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LEURE

A systems perspective on sufficiency, wellbeing, and transition in the Swiss habitat

Sascha NICK - CISBAT 2023 Final plenary session - Roundtable

go.epfl.ch/habitat

Swiss Built Environment: a holistic view of top challenges

Energy, CO_2

Materials, circularity

Urban sprawl, ecological habitat degradation

Mobility costs: accidents, pollution, noise, light, time

Inclusion, appropriation and inequality, corruption

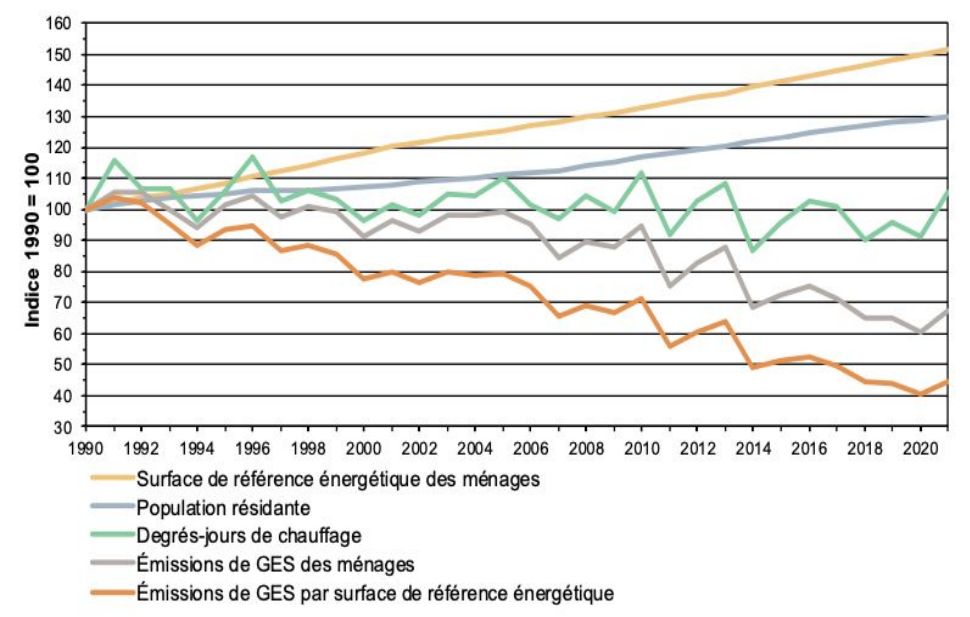
Mixed wellbeing outcomes

All are **wicked problems**

- Must be solved together
- Public good is disputed
- No “stopping rule”

Rittel and Webber 1973

The scale of needed change is enormous: example CO_2



GHG emissions from Swiss buildings: -33% in 31 years

Population: +30%, Surface: +16.9%/cap, Surface: +51.8%

GHG/m^2: -55.7%

BAFU 2023

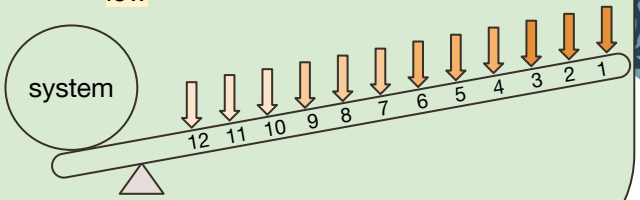
Systems view, leverage points, action levers

