STAR2CS INTERREG PROJECT

THE OISE VALLEY :

WHAT FORMS OF RESILIENCE TO ADDRESS FLOODING?

Oise-les-Vallées Urban Planning Agency

November 2019

PART 1

SITE-SPECIFIC RESILIENCE ANALYSIS

RESILIENCE GUIDELINES 9

EX-SUGAR REFINERY AT SAINT-LEU-D'ESSERENT

Interreg 2 Seas Mers Zeeën STAR2Cs
European Regional Development Fund

Adaptation to climate change

Bureau d'architecture Eric Daniel-Lacombe

AGENCE D'URBANISME Oise-les-Vallées

[PREAMBLE]

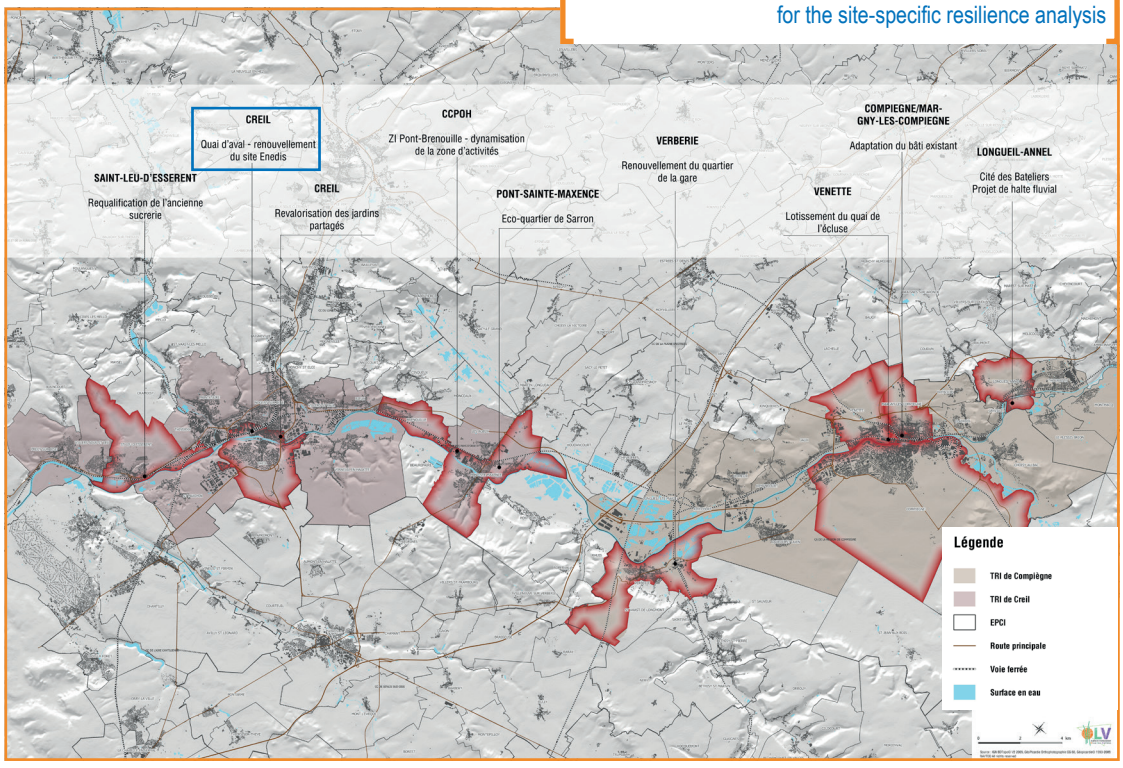
The Oise-les-Vallées Urban Planning Agency began assessing the valley's resilience to flood risk for the European Interreg STAR2Cs Project. The aim of the agency's involvement in this European project is to give further consideration to explore local development and spatial planning opportunities to address flood risk. To achieve this, three steps are currently being researched:

1. Town planning resilience: How can sites in flood-prone areas, subject to additional restrictions from differing stakeholder opinions, be planned and developed.
2. As individual flood resilience plans do not cover that of an entire region, step two focuses on a larger scale, especially the resilience of roads and utilities that keep the region up and running.
3. Finally, the agency wants to introduce a methodological decision-making tool designed for various planning stakeholders (councillors, technicians, developers, private individuals, etc.) to support the regional planning and development process.

