



Natural Disaster Research Institute

Role of Education in Enhancing Knowledge and Practice of Related Authorities in the Field of Disaster Management

Ahmad Reza Djalali,

*Vahid Hosseinijenab, Alireza Estelaji, Mohammad Ali Barkhordari
Bafghi*

Natural Disaster Research Institute of Iran

Introduction

- **Iran, a country in Asia, is a disaster prone country.**
- **Among the 40 different types of natural disasters observable in different parts of the world, 31 types have been identified in Iran.**
- **Major natural disaster in Iran is Earthquake and from the viewpoint of seismicity, Iran is an active country.**

Introduction

- **Earthquakes have killed more than 180 000 persons during the last 90 years, and its economical damage has been estimated to more than 16,000,000,000 U\$ since 1991.**
- **The most recent major earthquake measuring in Bam killed more than 31000 persons, leaving more than 20000 persons injured and more than 90000 homeless.**

Introduction

- **Although a lot of earthquakes in Iran don't have as high magnitude as some countries like Japan, the risk of damages are higher than these developed countries.**
- **Unfamiliarity to risk management concepts, lack of disaster management related knowledge, low training situation, and unacceptable preparedness for responding to disasters are the effective factors on creating high risk communities against earthquakes at Iran.**

Introduction

- **Education is an essential element of preparedness that has not only a general but also a specific efficiency on enhancing the capability of disaster management system.**
- **Minimizing the chance of vulnerability to natural disasters is through education and preparedness.**
- **A good trained person could do best, design a valid plan and enhance quality of the disaster management operations.**

Objective of Study

- **This study was conducted to determine the efficiency of education on knowledge and practice of authorities and experts that were working in some responsible organizations of disaster management system of Iran, especially health organizations.**

Method & Materials

- **This study was developed in 2007.**
- **Related scientific groups collected scientific materials and designed an integrated workshop in the field of disaster management.**
- **For each topic a theoretical and a workgroup part had been designed.**
- **Each workshop lasted 3 days.**

Method & Materials

- **Content of the workshops was following:**
 - (1) *Hazard Identification,*
 - (2) *Principles of Disaster Management,*
 - (3) *Concepts of Prevention and Mitigation,*
 - (4) *Elements of Preparedness,*
 - (5) *Outline of Response to Disasters,*
 - (6) *Methods and Models of Disaster Management Planning,*
 - (7) *Outline of Incident Command System, and*
 - (8) *Elements of Emergency Operation Center.*

Method & Materials

- **These workshops were carried out ten times for different groups.**
- **Twenty to Thirty trainees took part in every workshop.**
- **Knowledge of trainees was assessed before and after workshops.**
- **A questionnaire consists of 25 items was used as a tool of evaluation during pre and post intervention.**
- **Five items were related to practice and the left were about knowledge of participants with score: 100.**

Method & Materials

- **In addition, effectiveness of workshop on disaster management planning at related organizations was assessed after two months, by calling trainees and to hold an interview according to a list of questions.**

Results

- **Totally, 247 participants attended these workshops.**
- **74% of participants were male, and mean of their age was 27.5.**
- **Besides, more than 76% had a Bachelor of Science or a higher degree.**
- **55% of trainees had come from health centers, like hospitals, and left were employees of disaster management related organizations, e.g. disaster management task force, Red Crescent.**

Results

- The results of this study showed that trainee's knowledge has improved after participating these workshops and they became familiar with approaches for planning for disaster management in their organizations.
- The average pre-test score for all participants was 69.1 ± 12.8 .
- The mean post-test score for all positions was 89.5 ± 6.7 .
- The results showed a statistically significant improvement between mean pre-test and post-test scores.
- An improvement of 20.4 ($p < 0.0001$, 17.2–23.5) points compared to the mean value of the pre-test score.

Results

- **Another questionnaire was used to assess level of satisfaction among trainees regarding to quality of workshop.**
- **They were satisfied following: 73% very high, 16% high, 9% intermediate, and 2% low.**

Results

- **Follow up of trainees showed that more than 57% of them decided to develop some related plan or establish a lot of activities to reduce risk of earthquake in their organizations by performing methods of risk management and disaster management planning that they had learned in the workshop.**
- **The most common actions were developing standard operational procedures, designing expected scenarios, preparing necessary resources, and scheduling future training and exercise programs.**

Results

- **On the other hand, about 43% of trainees mentioned that hadn't conducted any new activity related to disaster risk management, after attending in the workshop.**
- **Regarding to their points of view, managerial and financial problems were the main barriers for this inactivity.**
- **83% of trainees were enthusiastic for attending other specific and developed training programs.**

Discussion

- **Identifying an effective means of teaching disaster risk management to employees of disaster management organizations is an important task.**
- **These workshops were designed to utilize multiple teaching modalities to train employees in this important area.**
- **Course participants showed an increase in knowledge and reported high satisfaction from their participation in the workshop.**

Discussion

- **These results suggest that disaster risk management training program is an effective way to train employees in the area of disaster preparedness.**
- **If we conduct same workshops more than before we will help organizations to be prepared for responding to expected or unintended accidents.**

Thank You

Ahmadreza Djalali

Natural Disaster Research Institute

Iran, Tehran

www.ndri.com

e-mail:

jalali@ndrii.com, arj6976@yahoo.com