undoing t
– if bumpy – progress made by the developing country since its independen
adding catastrophically to its economic woes.

Related Questions

- Rebuilding Ukraine: how will policy-makers shape the country after the war?
- What might be the macroeconomic cost of the war in Ukraine?
- War in Ukraine: what are the options for Europe's energy supply?
- How is the war in Ukraine affecting global food security?
- Sanctions on Russia: what are the ramifications of this new trade war?

The impacts of the war in Ukraine — the largest conflict in Europe since the Second World War — are enormous. The war's ripple effects are permeating international relations, international organizations, and trade. An important question is who is winning and losing, in which ways, and what we can do about it.

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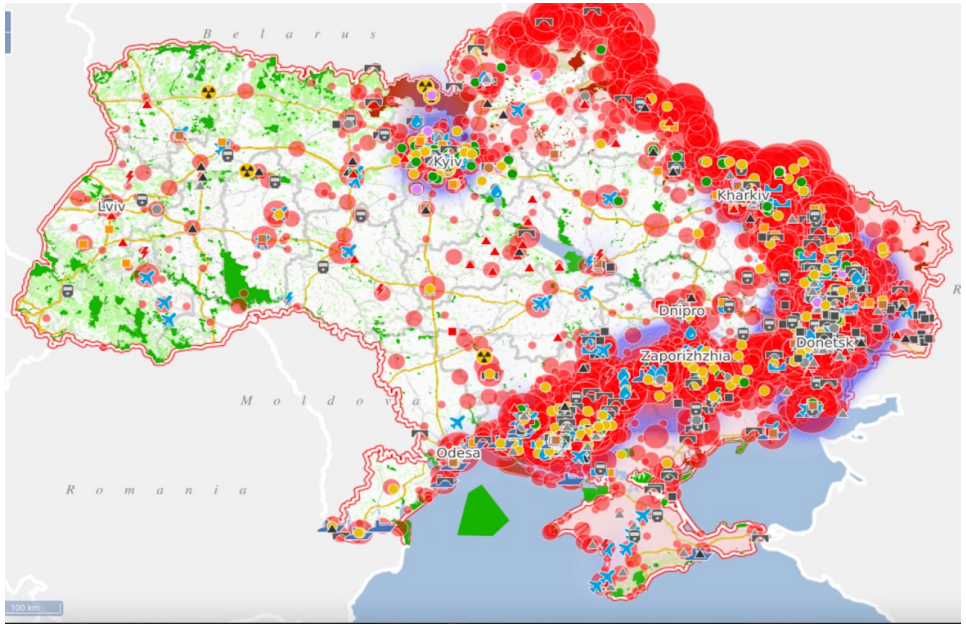
Source: https://www.iss.nl/en/news/how-war-ukraine-affecting-international-development; https://www.economicsobservatory.com/ukraine-whats-the-global-economic-impact-of-russias-invasion



- **How would you define the war in Ukraine as an (urgent) problem?**
  - Technology related: food/energy security, information
  - Environmental: land, soil, and air damage
  - Social-political: humanitarian, financial, intergenerational, psychological, various geopolitical interests?
- **Is there a right or wrong to this problem?**
  - It depends on who you talk to
  - Multiple actor (i.e., stakeholders) groups add to the complexity
- **The way I 'address' this problem**
  - Biogas – energy security
  - Landbased mitigation technology- organic farming + carbon reduction (credits)
  - Exploring changing gender roles

Questions?

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Assignment 2: Define the super wicked problem you want to explore in your group project

Output: write up a short paragraph of the wicked problem considering the following

1. Define the (super) wicked problem you want to explore. Provide evidence as indicated in the lecture sides/readings
2. Define the decision-making process or ‘solution’ that attempts to address the wicked problem
   - select a topic that is related to technology that affect industry or society
3. Identify the stakeholders involve:
   - Who are the key players involved in the decision-making
   - Who are the missing player not currently involved but can impact or are impacted by the decision-making process/solution

Source: image from https://medium.com/@jamestplunkett/how-to-solve-wicked-problems-db9461afa917