With support from Architect, Éric Daniel-Lacombe, the urban planning agency produced nine case studies located along the Oise Valley during the first part of the project.

Using these nine case studies, the aim is to produce an overall development plan for the Oise Valleys area, based on geography, landscapes as well as land-use and economic activity, not forgetting mobility, which is the key topic in this particular area. The development plan is, and will be, adaptable and incremental. It will help foster a collective awareness of the regional resilience process with respect to flooding.

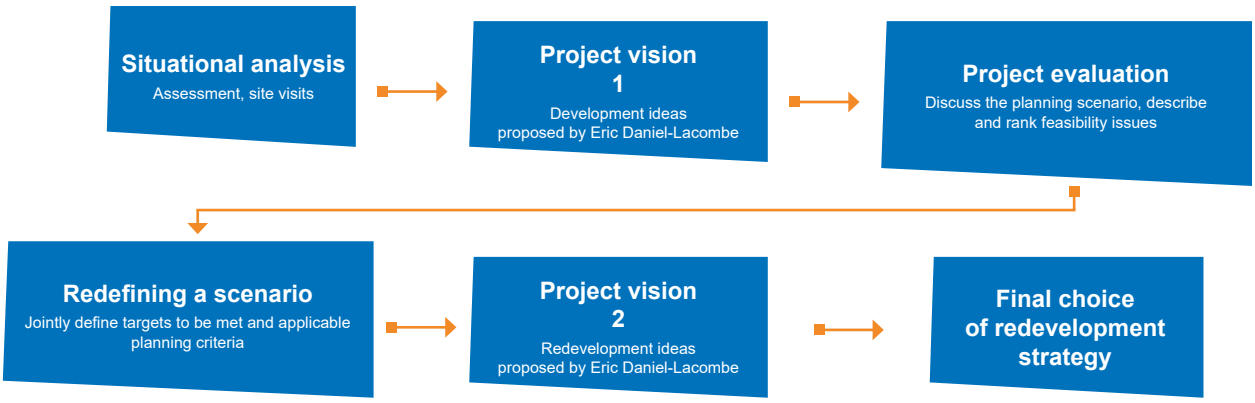
Study site locations
for the site-specific resilience analysis



Given the major waterway project to connect the Seine and Escaut rivers with the Seine-Nord Europe Canal and dredging/re-profiling the River Oise to meet European standards (MAGEO), the mid-Oise area has a chance to forge a unique identity for itself to the north of the Ile de France region, while adapting to climate change.

We have devised development scenarios for each of the nine case study situations that provide a fresh, new insight. A series of initial development scenarios for each site was presented to the relevant stakeholder then revised to provide a new version incorporating feedback and analysis (often contradictory). Each scenario is intended to become a potential vision to transform the site in question by seeking to make it less vulnerable to flood risks.

[Adopted approach]



I Publication Manager: Pascale POUPINOT I
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1 SITE PRESENTATION & CHALLENGES

Presentation of local area

Saint Leu d'Esserent is a town in the French Department of Oise and has a population of almost 5,000 people. It is part of the Creil Sud Oise Conurbation. As Saint Leu d'Esserent sits of the banks of the River Oise, it is affected by the MAGEO inland waterway project.

Site issues

The plot has been proposed by the Mayor and is currently a brownfield site belonging to the municipality.
The challenge for the site is to re-purpose the ex-sugar refinery as cheaply as possible. Indeed, the municipality wants to transform the site without making too large an investment.
However, part of the site is classified as orange in the 2015 flood hazard map.

Challenges and goals

Landscape issues

19th century facade must be retained

Building has a dual visual impact: River foreground view towards the abbey and vice versa

