

Development of Pre-Mitigation Measures and Its Impact on Life-Cycle Cost of Facilities: Indian Scenario

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Abstract : Natural hazards and manmade destruction causes both economic and societal losses. Generalized pre-mitigation strategies introduced and adopted for prevention of disaster all over the world are capable of augmenting the resiliency and optimizing the life-cycle cost of facilities. In countries like India where varied topographical feature exists requires location specific mitigation measures and strategies to be followed for better enhancement by event-driven and code-driven approaches. Present state of vindication measures followed and adopted, lags dominance in accomplishing the required development. In addition, serious concern and debate over climate change plays a vital role in enhancing the need and requirement for the development of time bound adaptive mitigation measures. For the development of long-term sustainable policies incorporation of future climatic variation is inevitable. This will further assist in assessing the impact brought about by the climate change on life-cycle cost of facilities. This paper develops more definite region specific and time bound pre-mitigation measures, by reviewing the present state of mitigation measures in India and all over the world for improving life-cycle cost of facilities. For the development of region specific adoptive measures, Indian regions were divided based on multiple-calamity prone regions and geo-referencing tools were used to incorporate the effect of climate changes on life-cycle cost assessment. This study puts forward significant effort in establishing sustainable policies and helps decision makers in planning for pre-mitigation measures for different regions. It will further contribute towards evaluating the life cycle cost of facilities by adopting the developed measures.

Keywords : climate change, geo-referencing tools, life-cycle cost, multiple-calamity prone regions, pre-mitigation strategies, sustainable policies

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