

Climate Quilts: Reimagining Underused Urban Spaces Through Participatory Ecological Design

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climate quilts



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Why This Matters: The Urban Challenge

- Climate change impacts: heatwaves, flooding, drought
- Biodiversity decline
- Social fragmentation
- Underused / abandoned urban land
- Need for low-cost adaptable interventions

Core question: How can small-scale interventions create large-scale resilience?

Introducing Climate Quilts

Two-year international project funded through the Driving Urban Transitions programme

Partners: Netherlands, Sweden, Italy, Estonia

Transforms neglected spaces into connected ecological and social micro-sites

Many small patches = larger resilient urban fabric



The Quilt Metaphor

We combine science, design, and local knowledge to create “quilts” - living patches of green and blue spaces that improve biodiversity, reduce heat, and make neighbourhoods more resilient and inclusive.

Like patchwork: distinct pieces, different functions, stronger together

Urban translation: 10×10m interventions distributed across the city



Conceptual Framework

- Nature-based solutions
- Tactical urbanism
- Urban acupuncture
- Participatory design
- Urban ecology
- Social innovation
- Futures literacy



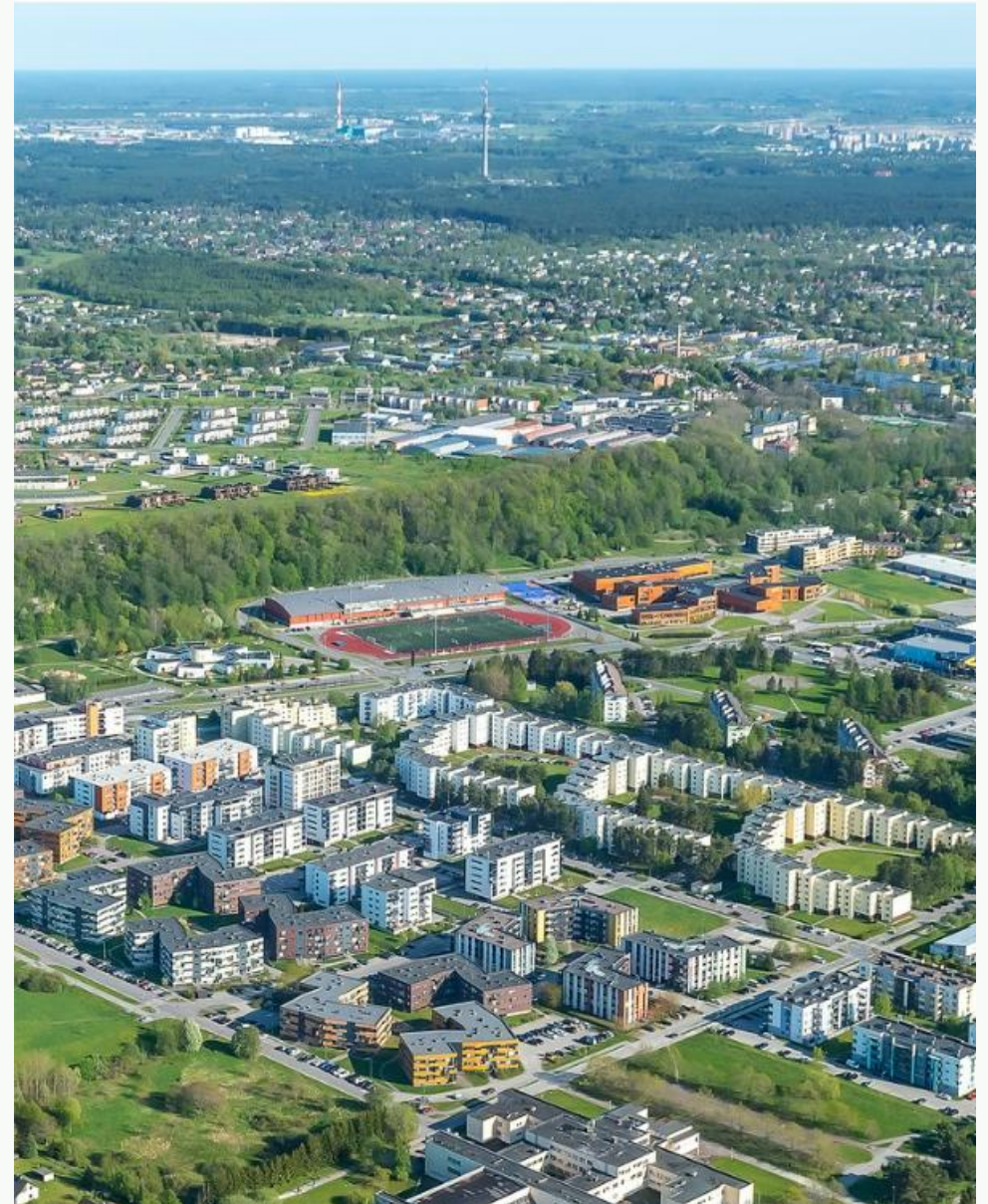
Research Question & Objectives

- How can modular participatory greening enhance biodiversity, resilience and social cohesion?
- Test temporary green infrastructures
- Strengthen community ownership
- Produce scalable models
- Inform planning policy

The Viimsi Living Lab

Case study: Viimsi, Estonia

- Rapid suburban growth
- Pressure on green infrastructure
- Climate adaptation needs
- Available underused public land



Local Climate Pressures in Viimsi

- Warmer winters
- Hotter summers
- Intense rainfall / runoff
- Summer drought
- Need for multifunctional landscapes



What Might a Quilt Patch Look Like?

- Wildflower meadow
- Wildlife patch
- Community orchard
- Community garden
- Pocket park
- Nature play area
- Sensory garden
- Sculpture park



Participatory Methodology

- Baseline site assessment
- Community workshops
- Student design development
- Public voting / selection
- Construction & planting
- Shared maintenance
- Monitoring & learning



Role of Universities & Students

- Students develop proposals
- Research teams monitor impacts
- Comparative cross-country learning
- Practice-based pedagogy



