

Public Perception of Landscape Resilience: Bridging Ecological, Aesthetic, and Cultural Dimensions of Blue-Green Infrastructure in the Polish Context

As cities around the world face the growing impacts of climate change, such as floods, heatwaves, droughts, and pollution, there is increasing interest in landscapes that do more than just look beautiful. These are *resilient landscapes*: parks, river corridors, green roofs, rain gardens, and other green-blue spaces designed to absorb disturbances, protect ecosystems, and improve quality of life. But resilience isn't just about science and engineering, it's also about how people see, understand, and connect with these places.

This project investigates how people in Poland perceive, interpret, and relate to climate-resilient landscapes. It asks: How do different social groups understand, value, and engage with the idea of landscape resilience? By addressing these questions, the project seeks to inform more inclusive and culturally responsive approaches to designing landscapes that can adapt to an uncertain future.

Poland has been a leader in transdisciplinary ecohydrology, a science that combines ecology and hydrology to manage water and ecosystems together. Groundbreaking projects like the restoration of the Sokołówka River in Łódź show how natural processes can be used to clean water, support biodiversity, and reduce urban flooding. But these examples often remain invisible or misunderstood. People may not realize that a seemingly "wild" green space is actually a carefully designed solution to climate risks. Others may feel uncomfortable with landscapes that don't look neat or traditional, even if they are highly functional.

To better understand these perceptions, the project will use visual surveys and interviews with people from all walks of life, general public, landscape architects, scientists, planners, and public officials. Participants will be shown existing and proposed images of different types of landscapes and asked to reflect on their visual appeal, ecological value, and emotional resonance.

The results will offer insight into how aesthetic preferences, cultural values, and ecological awareness shape public support for blue-green infrastructure. This understanding is crucial: when people value and identify with their landscapes, they are more likely to protect, maintain, and advocate for them. In turn, this builds stronger, more resilient communities.

The project also contributes to a growing field of research at the intersection of science, culture, and design. It will create an open visual database of Polish climate-adaptive landscapes, along with tools for designers, educators, and policymakers to use in public consultations and planning. Ultimately, the project supports a shift from top-down planning to more participatory and culturally sensitive approaches to landscape resilience.

This research is part of a broader doctoral inquiry into the role of perception, aesthetics, and cultural meaning in shaping sustainable urban futures. It reflects the belief that climate adaptation is not only a technical challenge, but also a social and emotional one, and that truly resilient landscapes are those that people understand, care for, and feel a part of.