REGENERATION, COLLABORATION, TRANSFORMATION ...AND OTHER 'TION' WORDS

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Regeneration

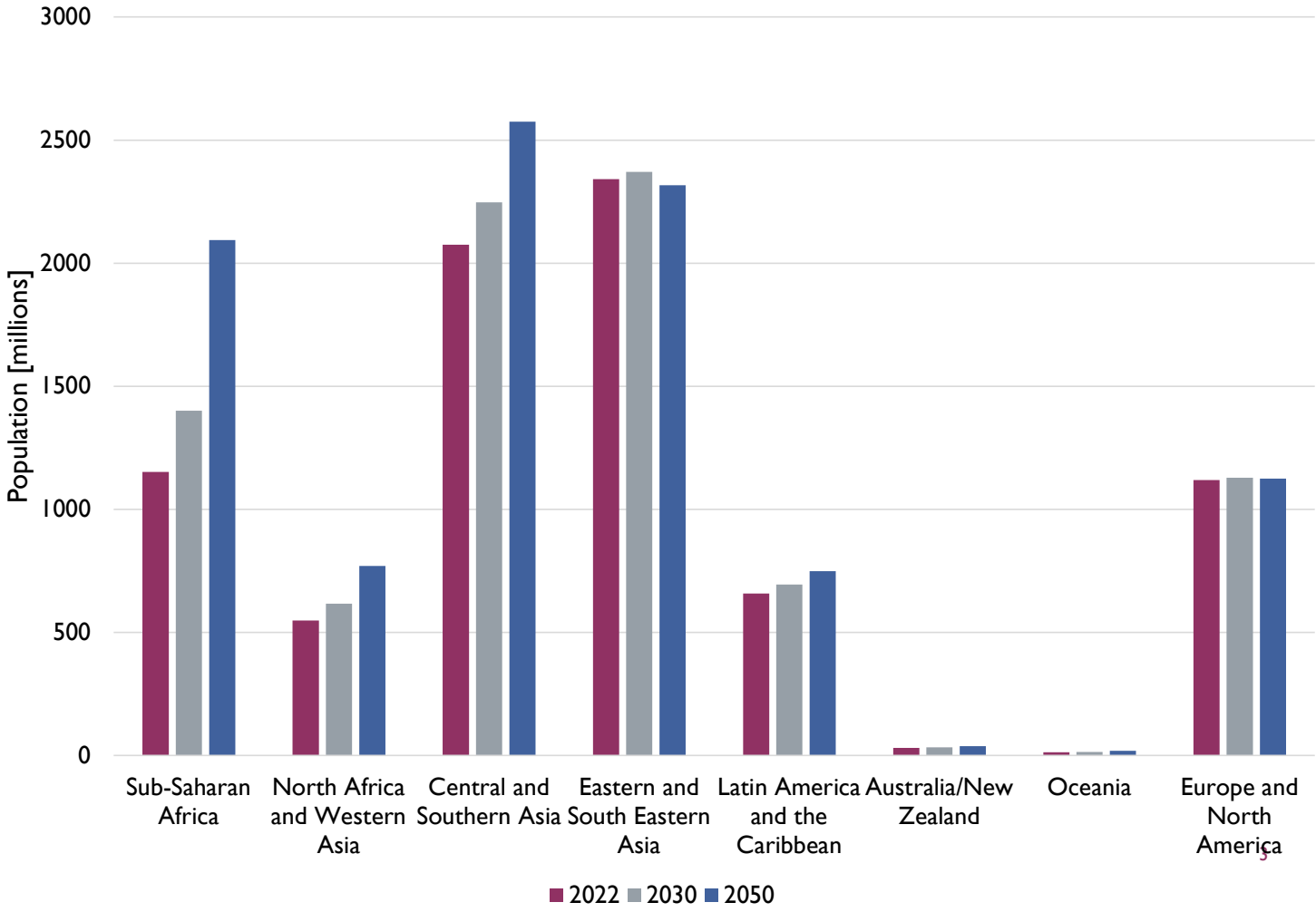
Transformation

Collaboration

~40% of the world's population lives in the least developed countries (LDCs)

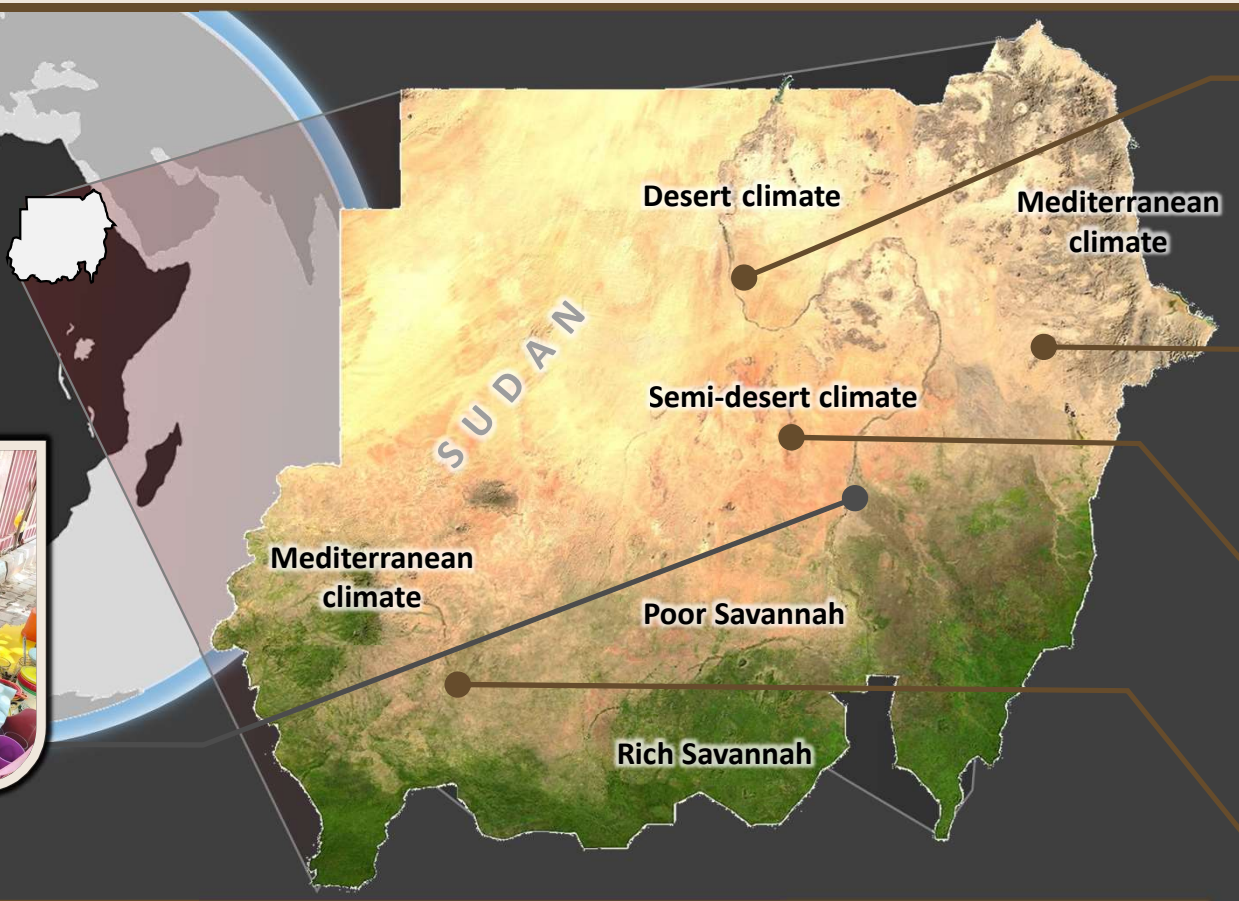
8 LDCs will contribute to half of the population increase by 2050 (UN-DESA, 2022).

20% of the world population currently lives in slums and inadequate housing (UN-Habitat, 2022).