**Viimsi sites for design: seven in total,
four to be developed in 2026, three in 2027**

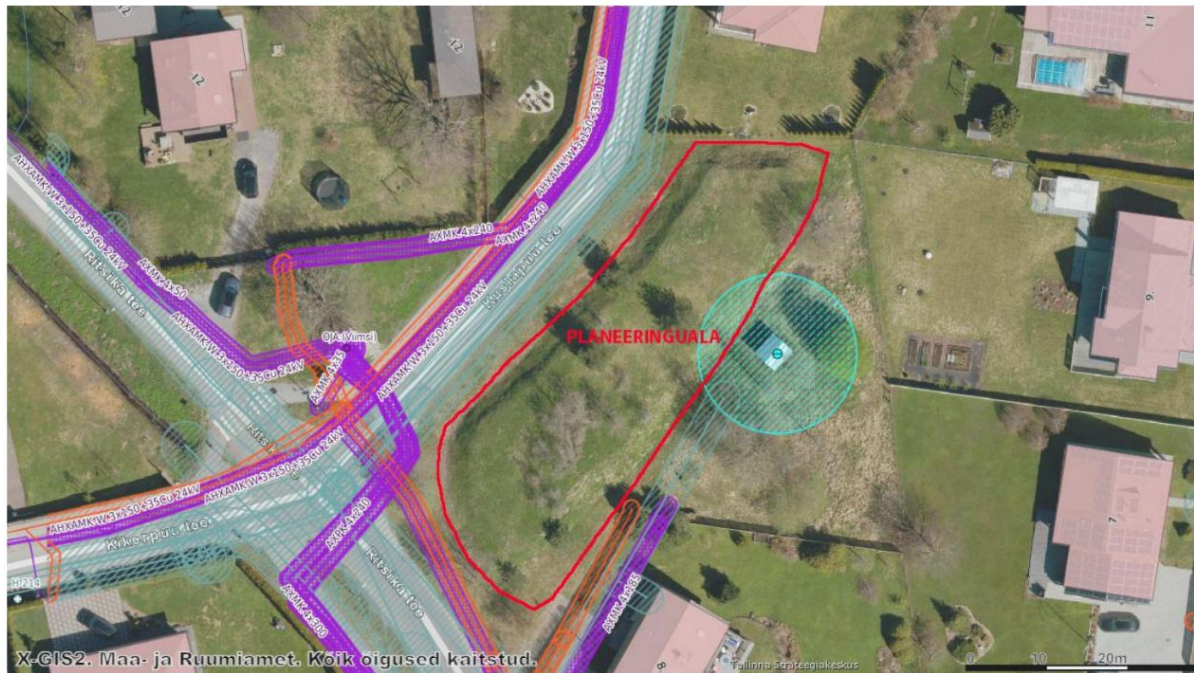


Viimsi sites for design 2026: Randvere school



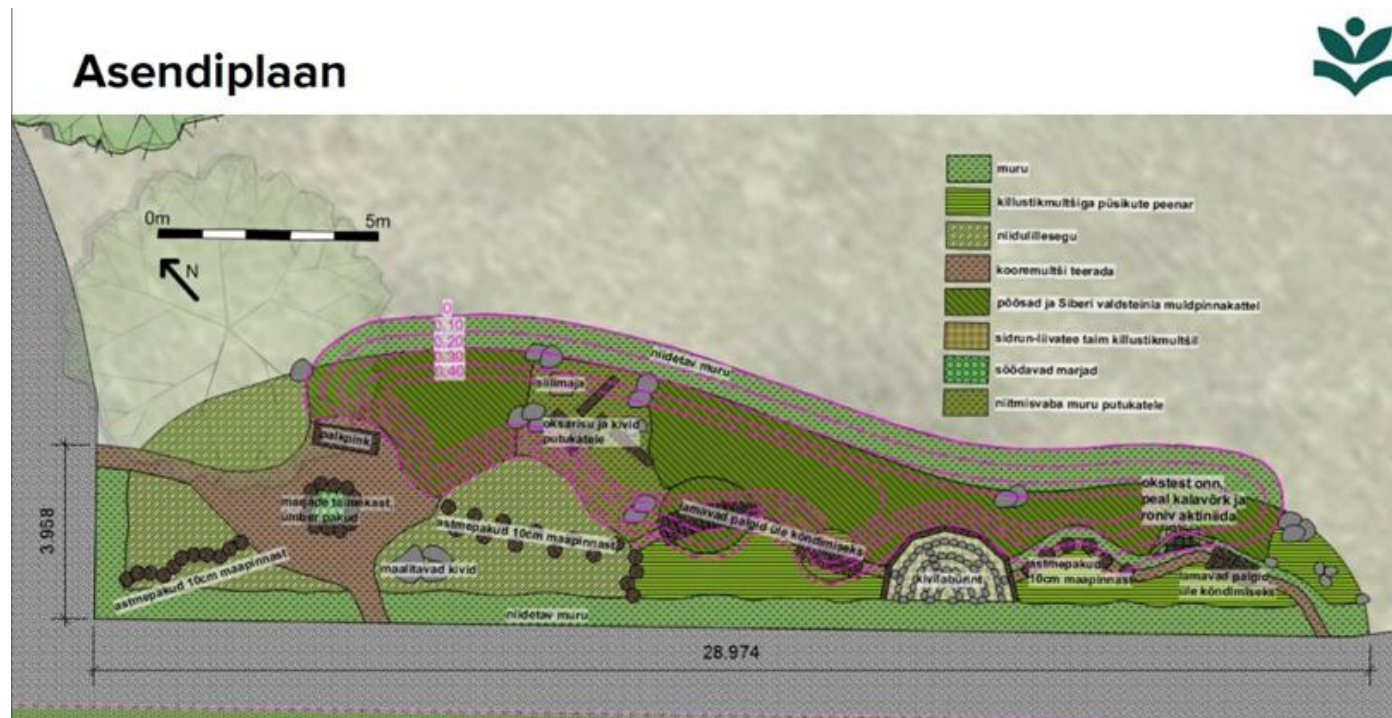
Karoliina Liivak and Laura Ulm

Viimsi sites for design 2026: Randvere earthmound



Kristiina Torim, Aron Kronks, Reno Vasser

Viimsi sites for design 2026: Pärnamäe playground



Ruti Elisa Puur, Hans Mets, Margit Miks, Emma Johanna Kopli,
Evely Ostrov, Annett Jeedas

