

# *Participatory Workshop 2: Mapping Ecologies of Crisis using Design Thinking*

**Prof. Nitin Sawhney**

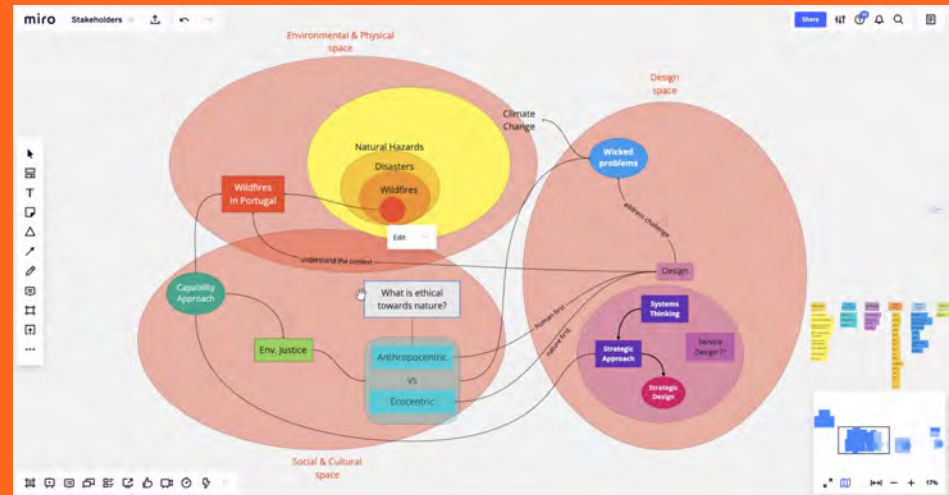
*Department of Computer Science, Aalto University*

**André Santos, PdP Course Coordinator, Aalto**

*Design Factory, Aalto University*

**Friday, July 3, 10:00 – 12:00**

***CS-E4002: Human-Centred  
Research and Design in Crisis  
Aalto University***



# Workshop Outcomes

Reveal methods to enhance collaboration in research and devise a design strategy with multiple stakeholders in disaster prevention.

1. Presentation on Design as Strategic Tool in Disaster Prevention in the Context of Wildfires in Portugal by André Santos

2. Presentation on Ecologies of Contestation in Participatory Design by Prof. Nitin Sawhney

3. Stakeholder analysis and ecological mapping for design strategy in a crisis case study Working in groups to conduct stakeholder analysis and ecological mapping using Miro

# Workshop Schedule

## Mapping Ecologies of Crisis using Design Thinking

Introduction (10:00 - 10:10)

Role of Design as Strategic Tool in Disaster Prevention (15 min)

Open Discussion (10 min)

Ecologies of Contestation in Participatory Design (10 min)

Open Discussion (10 min)

Stakeholder analysis and ecological mapping for design strategy in a crisis case study (45 min)

Share reflections and workshop wrap-up (15 min)

Human-Centred Research and Design in Crisis  
3rd July, 2020

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# **Design as a strategic tool in disaster prevention:** A case study of wildfires in Portugal

*by André Santos*

*MA student in Collaborative and Industrial Design*

# Creative Sustainability

(minor)

**Cold**  
(major)



**Portugal**



**Wildfires**



China

**Dhungentar**

**Nepal**

Bhutan

India

**Kathmandu**

Bangladesh



Faint, illegible text on a whiteboard in the background.

J.A.L.  
Casual  
PH  
AT

KAYO

KAYO

BH

BH







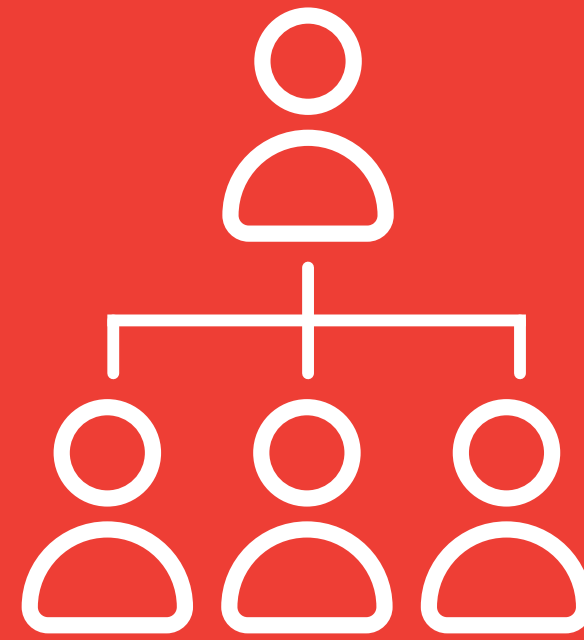


## Wildfires in Portugal

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Portugal is the European country that **most suffers of wildfires**, both in number of fires and burnt area





## **Disaster Prevention**

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Despite national strategies,  
the area burnt in Portugal  
has continued to increase



## Multi-Stakeholder

**Climate change, lack of forest management, and unrealistic policies** are recognised as some of the causes of wildfires, however **no actor recognises their direct responsibility** towards the problem.

As fires become **more intense, and faster spreading**, firefighting forces become **less effective**.

In this new era of severe burning conditions, future investments should be made that **promote a more strategic, less reactive approach**.



How can design be used as a **strategic tool** in the development of strategies for **multi-stakeholder collaboration**?

(tentative research question)

