

Short Case Report: Implementation of Tiny Forests in Social Housing Dwellings in Gaia, Portugal

The present report briefly presents the development of the Co-Bio portuguese local case in the Perosinho, D. Manuel Clemente, and D. Manuel Martins neighborhoods, three social housing dwellings in Gaia, Portugal.

In summary, the portuguese local case focuses on the implementation of Tiny Forests through a co-creation approach in disadvantaged communities.

Tiny Forests are small, dense and fast-growing forests that mimic natural ecosystems, typically planted in urban or suburban environments. Despite requiring initial maintenance, Tiny Forests become largely self-sustaining over time. Their benefits include providing shade and reducing urban heat islands, improving air and water quality, restoring local biodiversity, creating habitats for wildlife, acting as noise barriers, absorbing CO₂ and contributing to a more liveable future. Though Tiny Forests are gaining popularity globally, in Portugal they remain uncommon and mostly limited to academic projects within large parks or forested areas. The implementation of Tiny Forests in social dwellings contexts is therefore a pioneering project in the country.

The selection of these social housing dwellings was influenced by their central location within the municipality, their high population density, recognized development potential, and the presence of urban heat islands in all sites. Implementing Tiny Forests in these areas addresses this environmental challenge directly, in addition to several social challenges. RightChallenge partnered with the municipal company Gaiurb, one of the most important stakeholders in this project since they have ownership over the chosen sites, which gave them a crucial role regarding the project's implementation, and social action technicians working directly on the field, accompanying the families residing in the social housing dwellings. Given the nature of the Co-Bio project, the local community plays a fundamental role in co-creating the Tiny Forests and contribute to their initial maintenance, acting as the initiative's main target group.

At its starting point, the project included a comprehensive study of the Tiny Forest concept and preparation of an action plan regarding its implementation. Engagement activities comprised presentations, awareness-raising and publicizing the project to the local populations. Practical field activities are involving soil preparation and the planting of native trees, shrubs, sub-shrubs and herbaceous species. The co-creation process promotes environmental education by fostering knowledge exchange and community involvement.

The experience so far has shown that Tiny Forest implementation in social housing enhances environmental education and strengthens community connection to nature. The participatory approach fosters a sense of ownership and belonging, which is critical

in promoting sustainability and social cohesion. Moreover, in vulnerable communities facing challenges such as crime, vandalism, and social exclusion, the co-creation of urban biodiversity can serve as an effective intervention strategy to improve the holistic environmental and social system.