Viimsi sites for design 2026: Haabneeme Community garden



Measuring Impact

- Ecological: biodiversity, soil, habitat
- Social: engagement, belonging, stewardship
- Spatial: activation, use, replicability
- Methods: citizen science, observation, surveys, interviews



Innovation of the Project

- Small-scale but networked
- Temporary + adaptable
- Low-cost experimentation
- Cross-sector collaboration
- Art + ecology + planning
- Replicable model



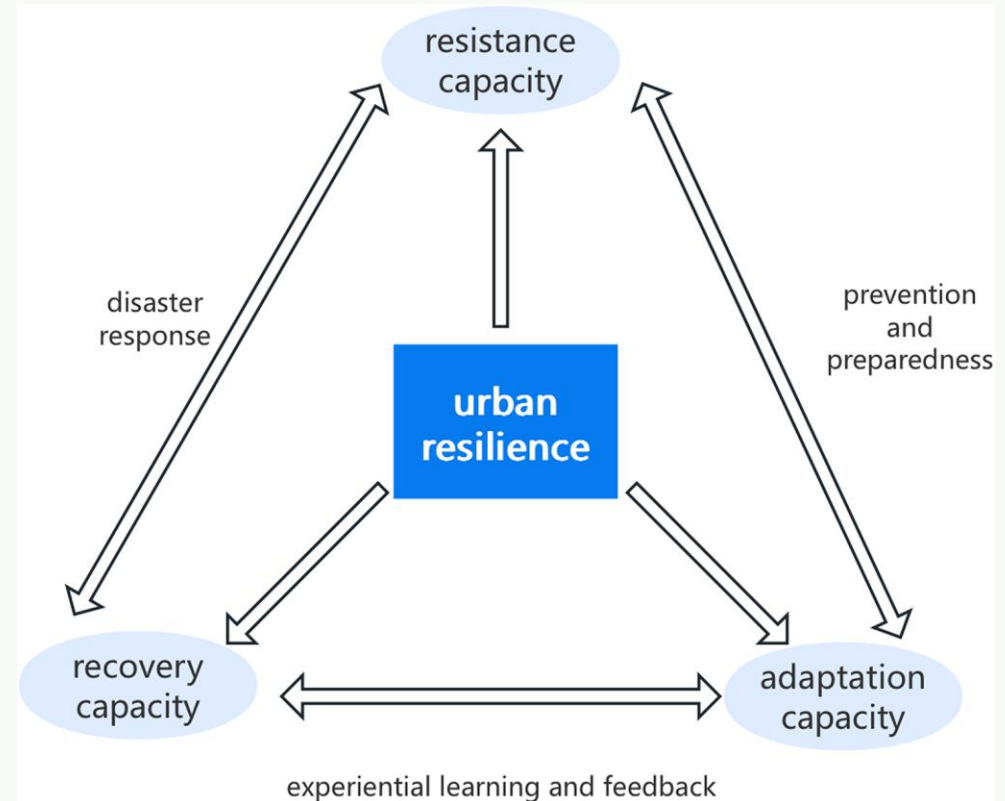
Challenges & Risks

- Maintenance
- Participation fatigue
- Seasonal constraints
- Governance complexity
- Measuring intangible outcomes
- Scaling beyond pilots



Preliminary Contributions to Research

- Urban resilience
- Commons governance
- Participatory planning
- Tactical urbanism
- Regenerative design
- More-than-human cities



Thank You

Questions?

<https://climatequilts.my.canva.site/>