# Methodology

**Systems  
Thinking**

**Qualitative  
Research**

**Strategic  
Thinking**

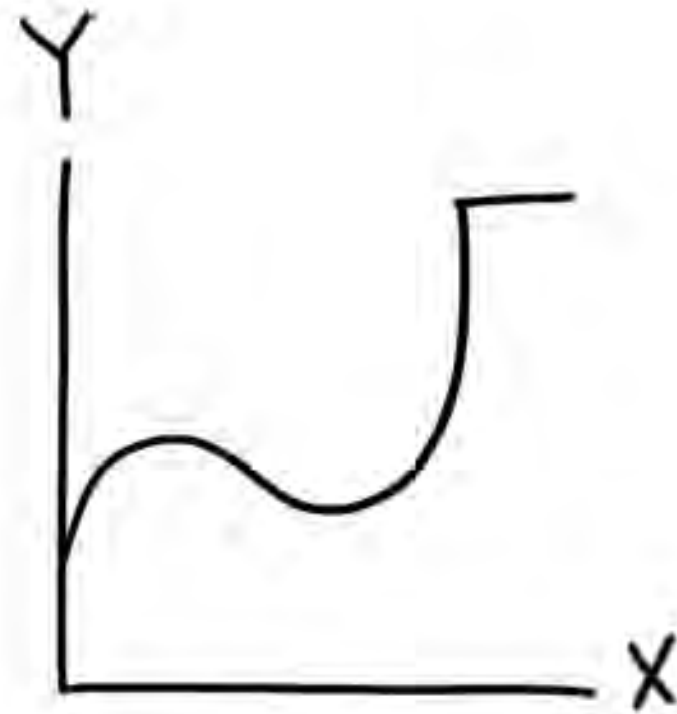


**Systems  
Thinking**

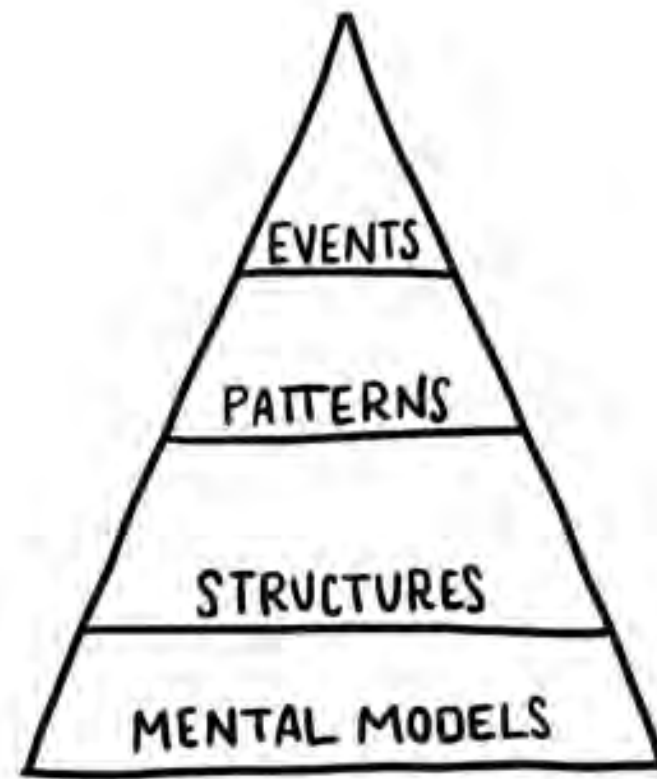




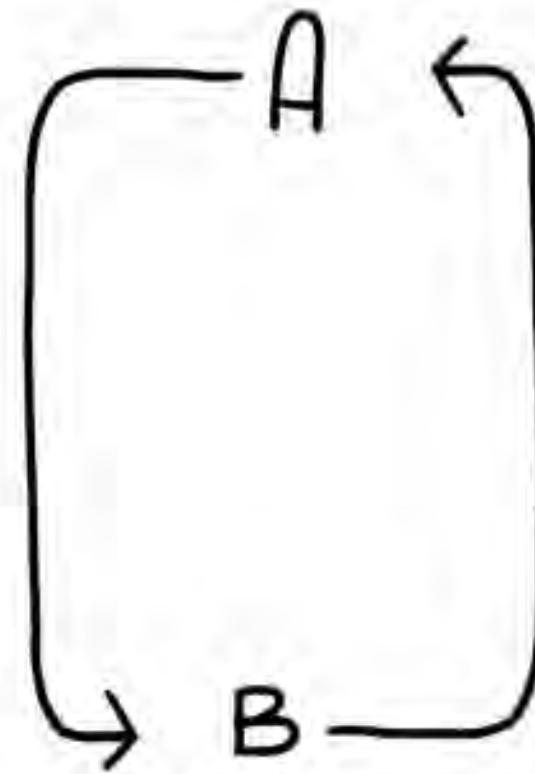
# TYPES OF SYSTEM MAPPING



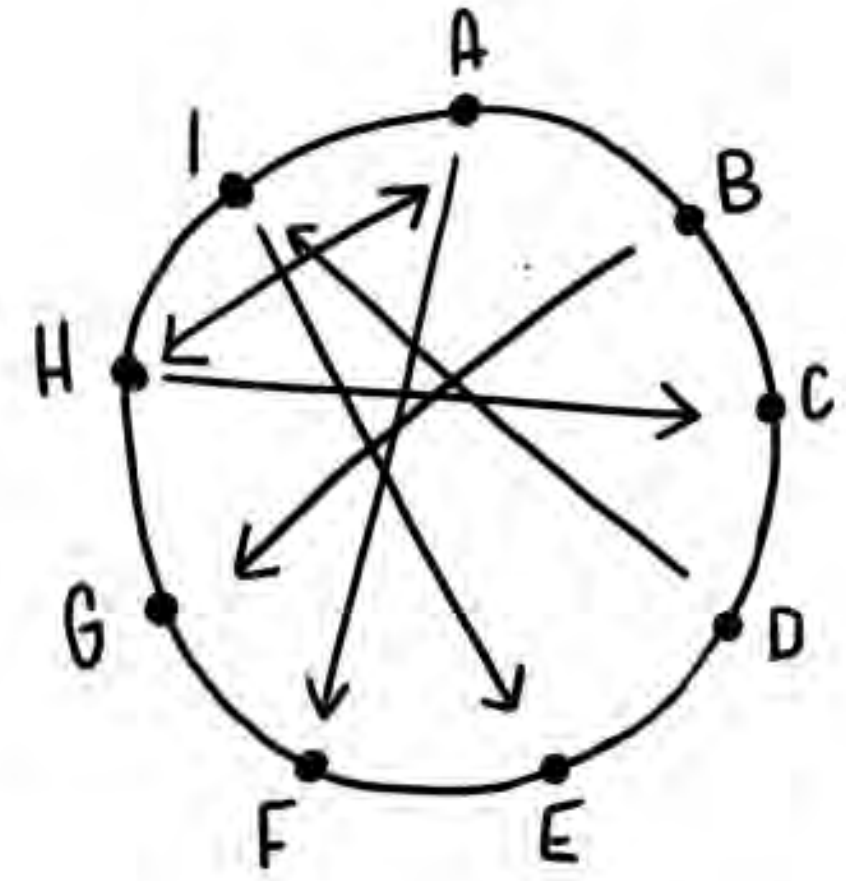
BEHAVIOUR OVER  
TIME GRAPHS



ICEBERG  
MODEL



CAUSAL LOOP  
DIAGRAMS



CONNECTED  
CIRCLES

## METHODOLOGY

**Systems Thinking**

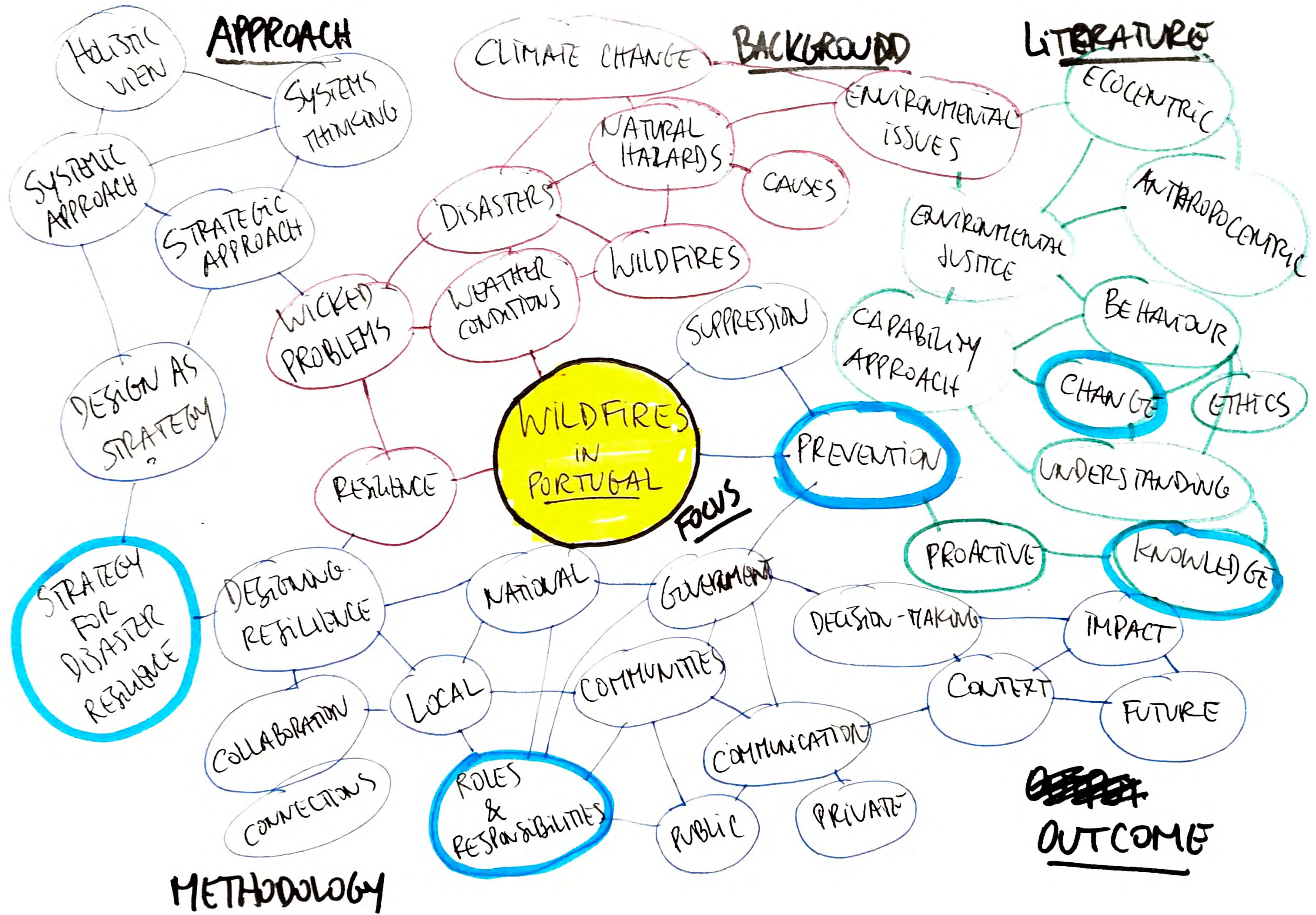
- big picture
- interconnections
- interdependences

