



Minutes of the Second RainGain National Observers Group Meeting (Belgium)

Prepared by Johan Van Assel (Aquafin)

Date: Wednesday 15th May 2013, from 9:00 to 14:30

Venue: Aquafin, Delta Building, room Schelde, Dijkstraat 8, 2630 Aartselaar, Belgium

Purpose of the meeting:

- To update National Observers about the progress of the RainGain project in general, and about the discussions held in National Observer Group Meetings in other partner countries.
- To discuss the further approach and uptake of the project's results and developments amongst Belgian stakeholders.

Present:

Name:	Organisation:
Johan Van Assel	Aquafin (wastewater company; project partner)
Riet Smits	Aquafin
Mieke Pessemier	Aquafin
Guido Vaes	HydroScan (consultant)
Steven Smets	IMDC (International Marine and Dredging Consultants)
Patrick Willems	KU Leuven (university; project partner)
Laurens Cas Decloedt	KU Leuven
Charlotte Buyse	KU Leuven
Niels Van Steenberghe	KU Leuven/Waterbouwkundig Laboratorium (Hydraulics Laboratory)
Marie-Claire ten Veldhuis	TU Delft (university; project lead partner(NL))
Ward Voet	VMM (Section Operational Watermanagement)
Berthold Meers	VMM (Section Ecological Control & Coordination)
Ingeborg Barrez	VMM (Section Ecological Control & Coordination) / CIW (Commission for Integrated Water Management)

Apologies:

Name:	Organisation:
Véronique Charlier	City of Leuven – section spatial planning
Ilse Pauwelyn	AquaFlanders/TMVW (sewer operator)
Guy Verbuyst	AquaFlanders
Sofie Van Belleghem	Province of Limburg – Section Rivers
Rolf De Bruyn	Province of Flemish Brabant - Section Rivers
Toon Goormans	IMDC (International Marine and Dredging Consultants)



Programme

09u00	Arrival & coffee
09u30	Welcome and overview of the agenda (Johan Van Assel, Aquafin)
09u40	Update of the project (Marie-Claire ten Veldhuis, TU Delft)
10u00	Debriefing of NOG meetings in other partner countries & discussion (Marie-Claire ten Veldhuis + Johan Van Assel)
10u50	Short break
11u00	The Plurisk project (Patrick Willems, KU Leuven)
11u30	State of play pilot case Leuven (Johan Van Assel)
11u45	Planning 2013-2014 (Marie-Claire ten Veldhuis)
12u00	Discussion (Johan Van Assel)
13u00	Sandwich lunch
14u30	Closure

1. Welcome and overview of the agenda (Johan Van Assel, Aquafin)

Johan Van Assel welcomes the attendants and gives an overview of the presentations and other agenda points. Despite the limited number of attendants he hopes there will be useful discussions as how to proceed with the involvement of the local stakeholders.

2. Update of the project (Marie-Claire ten Veldhuis, TU Delft)

Marie-Claire ten Veldhuis, overall coordinator of the RainGain project, gives an update of the project and the pilot cases in the different partner countries:

- Purchase and installation of the radars in France, the Netherlands and the UK
- Overview of pilot cases and the modelling approach
- Fact sheets about the pilot cases
- State of play of project actions and deliverables



3. Debriefing of NOG Meetings in other partner countries & discussion (Marie-Claire ten Veldhuis + Johan Van Assel)

Marie-Claire ten Veldhuis reported that both of the latest French and Dutch NOG Meetings, the main focus of the discussions were related to the purchase and installation of the radars and the future use of the radar data.

Johan Van Assel gives a summary of the recent UK NOG meeting in London which was held during the project consortium meeting and therefore was open to all the project partners:

The main items presented in the UK meeting were:

- The general approach and organisation of flood management in the UK, with a clearly increased role of the Local Authorities for everything that relates to pluvial flood management. The national authorities remain largely responsible for long and mid term forecast and warnings and for large scale flood prevention and management.
- Small group discussions on particular issues facing the local flood managers, such as: financial and organisational limitations of local authorities, choice between low vs hightech solutions, involvement of the local communities, after-disaster measures, ...

Most of these issues are very similar and/or familiar to the situation in Flanders/Belgium and therefore can form the basis for the further discussion.



Discussion :

The discussion was started with the statement that –whilst in the last 5-10 years in Flanders a lot of knowledge and experience with river flooding has been built up- the same cannot yet be said about pluvial flooding. This is due to several reasons, e.g.:

- The behaviour of the sewer system, and especially the flooding mechanisms, are not always sufficiently understood. Too often important details about the network, the interactions with receiving waters and the connected areas are lacking. Traditional sewer models stop being reliable from the moment flooding occurs, and therefore the flood behaviour and consecutive flood risk is not known.
- Urban flooding is very often a highly localised phenomenon, which is difficult to model and to predict. Designing a sewer system using a 50 or 100 year return period with full catchment coverage will often give a completely unrealistic image. Nevertheless, local intensities may be that high and cause local flooding while other parts of the network remain almost dry and still have spare capacity. There is no common view yet about how to deal with these local events in a practical or feasible way.

