

Appendix I

Master guide

After the pilot session the game-master guide has been improved.

Game-master guide

Welcome

Introducing participant themselves.

Introduction

Introduction of the project itself. The goal of this session is to generate ideas about how we can prevent overflowing.

Warm-up: mindmap

A mindmap is written with the whole group. Central word of the mindmap is “flooding” and the two pre-defined branches are “damage” and “solution”.

The game-master already has a mindmap that was made on beforehand to give some input during the session when it is needed.

Stimulus set

The participant can use the stimulus set (collage) as inspiration for the mindmap. This collage consists out of pictures of problems and solutions.

Solution

When it is necessary the game-master can help the participants to tell the following solution directions:

- Storing, temporary water storage (above or beneath the ground)
- Filtering, water goes directly into the ground
- Transferring water to other places

Exercise: Single household

Rearranging of the household

How would you arrange the elements of the household if you want to prevent overflowing while taking your own preferences (how like to use the garden) into account?

Modelling

Materials that could be used are: clay, cardboard, lego, etc.

- generating new ideas (about solving overflowing) by themselves through modelling.
- to trigger the participant the game-master can tell a design challenge (that also mentioned during the mindmap) such as: how would design a solution that has an extra added value? Focus on one problem of the persona, how would you solve this problem.

Presenting

- present the why, how and where

- interaction between participant: share perspectives, reflect on the ideas, improve ideas

The flow of modelling and presenting does not need to be in a very strict order, but can flow naturally.

Exercise: Neighbourhood

In this part the participants try to implement the ideas to a neighbourhood perspective.

Modelling

Materials that could be used are: clay, straws, cardboard, lego etc.

