Fairville Labs

BRUSSELS

Facing inequalities and democratic challenges through Co-production in Cities (Fairville) is a Urban Co-Production Research Project Horizon Europe.

Fairville uses knowledge co-production as strategies to address urban inequalities and democratic issues affecting seven urban areas in Europe, and two other mirror cases in Africa.

- Risk Inequalities
- Environmental Inequalities
- Planning and Housing Inequalities

"Fairville experiments co-production with civil society actors, universities and local authorities to facilitate multi-engagement towards embracing entrenched urban and environmental inequalities with affected residents or community groups. Through coproduction of knowledge and actions-oriented programmes, it contributes to rethinking urban democracy."

Do you want to help? There are many ways to contribute to the project: would you like to participate in the co-production in our project tasks or go on the field in our Fairville Labs?

Contact us!

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CONTEXT

The Gray street is located in the Southern part of **Brussels,** where the Maelbeek urban stream used to flow – now hidden in underground combined storm and wastewater infrastructure. It is a high-density area with frequent flooding events caused by sewer system overflows, runoff accumulation and high groundwater levels. The most recent events (4 in a month) occured in the summer of 2024 that revealed the reduced capacity of the infrastructure system to protect the households located on the street from flooding.

Several inequalities can be observed in the area that are characteristic of low-lying areas in Brussels Capital Region.

Figure 1: Gray street (Giuseppe Faldi, November 7 2023)

The historical socio-economic division in the region between poorer groups living in lower, flood-prone areas and wealthier classes residing in higher, safer regions is well-documented and it touches the lowest parts of Maelbeek Valley (including Gray street).

This reality leads to several additional issues:
(i) health concerns arising from recurrent flooding and humidity issues in homes, particularly affecting residents in social housing units;
(ii) inadequate housing conditions exacerbated by flooding, impacting the quality of life for residents and
(iii) the slow communication between residents and water operators in charge of the infrastructure.

ACTORS INVOLVED

The Fairville Lab (FVLab) Brussels is coordinated by the non-profit organisation les Etats Généraux de l'Eau à Bruxelles (EGEB), in collaboration with the Université libre de Bruxelles (ULB). The municipality of Ixelles is part of the Lab as an associated partner, collaborating in punctual activities. The activities of the FVLab interrelate with a network entitled Delier les fils de l'eau, formed in 2022, nowadays composed of residents of Gray Street and non-profit organisations (EGEB, Centre de Service Social de Bruxelles Sud-Est and SoHab) active in the street on questions of health, social issues, housing and environment.

ACTIONS

The FVLab Brussels aims to reduce social and technical-environmental inequalities in the Gray street and to strengthen democratic participation in these issues by supporting a space of exchange between different stakeholders (including residents) to co-diagnose flooding. It also aims at co-developing strategies to address the identified problems and support collaborative relationships. Several actions are carried out such as the creation of communication channels between residents, organising working groups, conferences, conducting surveys, engaging residents in the monitoring of floods through online forms.

Watershed solidarity

Initiated in Brussels by EGEB, the concept of watershed solidarity guides the activities of the FVLab as a conceptual framework to address the problems of flooding in the dense valleys of the city. It combines both a geographical/spatial dimension, with hydrological questions as well as social ones (linked with the creation of community links and solidarity). The solidarity relies on connecting communities and their living areas located in the lower parts of the valley (usually the ones with the higher risk of flooding) with the ones located in the higher parts. Watershed solidarity proposes to recreate social ties by relying on stormwater management practices embedded in the urban environment. This implies actions taken by all stakeholders (private owners, public authorities and civil society) both in public and private spaces. These practices, such as infiltration, retention, and evaporation of stormwater, help reduce the pressure of stormwater runoff on the sewers. The benefits of these practices include flooding reduction and the increase in green and blue areas in the neighbourhoods leading to improvements in biodiversity, adaptation to heat island effects and a more liveable environment.

AFTER THE FLOOD.
The co-production of testimonies

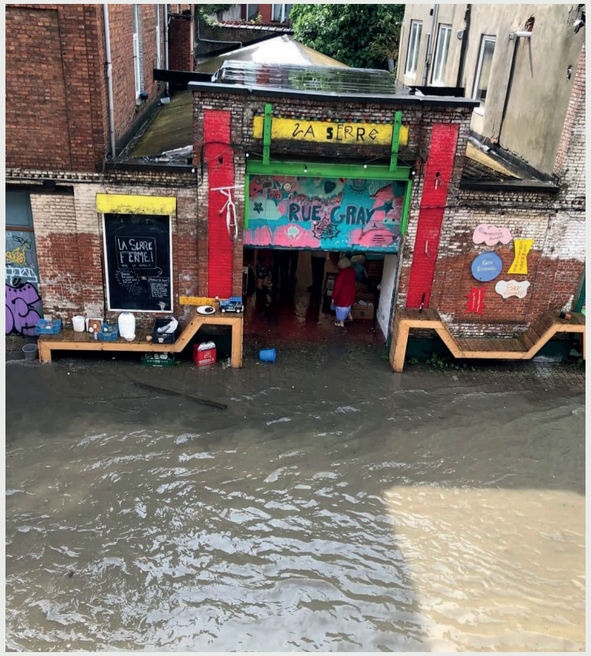

Figure 2: Flooding in the street in front of the community space (BX1, July 9 2024)