**Qualitative Research**

- ethnographic
- interviews
- behaviour
- context

**Strategic Thinking**

- focus
- meaning
- intervention
- outcome



**APPROACH**

**BACKGROUND**

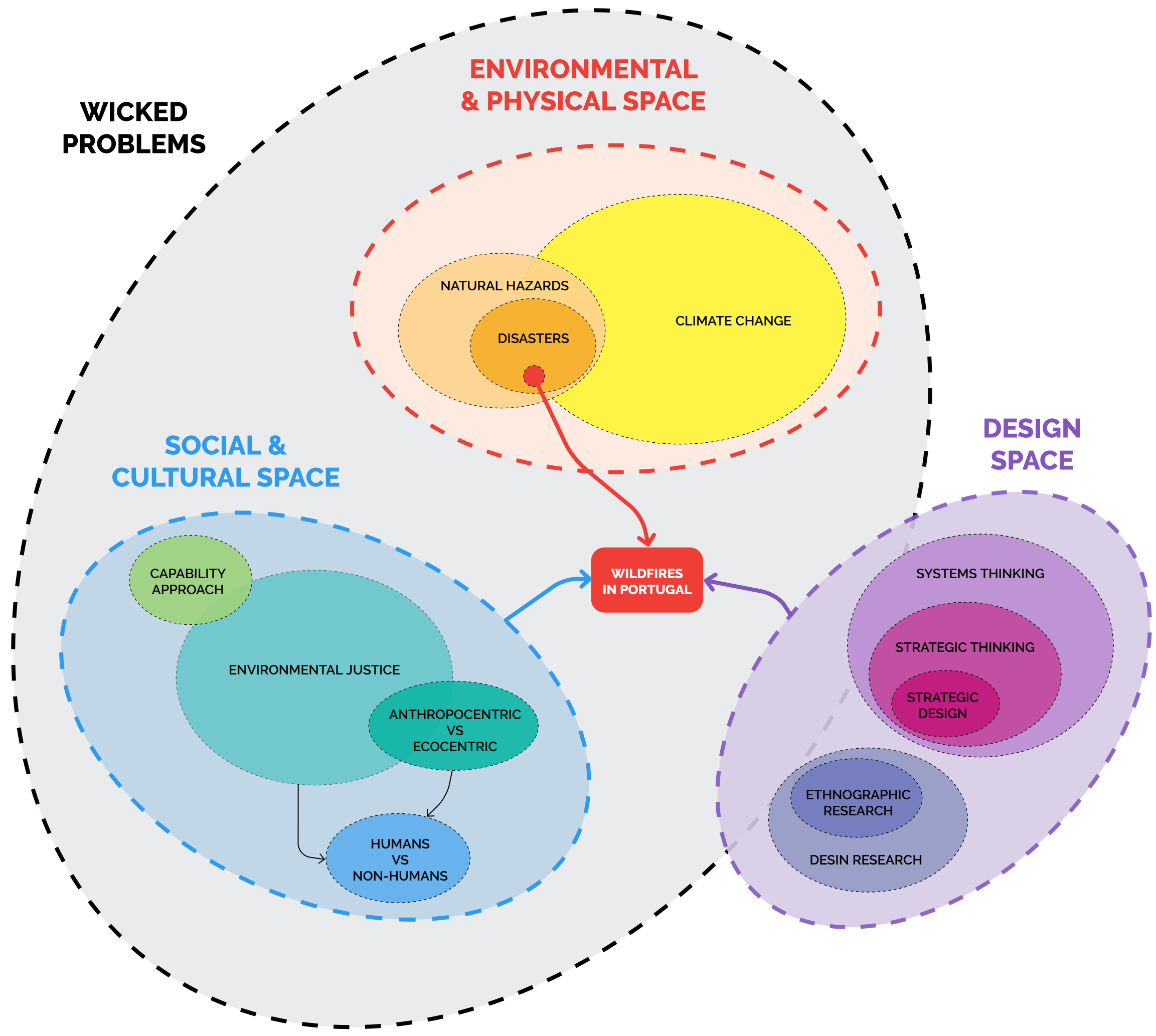
**LITERATURE**

**WILDFIRES IN PORTUGAL**

**FOCUS**

**METHODOLOGY**

**OUTCOME**



# Stakeholders/Actors

**Roles**

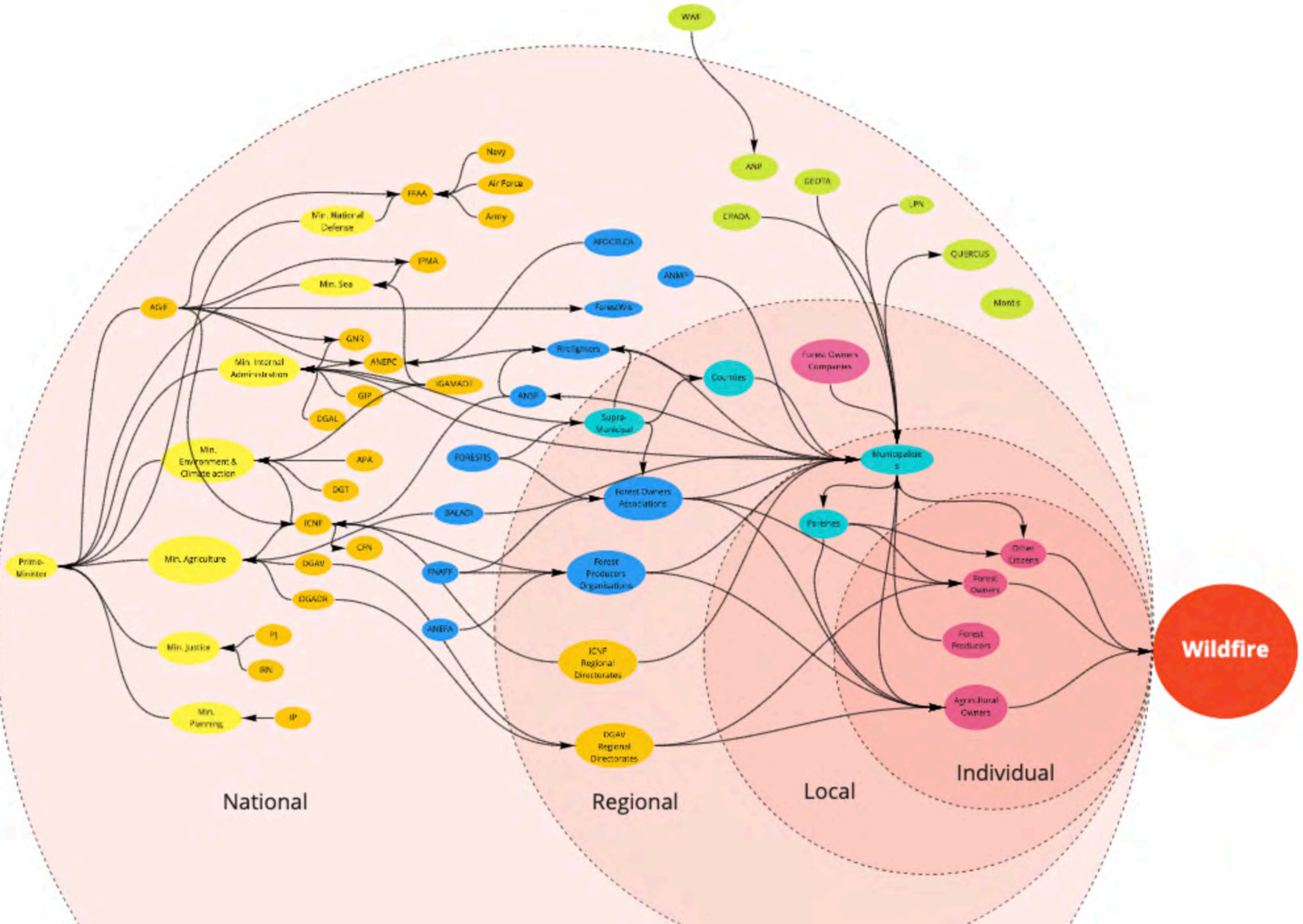
**Responsibilities**

**Relationships**

**Impact**

What about the non-human actors?