Population of the world regions according to the medium scenario (UN-DESA, 2022)

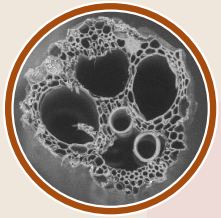
Why



How

Materials

- Sorghum
- Groundnut
- Corn



Forms

- Stalk/Husk
- Fibres
- Ashes

Construction Materials

- Pressed earth bricks
- Cement mortars
- Pozzolanic materials

Regeneration

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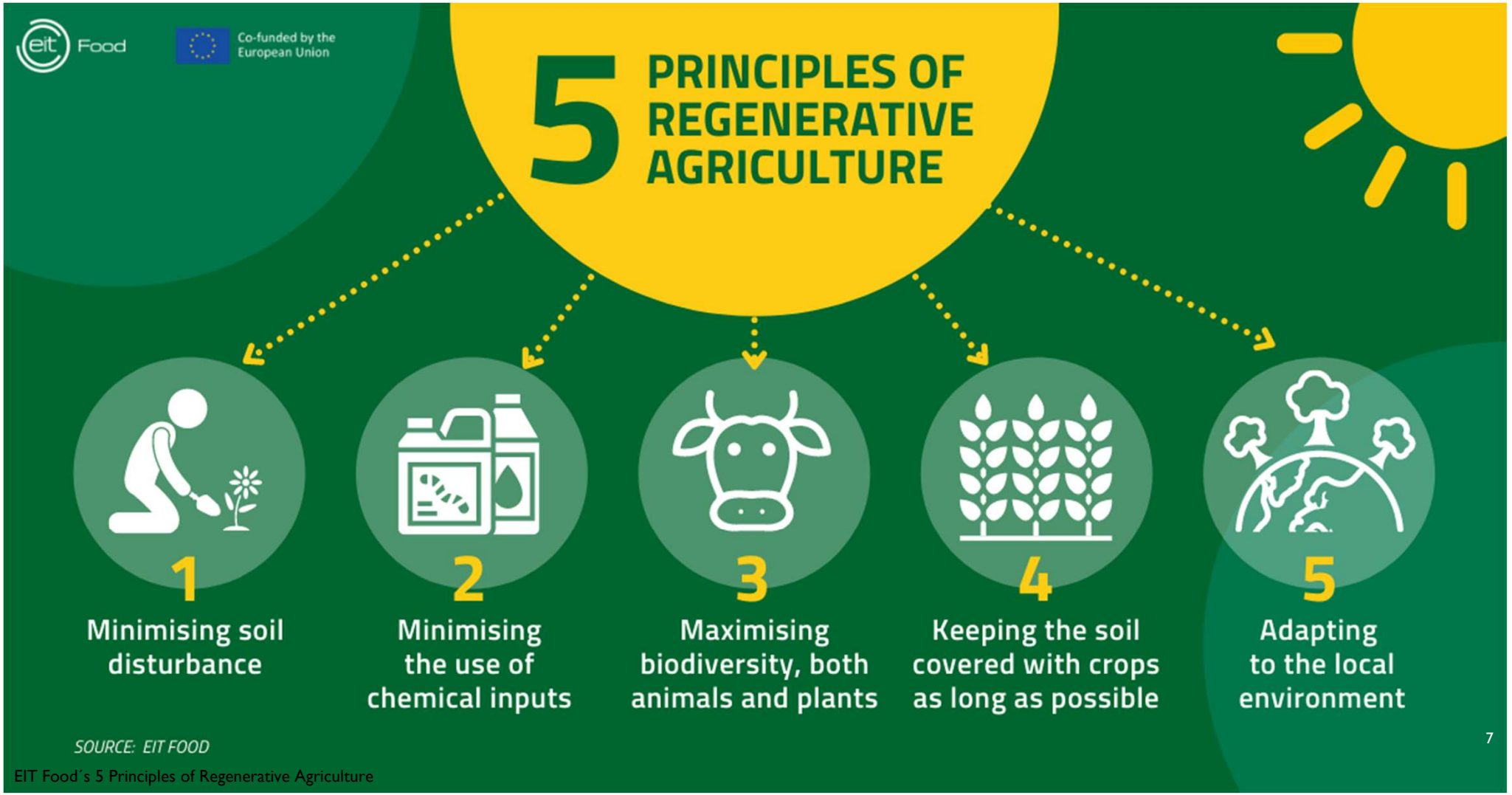
REGENERATIVE? WHERE TO START?!

Learn from living systems

- Connected
- Renewable resources
- Adaptive



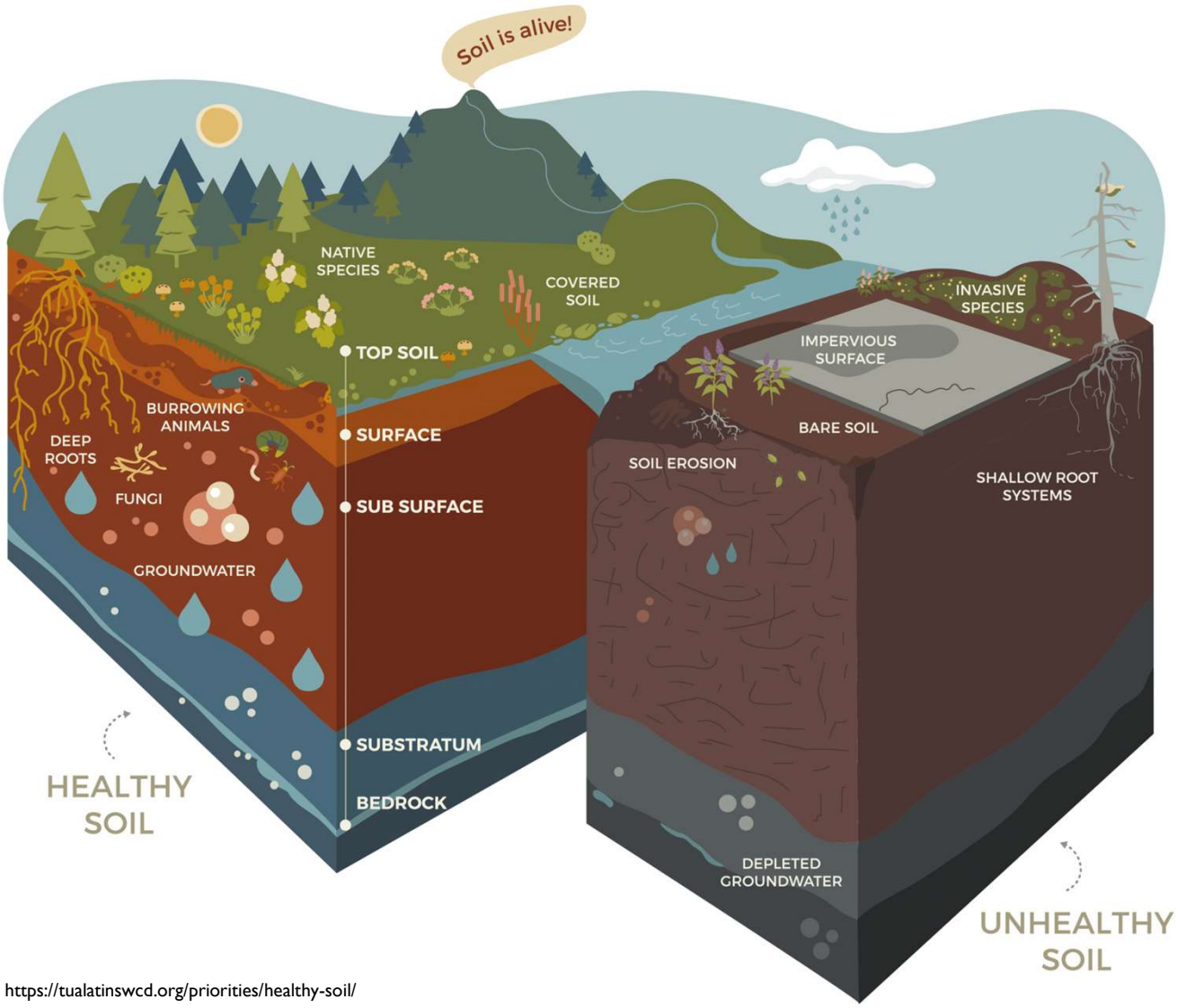
EIT Food´s 5 Principles of Regenerative Agriculture

