



Appropriate Pattern In Evaluating Disaster Exposed Systems by Using Modified Balance Theory

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Abstract

This paper tries to present a suitable and effective pattern for assessing systems which are exposed by disaster. The system, in this paper, is a 10 story apartment with 100 people habitants. This system as a result of cutting-off the water flow in water network is in the vicinity of disaster condition and tries to resist in front of disaster. We use modified balance theory (MBT) to assess the system. Calculating principle parameters of system like needs and capabilities, system condition has been compared with disaster condition by developed relationships.

Keywords: Disaster cognition pattern, Water shortage disaster, Modified balance theory

1. INTRODUCTION

Drought is the single most important weather-related natural disaster often aggravated by human action. Drought's beginning is subtle, its progress is insidious and its effects can be devastating. Drought may start any time, last indefinitely and attain many degrees of severity. Since it affects very large areas for months and years it has a serious impact on economy, destruction of ecological resources, food shortages, starvation of millions of people and impacts on of social hardness.

Drought mitigation needs management. While it is considered as one of the most important disasters then we need disaster management.

Disaster management is the discipline of dealing with and avoiding disasters that involves preparing for disaster before it happens, disaster response, as well as supporting, and rebuilding society after natural or human-made disasters have occurred. Disaster management, In general, is the continuous process by which all individuals, groups, and communities manage hazards in an effort to avoid or ameliorate the impact of disasters resulting from the hazards. Actions taken depend in part on perceptions of risk of those exposed. Effective disaster management relies on thorough integration of emergency plans at all levels of government and non-government involvement. Activities at each level (individual, group, community) affect the other levels. It is common to place the responsibility for governmental emergency management with the institutions for civil defense or within the conventional structure of the emergency services.

There are some methods and theories for managing disasters. Most of these methods are based on qualitative principles and previous experiences which none of them could present a precise and mathematical method. Two of these methods are theory of balance in disaster management and island management [1].

Saeedi (2003) presented his theory on balance in disaster management [1]. This theory is based on managing of needs and capabilities. This theory tries to make a balance between needs and capabilities. It says when a system cannot preserve this balance; the condition is critical and needs disaster management. Hassani et al. (2008) by using this theory analyzed the management of disaster of crude oil leakage to Zayand-e-Rood River [3]. They concluded that the method of managing the disaster was not good and caused disaster propagates.

In general, in mentioned cases, researchers did not note how they could find that condition is critical. Therefore in disaster management the first step is to assess, if the condition is disastrous and the happening is going to exchange to a disaster or it is just an occurrence.

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