- GOVERNMENT
- PUBLIC ENTITIES/  
AGENCIES
- PRIVATE ENTITIES/  
ASSOCIATIONS
- LOCAL  
GOVERNMENTS
- NGOs
- LAND OWNERS



The Miro logo, consisting of the word "miro" in a lowercase, bold, sans-serif font, centered within a white rectangular box.

**miro**

**It's Miro time!**

What are the roles/responsibilities of the different stakeholders?

**PUBLIC ENTITIES/  
AGENCIES**

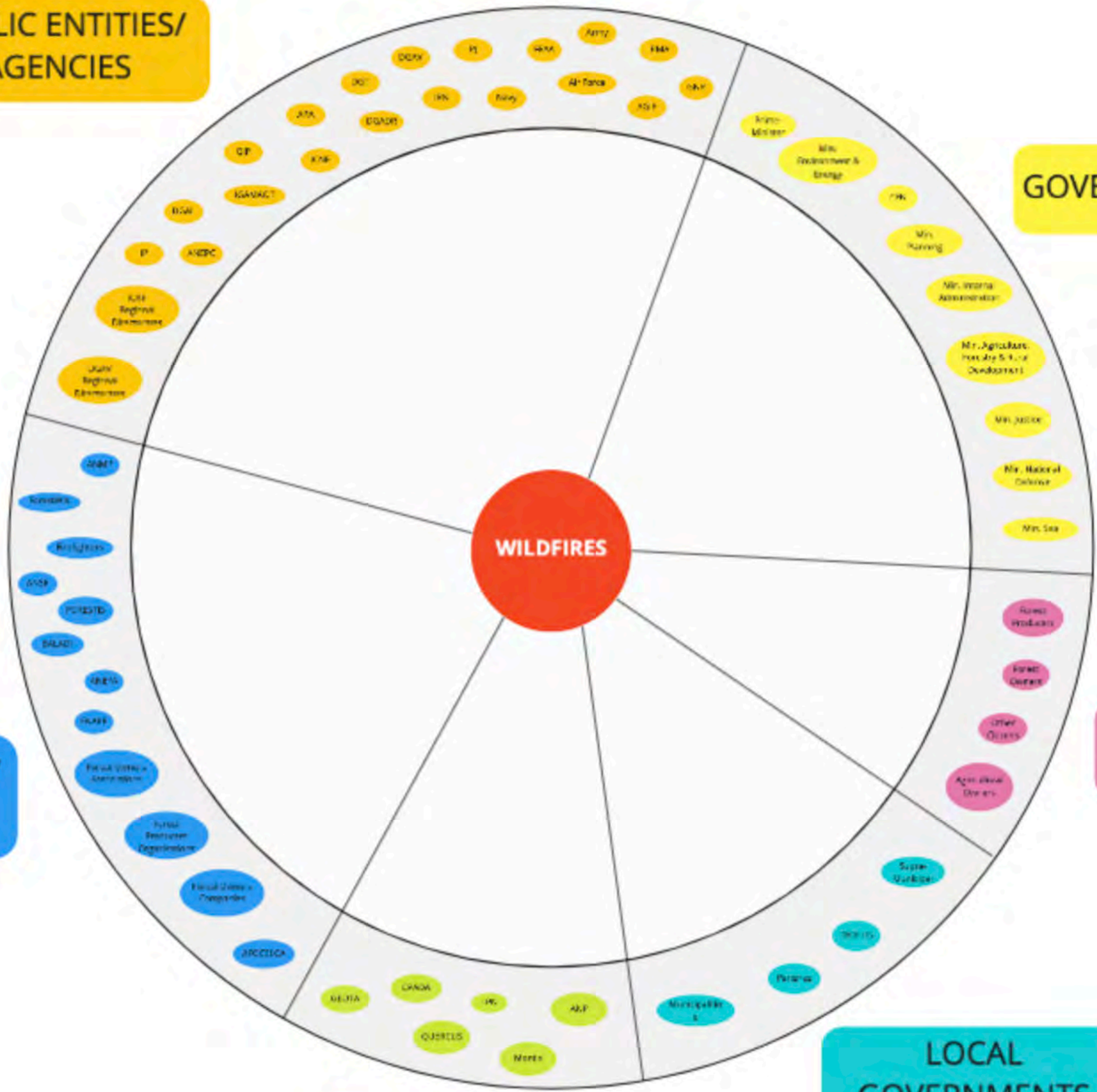
**GOVERNMENT**

**LAND OWNERS**

**PRIVATE ENTITIES/  
ASSOCIATIONS**

**LOCAL  
GOVERNMENTS**

**NGOs**





## *Food for thought*

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What is the **cause-effect of stakeholders decisions** in disaster prevention in the context of wildfires?

What are the **challenges of a multi-stakeholder collaboration** in the development of strategies for wildfires?

What are the **strategic opportunities** for a multi-stakeholder collaborative approach in wildfire prevention in Portugal?

*Feel free contact me:  
**André Santos**  
andre.santos@aalto.fi*

# References

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## **Systems Thinking:**

- "Unlocking the power of Systems Thinking" by Leyla Acaroglu (<https://medium.com/disruptive-design/unlocking-the-power-of-systems-thinking-b3809eaab519>)
- "Tools for Systems Thinkers: Systems Mapping" by Leyla Acaroglu (<https://medium.com/disruptive-design/tools-for-systems-thinkers-systems-mapping-2db5cf30ab3a>)
- Jones, P. H. (2014). Systemic Design Principles for Complex Social Systems. In G. S. Metcalf (Ed.), *Social Systems and Design* (Vol. 1, pp. 91–128). Springer Japan.
- Buchanan, R. (2019). Systems Thinking and Design Thinking: The Search for Principles in the World We Are Making. *She Ji: The Journal of Design, Economics, and Innovation*, 5(2), 85–104.
- Meadows, D. H., & Wright, D. (2009). *Thinking in systems: A primer*.

## **Strategic Design:**

- Torres, P. M. de A. (2018). An overview on strategic design for socio-technical innovation. *Strategic Design Research Journal*, 11(3), 186–192.
- Ryan, A. (2014). A Framework for Systemic Design. *FormAkademisk - Forskningstidsskrift for Design Og Designdidaktikk*, 7(4).
- Hill, D. (2014). *Dark matter and trojan horses a strategic design vocabulary*. Strelka Press, 18.
- Jones, P. (2014). *Design Research Methods in Systemic Design*.

## **Stakeholders:**

- "Stakeholder Engagement in Environmental Decision-Making Processes" by Nataša Lovrić
- "Stakeholder Analysis for (Mediterranean) Wetland Governance: The Case of Ljubljansko Barje Nature Park, Slovenia" by Aleš Smrekar, Katarina Polajnar Horvat and Daniela Ribeiro
- Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press.
- Colarič-Jakše, L.-M. (2015). Actor-Network Theory and Stakeholder Collaboration: The Case of Slovenia. *Mediterranean Journal of Social Sciences*.

*THANK YOU!*

EXPLORING THE

CONTESTATION IN

PARTICIPATORY

DESIGN

Nitin Sawhney, Aalto University  
Anh-Ton Tran, Georgia Institute of Technology



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Photos by Timothy Schenck & Yeju Choi

Scavenger hunt for different materials



Walking on Fern Street



Creating their own vision for Fern Street



Talking about their design



Exemplary Process



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Seyla Benhabib: the idealized social conditions of deliberative democracy rarely exist in most public spheres.