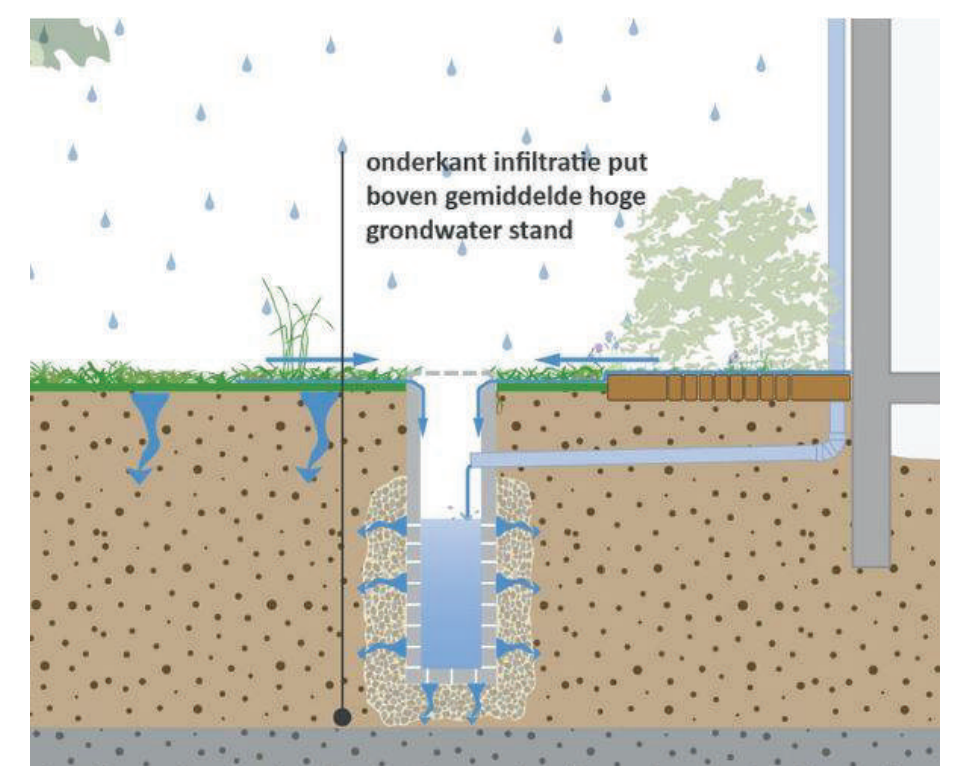
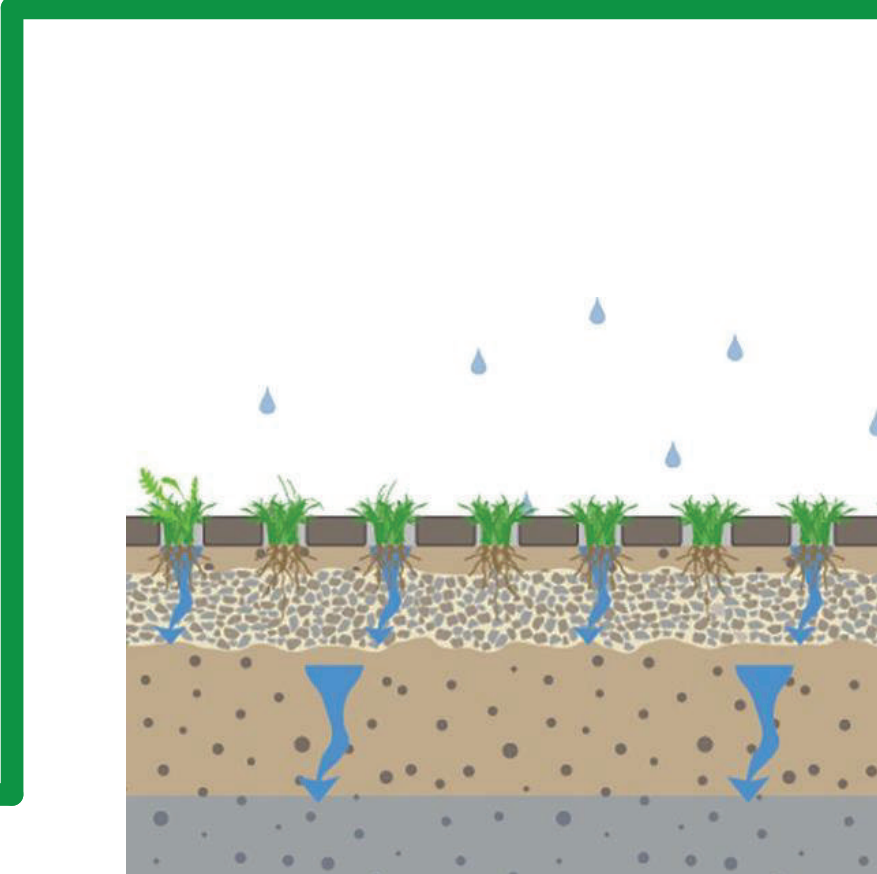
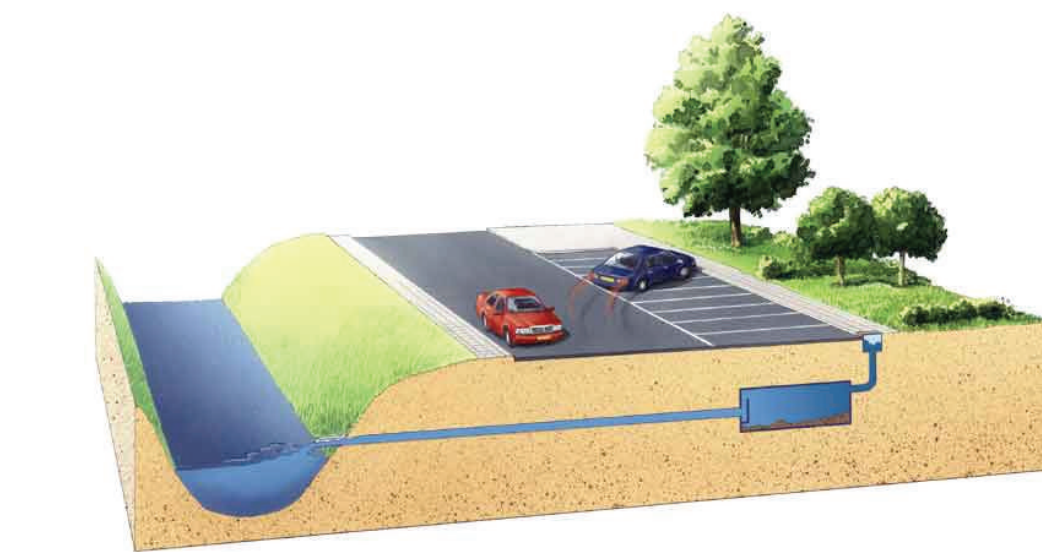
- Generate ideas about how to prevent flooding with the use of a collective system.

