

Participatory Steering of Urban Systems – Value Proposition

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Our Goal

We aim to develop innovative, complexity-appropriate processes and methods to help people understand and steer their own complex urban systems towards improved liveability and more sustainable outcomes.

Our Approach

Urban environments are explicitly understood as dynamic socio-techno-ecological systems in which humans interact with their natural and technological environment. These interactions are driven by what is perceived, communicated and acted upon, which can be framed as *affordances* within niches of the urban system. Urban planners and other stakeholders can construct niches and thereby modify affordances that change behaviours and, thereby patterns and outcomes of system interactions. Essential in this approach is the bidirectional nature of urban design, where humans design cities and cities influence humans and non-humans¹ (ontological design).

This highly applied endeavour will be supported in a wide variety of participatory process designs and complexity oriented methods (e.g. immersive simulation, experiential/observational techniques, anthropological methods, computational modelling, role playing games). These methods will make socio-techno-ecological feedbacks more visible and, thereby facilitate systems learning for a diversity of actors in order to steer urban systems. Niche construction for improved socio-techno-ecological interactions in urban systems will be at the core of the participatory and evidence-based design process.

What we propose

Our proposal is to develop a participatory process that can support an ongoing urban planning process or establish a new direction for urban planning in a specific city. It will introduce highly innovative methods that combine, among others, immersive simulation, computational modelling, and anthropological techniques. The implementation of this applied research in multiple cities will provide a comparative learning opportunity, which will feed back into the various case studies. The proposed steps include:

- Design a participatory process
- People with stakes and knowledge describe their situations: e.g. MERFI: Bangkok; Cullen: Chennai ++; Clark Miller socioenergy; Middel: Phoenix/Tempe heatscape; UNDP: Istanbul and Bangkok
- Pose Proposition: How might life and cities change under 2C increase, or 4C increase?
- Identify affordances
- Creating systems model (e.g. Fuzzy cognitive maps)
- Select methods to facilitate systems learning and urban planning

- Design interventions to construct niches for urban system based on affordances
- Develop tools of representation, articulation, simulation, immersive environment, to test alternative scenario (designs) against stakeholder values and desirable futures