Situation of Domestic Knowledge in Natural Hazards Management in Villages
(Case Study: Shizr District, Harsin County)

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Received 16 May 2014
Accepted 24 December 2014

1. Introduction

Natural hazards in rural areas are a major challenge and the control is important. Local methods are used for managing natural hazards. Natural phenomena occur in most parts of Iran. Rural areas are the most vulnerable and therefore hazards damage villages. Villagers employ a variety of methods to decrease damage. The government has tried to introduce new methods to reduce the risks. A combination of bothtraditionalandmodernknowledge plays animportant rolein the management ofnatural hazardsin the villages. In some other areas, traditional methods are fading. Therefore, the aim of this study is to examine the role of traditional and modern knowledge in the management of natural hazards in the villages.

Natural risks were defined as" the physical elements of the environment that are harmful to human sand caused by external forces beyond human power."(Brighton, 1986, 255). Management of natural hazards is a multi-part process, continuous and integrated. Many natural hazards are interrelated, e.g. earthquakes can cause tsunamis and drought, which can lead directly to famine or population displacement. Natural risk management means planning and implementation of measures to reduce the risk of hazards, reduction of damage, and improvement and restoration after damage. Local knowledge includes practical and scientific knowledge related to local conditions and socio-cultural environment of the region. Natural hazard is an important challenge in rural development. It is important that we control it for decreasing harm.It focuses on culture, capacity, and local society knowledge. The objective of hazard management is toprepare and implements a comprehensive program that is able to cope with the risks and its effects without external aid.

Theresearch seeks toanswer thefollowing question:

- What is the role of indigenous knowledge and modern knowledge in reducing the vulnerability of rural area from natural hazards in Shizr district?

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2. Study Area

Harsin is a city in Kermanshah, which has two townships, central part and Biston. The population of Harsin Township (in the 2006 census) was 91300 people. 53731 people are in city and 37569 are in villages. Two-thirds of the township of Harsin is urban and the rest are rural. The township has an area of about 816 square kilometers. The Harsin Township is the third largest township of Kermanshah. Its longitude is 47 degrees 35 minutes, its latitude is 34 degrees 16 minutes and its height from sea level is 1582 meters. According to the 2006 census, Shizr district has 13 villages and its population is 10992 people. Natures of Harsin Township are into three groups: plain, foothills and mountains. More villages are plain and their important economic activities are wheat cultivation, horticulture and animal husbandry.

3. Material and Methods

Research methods are descriptive and analytic. To understand villagers' indigenous knowledge, we used survey methods, direct observation, interviews and questionnaires and to understand new and modern knowledge we used the questionnaire method. The statistical population consisted of rural population in selected villages.According to the census of Statistic Institute in 2006, the total number of villages is 13 villages, and we selected 9 villages. We used Kochran Formula to calculate the statistical population. The statistical population was 90 people. Ages of people were over 50 years.

4. Discussion

In the assumption test we understand that integration of modern and local methods is better than the modern method itself. Local knowledge, modern knowledge and integrated knowledgewere used to reduce the vulnerability of glacial and cold (an important hazard in villages) on three components: environmental, economic, and social. Therefore, there is a significant difference between the effectiveness of indigenous knowledge, modern andintegrated knowledge to reduce the negative effects of cold on three components: environmental, economic and social. The efficiency average of local knowledge is more than the efficiency average of modern knowledge in each three components (in each components of environmental, social and economic). Also the mean of efficiency in integrated knowledge is more than that of modern and local knowledge. Therefore, indigenous knowledge in comparison with modern knowledge has high efficiency to reduce the effects of cold and glacial.

We analyzed the effect of the indigenous knowledge, modern knowledge and combination of knowledge to reduce the harmful effects of drought in the economic, social and environmental factors. The significant difference was between the effectiveness of indigenous knowledge, new knowledge and theircombination in drought hazard in three components: environmental, economic and social. Mean of efficiency of indigenous knowledge in managing drought was more than the efficiency average of modern knowledge in three components: environmental, economic and social. The combination of indigenous and modernknowledge had higher efficiency thanindigenous and modern knowledge, separately. Therefore indigenous knowledge was better than modern knowledge in managing natural hazard.

5. Results

In this study, we did a comparison of indigenous knowledge, modern and the combination of the two methods. In this paper it became clear that flood and earthquake are the natural hazards that modern science is not the solution to theirproblems. But indigenous knowledge decreases their negative effects.In cases of flood and drought and glacial, indigenous knowledge is accountable more than the other two items (modern and integrated) in villages. Despite scientific advances, natural disasters are not predictable and communities are faced with much damage in villages. Iran, due to its geographical position, is faced with various natural disasters such as earthquakes, floods, drought, and frost. Therefore the indigenous people have learned how to face these risks. Indigenous knowledge is a result of the experience of people exposed to hazards. Thus, people have learned how to deal with natural hazards.Local communities have used the different procedures for risk management and natural disasters and this has formed indigenous knowledge in villages. The indigenous knowledge of local communities can be integrated with modern knowledge for better management of risks.

Finally we suggest that:

1-Natural hazard is an important challenge in villages of Iran;

1-Indigenous knowledge has an important role in managing hazards;

2-It is important that we use indigenous and modern knowledge together;

3-It is essential that the government and local people corporate together for managing hazards.

Key words: Domestic knowledge, Modern knowledge, Natural damage, Shizr County.

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