Economic issues

Possible relocation of Norchim if it has no room to expand

Regulatory issues

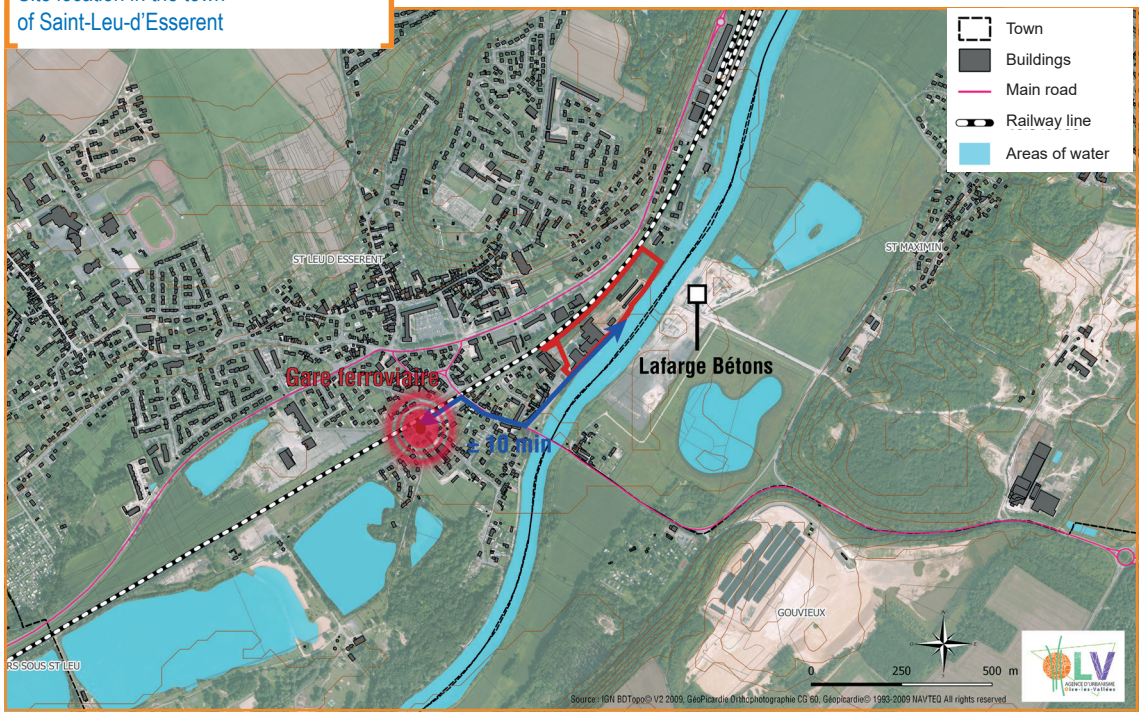
Part of the site is listed as red (cannot be built on) in the PPRi

ABF guidance required to demolish the ex-sugar refinery buildings.

Development options

1. Plans for a marina with mooring and over-wintering facilities in the ex-sugar beet warehouse.
2. Development of a nature trail along the river bank.
3. The Norchim Company has expansion plans that will generate 20 additional jobs and a research laboratory.

Site location in the town of Saint-Leu-d'Esserent



The flood hazard map modelled in 2015 on 100-year flood events shows a variable flood risk for part of the site, ranging from low next to the railway line to high along the river. The flood hazard particularly affects the building footprints on the site.
The eastern part (ex-depot area) is flood-free.

100-year flood probability in the area of the ex-sugar refinery

Summary of stakeholder positions

Stakeholder	Local authority	State	Norchim	ABF
Main priority	Cost-effective regeneration of the site	Minimise flood-related risks	Expand its business base	Ex-sugar refinery facade off-limits
Priority effect	Sell the land or redevelop it as cheaply as possible	No construction allowed on some parts of the site	Acquire land and use 15% of the existing buildings	Municipality cannot demolish the building
Risk related to the priority	Could lose the land	Land assets are frozen with no development options	Possible relocation if acquisition not possible	Ex-sugar refinery building will remain in its current state
Risk effect	Plans by a private developer potentially at odds with local residents wishes	Local area will lose its appeal	Municipality will lose a local business	Bleak outlook for future development of the site

2 DEVELOPMENT PROPOSALS

NB: All images featured on this page are taken from the presentation by Eric Daniel-Lacombe at a workshop on 2 April 2019, entitled *Inventive analysis for Oise-les-Vallées*

THE ARCHITECT'S OPINION

Eric Daniel-Lacombe

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The development site sits right next to the River Oise, in Saint Leu d'Esserent. The idea of flooding is more prevalent as the water in the river can always be seen. This encourages local residents to think about possible precautionary measures for future urban development. Those occupying the site are mainly private companies that were originally drawn to the river by the waterway traffic. There are some large hangars built of beige stone than line the quay similar to those on the banks of the Garonne, at Bordeaux. However, the closure of the sugar refinery has led to them being abandoned or redeveloped to house a small chemical treatment plant.