Chantal Mouffe: for democracy  
“agonistic confrontation” is  
in fact its very condition of  
existence.





此處可與藝術家  
 進行交流及  
 獲取資訊

This site is used to communicate  
 with the artist and to get  
 information. You can also  
 communicate with the artist  
 and get information.

This site is used to communicate  
 with the artist and to get  
 information. You can also  
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 and get information.

Sun 星期天	Mon 星期一	Tue 星期二	Wed 星期三	Thu 星期四	Fri 星期五	Sat 星期六
2 yellow	2 blue	2 orange	2 green	2 white	2 pink	2 red
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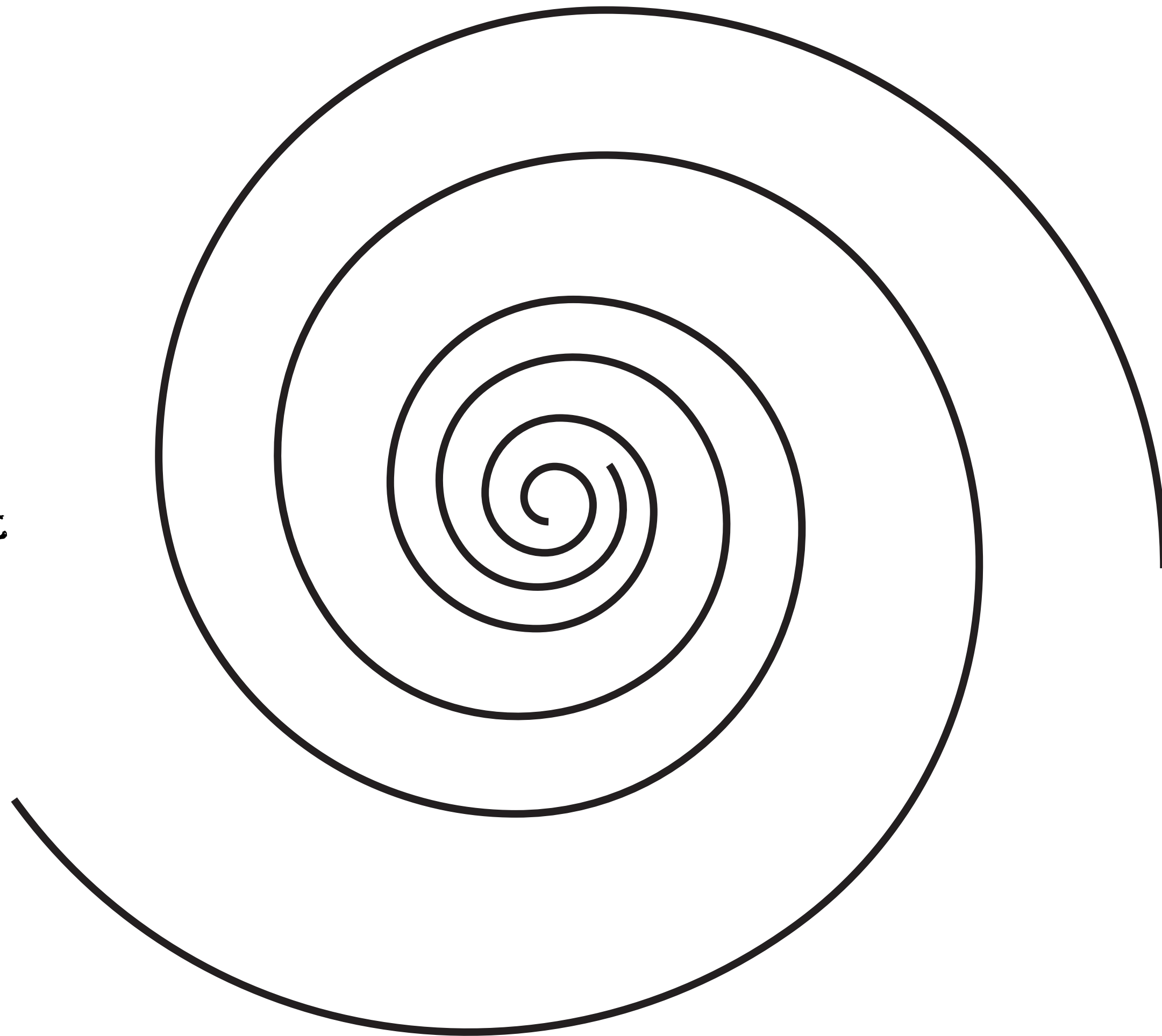
**Learn**  
 Classes & training

**學習**  
 課程及訓練



**DRAWING ON PAR  
 TO INFORM  
 PD PRACTICE**

Research

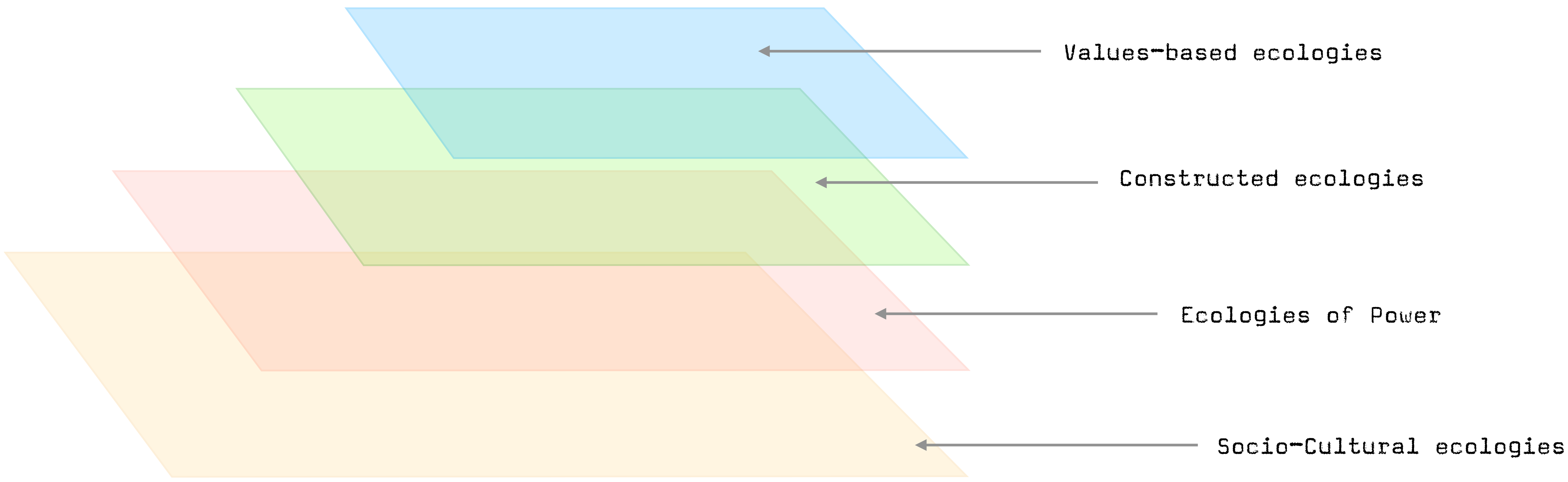


Act

Reflect

Plan

**PARTICIPATORY  
ACTION  
RESEARCH**



**ECOLOGIES OF  
CONTESTATION:  
A FRAMEWORK**

THE PEOPLE'S

CULTURAL PLAN

# CO-OPTING PARTICIPATION

CreateNYC (2017)

