

| INTERREG STAR2CS |

THE OISE VALLEY

WHAT FORMS OF RESILIENCE
TO ADDRESS FLOODING ?

Agence d'urbanisme Oise-les-Vallées
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PART

2

VULNERABILITY ANALYSIS
AT THE SCALE OF THE VALLEY

SYNTHESIS



Since their participation in the national workshop "Changing territories exposed to risks", the stakeholders of the Oise valley have been working to improve the territory's resilience to face the flooding. Several approaches have been taken to integrate this concept into land use planning, such as the revision of the PPRi of the valley, the labelling of the intention PAPI and the carrying out of several hydraulic developments by the Oise-Aisne Agreement.

Wishing to supplement these local approaches, the town planning agency is carrying out a multi-scalar reflection on this concept through its involvement in the European Interreg STAR2Cs program; As a reminder, the latter brings together 8 European partners who have decided to explore new solutions to adapt to climate change and ensure the resilience of territories to flooding over the long term.

The first part of the work carried out by the OLV agency focused on the analysis of resilience at the site scale where development proposals in flood-prone areas were formulated by the architect Eric Daniel-Lacombe and discussed with stakeholders. During this phase, dialogue and consultation made it possible to find consensus on the contradictions identified during the selection of sites and solutions to promote resilience through new urban forms adapted to the risk and to the local context.

However, the conclusions of this first analysis confirm the findings of previous approaches and reflections which indicate that the overall resilience of territories to flooding cannot be achieved by the simple adaptation of urban projects and even less of buildings. In order to fill this dimension, the OLV agency wished to integrate in its analyzes the "large" scale which constitutes the support of the urban ecosystem where the interdependence of equipment and infrastructure forms a real issue of vulnerability.

For this exercise, it was decided to analyse the vulnerability of the Oise valley through the dysfunction of three urban networks in case of flooding: the road network, the electricity network and the sanitation network.

The summary note resume:

- the main results of the analyses carried out on the three networks studied,
- discussions with stakeholders,
- and recommendations aimed at improving the resilience of the Oise valley.

study objectives and approach

Study area and analysis objectives

For a better understanding of the issues of vulnerabilities linked to the interdependence of equipment and infrastructure in the territory, the analyses carried out were intended to be global and were therefore carried out over a long section of the valley. Depending on the networks treated, these analyses concern some or all of the municipalities located along the Oise belonging to 6 Inter-communalities (CC2V, CCLO, ARC, CCPE, CCPOH and ACSO):

- Road networks and electricity networks: the road networks of all the municipalities that are part of the study area were the subject of a crossover analysis
- Sanitation networks: cross-fertilization work was carried out on all the purification plant forming part of the study area. On the other hand, only networks in the ARC territory were analysed.

The objectives of this analysis are:

- (1) to identify the points of weakness and vulnerability of the networks selected during the flooding and thus define the sectors affected by their dysfunction,
- (2) to measure the level of knowledge of these vulnerabilities of the managers concerned
- (3) formulate, in consultation with the stakeholders involved, improvement solutions to make these networks more resilient to this risk,
- (4) to constitute a work and analysis methodology that can be reused with different occurrences of hazards and in other territories.



Study process

To do this, the work took place in three stages:

- **Cartographic analysis of the three networks selected:** cartographic work was carried out by crossing the data collected on the networks with the digital model of the 100-year hazard. This work has notably made it possible to produce a series of maps on the issues of network vulnerability.
- **Analysis of the results of the crossings and definition of the affected areas:** from the maps obtained, the sectors affected by the dysfunction of the networks were defined. Given the character and nature of these analyses, based on the cross-referencing of data, details would need to be provided on these impacted sectors by checking them with the managers. Field work could be carried out later if necessary and according to requests from OLV partners.
- **Sharing of results with network managers and identification of avenues for recommendations:** at the end of this first stage of analysis, the results of this analysis were presented and discussed with the managers concerned within the framework of thematic workshops organized by OLV.

Network workshops

In order to validate and supplement the analytical work carried out, three "network" workshops were organized with the managers concerned.

Held at the start of the year, these discussions aimed to:

- Bring together the stakeholders, in particular representatives of the various networks studied, to allow an open dialogue around the vulnerability of these infrastructures,
- Present the cartographic work and thus the results of the crossings in terms of impact with the digital model of the hundred-year hazard in a logic of sharing,
- Check the reliability of the results in relation to the knowledge of managers and bring out answers on technical aspects,
- Lead to recommendations for improving the resilience of the valley.

The three workshops brought together the following establishments and organizations:

Road network workshop:

- the towns of Montataire, Verberie, Thiverny, Thourotte and Cramoisy
- the South-East Departmental Territorial Unit (UTD) and the Technical Assistance Unit for River Maintenance (CATER) of the CD60
- the inter-municipalities of the ARC, the CCPE, the CCLO and the CC2V
- the Entente Oise-Aisne

Electrical network workshop:

- The operators ENEDIS, SICAE Oise, SEZEO and the RCCEM
- ARC
- The Entente Oise-Aisne

Sanitation network workshop:

- ARC, ACSO, CC2V
- The town of Verberie
- Service of Water, Sanitation and Rivers of CD60
- The Oise-Aisne Agreement

Despite the mobilization of several stakeholders in the territory, it should be noted that several managers were not represented during these workshops, in particular the municipalities managing municipal roads, several inter-municipalities for the sanitation networks and RTE for the electricity network.

A bilateral meeting was subsequently held with the latter, in particular to discuss the vulnerability of the source stations.