

Assessment of the Socio-Economic Impacts of Natural Hazards along the Mediterranean Coastal Zone of Egypt

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Abstract : Earthquakes strike without warning and cause widespread damage to social and economic infrastructures and creating life losses. These can neither be predicted nor prevented in terms of their magnitude, place, and time of occurrence. It is a global phenomenon that creates nearly 18% of life losses and nearly 35% of economic damage. The coastal zone of Egypt is considered low to medium risk, however, there is a record of high magnitude earthquakes that created Tsunami in the past. The northern coastal zone of Egypt is under the force of tension shear zones of African and European plates that have considerable earthquakes with variable degrees. This research studied the earthquakes in the last 65 years in the Mediterranean Basin in relation to the geotectonic shear zones. 85% of these earthquakes are in the marine that might create Tsunami. Aegean and Anatolia shear zones are the highest contributors of the earthquakes with nearly 37% and 36% respectively. However the least one is the Arabia zone with 1%, and Africa is about 26%. The research proposed three scenarios for the socioeconomic hazards, earthquakes with Tsunami that will destroy one fifth of the economic infrastructures with unpredictable life losses. The estimated cost of recovery of such losses is nearly 400B USD. The second scenario is earthquake without Tsunami that will impact the major urban and infrastructures. The last scenario is tidal gauges events that threaten the low-lying areas particularly the eastern side which has major land subsidence.

Keywords : natural hazards, earthquakes, tsunami, Nile delta, Egypt

Conference Title : ICECC 2018 : International Conference on Environment and Climate Change

Conference Location : Rome, Italy

Conference Dates : May 03-04, 2018