Regeneration

Transformation

Collaboration

EIT Food´s 5 Principles of Regenerative Agriculture



https://tualatinswcd.org/priorities/healthy-soil/

Regeneration

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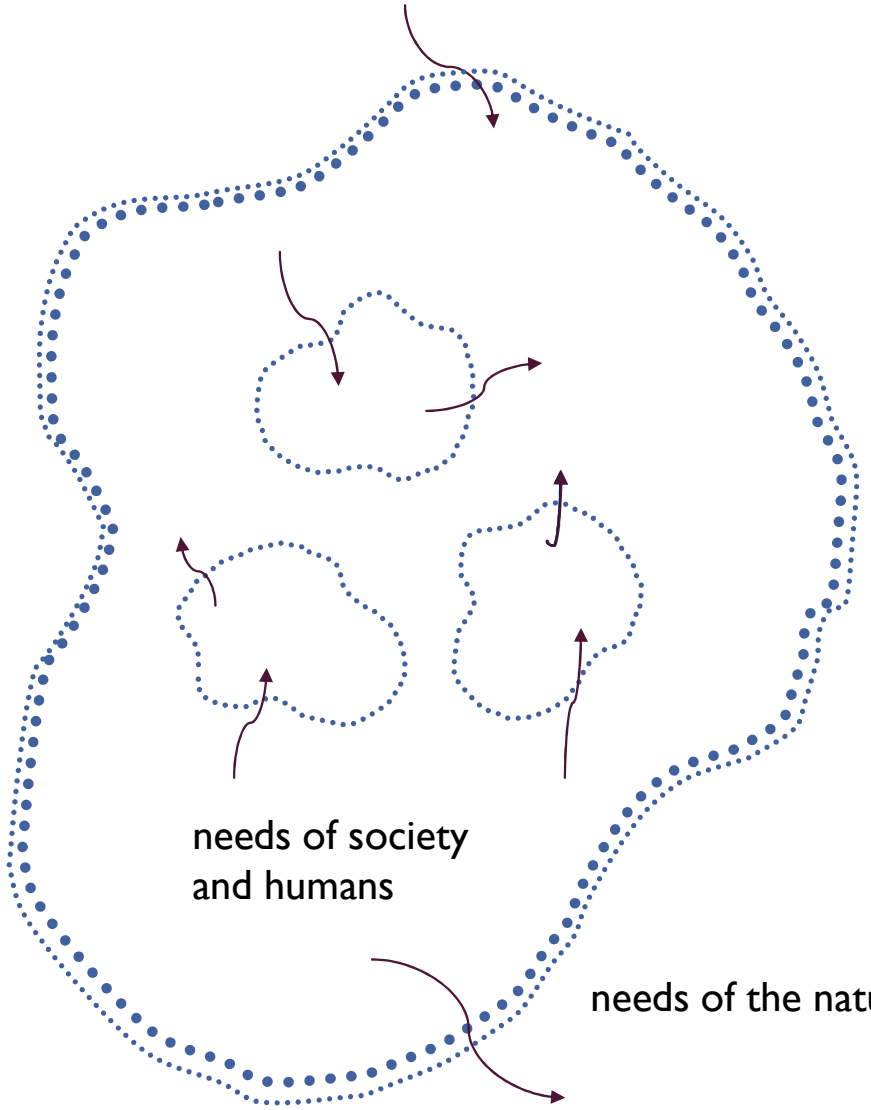
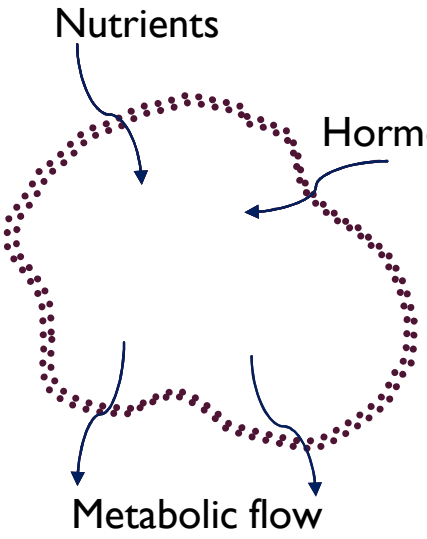
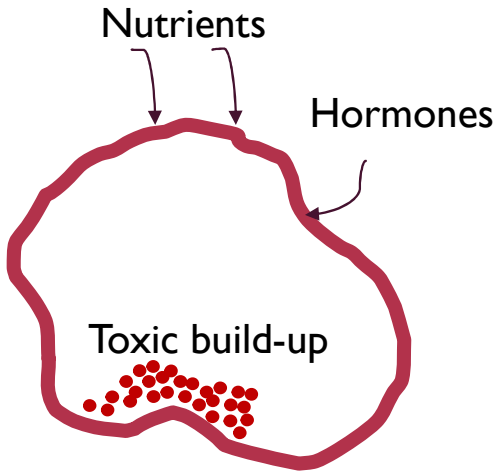




Healthy cell

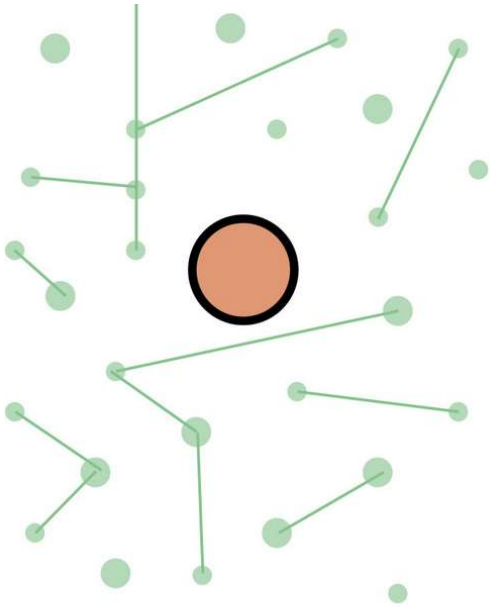
Soft and permeable membrane



Unhealthy cell

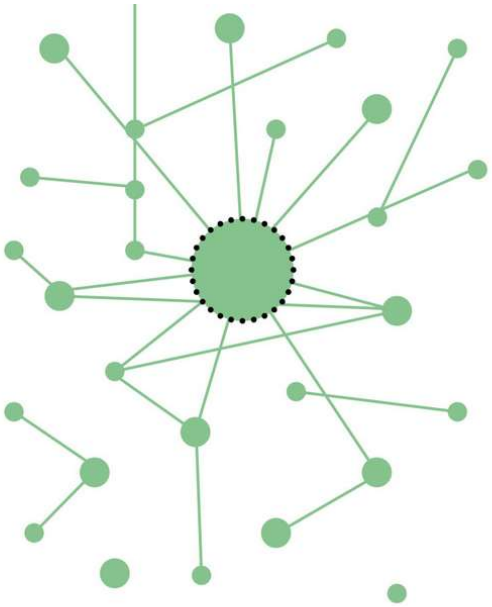
Hard and rigid membrane

The concept places a project within its eco-system, understanding that it does not exist in isolation and it has wide effects.