The Architect from Bâtiments de France considers them to be relics of past heritage while the town is seeking to turn the page and safeguard its businesses. Why not try to find a position acceptable to both parties?

ABF considers them to be modest, fine buildings while the municipality appears to see no use for them. Yet, they are part of the town's urban fabric, and even its landscape, that already features some outstanding buildings. Buildings such as the abbey or the Town Hall form tiers along the valley sides. I see the whole arrangement of buildings to an appropriate harmony of shapes and forms connecting the upper valley, with the religious building and its terraces, the historic town hall and its gardens then down to the river and its quayside dotted with hangars. It is even more obvious from the opposite bank where the buildings all dovetail together like in a painting. Closer up, however, the idea of conserving the buildings seems a tough challenge due to their poor state. The temptation to demolish the hangar is huge but before proceeding, let's look more closely at the site's qualities from a conservation standpoint.

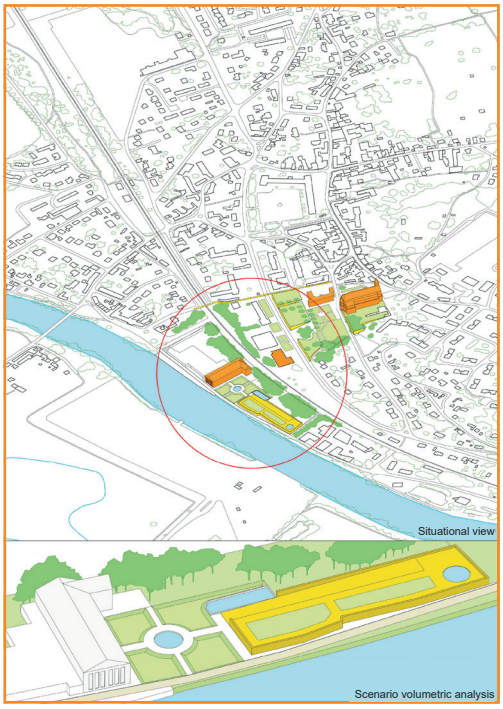
A survey shows the hangar to be relatively sound, with just the roof in a poor state. Beside it is a long raised terrace built parallel to the river. This appears to be an old upper quay used to load the sugar beet on to trucks. Before the beet was loaded into the truck trailers, it made its way up a ramp that looks like it comes from a sketch by André Le Nôtre, at the Tuileries. The terrace provides a vantage point to take in the Oise river valley. This is quite a rare and noteworthy occurrence as the river often disappears from view behind tree lines. The view is just as expansive from the gardens at Chantilly and allows a glimpse of the large sand pits in the valley. The terrace seems to belong to the river and the hangar too, similar to a foreground. It can become an amazing viewpoint to observe the site, just as the hangar can be turned into a huge courtyard for the town's needs. The addition of a large car park and garden area completes the plan for the courtyard-terrace and will transform the site into a new stopover with mooring facilities along the waterway. This stopover will be just as inspiring as that at Longeuil-Annel. The hangar roof will be replaced to look like a communal hall, and geared to local community activities, with the terrace as an open-air space for locals and tourists. It can also be the venue for a community initiative with symbolic and learning purposes, probably focused on the living health of the river. There is no need to make the hangars walls watertight, nor heat them. They just need to be protected from the rain in spring and autumn and have shade in summer to organise end-of-school-year fetes, culinary events or to present local cultural activities, etc.

The large space inside the hangar, with its spacious floor raised to the height of the highest-known flood levels makes it an outstanding feature, as easily seen from the edge of the town as it is from the river. The upper terrace, with its long, sloping ramp, provides an outdoor extension and starting point to visit the town hall and the abbey.

As featured on the flood hazard map, the upper terrace provides an extensive area out of reach of the River Oise flood waters. The new raised floor in the community hall could be set just above the highest flood water marks and form with the terrace, two flood shelters for local residents, if they are walking along the river bank and are caught out by the rising waters. The interplay between the outdoor and indoor shelters (the terrace and hall respectively) would be a good place to visit to see ongoing changes in the valley landscape and heritage as part of the ecological transition process.