<https://createnyc.cityofnewyork.us/>



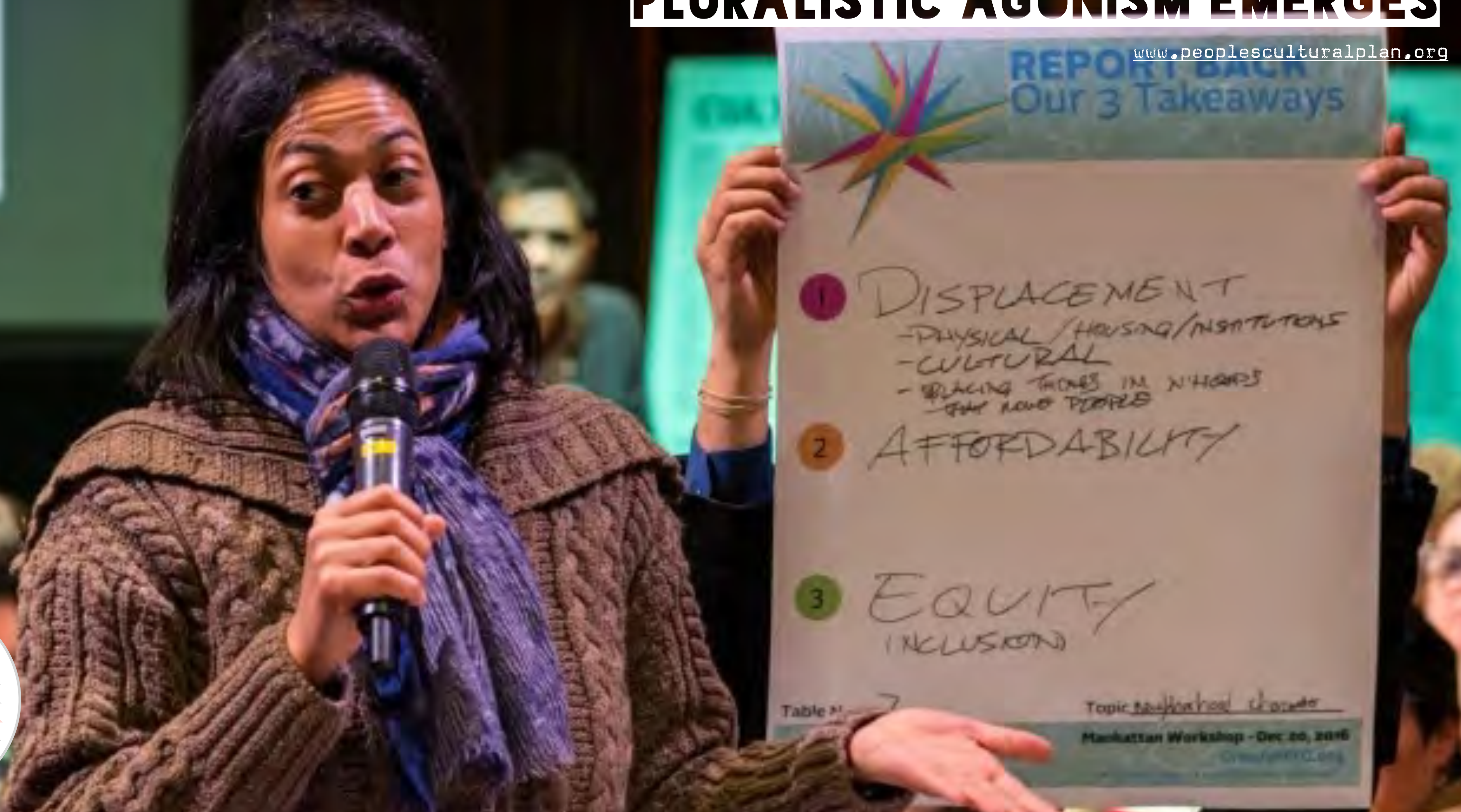
# CREATE NYC

A CULTURAL PLAN FOR ALL NEW YORKERS



# PEOPLE'S CULTURAL PLAN: PLURALISTIC AGONISM EMERGES

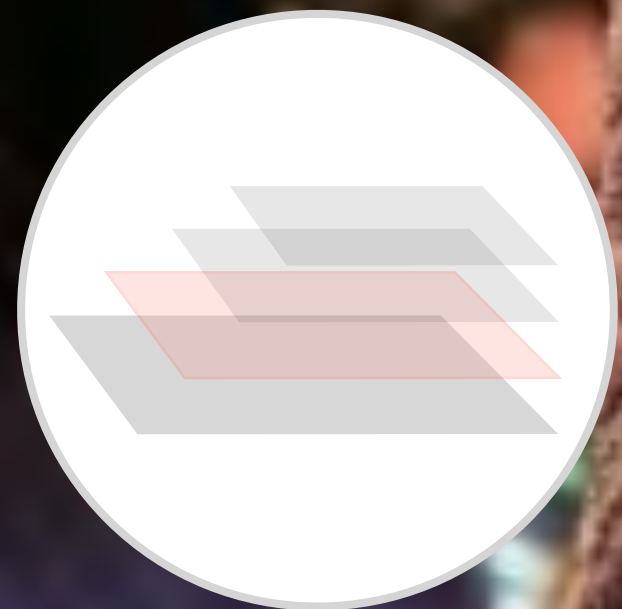
[www.peoplesculturalplan.org](http://www.peoplesculturalplan.org)



The image shows a woman with long dark hair, wearing a brown cable-knit sweater and a blue scarf, speaking into a microphone. She is holding a large white sign with handwritten text. The sign has a colorful starburst logo at the top left and the text "REPORT BACK Our 3 Takeaways" at the top right. The handwritten text is organized into three numbered points:

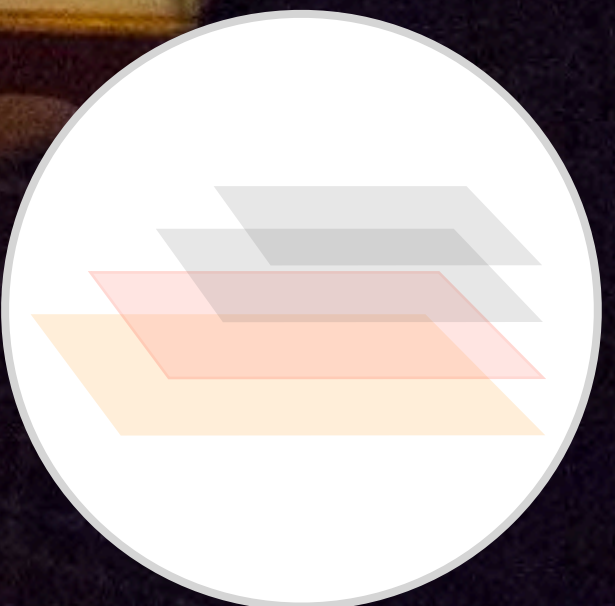
- 1 DISPLACEMENT**
  - PHYSICAL / HOUSING / INSTITUTIONS
  - CULTURAL
  - PLACING THINGS IN N'HOODS
  - BY NEW PEOPLE
- 2 AFFORDABILITY**
- 3 EQUITY (INCLUSION)**

At the bottom of the sign, there is a section for "Table # 7" and "Topic neighborhood cluster". The date "Manhattan Workshop - Dec 20, 2016" and the website "www.peoplesculturalplan.org" are also visible at the bottom.