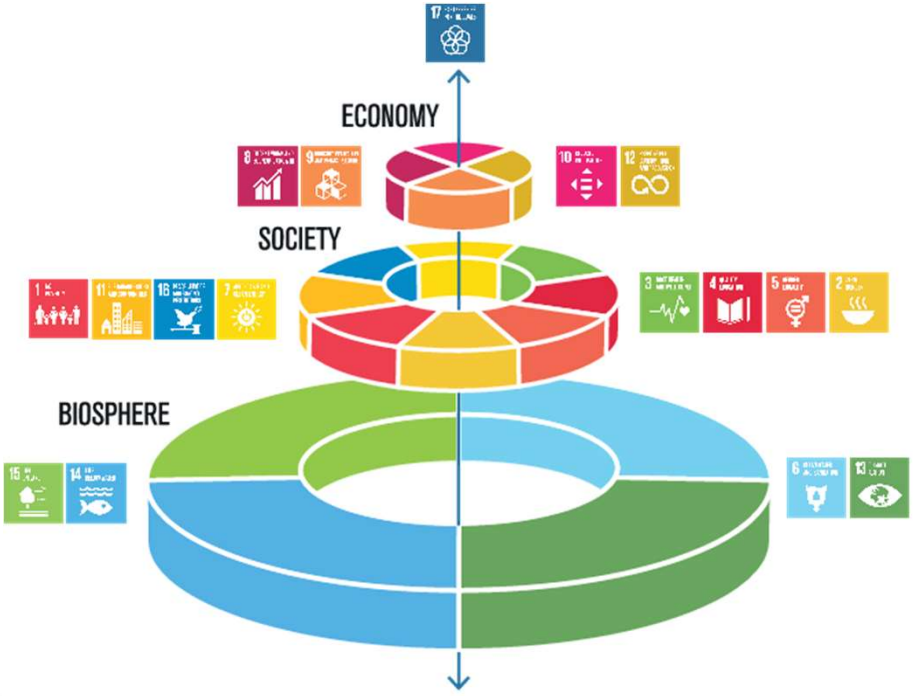
SUSTAINABLE DESIGN

Creating a clear site boundary and reducing impact within it



REGENERATIVE DESIGN

Removing the false construct of a 'site boundary' and creating a positive impact to the surrounding environment



Regeneration

Transformation

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WHAT IS REGENERATIVE?

Sustainability: do no harm

Regenerative: do aid, flourish and co-evolve[1]

Net positive vs net zero

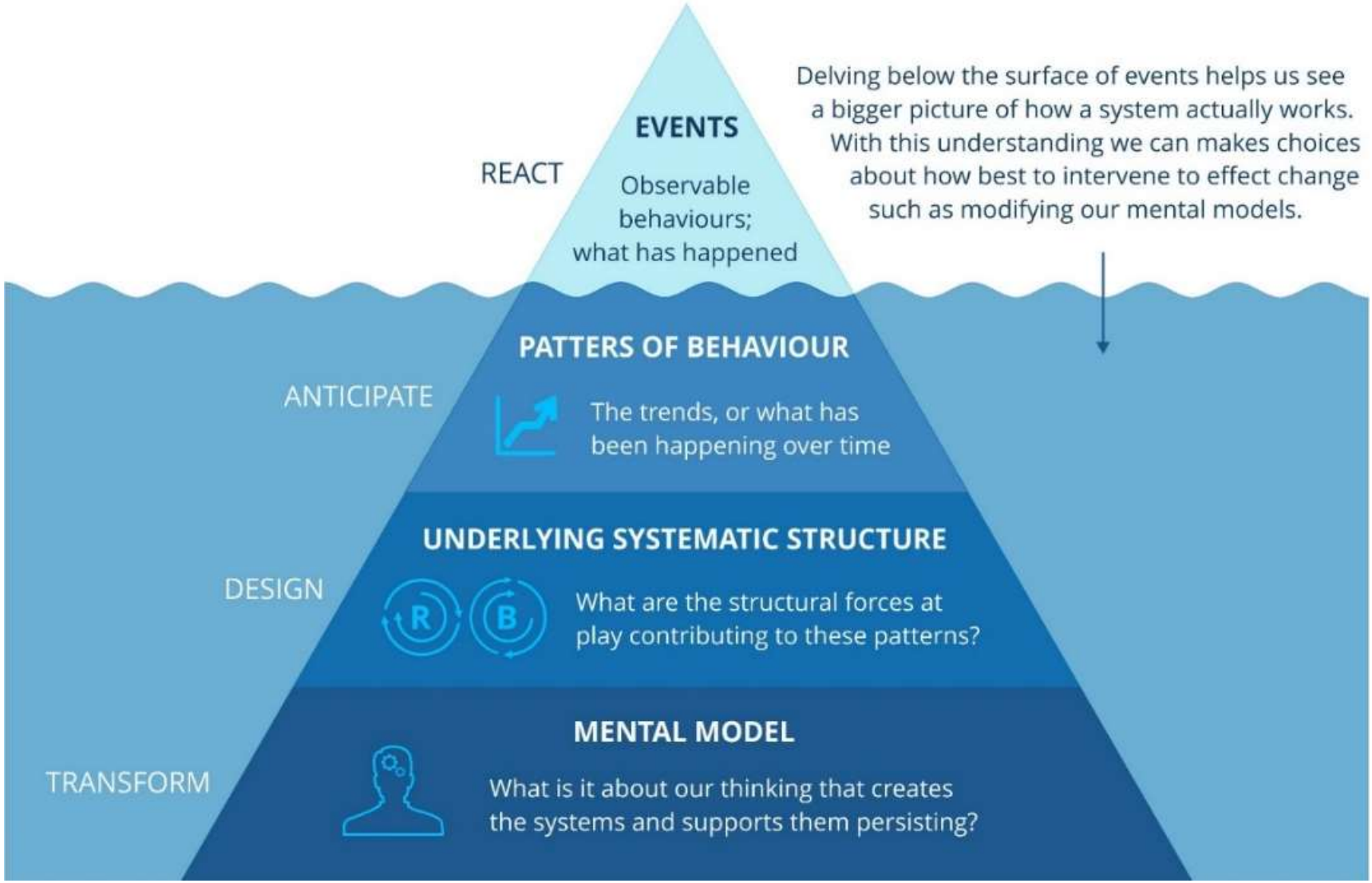
A work in progress and is whole system approach [2]

[1] Petrovski et al., 2021
[2] Reed, 2007

Regeneration

Transformation

Collaboration



Regeneration

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Iceberg Canvas

Current System

Current Events

Events are the individual activities or facts about the state of things in the system. Write in the box below the events and associated variables in the system.

Current Patterns

Patterns are the changes in variables that occur over a period of time. They are the trends that we perceive taking place over time. List the patterns you see in the system.

Current Structures

What are the rules, norms, policies, guidelines, power structures, distribution of resources, or informal ways of work that have been institutionalized? Post up all your ideas.

Current Models

What are the key mental models expressed through beliefs, attitudes, morals, expectations, values or culture which allow current structures to continue? Post all your ideas up.

Emerging System

Future Events

What new events would we hope to emerge from the new underlying patterns and structures we have outlined above? Post up any ideas on this.

