

EVACUATION DECISION-MAKING IN NATURAL DISASTERS*

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When seeking to manage the consequences of natural disaster, evacuation is an important tool in the hands of authorities. In particular, evacuation which is instituted *before* disaster impact can result in the preservation of life, reduction of personal injuries, and the protection of property. Thus, when there is sufficient forewarning – and evacuation is an appropriate coping strategy – pre-impact evacuation of a threatened population is an effective means of mitigating the negative consequences of natural disaster.

As a means of adjusting to natural hazards, evacuation is a process with a very long history. As early as the fifth century B.C., the Greek historian Herodotus described Egyptian evacuations in the face of the seasonal flooding of the Nile River. Indeed, evacuation is a concept which pervades journalistic, popular and professional literature on disaster. In spite of its apparent ubiquity, however, very little attention has been devoted to examining variables which are important in individuals' decisions to evacuate in response to a disaster warning.

This paper will review empirical studies of

warning response, particularly focusing upon pre-impact evacuation of threatened populations, and summarize the available findings. The summary may be seen as a conceptual framework of inter-related hypotheses describing the relationships among variables which *past research suggests* are important in individuals' decisions to evacuate. This paper should not be seen as an attempt to develop a formal theory. Instead, it represents an effort to order the empirical literature by organizing existing findings into a general conceptual framework. The remainder of the paper is structured around three primary tasks: (1) development of a theoretical perspective of evacuation behavior; (2) a review of empirical literature; and (3) assembling findings into a tentative framework.

EVACUATION IN THE CONTEXT OF WARNING RESPONSE

Much of the early social scientific research on evacuation was conducted within the framework of man-made rather than natural hazards. Following World War II, a number of studies were released which focused on German (United States Strategic Bombing Survey, 1947a), Japanese (United States Strategic Bombing Survey, 1947b), and English (Titmuss, 1950) efforts to remove people from threatened cities and at the same

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