Presenting

- present the why, how and where
- interaction between participant: share perspectives, reflect on the ideas, improve ideas

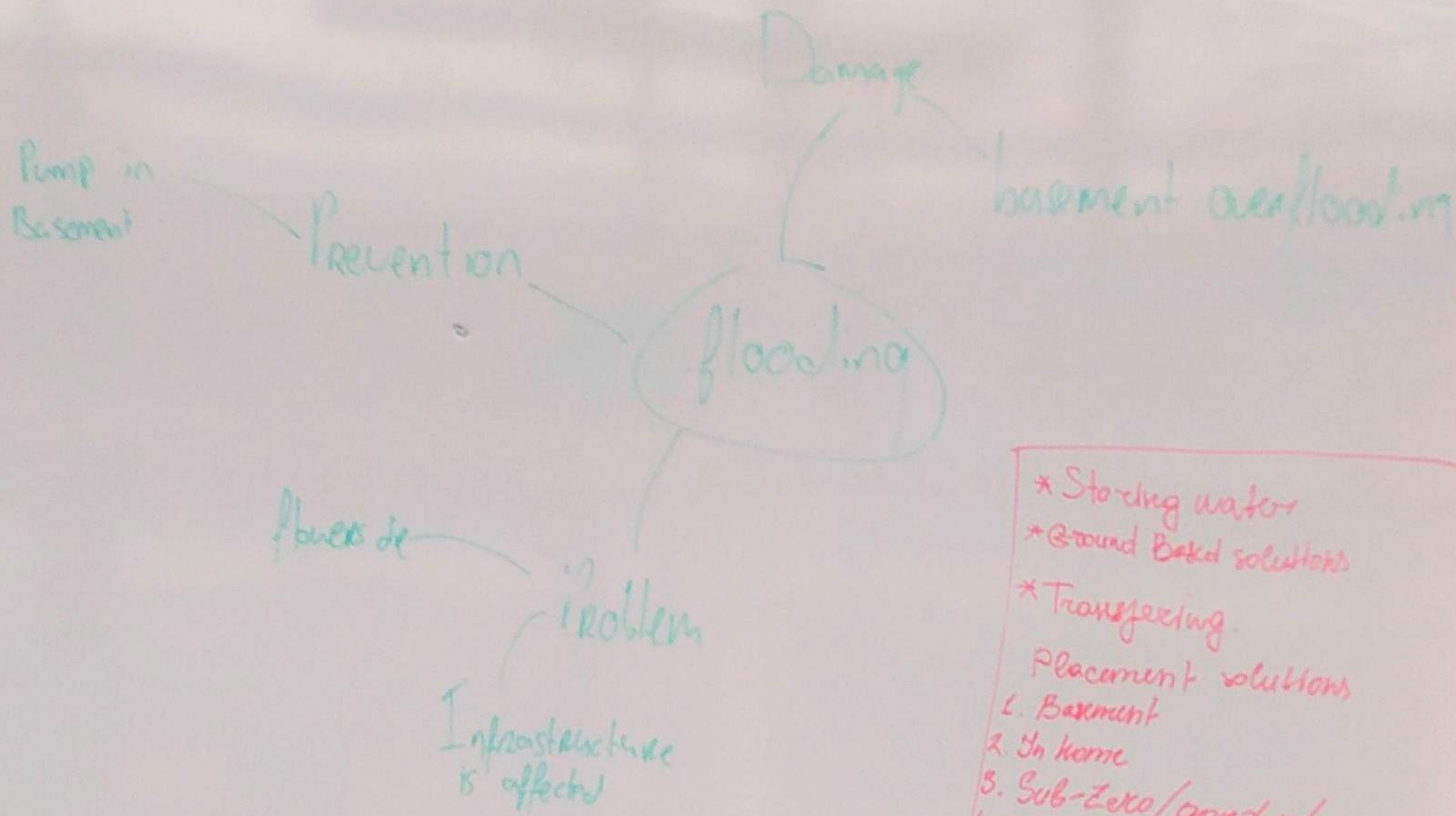
