Infiltration of rainwater

Status	Construction from 2013 on
Location	Belgium, West Flanders, Ieper, De Vloei
Spatial info	Urban quarter or street; Building, residential area
Measure type(s)	Green roofs, green walls, green open spaces; Water retention, water drainage
Contact	www.devloei.be

Description and Aim

At de Vloei infiltration of rainwater shall minimize run-off of rainwater on building and city quarter level. Measures are: Allowing green walls and obliging green roofs for some parts of the roofs; restricting pavements of individual building plots; informing about pavement materials that are water-permeable; overflow of the rainwater tanks towards the surface water system (wadi), with possibility of infiltration; restricting pavements in the public area; use of pavement materials that are water-permeable; infiltration of the surplus of rainwater in 'wadi's' including the necessary space for the future impacts.

Adaptation to climate change

The measures address: Increased amount of rainwater during winter, increased storm events during summer, lesser total amount rainwater in summer.

Problems addressed:

Heavy precipitation / flooding, drought

Receptor(s):

Population, infrastructure, built environment, natural resources

Experiences

Functionality:

Less risk of flooding: when the rainwater tanks are full, the water flows into the wadi's. Less risk on running dry of the surface during periods of drought.
The effectiveness of infiltration has to be specifically calculated for each project (depending on e.g. soil type, groundwater level, amount of pavements, etc.)
The infiltration of rainwater goes together with a qualitative green open space that allows for infiltration – pavements have to be reduced as much as possible.

Further synergies/benefits:

Liveability: The surface water structure combined with the green spaces allows for social contact, playgrounds and recreation.
Ecology: A system of ponds and green structures allows for more species (plants and animals) to survive in a city structure.

Costs:

Infiltration needs unpaved space and makes the public realm bigger than in a std development. In a std wvi-project the space that can be commercialized is in average 75%. In De Vloei it is 54% (includes also other sustainability aspects). This makes quite a difference in the price to the end user. It is not possible to calculate the impact of infiltration alone.

Funding:

European funding/Flemish funding/funding by the De Vloei project partners.

Stakeholder involvement:

Individual builders and property development companies, architects, contractors), municipality of Ieper, consultancy agencies, contractors (constructions on city quarter level).

Acceptance:

Social acceptance is in general not very high for wadi's and is a point of interest in the project. Information sessions were held about the project as an exemplar project.

Obstacles/restrictions:

Space: this measure needs space (even more space in the future). Support for this must be developed.
Few consultants have experience with future impacts of climate change, and how to calculate this.