Slowed run-off of rainwater

Status	Construction from 2013 on
Location	Belgium, West Flanders, Ieper, De Vloei
Spatial info	Urban quarter/street; Residential area
Measure type(s)	Green open spaces; Water retention, water drainage, Urban water spaces – standing water
Contact	www.devloei.be

Description and Aim

In the residential quarter of “de Vloei”, the construction of the rainwater system is designed to have a minimum of surplus rainwater that has to be discharged. But depending on soil type, groundwater level, amount of pavements, usage, etc. there will be a surplus in rainwater on the scale of the quarter. Besides the surplus of the quarter there is also a surplus in the adjacent quarter. In case of surplus, it will be discharged slowly out of the quarter from the ponds in the public domain, so that there is no creation of floods in the regions downstream.

Adaptation to climate change

The measure addresses: Increased storm events during summer. Lesser total amount rainwater in summer. Increased amount of rainwater during winter.

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.
In Flanders, there is not much experience with keeping rainwater “above ground” i.e. not putting it in a separate underground pipe next to the pipe for the sewage water. In particular, it is not evident to bring the overflow of the underground rainwater tank back to the surface.

Further synergies/benefits:

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

Costs:

A standard sewage system costs 830€/m³. A system with wadi’s costs between 1.090-1.420€/m³. This is due to the fact that the wadi takes more place that cannot be commercialized anymore because it becomes urban realm.

Funding:

International/regional/funding by the De Vloei project partners.

Stakeholder involvement:

Municipality of Ieper, property development companies, consultancy agencies, constructors (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 about the project as an exemplar project.

Obstacles/restrictions:

Space: this measure needs space and even more space in the future to cope with more and heavier rainfall. Support for this must be developed.

Few consultants have experience with future impacts of climate change, and how to calculate this in.

The information is based on the experience of the Future Cities-partnership.
It is not necessarily comprehensive, complete, accurate or up to date.