**ADVOCATING FOR  
RADICAL EQUITY  
AND CIVIC AGENCY**

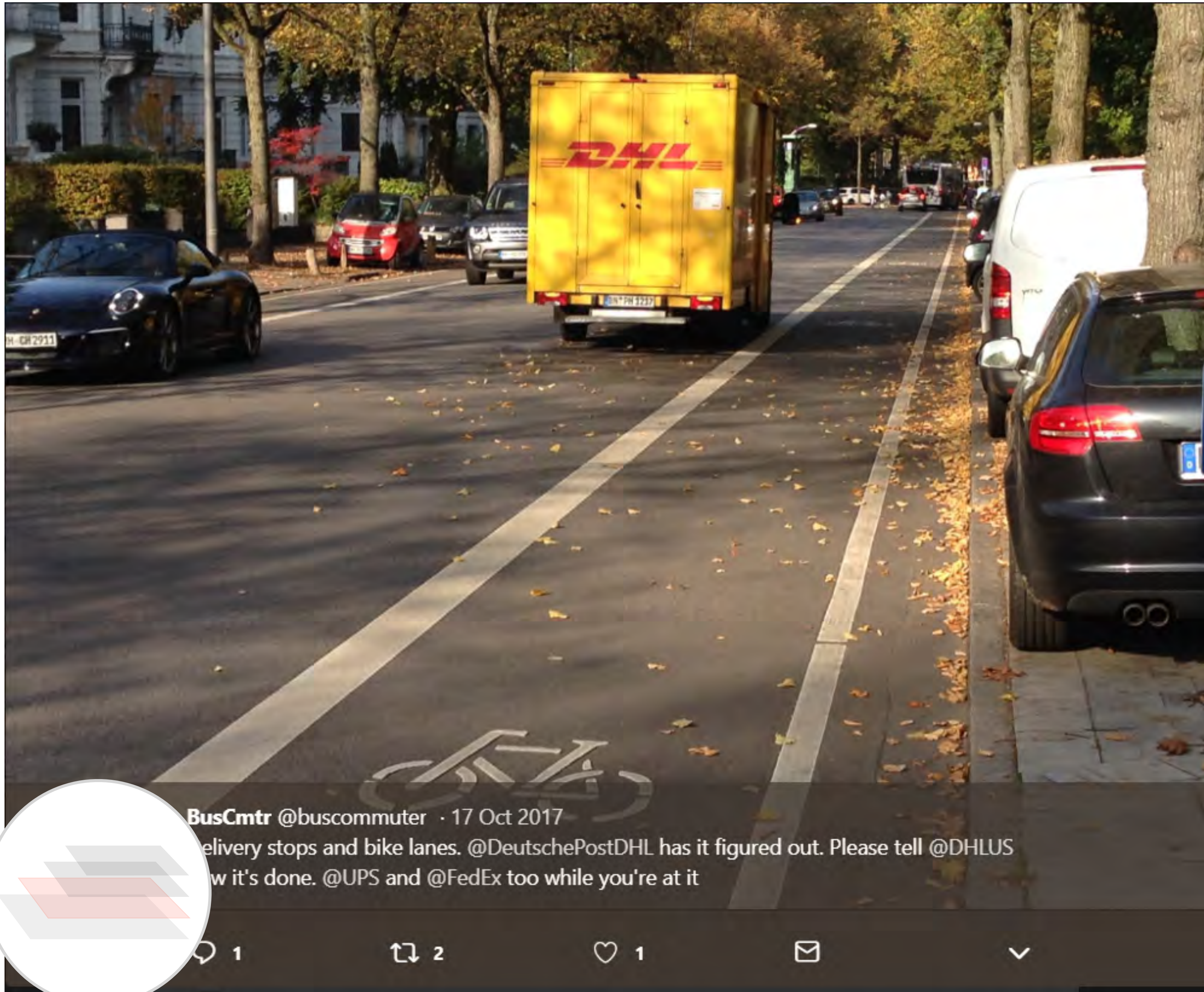


<https://www.facebook.com/pg/peoplesculturalplan/>

URBAN MOBILITY

DATA WITH STAGE





Urban Mobility Data:  
Contested Bike Lanes

**BusCmtr** @buscommuter · 17 Oct 2017

Delivery stops and bike lanes. @DeutschePostDHL has it figured out. Please tell @DHLUS how it's done. @UPS and @FedEx too while you're at it