Future Patterns

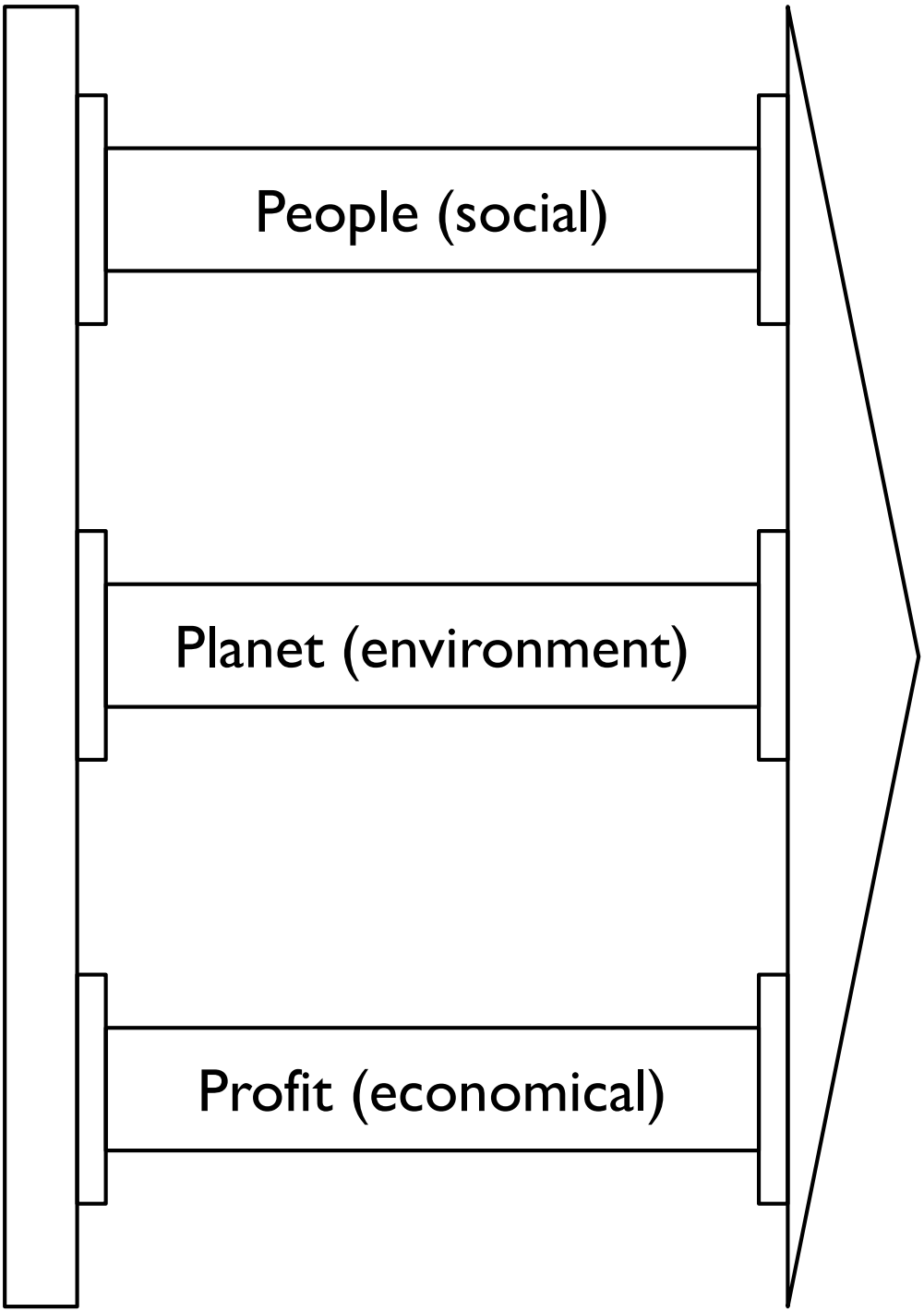
What new patterns may emerge from the new structures and mental models? Post up any ideas you may have.

Future Structures

What new structures would emerge from those new mental models and values? Post all your ideas.

Future Models

Post up your ideas for the new mental models and values that might be needed to shift the paradigm.


People (social)
Planet (environment)
Profit (economical)

Regeneration

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SUMMARY MATRIX

The Living Building Challenge is composed of 20 Imperatives grouped into seven petals. Some Imperatives are not required for all Typologies.

PETAL	IMPERATIVE	TYPOLOGY: New Building	Existing Building	Interior	Landscape + Infrastructure
PLACE	1 Ecology of Place	■	▨		■
	2 Urban Agriculture	■	■		
	3 Habitat Exchange	■	■	■	■
	4 Human Scaled Living	■	▨	▨	
WATER	5 Responsible Water Use	■	■	■	■
	6 Net Positive Water	■	■		■
ENERGY	7 Energy + Carbon Reduction	■	■	■	■
	8 Net Positive Energy	■	■	■	■
HEALTH + HAPPINESS	9 Healthy Interior Environment	■	■	■	
	10 Healthy Interior Performance	■	■	■	
	11 Access to Nature	■	■	■	
MATERIALS	12 Responsible Materials	■	■	■	■
	13 Red List	■	■	■	■
	14 Responsible Sourcing	■	■	■	■
	15 Living Economy Sourcing	■	■	■	■
	16 Net Positive Waste	■	■	■	■
EQUITY	17 Universal Access	■	▨	▨	▨
	18 Inclusion	■	■	■	■
BEAUTY	19 Beauty + Biophilia	■	■	■	■
	20 Education + Inspiration	■	■	■	■

■ IMPERATIVE REQUIRED FOR TYPOLOGY

▨ REQUIREMENT DEPENDENT ON SCOPE

NOT REQUIRED FOR TYPOLOGY

CORE IMPERATIVE

SCALE JUMPING ALLOWED

HANDPRINTING IMPERATIVE

Regenerative: 7 categories/petals and 20 imperatives, (ILFI,2024)