VERSION 1

In his initial proposal, Eric Daniel-Lacombe created a garden and used the large terrace with a view of the River Oise to forge a link between the ex-sugar refinery and the new housing complex to be developed by Linkcity.
Key to these plans is his proposal to retain the terrace and access ramp, which fits with other existing terrace areas in the town, such as the one at the abbey.



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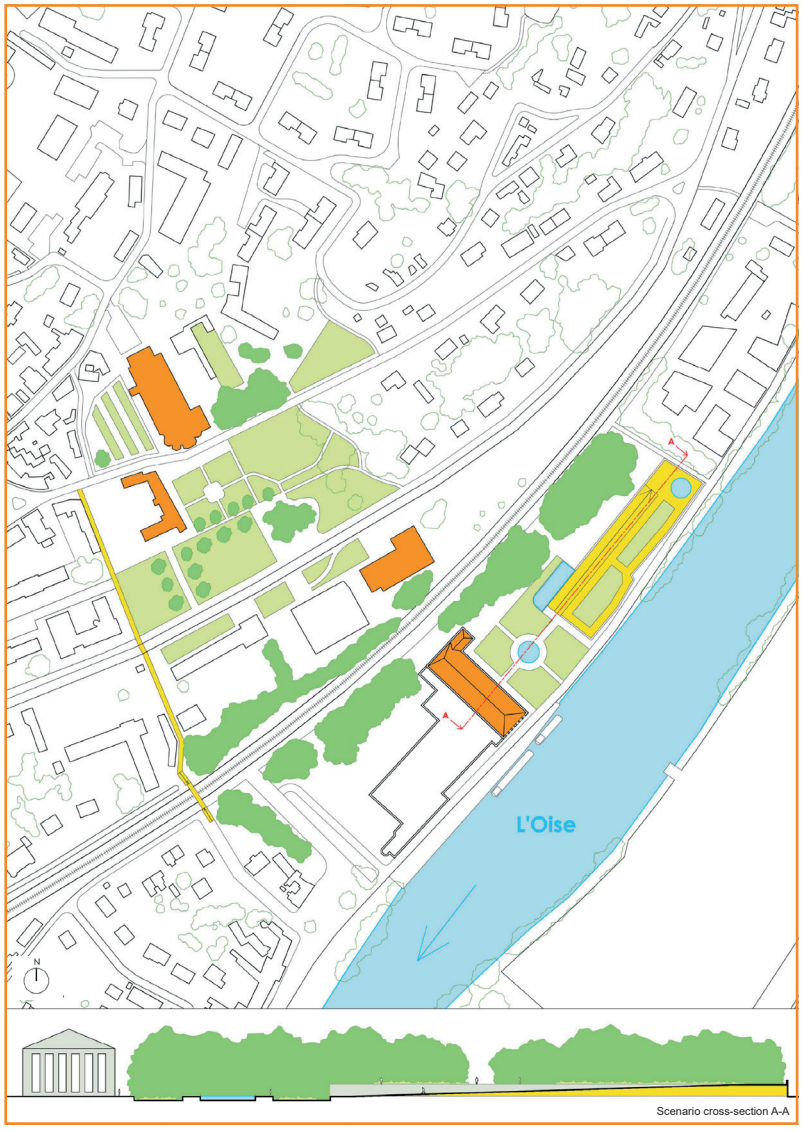

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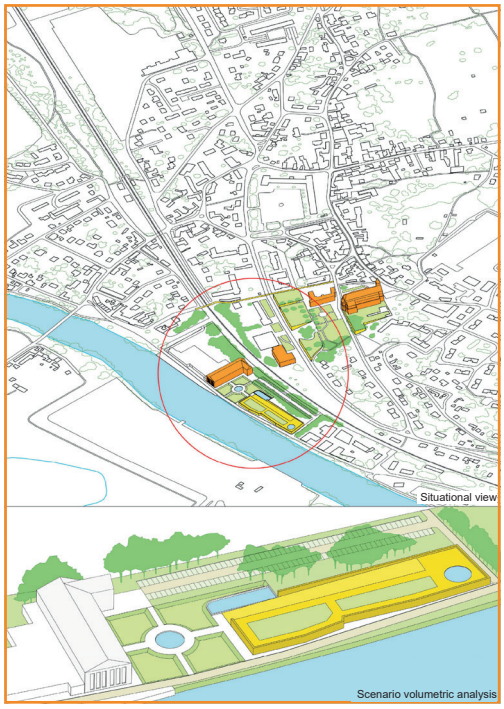
PRINCIPLES

VERSION 1

- Creation of a community garden
- Peaceful recreation area with a view of the River Oise

VERSION 2

This proposal was presented to attendees at a second workshop and a bilateral meeting to fine-tune the outcomes, which included the municipality asking for the addition of a car park.