Systems: Leverage points

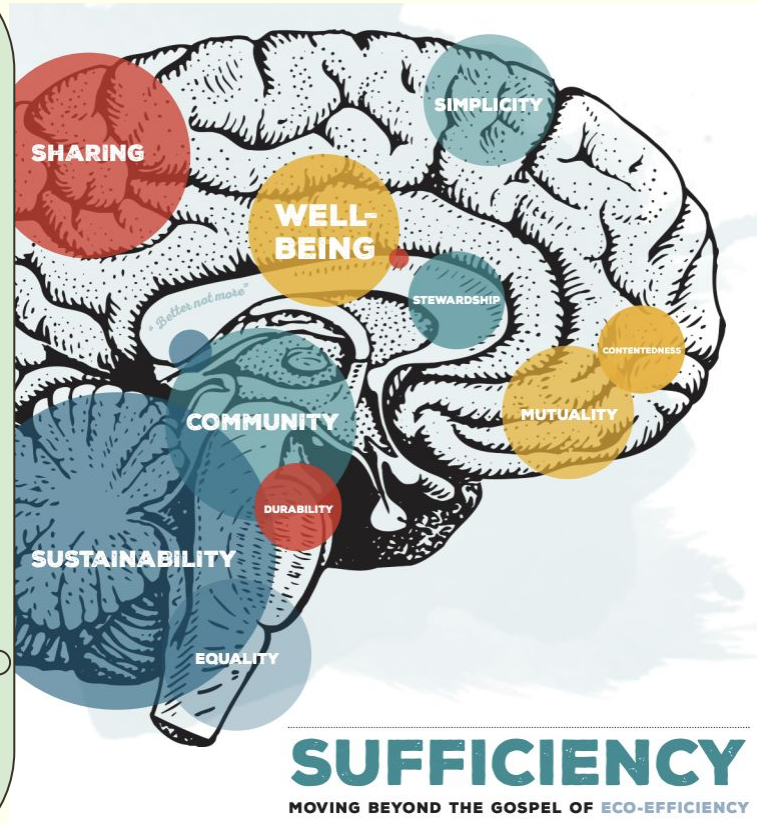
high

Intent	1. The power to transcend paradigms 2. Mindset, worldview, values 3. System goals
Design	4. Power to change system structure 5. System rules 6. Structure of information flow
Feed-back	7. Gain of positive feedback loops 8. Strength of negative feedback loops 9. Delays
Para-meters	10. Structure of stocks and flows 11. Buffer size 12. Parameters, incentives, standards

low



Adapted from Abson et al. 2017, Meadows 1999 .



Friends of the Earth Europe 2018

Action levers

Coordinated action on multiple leverage points

Mindset: post-growth

System goal: wellbeing for all within planetary boundaries

Change system structure: via local deliberative democracy

System rules: resources for public luxury, private frugality

Nick 2023

Wellbeing, sufficiency, synergistic satisfiers

Sustainable wellbeing extends to future generations, respects ecological constraints

Eudaimonic wellbeing: a state of thriving, full participation in society, a sense of leading a good life

