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Resilience to floods and urban design : Romorantin case study

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Pluvial and fluvial flooding of May-June 2016 in the North of France demonstrated once again the weakness of major urban systems. After 30 years without such flooding events, this particular event is redefining the capacity of the society to really assess hazards and their impacts. In the Ile de France Region, this flood hazard happened during a period where floods are not forecasted, after major rainfall events downstream major dams and reservoirs aiming at controlling discharges at the catchment scale. Consequently, discharges were uncontrolled at all but more local flood defences played a significant role.

At the same time, damage assessment was also very different compare to previsions. Past economic appraisals underestimate this cost for such a flooding event (OCDE 2014). Water level was quite limited in the center of Paris and in Paris Metropole: 6.10 meters compared to the reference which is the 1910 event with a height of 8.62 meters. Direct damages were estimated for this event between 1.2 and 1.3 Billion Euros. According to insurance experts, this cost has to be doubled to take into account damages not covered by insurances. This level damages cost was estimated for a flood at a height of 7.30 meters.

Despite the proof of a huge vulnerability of this region to floods, some very positive lessons coming from innovative urban management plans and development must be mentioned. Like other urban neighborhoods in Europe like Haffencity and Zollhafen in Germany, the neighborhood so called Matra in Romorantin was totally safe despite a flood exceeded all previsions. This neighborhood built recently on a past industrial area is located along the river Cher, near the center of the city. In this neighborhood, settlements of the buildings were designed to channel water exceedance from the river Cher. Also, car parks were designed to avoid cars to be flooded and transported by the river, as well as permanent pedestrian pathways even during major flooding events.
This communication presents a post analysis of the resilience to flood of this particular neighborhood with a focus on how urban design could create safer places even facing major flood events, taking into account, « nature », and inhabitants behavior.

OCDE. 2014. Étude de l'OCDE sur la gestion des risques d'inondation : la Seine en Île-de-France 2014. Paris: OECD Publishing.