The 1988 Earthquake in Soviet Armenia: Implications for Earthquake Preparedness

An earthquake registering 6.9 on the Richter scale hit the northern part of the Armenian Republic of the Soviet Union on 7 December 1988, resulting in thousands of deaths and injuries. The majority of these resulted from the collapse of inadequately designed and constructed buildings. Analysis of the effects of the Armenian earthquake on the population, as well as of the rescue and medical response, has strong implications for earthquake preparedness and response in other seismically vulnerable parts of the world. Specifically, this paper will recommend a number of important endeavours deemed necessary to improve medical planning, preparedness and response to earthquakes. Strengthening the self-reliance of the community in disaster preparedness is suggested as the best way to improve the effectiveness of relief operations. In earthquake-prone areas, training and education in basic first aid and methods of rescue should be an integral part of any community preparedness programme.

INTRODUCTION

Sudden impact disasters such as earthquakes present a serious challenge to both developed and less developed countries of the world. A review of the disaster medical literature reveals a general consensus among researchers and disaster planners alike, on the inadequacy of preparedness programmes in communities at risk from disasters such as earthquakes (Guha-Sapir and Lechat, 1986a). This inadequacy, stemming from a lack of appropriate information and research, may result in ineffective and wasteful relief action and marginally-developed preparedness programmes (Noji, 1987). For this reason, we must rely on lessons learned from past earthquakes, particularly regarding the exact nature of immediate medical needs (de Bruycker *et al.*, 1985; de Ville de Goyet and Jeannee, 1976). Better epidemiologic knowledge of the causes of death and type of injuries and illnesses caused by earthquakes is clearly essential to determine the appropriate relief supplies, equipment and personnel needed to respond effectively to such situations (Alexander, 1985; Guha-Sapir and Lechat, 1986b). Thus, the study of international events such as the recent catastrophe in Soviet Armenia can make a significant contribution towards cohesive earthquake preparedness plans for communities at risk from events such as earthquakes.

While in many large cities of the world, relatively sophisticated codes govern the design and construction of new structures, there remains a large number of older, unreinforced masonry and under-reinforced concrete buildings, often inhabited by large numbers of people. Indeed, should a major earthquake occur, it is expected that the majority of the deaths and injuries will be