Regeneration

Transformation

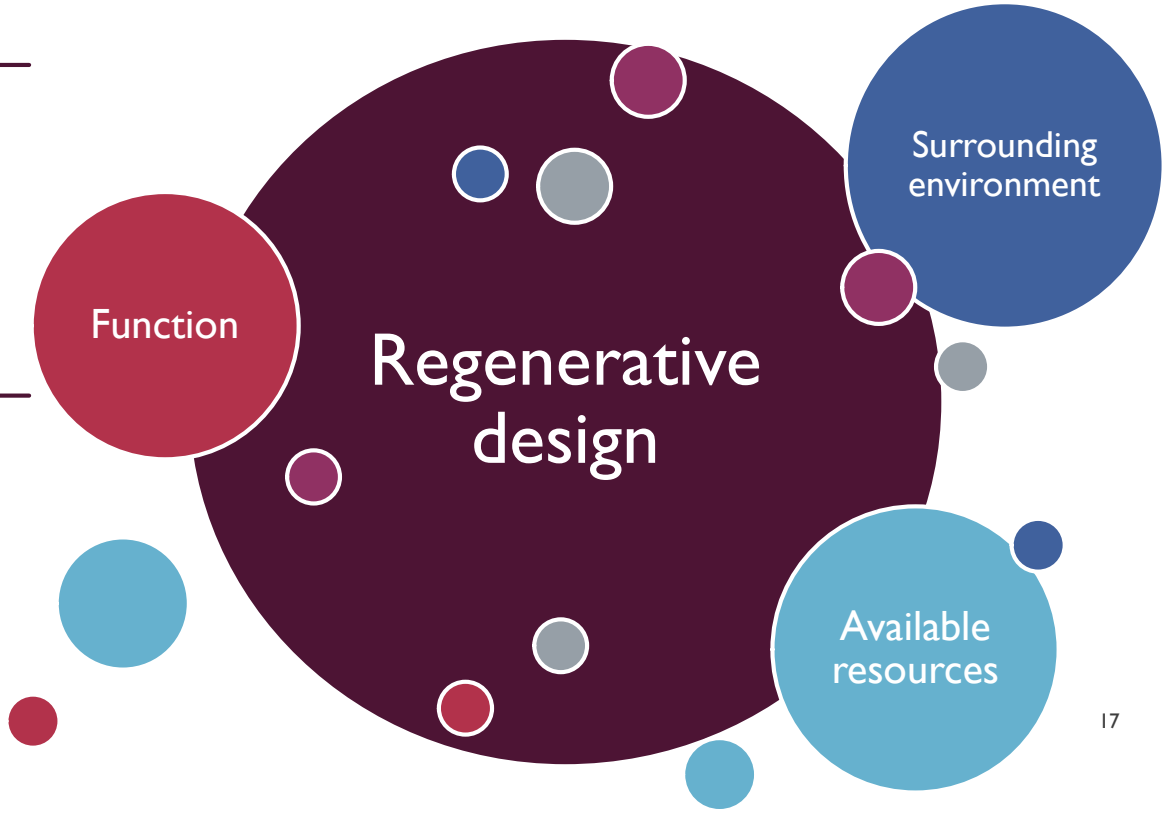
Collaboration

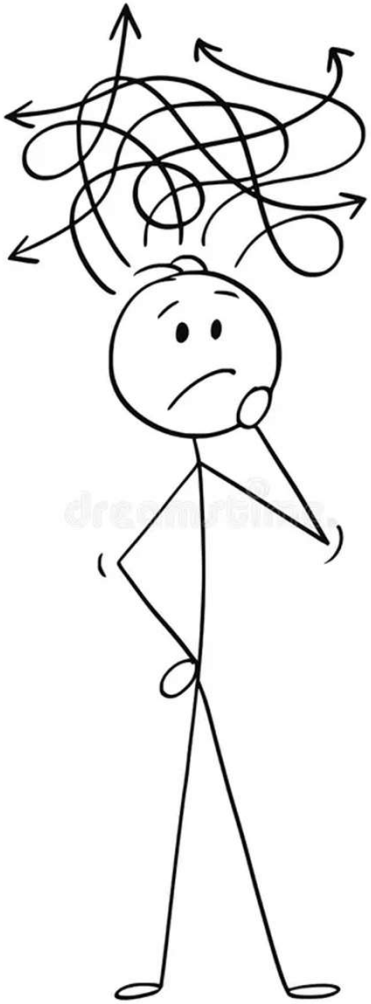
"BUILDINGS THAT REGENERATE THE HEALTH AND RESILIENCE OF ECOSYSTEMS, ECONOMIES, CULTURES AND PEOPLE." INTERNATIONAL LIVING FUTURE INSTITUTE, 2024

That result in a society that is "socially just, culturally rich, and ecologically restorative"

"… Regenerative buildings restore the health and resilience of ecosystems, economies, cultures, and people."

ILFI, 2024





ALL WELL AND GOOD, BUT HOW??

- Human needs
- Materials

Regeneration

Transformation

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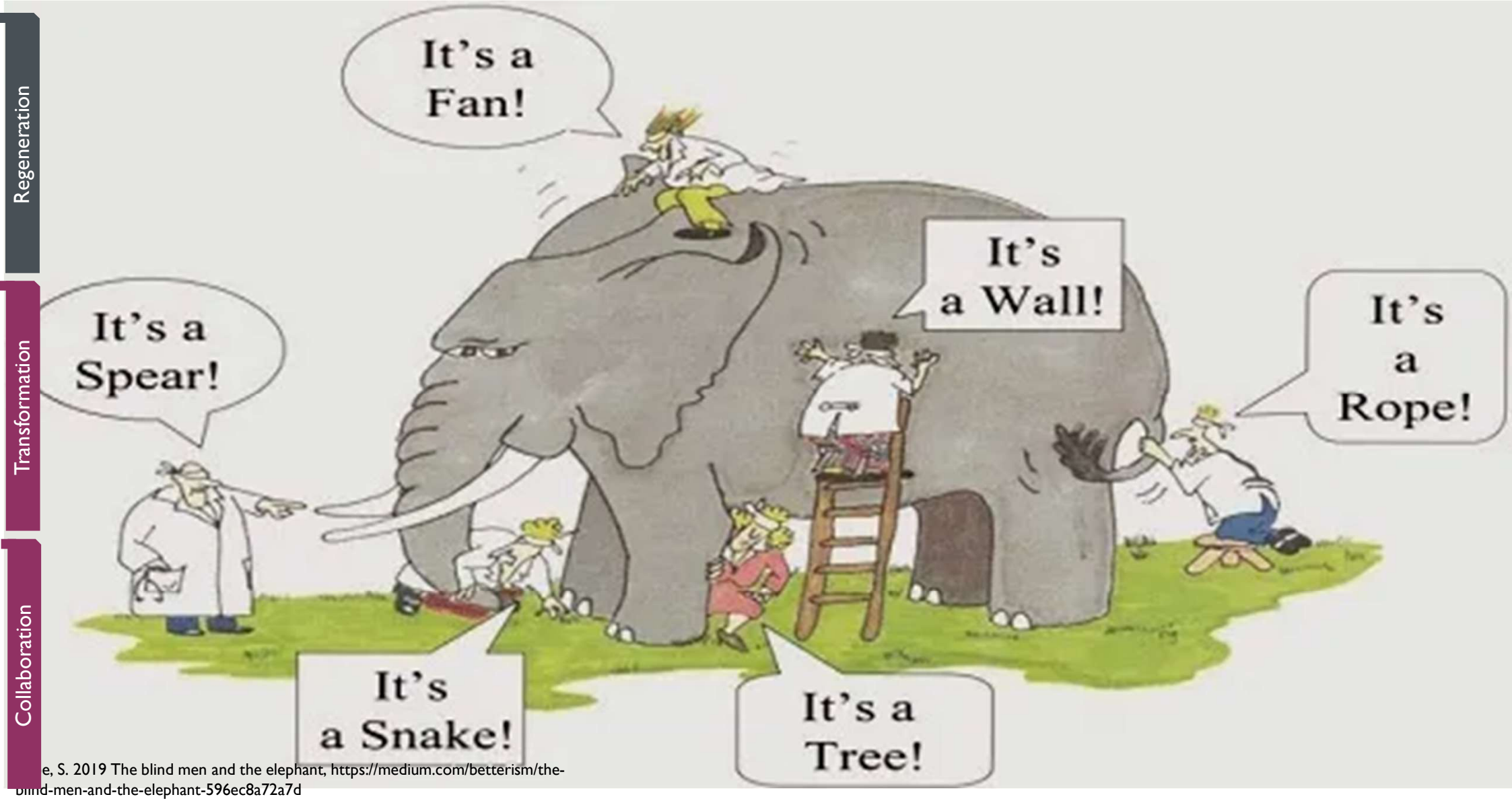

e, S. 2019 The blind men and the elephant, https://medium.com/betterism/the-blind-men-and-the-elephant-596ec8a72a7d