Appendix II

Collage

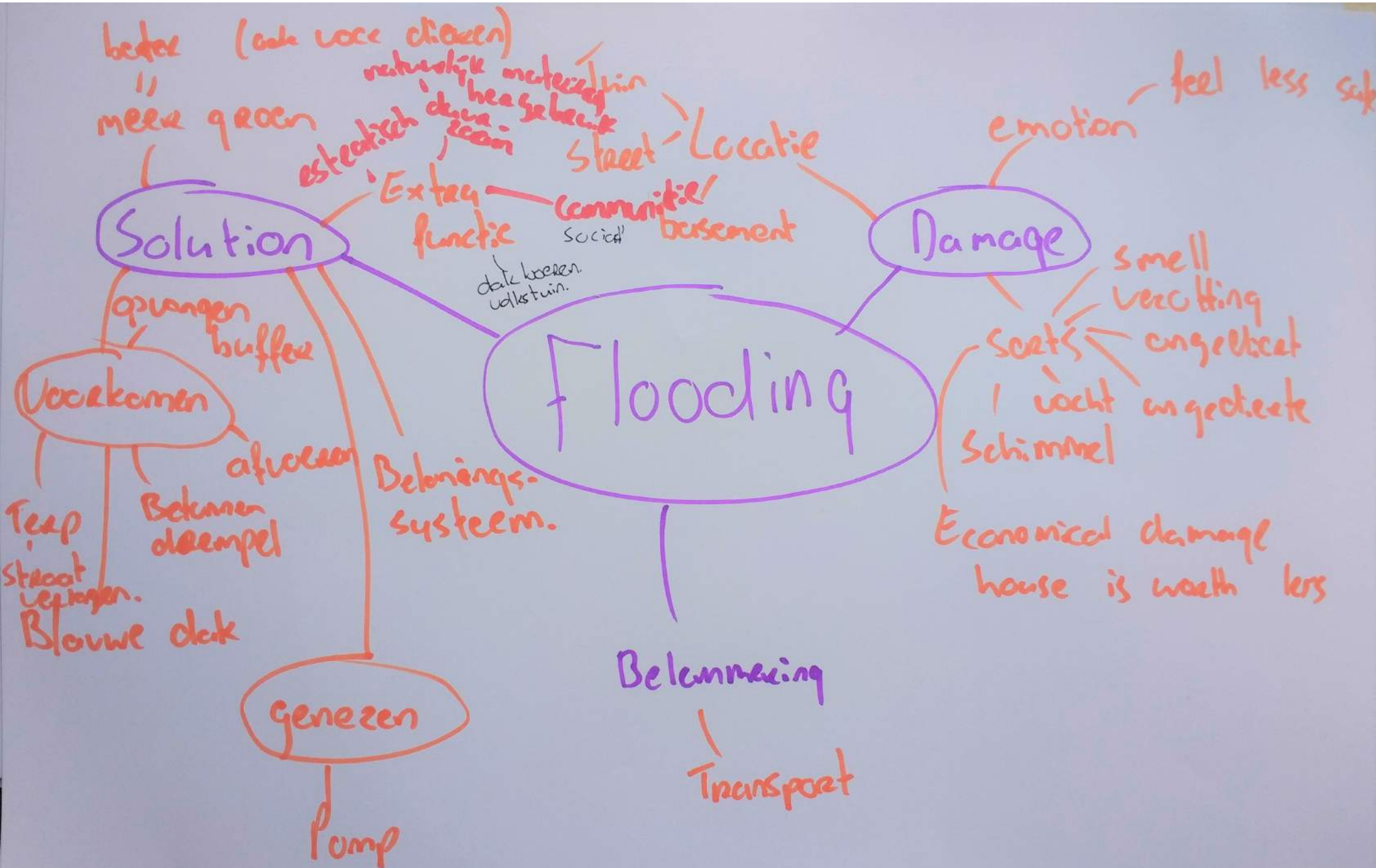


Appendix III

Mindmaps

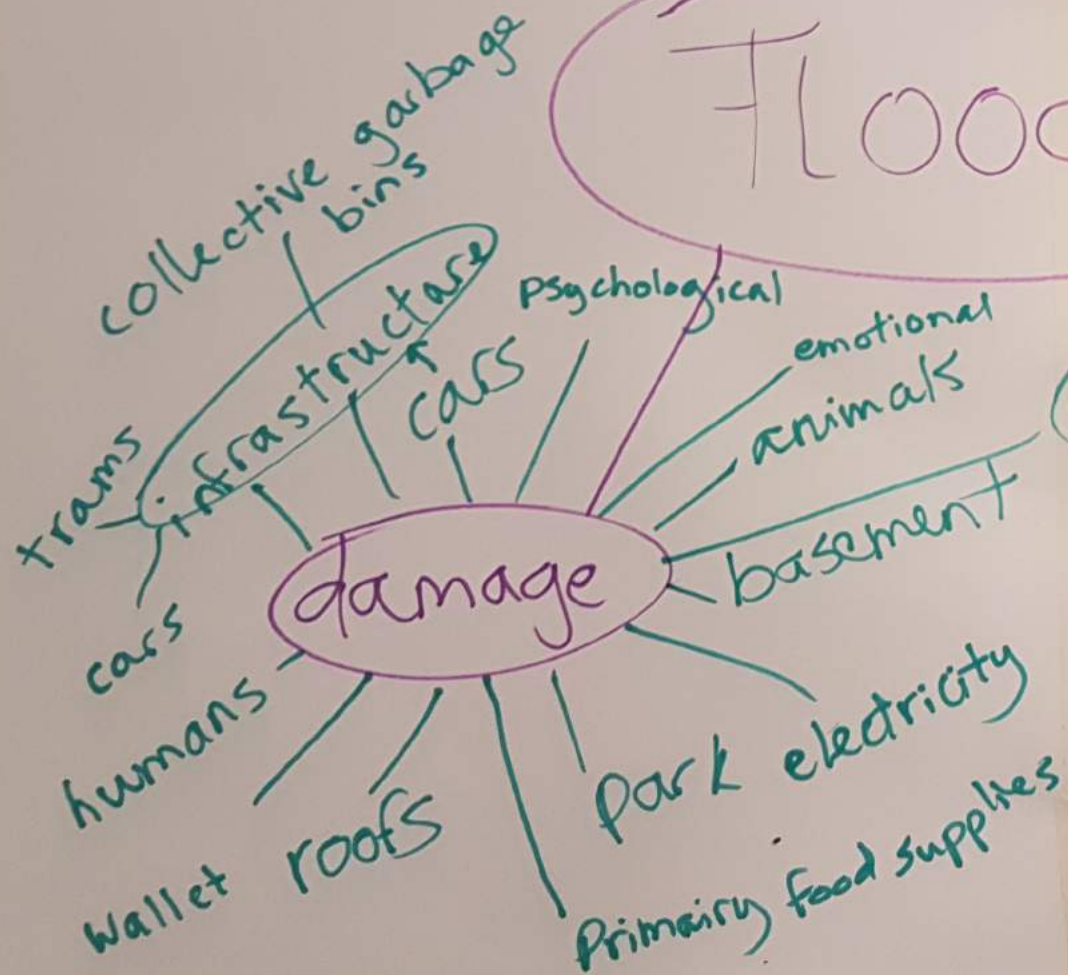


- * Storing water
 - * Ground Based solutions
 - * Transferring.
- Placement solutions
1. Basement
 2. In home
 3. Sub-Zero/garden/ground.
 4. Ground level
 5. Upper levels.

