The surveyor and the trajectory of land sobriety in France - Part 4 - A Practical Case Study of Urban Renaturation and De-artificialization

Florian Lebourdais (France) and Audrey Alajouanine

Key words: Implementation of plans; Land distribution; Land management; Spatial planning; Urban renewal

SUMMARY

Soils are a fundamental element of ecosystems, playing a critical role in combating climate change and delivering diverse ecological services. Despite their importance, soils remain a non-renewable resource on a human timescale and are inadequately protected within existing legal and planning frameworks. Two complementary strategies are proposed to enhance soil protection and management in France: establishing a precise legal definition of soil and improving the understanding and accessibility of soil data for informed decision-making.□□Defining Soil Legally□Current French law provides fragmented definitions of soil, primarily focusing on its physical and property-related aspects. The Civil Code, Urban Planning Code, and Environmental Code offer varying perspectives, but none holistically address soil's ecological functions. A legal definition is proposed to recognize soil as the uppermost layer of the Earth's crust, encompassing mineral particles, organic matter, living organisms, water, and air. This definition acknowledges soil as a dynamic, multi-functional ecosystem essential for biodiversity, carbon storage, and other ecosystem services. Establishing a precise legal framework for soils would align existing protections with ecological principles, fostering resilience against environmental and climatic risks. The initiative calls for a collaborative approach involving stakeholders to refine and implement this definition through appropriate regulatory vehicles.□□Enhancing Soil Knowledge□The second pillar emphasizes the critical need for centralized and accessible soil data, particularly in urban and high-stakes areas where knowledge gaps are most pronounced. Existing soil databases primarily cover agricultural, forestry, and historically polluted lands, neglecting urban soils that are central to achieving objectives like Zero Net Artificialization (ZAN) and urban renaturation. A comprehensive methodology is proposed to catalog and evaluate soil quality, integrating agronomic, pedological, hydraulic, and ecological data. This initiative aims to support planners, policymakers, and developers with real-time, multi-criteria evaluation tools, enabling informed land-use decisions that prioritize ecological value and sustainable development.□□Motivations and

---

Impacts These strategies aim to prevent unsuitable projects on valuable soils, reduce financial waste, and safeguard soils with high environmental significance. Enhanced soil data will streamline planning processes, promote efficient resource use, and guide urban development towards less ecologically sensitive areas. Furthermore, defining soil legally will strengthen its protection under the emerging ZAN framework, ensuring that soil-related regulations are grounded in a consistent and scientifically robust understanding. Collectively, these efforts will foster a holistic approach to soil governance, balancing ecological preservation with urban and rural development needs.