Turning Istanbul Into A Disaster Resilient City

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With a population of 15 million people, Istanbul is the biggest city of Turkey. Provided by its unique location, Istanbul has always been a remarkable coastal city, throughout its long history dating back to 660 BC. Today this unique location poses a threat to the city. Under the Sea of Marmara, tectonic plates move on one of the most active geologic boundaries in the world, named as the North Anatolian Fault. Existing in an earthquake prone area, the city will probably face a major earthquake within 20 years. Scientific studies and Earthquake Master Plan for Istanbul indicate the disaster vulnerability of Istanbul. Today, cities need to improve themselves to resilient ones in order to cope with the challenges of 21st century. This study is an attempt to reveal the power of landscape planning for building this resiliency. Regarding their proximity to the earthquake fault line, southern coastal districts of Istanbul are subject to several earthquake risk analysis and hazard assessments. However, required disaster mitigation studies are still lacking for most of the coastal districts. Seeking to reveal the power of landscape planning in disaster mitigation, this study is utilizing GIS technology and focusing on one of the most significant hazard prone districts of Istanbul called Kadikoy. With a population of 533452, Kadikov is a vulnerable coastal district to the impacts of the major earthquake and the accompanying secondary disasters such as tsunami, liquefaction, landslide and fire. Within this study, mitigation capacities of open spaces are evaluated according to nine major parameters which are ownership, interaction with the secondary hazards, slope, land cover, size, accessibility, perceptibility, provision of technical infrastructure and proximity to sociocultural infrastructures. These analyses indicate that major public open spaces of Kadikov district cannot be utilized for the social benefit during the post-earthquake period, as they are located on tsunami hit areas or along the riverfronts. However, this study proves that it is possible to improve existing green structure of Kadikov district and utilize the green structure for the purposes of evacuation, gathering and sheltering. Today, there is an urgent need for disaster mitigation in Istanbul. This study highlights the importance of disaster sensitive landscape planning for building disaster resiliency, regarding the benefit of Istanbul mega city and the other hazard prone cities. Keywords: Disaster Resilience, Landscape Planning, Earthquake, Istanbul