Urban multi-purpose coppice woodland

Socially inclusive, post-industrial brownfield rehabilitation as a tool in urban climate change adaptation

context

In the majority of European countries, there is a large amount of **brownfields located** on the periphery of regional **post-industrial medium-sized cities**. These are usually in **close to socially vulnerable, segregated neighbourhoods**. Our research supports both regional and European analyses, which show that the socially most vulnerable communities are also the ones **most exposed to the harmful effects of climate change**, environmental degradation and unequal ecosystem services distribution/provision.

According to our preliminary research, the **PAD multi-purpose coppice woodland system can be a tool in brownfield rehabilitation and socially just climate adaptation in urban-peripheries.**

action research

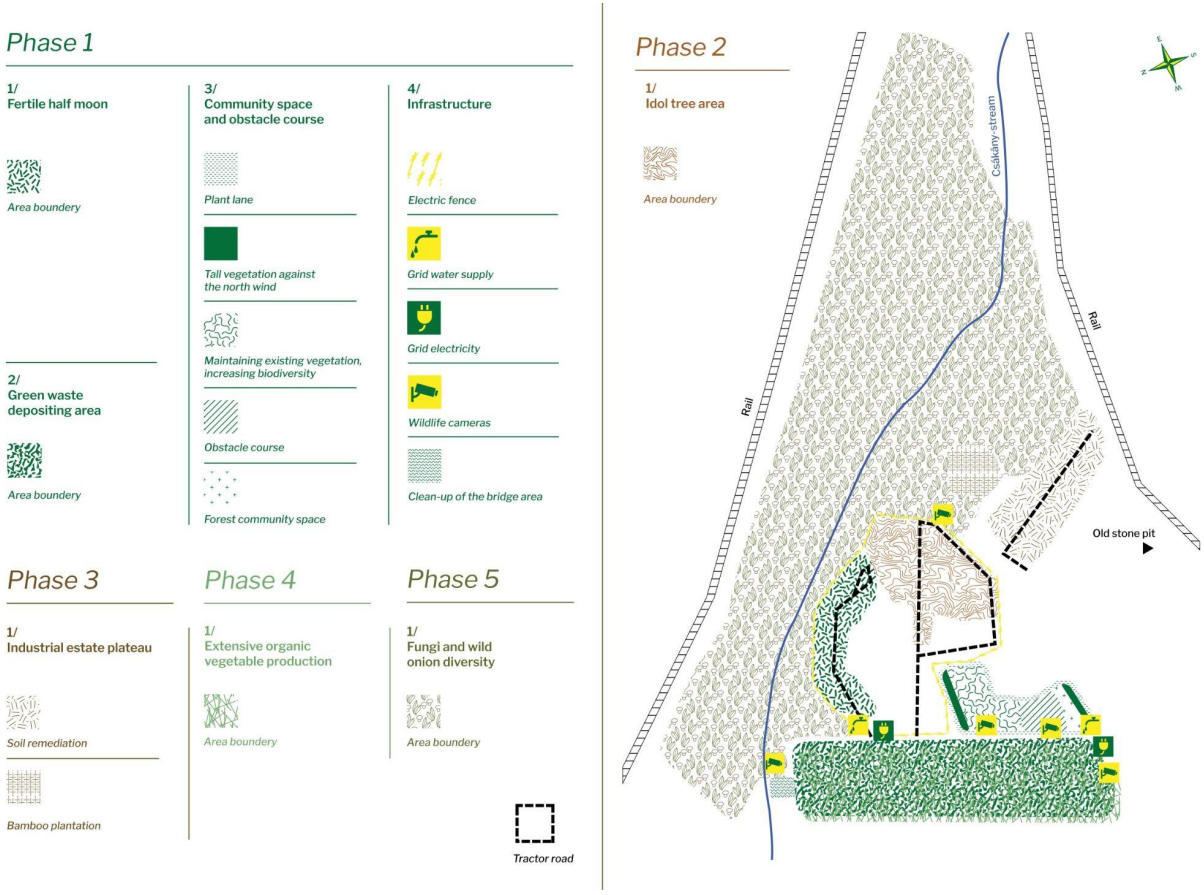
The goal of our action research is to **test the use of multi-purpose coppice woodland systems in an urban environment and to gain deeper knowledge in socio-ecological climate adaptation**. It **takes place** in Mésztelep, **a former mining colony that became a segregated neighbourhood of** Tatabánya (Hungary), **a middle-sized town with a heavy industrial and mining heritage** where urban development strategies and also the municipality's representatives support systematic, **long-term brownfield rehabilitation**.

Research methods:

- secondary data analysis and archival study,
- qualitative survey and interview,
- mental mapping,
- observation of environmental and social structures, processes and practices,
- participatory processes with multi-layer stakeholder involvement and collaborative planning.

pilot project

During an 18 month long preparation phase **we established cooperation with key stakeholders** such as Tatabánya **municipality, local residents, property owners, local businesses** and the stone mine that operates close to the neighborhood. In cooperation with the municipality and the local community, we **identified the pilot site, an abandoned quarry and the adjoining, already eradicated part of the residential area.** After site assessment, land use practice mapping, and a theoretical viability check of a multi-purpose coppice woodland we **created a concept plan** which received positive feedback both from the municipality and the community action group.



theoretical work

Parallel to the pilot project, we are working on a **socio-ecological design framework** that **supports the socially just climate adaptation of urban peripheries**. In the first phase we mapped the national, regional, and local legal environment, analyzed climate predictions, and created tools that should be used in the assessment and design phases of socio-ecological climate adaptation projects:

- ecological and environmental assessment protocol,
- detailed plant handbook that contains recommended species for brownfield rehabilitation in Central Europe.

We did an initial mapping of the complex interconnections between the elements of a peripheral urban socio-ecological system and **investigated the usability of various methods, practices and solutions** in such systems, e.g.:

- urban and peri-urban agroforestry, such as PAD multi-purpose coppice woodland systems,
- nature based solutions,
- mixed land use,
- resilience design,
- inclusive and cooperative land management,
- community learning,
- cooperative business solutions,
- corporate sustainability,
- sustainable recreation.

current state

At this stage we are looking for funding for **the second phase of the project** that **covers the implementation of the pilot and the completion of our action research**. The proposed project phase lasts for four years and includes:

- **final design and implementation plan**
- **procurement and implementation**
- maintenance in the first three years
- **research, monitoring and evaluation**
- **knowledge sharing**
    - publication of research paper
    - dissemination of framework

future plans

In the third phase we are planning to **monitor and evaluate the long-term results of the project**.

Further **development and implementation of the framework** and **further multi-purpose coppice woodland establishment in other locations.**

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