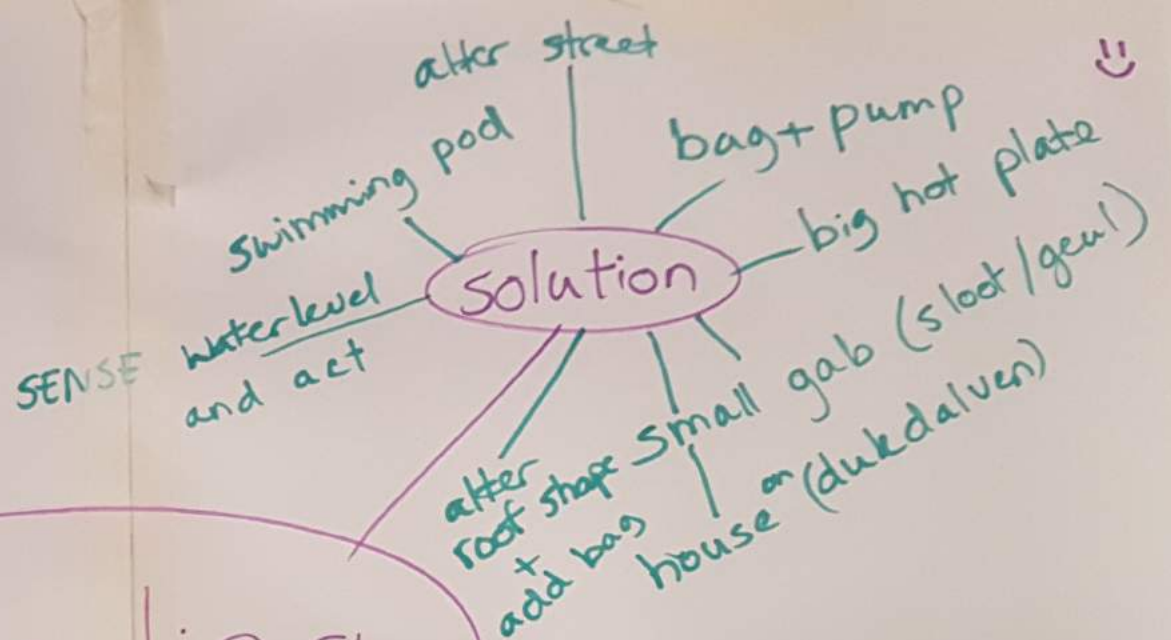


Flooding

damage



Solution



property value



Appendix IV

Personas



Annet

Age and family

Occupation

House situation

Economics

Type of garden

Environmental awareness

Degree of experience

Level of interaction and control

72, widow, 4 grandchildren

Retired, with pension

Duo-detached in outer ring/suburbs, connected to road

Stable to good, has a good pension income, little mortgage left

Small in the front, medium in the back

Tries to reduce her carbon footprint, has green gardens

Little to none, only from the news on major events

Use for watering gardens, shouldn't take much physical effort

"I'd like to play my part in the cause to reduce impact on the environment"



Annet is known as the "Green Granny" in the neighbourhood. Besides the casual actions like separating trash, she also uses her bicycle instead of the car when possible and hates wasting resources or products. She wants to help contribute to a better neighbourhood and a better environment. Annet often helps with community projects regarding children and nature, and is fairly informed about the flooding.

Aware of the issue and being a community-minded person, Annet is up for investing in a water buffer collection system. It would be great if she could also use the collected water for personal use. In that case, she would like it to be safe and free of any chance of infectious or bacterial diseases. If her grandchildren wish to use the water for a water balloon fight, risks of picking up anything harmful from still water is minimal.

As she is of age, her physique isn't what it used to be. The product should not require any heavy actions. She has a good relationship with her neighbours, so a shared solution is an option.