There was general agreement with a statement taken from the UK meeting that local communities are only getting interested and concerned in local flooding risk after the disaster has happened. This is partly due to the difficult concept of statistics: 100-yearly events (or higher) can happen every week during Summer, but the location is completely unpredictable, and therefore people cannot get a grip on the real risk they are facing. Even if nothing has ever happened in a certain area, the risk is always there, and when it happens, people will generally not be prepared for it. Making the risks better understood is the key to involvement of the local authorities. If that information is available, it will be easier for local authorities to choose between "absolute protection" or remediation.

One of the objectives of the RainGain project is to apply a selection of severe events from the four partner countries to the different pilot cases. By moving the storms over different areas of the catchment (hitting either the outskirts or the very center), it should be possible to demonstrate how pluvial flooding can often be purely a matter of "luck" and coincidence (as opposed to river flooding which is a more structural phenomenon).

Events from recent years have made it clear that pluvial flood prevention is not just important for large urban areas. The main bottlenecks for smaller communities are the lack of financial resources to set up high-tech systems and the lack of technical skills to operate them in a proper way. A good alternative for these communities would be to participate in a subregional system (which in most cases could still be covered by 1 X-band radar). The overlapping or differences between municipality and drainage area boundaries could be a first argument in defining the ideal spatial scale of cooperation.

4. The Plurisk project (Patrick Willems)



Patrick Willems gives a presentation of the Plurisk project, which has significant overlapping areas of interests with RainGain.

Plurisk is a research and demonstration project, funded by the Belgian federal "Science for a sustainable development" programme. With the Royal Meteorological Institute of Belgium as a full partner in this project, it is hoped that a number of developments in terms of fine scale rainfall forecasting can be fed back to the RainGain project.

The three pilot cases : Leuven, Gent (Oostakker/Sint-Amansberg) and a yet to decided part of Brussels, will be subject to pluvial flood risk assessment, not only from a hydraulic point of view, but also from the socio-economic side. Furthermore, it will be investigated how green areas can be used as a natural buffer to decrease flood risk in a sustainable way.

For the flood modelling, it is hoped that the new version of the AOFD tool (hybrid 1D/2D modelling) from Imperial College London will be available for the three pilot cases.

5. State of play pilot case Leuven (Johan Van Assel)

Johan Van Assel presents the latest state of play on the pilot case Leuven within RainGain.

- In the past two years the existing X-band radar has been fully revised both from a hardware and software point of view, and the operability is now very stable. There is however some



work to do on the data processing, because the new software has proven to be more sensitive to background clutter. All data transfer actions between the radar site, Aquafin and KU Leuven are now in place.

- Similarly the existing rain gauge network has been extended and upgraded with very reliable direct GPRS connection.
- The upgrade of the first phase model (Leuven-Noord) is in its final phase, offering a good starting point for the oncoming 2D flood and forecast modelling. It is yet to be decided to which extent the remaining part of the full Leuven model can be updated within the RainGain project.

6. Planning 2013-2014 (Marie-Claire ten Veldhuis)

As Marie-Claire had to leave early, Johan Van Assel gives the summary of the planning for this and next year:

- Paris and Rotterdam will finalise the installation of their radars in the following months
- The guidelines on 'estimating radar rainfall', based on the discussions from last year's workshop in Leuven, are in the final stage of review and will be published shortly after.
- Partners will continue to develop data and algorithms on the Fews exchange platform
- The next project meeting will be held 21-22 October in Paris. This will include a special event, dedicated to local authorities. Invitations will be sent as soon as the agenda becomes more concrete.
- In 2014 two more project meetings including international workshops are planned: the first one 31/3-1/4 in Antwerp (workshop on rainfall forecasting); the second one in Autumn in the UK (workshop on modelling).
- Finally in 2015 there will be a training workshop in Rotterdam and the final conference in Paris.

7. Final discussion (Johan Van Assel)

Johan Van Assel suggests that the topics for discussion as mentioned in his presentation be presented in a survey to the national observers, so that we can hear the opinion of those who are not present at today's meeting. VMM suggests to initiate this through the working group 'Waterzuivering' of the CIW (Commission for Integrated Water Management), because all the local and regional sewer operators are represented there as well.

It is felt important that we have many parties' opinion now, because experience from the case studies has shown that the purchase of radars, the development of monitoring networks and the



setup of operational models and forecasting systems takes a lot of time. In first instance it is likely that many local authorities will only have the resources to go for a low tech (empirical) system, but even that would be an important first step in getting them on board. The sooner we know the most urgent needs in Flanders, the more we can focus the developments in the most useful direction.

It is also felt that it would be useful that all the collected rainfall data would be available from one central server. However, it is unlikely that the different data quality procedures will allow merging of data in the near future. Yet, it is important that data from various sources and resolutions can be merged. The time window for forecast on an X-band radar is very narrow (1-2 hours maximum), so depending on the location of the radar with respect to the vulnerable areas, and depending on the direction the rain is moving in, a more extended forecast window using (downscaled) C-band radar data will be very valuable.

Consultants who are today responsible for building models, and who are willing to build up experience in detailed flood modelling can play an important role in creating awareness and convincing sewer operators or municipalities to invest in flood management systems. The recent interest in the drafting of stormwater plans could be a good starting point to raise awareness of flood risk.