Regeneration

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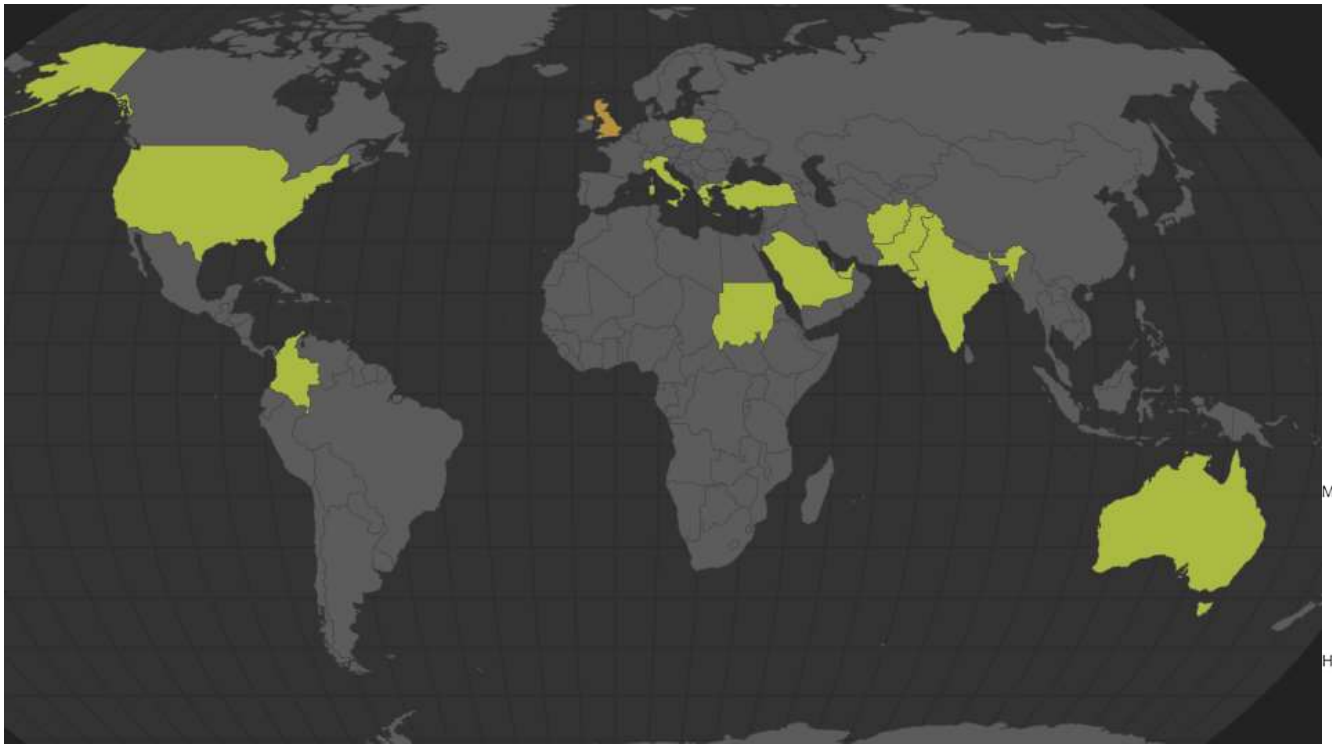
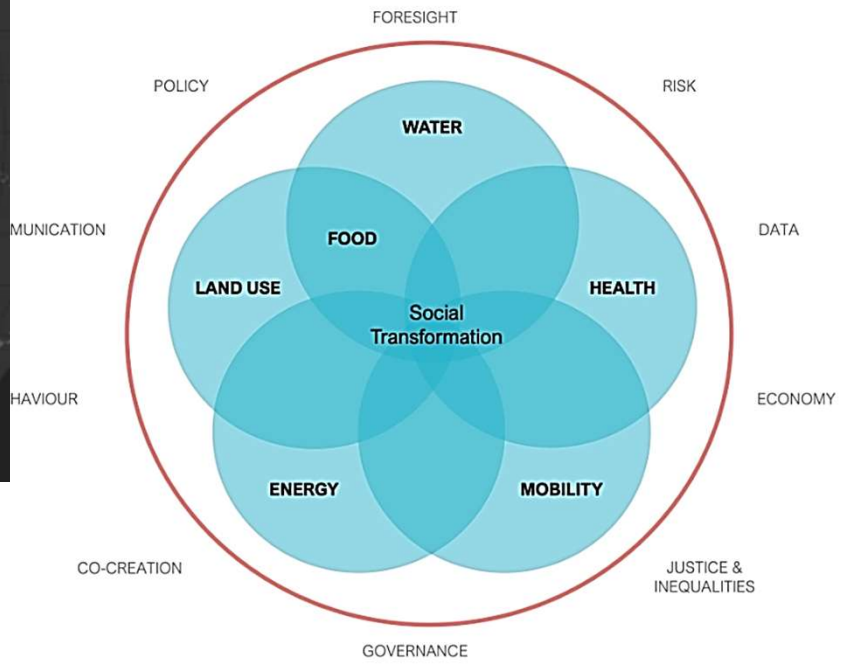


Collaborative working:

- Autonomy
- Relationships
- Purpose
- Meetings
- Transparency
- Decision Making
- Learning and Development.



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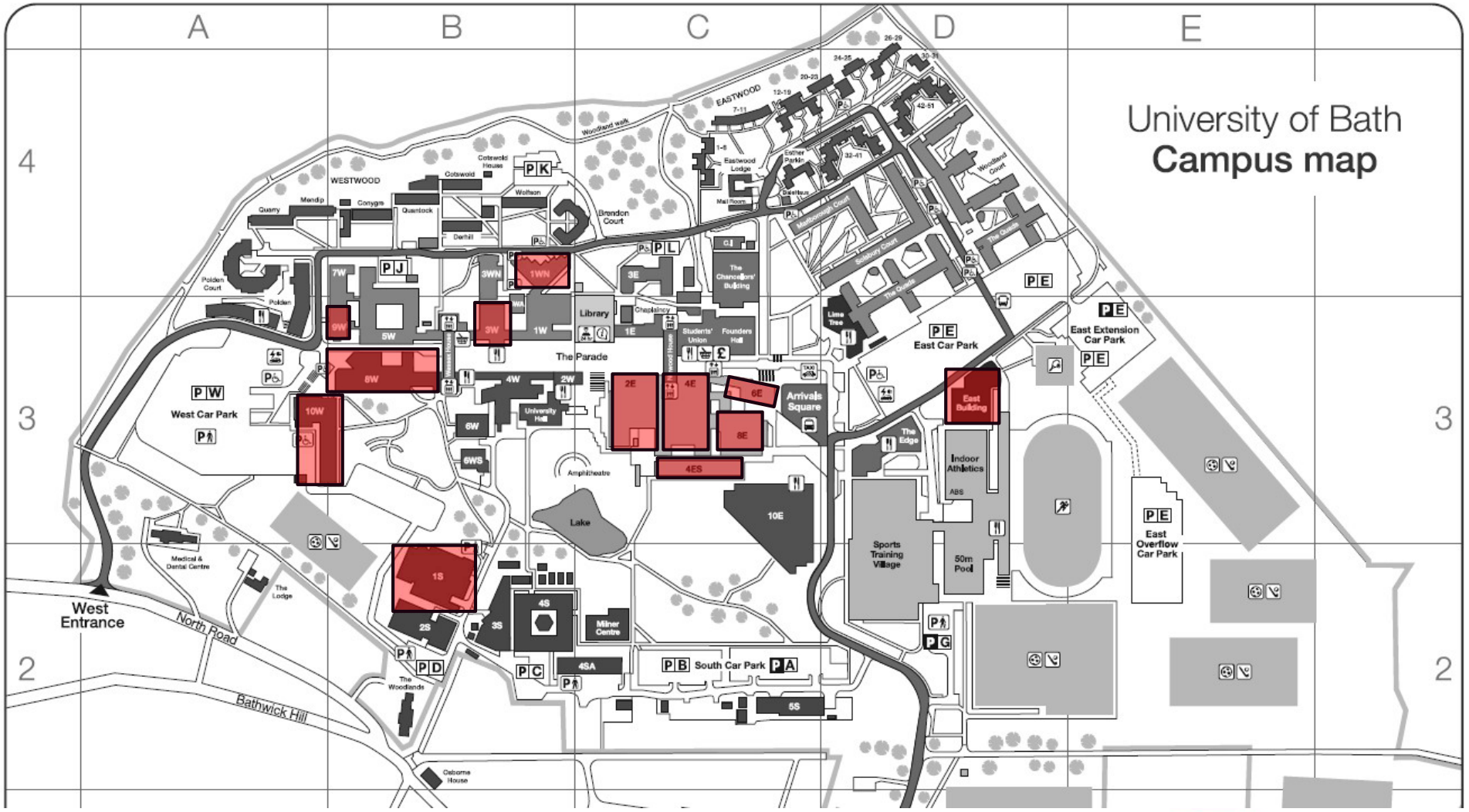
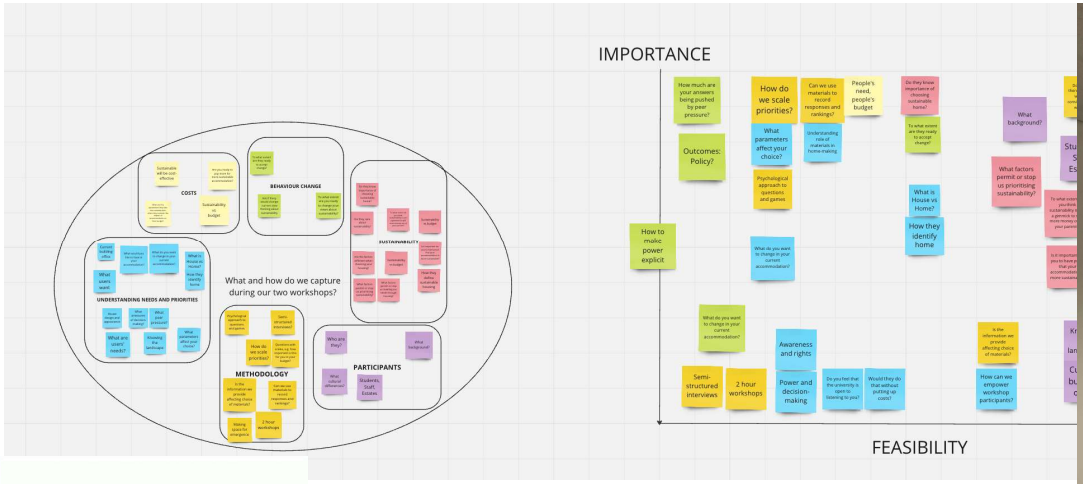
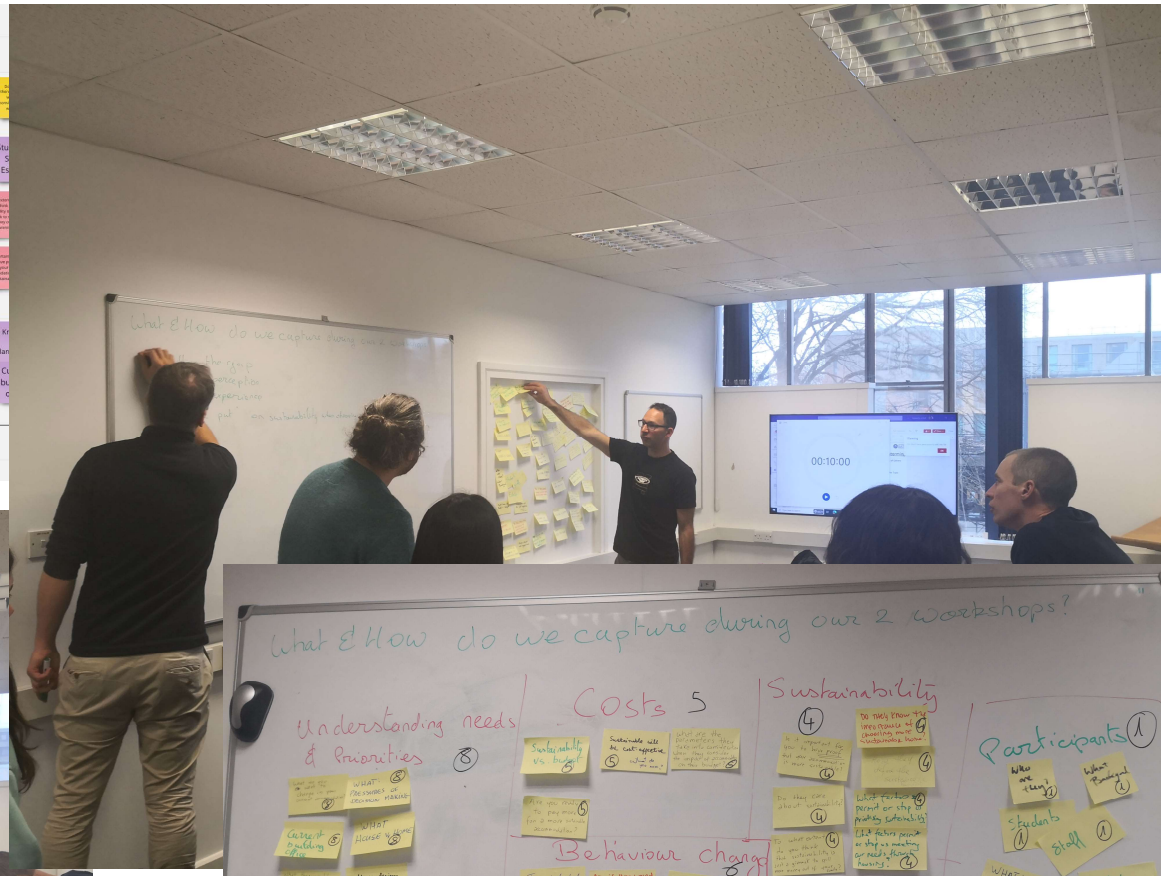


