

Identification of Vulnerable Zone Due to Cyclone-Induced Storm Surge in the Exposed Coast of Bangladesh

Authors : Mohiuddin Sakib, Fatin Nihal, Rabeya Akter, Anisul Haque, Munsur Rahman, Wasif-E-Elahi

Abstract : Surge generating cyclones are one of the deadliest natural disasters that threaten the life of coastal environment and communities worldwide. Due to the geographic location, 'low lying alluvial plain, geomorphologic characteristics and 710 kilometers exposed coastline, Bangladesh is considered as one of the greatest vulnerable country for storm surge flooding. Bay of Bengal is possessing the highest potential of creating storm surge inundation to the coastal areas. Bangladesh is the most exposed country to tropical cyclone with an average of four cyclone striking every years. Frequent cyclone landfall made the country one of the worst sufferer within the world for cyclone induced storm surge flooding and casualties. During the years from 1797 to 2009 Bangladesh has been hit by 63 severe cyclones with strengths of different magnitudes. Though detailed studies were done focusing on the specific cyclone like Sidr or Aila, no study was conducted where vulnerable areas of exposed coast were identified based on the strength of cyclones. This study classifies the vulnerable areas of the exposed coast based on storm surge inundation depth and area due to cyclones of varying strengths. Classification of the exposed coast based on hazard induced cyclonic vulnerability will help the decision makers to take appropriate policies for reducing damage and loss.

Keywords : cyclone, landfall, storm surge, exposed coastline, vulnerability

Conference Title : ICSWRM 2016 : International Conference on Sustainable Water Resources Management

Conference Location : London, United Kingdom

Conference Dates : February 25-26, 2016