1

2

1

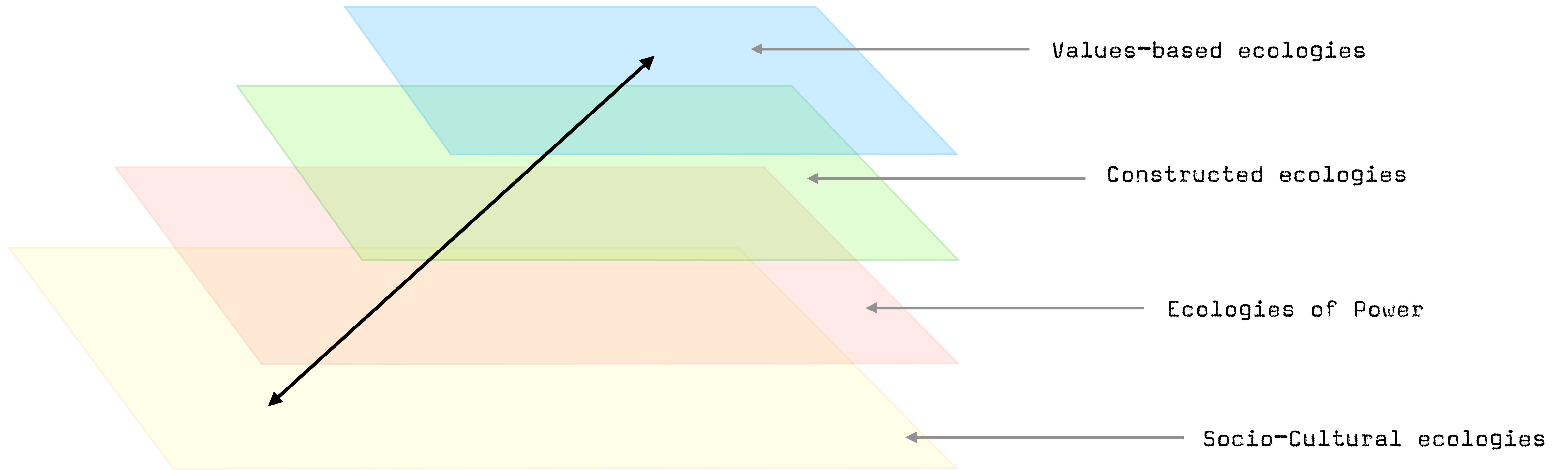


In Theory vs. In Practice



**THE DESIGN OF THE  
ARTIFACT REFLECTED THE  
ISSUES OF POWER**





**HOW DO DESIGNERS RECONCILE  
THESE DIFFERENT ECOLOGIES TO TRANSFORM  
EMERGENT ANTAGONISM INTO AGONISM?**

**KEEPING THE**

**STREET PLAYFUL**



# CONTESTATION EMERGES FROM SKATEBOARDING

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# RECLAIMING AGENCY TO STAY TRUE TO ONE'S VALUES

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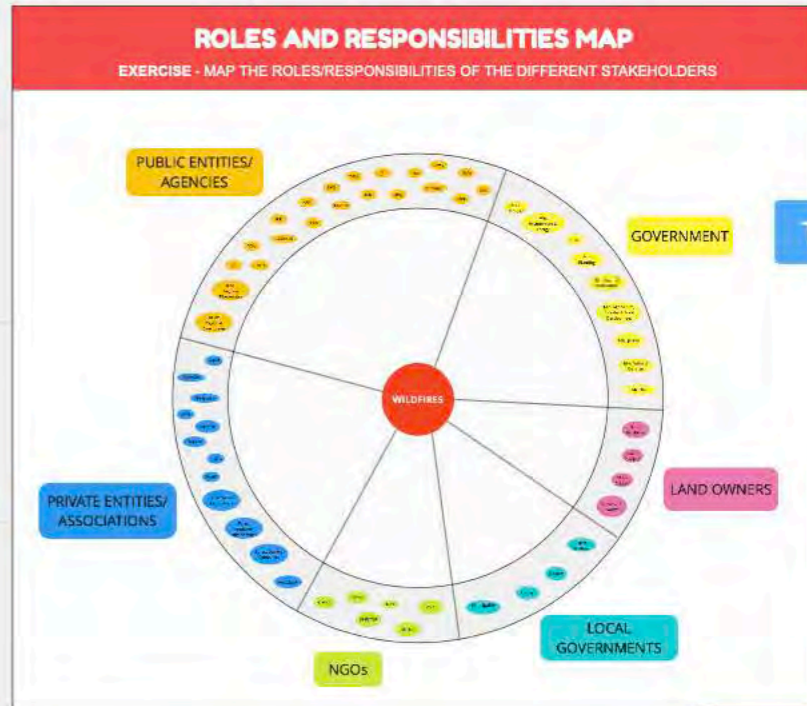
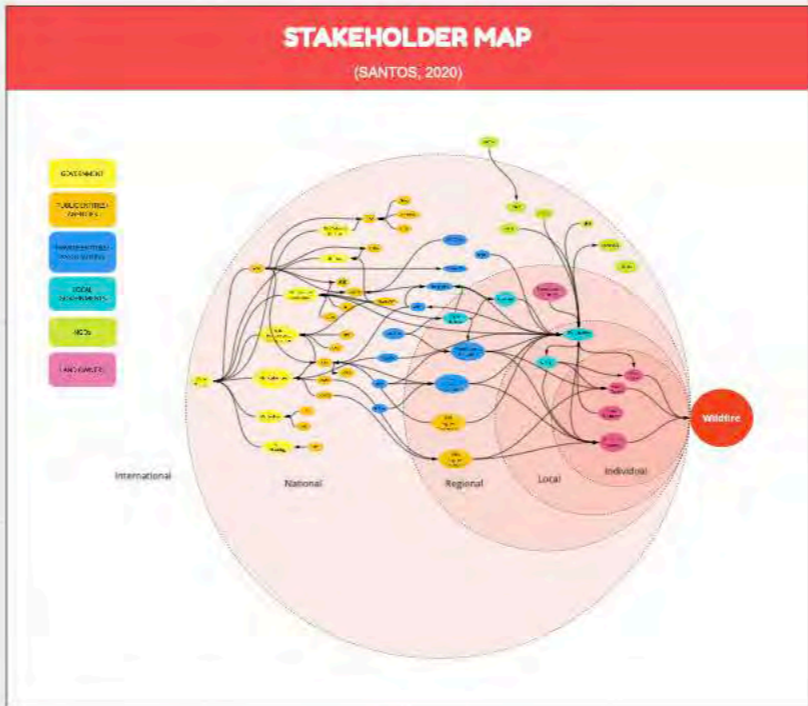
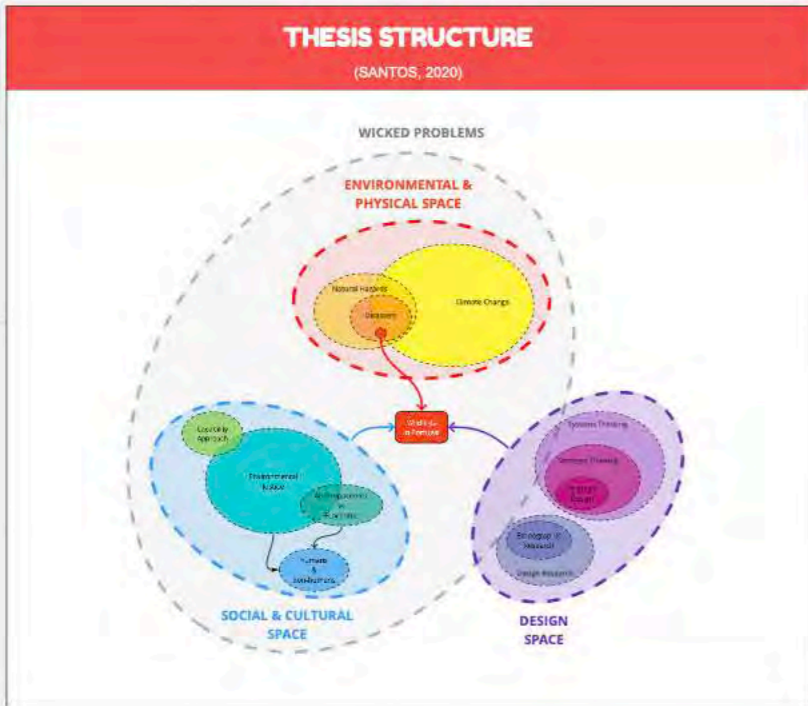
Photos by Timothy Schenck & Yeju Choi



**HOW DO WE CULTIVATE A CULTURE THAT EMBRACES CONTESTATION AND DISSENSUS IN PARTICIPATORY DESIGN?**

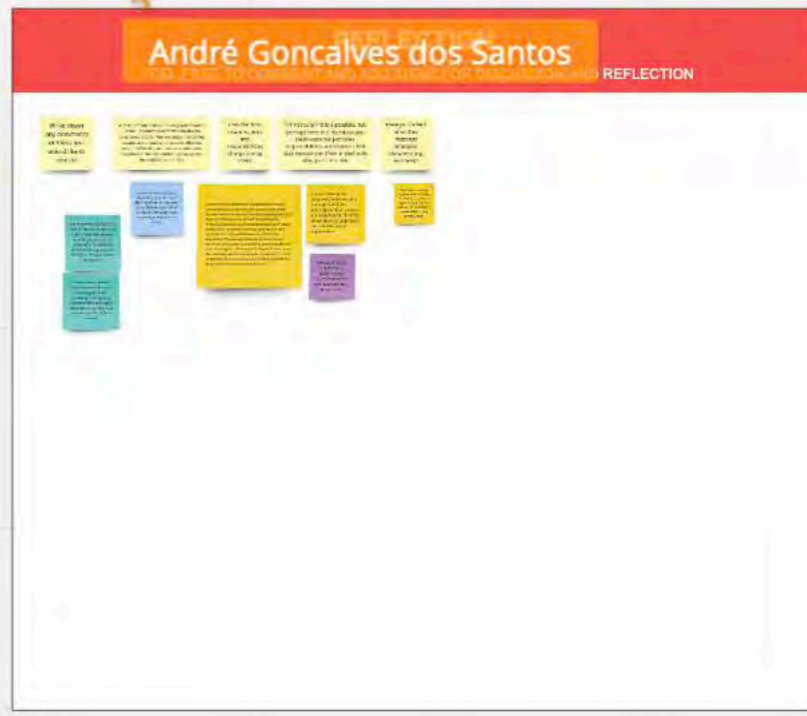


# Design as strategic tool in disaster prevention: case study of wildfires in Portugal



Triin →

kiko chen →



Vertical toolbar with icons for: selection (arrow), pan (hand), zoom in (plus), zoom out (minus), copy (document), paste (document with plus), eraser, lasso select, text tool, comment tool, link tool, and a menu icon (three dots).

Horizontal toolbar with icons for: selection (arrow), pan (hand), zoom in (plus), zoom out (minus), copy (document), paste (document with plus), eraser, lasso select, text tool, comment tool, link tool, and a menu icon (three dots).



PwC's Indigenous Consulting  
PwC's Indigenous Consulting practice provides trusted advice to government, corporate and community clients on indigenous matters...

Floris' Resources

Critique on design through humor / flipped views

miamadrid - Personal network

RADI-AID

Triin

WHITE SUPREMACY CULTURE: Characteristics from the following factors...

How Traditional Design Thinking Protects White Supremacy (enora)

TAAP Inclusion - THE TAAP TOOLKIT

Collaborating with the Enemy

CONVERSATIONS WITH PEOPLE WHO HATE ME - Dylan Marron

CONVERSATIONS WITH PEOPLE WHO HATE ME - Dylan Marron

What might HCI&D learn from crisis response principles?

Tiina's resources

Capabilities/skills/abilities/ capacity building of individuals/ stakeholders/ organizations to navigate and deal with crisis

Designing for Resilience

Designing for Resilience

Decision-making under crisis: Fight - flight - paralyse

Leadership for and in Crisis

Expertise vs. experience

Adaptability in uncertainty and decision-making

Harvard Business Review

Resilience by Design | Ja-Lee Springer

Emerging from the Crisis

TOPICS THAT SPARK YOUR INTEREST

Mention your name on a sticky note and your questions, topics and ideas.

Maintain your name on a sticky note and your questions, topics and ideas

What would a re-calibrated world (within design and beyond) look like?

Does the psychological and emotional factors differ for the stakeholder groups during for crisis situations? - Their impact on the design? What to consider and what to ignore?

How do you track the behavioral changes of your stakeholder?

Why do people respond so differently, even in the same culture?

Design facilitation

Mentality  
Design  
Feasibility

André Goncalves dos Santos

kiko chen

# Next Tuesday: How do Health Agencies use Instagram for Crisis and Emergency Communication?

Aqdas Malik

*Post-Doctoral Researcher, Department of Computer Science, Aalto University*

*July 07, 2020*

*CS-E4002: Human-Centred Research and Design in Crisis*

*Aalto University*