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LIMITATIONS

- Close to the Linkcity complex
- No car parking

VERSION 2

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3 PROJECT EVALUATION & FEASIBILITY

Both versions proposed by Éric Daniel-Lacombe seek to avoid a certain number of detrimental effects in the event of a flood.
Each of them lessens or eliminates potential damage and is likely to generate benefits for the local area, or even the entire town.
In most cases, however, these risk reduction measures are not cheap, in financial, technical or human resource terms.

SWOT analysis

WITHIN THE PROJECT	OUTSIDE THE PROJECT
STRENGTHS Positive aspects justifying project benefits	**OPPORTUNITIES** Aspects to capitalise on the project environment
• Optimised landscape features on the site: Terrace and access ramp to site to be re-used • Pond to be kept and redeveloped	• Site providing an unobstructed view of the abbey and River Oise • Opportunity for Linkcity to enhance the appeal of their homes and new housing complex • Opportunity to develop tourism and tourist economy business activities around the site
WEAKNESSES Negative aspects to be improved	**THREATS** Obstacles that may impede project development
• View of the quarries on the other side of the river as this sight is not necessarily considered to be a landscape asset	• Possible relocation of Norchim

The SWOT analysis combines the project's strengths and weaknesses with surrounding opportunities and threats to help define a development strategy.

Advantages / Disadvantages by stakeholder

	Advantages	Disadvantages
Local authority	Developing the local area	Site will generate marginal economic return
State	No worsening to state of amenities	-
Users/Residents	Potential to benefit from a new public space on the banks of the River Oise	-
Linkcity	Its housing complex will be enhanced by the garden	Influx of people near to the planned residential district could disturb its peaceful surroundings
ABF	Facade of ex-sugar refinery to be kept	-
Norchim	-	Possible relocation

Methodological details

Resilience indicators

Several aspects must be specified in terms of resilience indicators.
Firstly, it should be noted that the 5 criteria defined to study project resilience were proposed by Oise les Vallées and are the result of its methodological choice alone. We have identified:

1. An environmental benefit: The project offers an environmental advantage by respecting nature and preserving biodiversity, etc.
2. A social benefit: The project offers a social and human advantage insomuch as it provides a service to its users and improves the quality of life for the local community
3. An operational benefit: The project offers an operational advantage, making buildings technically capable of resisting floods and able to cope with flood hazards, etc.
4. An economic benefit: The project offers an economic advantage in its ability to generate income, to attract business and retail while fostering tourism, etc.
5. Scenic benefits: The project can slip seamlessly into the local area by considering the specific features of each area and delivering aesthetic benefits, etc.

Explanation of the choice of scoring system

The scenarios were scored on a scale of 1 to 10, with 0 being the lowest score and 10 the highest.
The choice of scoring method is clearly subjective and is in no way definitive. The aim is partly to trigger discussion and reactions.

Score	Category
1-2	Very poor
3-4	Poor
5-6	Fair
7-8	Good
9-10	Very good

The purpose of the scoring system is to compare the three chosen development scenarios:

- The first corresponds to the current position. This refers to the state of the land as it is now, prior to any development taking place.
- The second corresponds to a hypothetical planning scenario where flood risk has not been considered. As such, this refers to development plans that comply with current urban development guidelines but which do not prioritise resilience.
- The third scenario is proposed by Eric Daniel-Lacombe and featured above.

Aspects to consider for resilience

Level of satisfaction

Benefits	environmental	social	operational	economic	scenic	Private individual	State	Local authority	ABF	Norchim
Scenario 1 "Current situation"	3	1	3	2	2	1	8	1	6	2
Scenario 2 "Ignoring the risk"	2	3	5	8	5	3	4	8	2	9
Scenario 3 "Eric Daniel-Lacombe"	8	9	8	6	9	10	7	7	7	4