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Conference Abstract

Working together to observe, understand, and improve living urban soils: Solenville, an interdisciplinary participatory research program in Strasbourg

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Abstract

The Solenville participatory research program (solenville.fr) aims to increase knowledge and awareness of soils biodiversity (living soils). Ignored by politicians and city dwellers, soils are unknown and neglected despite their importance in the functioning of ecosystems. By drawing attention to this issue through a range of tools that bring together scientific approaches from all disciplines and are deployed with city dwellers on numerous occasions to improve knowledge of soils, we are helping to raise awareness of living soils among scientists, city dwellers, future citizens (schoolchildren) and local stakeholders. Soils, like water and air, are present everywhere, but made invisible by what happens on the surface. In the city, this invisibility is even more obvious: buildings,

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roads, engineering structures and infrastructures have covered the ground, historically for reasons of hygiene and speed of various flows. We focus on urban soils for most of the population is now concentrated in cities.

Objectives: from local down-to-earth awareness and stakes to global issues

Our program hopes to provide tangible and sensitive elements to change the way the urban society looks at soils, and help them rethink the place and function of the latter. Taking into account the different functionalities of soils is becoming essential, particularly with the advent of the principle of zero net artificialization (ZAN), now enshrined in French law. Therefore it is NOT only about understanding ecosystems functionning, but also the "values" placed on our environment. By working together, scientists, politicians and citizens, we are seeking to have new values accepted and discussed (we assume that socially/politically acceptability is improved by working together to opened up the perspective of the importance of soils in the functioning of ecosystems).

Beyond the highly localized knowledge of the earth environment through a reterritorialization effect (Latour 2017a, Latour 2017b), our broader aim is to draw attention to and open up debate on biodiversity, and the role that healthy soils can play in countering the effects of global change. Through citizen participation, Solenville seeks to address social (reconnecting with nature, social ties, building knowledge and democratic debate), scientific and environmental issues (fight against soil degradation, biodiversity erosion and climate change).

Partners and approaches: inter- and transdisciplinarity

Our long-standing local roots in environmental issues and challenges also enable us to reach out to citizens to bring together participants in our activities and research. Thanks to the close collaboration within the ZAEU-LTSER Strasbourg, which gives us access to the scientists working on site and to local territorial government, we connect with various communities and bring the debate of soil uses and management up to the political level. Indeed, one of ZAEU's aims is to enable the rapid transfer, appropriation and application of results to society and policy-makers, which is what co-constructed and co-realized research is all about.

Solenville relies on:

1. **Researchers** from various disciplines (earth and life sciences, geography and ethnology);
2. **organizers**/ **intermediaries**, essential in supporting citizens involvement through animating activities and meetings with all participants**;**
3. **artists** as we believe that a sensitive, sensory apprehension and perceptive experiences are essential to improve relationship with nature/biodiversity, and because we subscribe to the proposition that the ecological crisis is a crisis of sensitivity (Morizot 2022);
4. Dialogues with **politicians** through various research tasks and the construction of events organized by municipalities and NGOs or institutional stakeholders.

Mapping results and contributing to knowledge of socio-political representations of living soils

As we are aiming for level 4 (extreme Citizen science) of participatory research (Haklay 2012), our results are not yet fully processed, exploited and formalized:

- crowdsourcing (and student work) has enabled us to set around 750 barber traps for knowledge of epigeous macrofauna; we are thus contributing to the constitution of references of urban soil biodiversity.
- more than 200 surveys and observations of soil knowledge (among schoolchildren, students and inhabitants) have provided us with a picture of perceptions.
- poetic or down-to-earth imaginings of soil emerge from the texts produced by participants during writing workshops.

A determination to keep going

Participatory research, citizen science and transdisciplinarity takes time. We're starting to make the most of our results, and still looking into :

- how to measure impacts (what indicators)? Are there transformative effects: on land governance and decisions, living together (human/non Human), the future of the commons? what is the value of having aggregated citizens?
- how can we collectively share the benefits of such an approach / research?
- how to continue time-consuming research in a world of short-term innovation and project mode?

Presenting author

Sandrine Glatron is a geographer/urban planner and director of research at the CNRS. She co-directed the Zone atelier environnementale urbaine de Strasbourg-LTSER France. She is currently coordinating the Solenville and Recolte participatory research programs.

Presented at

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Conflicts of interest

The authors have declared that no competing interests exist.

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