

Urban development consequences of the riverine floods in the Western Balkans: Analysing Belgrade

Popular scientific summary

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Urban development could be considered a double-edged sword which creates both positive and negative consequences. Belgrade's urban development has a mixed record, with the Government generally performing poorly. Development plans have been mismanaged and inadequately implemented. This situation, in addition with other factors, such as rapid population growth, migration and rushed development in the post-war period, have caused buildings and infrastructure to be constructed without adherence to adequate safety standards, endangering the population living under such conditions. However, Belgrade's urbanisation has been slowly improving over recent years. Safety codes have been established, and activities related to risk reduction and climate change adaptation have been integrated into the country's plans. Nevertheless, there is still scope for improvement.

Belgrade is the most distinctive case from the country of Serbia, and the whole Western Balkan region. Belgrade is by far the most populated city in the area, with a population that more than doubles Skopje's—the second-largest city in the Western Balkans. Additionally, Belgrade is a city exposed to various natural hazards, being flooding the most common.

The main reason why Belgrade is highly exposed to flooding is because of its geography. The city is located at the confluence point of the Danube and Sava rivers, and most of its habitable territory has low elevation, being similar to the river level. Worsening the situation, the city's most significant population and economic centres are located along the riverbanks. This aspect means that a massive flood could disrupt the city functions causing immense economic costs and affect hundreds of people.

The relationship between urban development and flooding is analysed aiming to contribute towards increasing Belgrade's resilience—which is the ability to keep moving forward after any disturbance occurs. Understanding this relationship is vital to identify the most exposed areas, and therefore help to design and implement more reliable protective measures. Such measures (e.g. levees, floodwalls) aim to reduce flooding and hence its consequences, as much as possible.

In order to gather the necessary information for this thesis, the following three different methods were used: (1) a literature study to understand the general effects of urban development on flooding, (2) a secondary data analysis to guide the description of Belgrade's riverine flood risk and urban development situation, and (3) interviews with open questions to field experts, aiming to fill gaps and corroborate the information.