International Congress on Engineering Science and Sustainable Urban Development
Denmark – Copenhagen
September, 2018

Crisis management and pathology of buildings damaged due to Bam earthquake

Masoud Lakzadeh* , Mohammadamin Emadabai, Hamid Mirzaie

1- Lecturer at Shahid Chamran University of Kerman, masoud.lakzadeh@yahoo.com
2- Student at Kerman Nonprofit University, m.aminabadi@gmail.com
3- Student at Kerman Nonprofit University, h.mirzaie@gmail.com

Abstract

Due to internal structure and active faults of the planet, the earth releases its energy from time to time and impresses the natural environment. Regarding that the earth is never immune of earthquake danger, reduction of dangers due to earthquake is necessary. Adoption of required strategies for readiness during the earthquake, before and after it may considerably prevent from financial and physical losses. Occurrence of earthquake 26 Dec. 2003 in Bam City Kerman province resulted in death of 26000 persons and Bam city and its surrounding villages were ruined. While, in case of performing security measurements before earthquake, damages due to earthquake would be reduced to a great extent. What is noticeable in ruins due to this natural phenomenon is this point that even steel and reinforced concrete structures built in the region suffered from multiple losses. Undoubtedly, fault in designing, calculations, implementation, supervision and planning each in turn could play a role in outbreak of this huge loss. In the present study more attention is paid to structural elements and quality of connections between the structure elements regarding the buildings plan regulation against earthquake and by providing some pictures, defects of the region structures are investigated.

Keywords: earthquake, structure, regulation, Bam, loss.

1. Introduction

Among different natural risky phenomena which occur in our planet, earthquake has the greatest destructive impact on residential regions. Earthquake should not be regarded as a separate natural phenomenon, but earthquake like other natural phenomena may follow a chain of other natural phenomena like landslide, downfall of rocks, flood, fire, explosion, water pollution and so on. Also, earthquake may lead to physical, human, social and financial losses, inflation, famine and problems in tourism and airline industry. Main stages of problems due to earthquake may be divided into various stages before earthquake, during earthquake and after that. Restraining the problems created due to earthquake besides attention of managers and authorities, demands cooperation of volunteers and people too. By occurrence a great earthquake in various regions of the world, significance of constructing earthquake resistant structures is felt more. Occurrence of great earthquakes like Kobe Japan in 1995 and California earthquake in 2003 and also earthquakes like Manjil in 2016, Ghaenat in 1997 and Bam earthquake in 2003 in Iran called everybody to a different approach to construction of resistant structures and mapping and retrofitting new buildings. Considering the very high significance of stages of design, implementation, supervision and many losses imposed on the buildings due to mistakes and inattention, in the present study by noticing the