CLIMATE RESILIENT ANALYSIS OF THE GRONINGEN CITY

RESEARCH QUESTION

“What are the implications of including green-blue climate resilient features to the municipality of Groningen’s inner-city development plan?”

1. What are the possible green-blue options for a city like Groningen?
2. What benefits do these features give to an inner-city?
3. What green-blue solutions does the development plan currently include?
4. Which area is suitable for a more detailed study?
5. What are the alternatives for a climate resilient design for the specific urban space selected?
6. What are the effects of these alternatives? (we plan to use models to predict this)
7. What are the detailed costs and benefits for the alternatives?
8. What is the reaction from the various stakeholders to green-blue improvements based on the cost/benefit analysis? Is it worthwhile to invest in this area?
9. How much will cost to maintain the new green-blue possible options? Is it worthwhile to invest in these options?

METHODOLOGY

- Literature review
- Spatial analysis
- Interviews
- Design (Revit)
- Email-Mails
- Coatings

Multi-Criteria Decision Analysis (MCDA)

LITERATURE REVIEW

BENEFITS TO HAVE GREEN / BLUE SOLUTIONS

People find more attractive to live in Green districts than living in another places without green areas.

POSSIBLE SOLUTIONS

INTERVIEWS

- Layer 1: Underground
- Layer 2: Networks
- Layer 3: Occupation

AYER ANALYSIS

Almost all the pipes and cables are on the left side, so for that reason the design for the new proposal will take into consideration not to install fountains and planted trees on the left side, trying to do that on the orange shaded area.

COSTINGS

The budget will be separate in different chapters:
- Demolition
- Earthworks
- New pavements
- Installations
- Equipment

The maintenance we will consider the next activities:
- Watering
- Maintenance, meaning leaves and cleaning.
- Maintenance of the fountains
- Woodland Conservation
- Cleaning

MCDA

The third one is the best option.