TA

ONOMY

GOVERNANCE


What and how do we capture during our two workshops?
COSTS
BEHAVIOUR CHANGE
SUSTAINABILITY
UNDERSTANDING NEEDS AND PRIORITIES
METHODOLOGY
PARTICIPANTS
IMPORTANCE
FEASIBILITY
How much are your answers being pushed by peer pressure?
How do we scale priorities?
Can we use materials to record responses and rankings?
People's need, people's budget
Outcomes: Policy?
What parameters affect your choice?
Understanding role of materials in home-making
Psychological approach to questions and games
What is House vs Home?
How they identify home
How to make power explicit
What do you want to change in your accommodation?
Awareness and rights
Power and decision-making
Semi-structured interviews
2 hour workshops
Do you feel that the university is open to listening to you?
Would they do that without putting up costs?
How can we empower workshop participants?
What background?
What factors permit or stop us prioritising sustainability?


What & How do we capture during our 2 workshops?
Understanding needs & Priorities 8
Costs 5
Sustainability 4
Behaviour change 8
Participants 1
Power & Decision making 3
Methodology 7
Outcomes & Futures 2

Regeneration

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Collaboration

The Elephant

- Civil/Materials
- Architecture
- Mathematics
- Physics
- Chemistry
- Social sciences
- Industry

Re-THINK

- All the above
- Art
- Psychology

Natural building materials

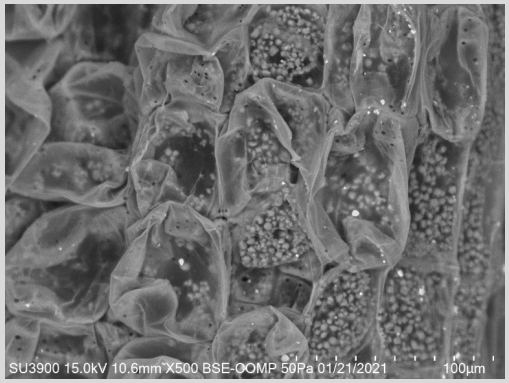
- Civil
- Material
- Chemistry
- Physics
- Architecture
- LCA

Regeneration

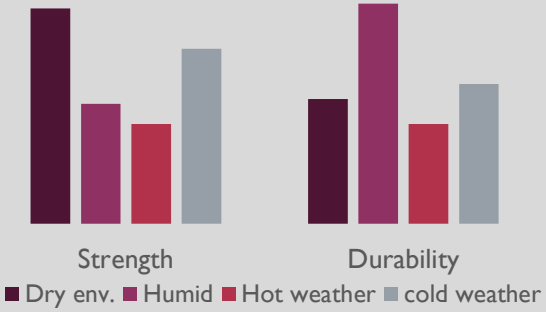
Transformation

Collaboration

Innovative processing and characterisation of materials



Effect of light wave length and frequency on construction materials



Regenerative modification of industrial waste and natural materials

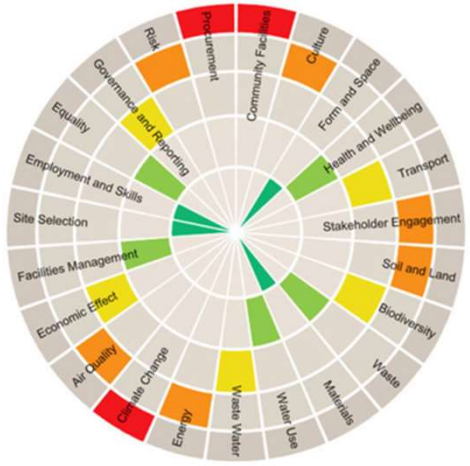
Retrofit of existing buildings

40% EU building stock before 1960
90% before 1990 (BPIE, 2022)

Full regenerative structural retrofitting (health, social equity, resilience of ecosystem)

Evaluation of research processes

SPeAR® (Sustainable Project Appraisal Routine)



(Arup, 2022)

Appraisal tool to assist research institutes evaluating their own footprint

Thank you for your attentive listening

Contact:

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Question?