Focus

€ 150-250

Open to invasive solutions

- > fairly limited in available volume/space**
- > open to shared solutions**

Hygienic use of water for personal use

Minimal physical effort required when interacting

Cares about the environment and problem

Does not want to become victim of the problem



Josef

Age and family

Occupation

House situation

Economics

Type of garden

Environmental awareness

Degree of experience

Level of interaction and control

41, wife and 8y old child

9-5 job, truckdriver

Terraced in middle city ring, connected to street

Stable

Small paved front, medium to large semi-paved back garden

Separates trash, has one family car

Experiences flooding of basement, waterdamage

Solve issue, real-time distanced checkups on level and forecast

“I just want to stop my household from undergoing flooding issues”

Josef is in one of the affected zones. If heavy rain occurs, the basement/crawlspace tends to flood. This has cost him money on restoration and on products that deal with the problem. He already has a waterpump installed, but this is a reactive solution. Josef would like to have preventive solution as well.

He is OK with having the product in the basement, or making small alterations to the garden(s). Personal use of the water would be great, but not necessary. He cares more about preventing flooding than watering the plants.

Being a truckdriver, Josef is away from home for a few days on a frequent basis. He would like to check up on and know the forecast and water situation in real-time, even when he is not at home. Having a preventive solution will be a reassurance for his family's wellbeing as well when he is away from home.

He is willing to invest, but it would be nice if he'd get some sort of subsidisation from the municipality considering the previous investments and damage.



Focus

€ 300-550

Experiences flooding of basement

- > wants preventive solutions**

Remote control over product

- > check-up on forecast + warning system**

- > real-time overview of data**

Willing to invest and placement of product

- > expects funding from municipality**



Peter

Age and family

Occupation

House situation

Economics

Type of garden

Environmental awareness

Degree of experience

Level of interaction and control

48, wife and 16y+12y old children

9-5 job, senior manager at a respectable firm

Detached in suburbs, connected to road

Stable to good, almost no mortgage

Medium in front with paved car lot, large garden in back

Separates trash and maximises use of flora in garden

Hasn't encountered any problems yet

Use for garden, should have an indicator

"I don't mind contributing to a collective cause, but it should work"



Peter knows about the issue. He has received a brochure from the municipality that includes information on the problem and what home-owners can do to help buffer collected rainwater, as well as hearing stories from the local news. His house is adjoined, but not directly located in one of the affected zones. He hasn't had the push to do anything as he hasn't experienced any (minor) flooding yet.

If it turns out that a water buffer becomes mandatory for inhabitants of Enschede, he is willing to invest. He doesn't want to have any of the solutions in plain sight, but he is OK with integrated visible solutions (barrel etc.). He doesn't want to open up the front and back garden, as they have done so a couple of years ago when they redesigned it. Small alterations are OK. Peter will try to convince neighbours to invest into a solution as well.

Solutions should offer ways of using the collected water for personal use, such as watering the garden or washing the car. He'd like to be able to drain the water into i.e. a bucket, without additional required actions (waterpump, scooping etc.).

Focus

€ 150-300

Aware of issue, no experience

Willing to invest if mandatory
> open to shared solutions

Non-invasive solutions to garden etc.
> small alterations are OK

Not in plain sight
> integrated solutions are OK (barrel)



Sonja

Age and family
Occupation
House situation
Economics
Type of garden
Environmental awareness
Degree of experience
Level of interaction and control

31, engaged
9-5 job, secretary at a firm, studies at home
Terraced in inner city ring, connected to city street
Stable, medium to high mortgage left
None in front, medium in the back (paved)
Separates trash
Faces issues with water in the garden and puddles on the road
Should solve the issue, shouldn't take up living space

“Drainage problems is a frequent issue, but I don't know what to do about it”

Sonja has been encountering minor water drainage problems for as long as she can remember when she moved into this house three years ago. She assumes the paved back garden isn't helping as her neighbours with a green garden seems to have less problems. However, she doesn't have the financing yet to overhaul the garden with more drainage-friendly plants and soil.

She doesn't have much space for additional objects, both inside the house and in the garden. It would be great if the solution could be integrated, or in the ground.

As a starter, she isn't willing to invest much in a solution. It is preferred if she doesn't have to invest at all, unless it brings her substantial benefits (either financial or in terms of not taking up additional space).



Focus

€ 50-100

Minor issues

- > paved garden occasionally doesn't drain

Not willing to invest much (or at all)

- > unless beneficiary and/or subsidised
- > aware of possible consequences

Very limited in available space

- > integration solutions are preferable

Environment aware