Precondition: all needs being satisfied

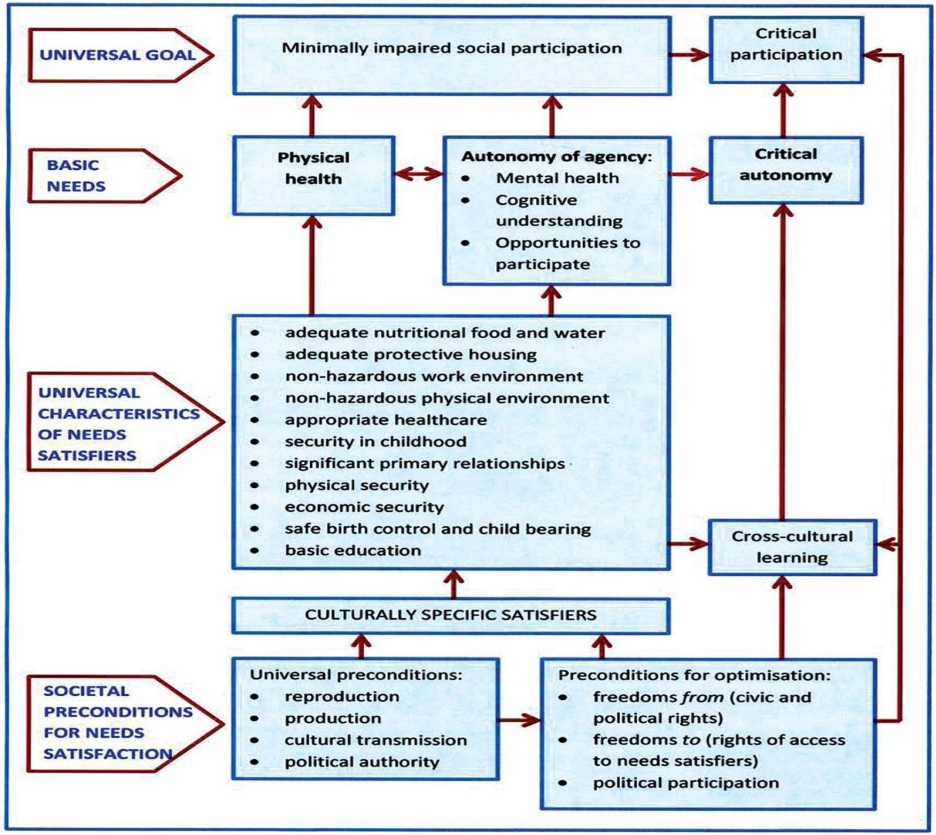
Needs: universal, unchanging, satiable

Satisfiers: culturally specific

Types: inhibitors, pseudo-, simple, synergistic satisfiers

Sufficiency as organizing principle of society

→ focus on synergistic satisfiers



Theory of human need, Doyal & Gough 1991

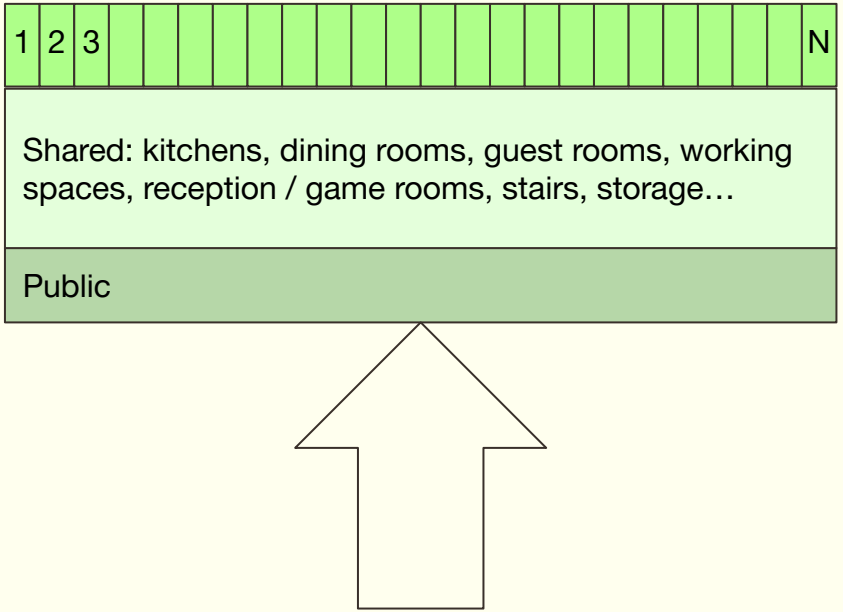
Example: shared spaces, human needs perspective

Shared spaces as synergistic satisfier for participation, creation, understanding, identity

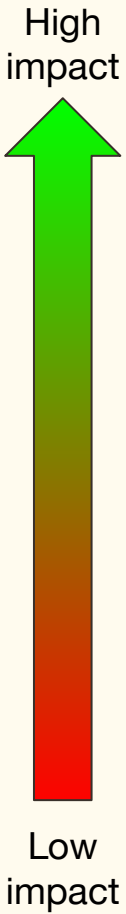
CH 2020 habitable space per person: 46.6 m^2 (plus 9.3 m^2 shared and 3 m^2 secondary residences);
Public / non-habitable space per person: 14.6 m^2 (total 73.5 m^2)

2020 Private+Shared+Public, N people

2040 Private+Shared+Public, N people



Where to act on sufficiency?



1. **Socio-technical provisioning systems**
   - Examples: redesigning cities, relocalizating+rethinking supply chains, repurposing buildings and neighborhoods, rethinking services, reorganizing working time
     → Neighborhood-scale renovation, unbuilding sprawl, new building moratorium
2. **Socially and culturally built activities**
   - Less individualism, local engagement and sharing as cultural norm
3. **Energy and material services**
   - Cooperatives, shared spaces, flexibility to adapt to life phases
4. **Specific product or technology**
   - Better designed housing, same function with less m^2
     (Insulation and heat pumps are efficiency measures)

Nick 2023, (“satisfier order” adapted from Brand Correa et al 2020).

Neighborhood-scale renovation, unbuilding sprawl, new building moratorium

Modeling a new building moratorium until 2100, pop. 14M, shared spaces reduce m^2/cap by 50%

Solving challenges together

Energy, CO_2

Materials, circularity

Urban sprawl, ecological habitat degradation

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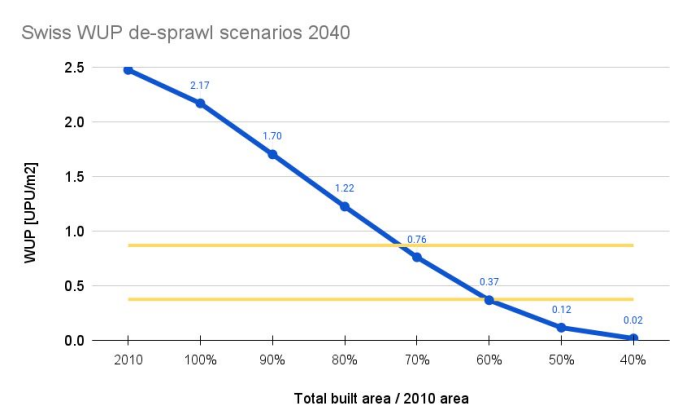
Inclusion, appropriation and inequality, corruption

Mixed wellbeing outcomes

Model suggests change at needed scale is feasible

Full-scale renovation of all needed neighborhoods in only 15 years

1. **Energy** 320 PJ → 45 PJ (Class "A", surface reduction)
2. **Climate** 11.7 Mt CO_2 → almost zero CO_2
3. **Material flows** ca. 50 Mt → <5 Mt
4. **Reverse urban sprawl** →
5. **Inclusive access to healthy living conditions**
6. **Lower total costs**: energy, materials, labor



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