During the summer of 2024, several exceptional flooding events affected the whole Malebeek valley and Gray street. After intense rainfall on July 9, residents alerted EGEB. In response, EGEB, residents, and experts co-produced an online form to gather testimonies and data about the flooding. This initiative aimed to understand the problem, make it visible, assess its impact, and provide information for hydrologists and experts to address both diagnostic and social issues.

Inspired by previous research projects, the form was created by a working group composed of Gray Street residents affected by floods, EGEB, and hydrologists from the Department of Water and Climate of Vrije Universiteit Brussel - VUB. Due to urgency, a simple tool was used for the questionnaire, co-produced with residents, based on the experiences of those directly affected by the floods, to include details like date, time, water type, damage extent, and assistance needs. Photos and videos were attached to provide a comprehensive view and evidence from private spaces of the flooding impacts.

This collaborative approach ensured quick availability to collect valuable data. The communication was supported by the network *Delier les fils de l'eau* that helped in the dissemination and collection of the form, ensuring broader participation and support.

As a result, over 45 cases of flooding were documented by more than 20 individuals from Gray Street and neighbouring streets. Specific data was collected about the impact of floods (e.g., all respondents reported flooding on July 9, and nearly all on August 1, six reported flooding on July 12, and there was insufficient data for August 14). Moreover, information about different types of flooding was revealed (e.g. on July 9, most flooding was due to sewer overflows, but on July 12, half of the respondents experienced clear water flooding, while the other half faced sewer overflows). The most damaging effects were reported by at least three individuals, which were flooded four times due to sewer overflows during the four rain events. These testimonies also revealed other housing issues, as well as safety and health concerns, which exacerbated the poor living conditions of some residents.


Figure 3: Flooding in the basement of one of the households a ected (Resident, July 9 2024)

Several challenges were encountered during the form's creation and implementation, including technical difficulties, coordination efforts, and maintaining participant anonymity. For that reason, at present, a working group was formed to continue the work on a tool that can gather more testimonies in the future. The development of the tool aims to directly involve the community in its governance that could be expanded also to other flood-prone neighborhoods creating alliances with other associations and communities facing similar challenges.

The form provided valuable insights according to the involved hydrologists, highlighting the need for better infrastructure and social support for affected residents. It helped understand hydrological data by:

- **Collecting specific details about flooding incidents** (entry points, affected floors, water type, damage extent).
- **Documenting exact dates and times** for correlation with rainfall data.
- **Gathering data** from multiple locations for a broader view of the flooding impact.
- **Revealing patterns in flooding frequency and types** (sewer overflow vs. clear water).
- **Assessing the overall impact on the community** through questions about property damage and assistance needs.

The form enabled resident participation in data collection, diagnosis, and addressing flooding issues, making these issues more visible to the community and highlighting the need for collective action and solutions. The work indicated the complementarity of combining local knowledge with scientific expertise that could inspirer future activities.

Imagining integrated stormwater management on valley slopes through collaborative mapping.

The diagnosis of the issue is vital, but the search for solutions to the flooding solutions in the Gray street could not be addressed only at the level of this street. The reflection needed to be enlarged also to the slopes of the valley. By managing the water on the slopes, stormwater can be slowed down, infiltrated, evaporated through vegetation, or reused, thus reducing the burden on the sewer system and preventing bottlenecks. Public authorities already take actions in this direction in the public space (e.g. desealing pavements), but will benefit from the support of the residents and civil society to expand the actions.

In the frame of a collaboration with University of Nanterre and 14 of its geography students, the FVLab engaged in an intense one-week workshop organised to conduct interviews with residents, to carry out guided tours and more specifically to carry out a collaborative mapping session using the Map-it tool with the lead of EGEB and participation of ULB. Map-it is a collaborative cartography technique that engages community members in mapping their local environment. Residents and experts work together to highlight issues, resources, and solutions, integrating local knowledge with expert insights for urban planning and environmental management. While the results are still in production, the high attendance at the Map-it session suggests significant potential for expanding FVLab's future activities.


Figure 4: Map-it session (Giuseppe Faldi, October 26 2024)