

The renaturalization of urban river channels and the mitigation of flood risk, the “Corredor Verde Barranco de Beniopa” project as a nature-based solution

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Abstract

The torrential nature of the Mediterranean climate has determined that the deadliest natural risk with the greatest material damage in the Valencian Community (Spain) is flooding. The construction of reservoirs and dams has contributed to mitigating the effect of floods, but, on the other hand, the expansion of urbanization in areas at risk of flooding, together with the artificialization of river channels and the waterproofing of surrounding areas, have considerably increased the level of exposure. The Beniopa ravine in Gandia has not escaped these urban trends, with a ravine that presents a risk of flooding as it passes through the city, completely surrounded by densely populated urban centers, and a channel completely sealed with concrete. This typical Mediterranean ravine, dry most of the year and susceptible to major flooding in times of storms, has recorded significant episodes of overflowing, a fact that has forced the administration to act. In 2023, the renaturalization project “Green Corridor Barranco de Beniopa” began, with nature-based solutions being key to recovering the natural channel of the ravine, seeking to provide it with greater resilience against floods, but also to value the spaces peri-urban infrastructure based on ecosystem services, and integrate it within the municipality's green infrastructure. Comparing the effects of torrential rains on the ravine, before and after the execution of the project, will allow us to know the suitability of this nature-based solution and its transfer to other areas with the same problems.

Keywords: natural risks, floods, ravine, nature-based solutions.

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