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Preparing for a Severe Earthquake in Israel: What Can Be Done Now?

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Following the mild earthquakes in the Sea of Galilee area in July 2018, there was increased public awareness – albeit perhaps temporary – regarding the possibility of a powerful earthquake in Israel. The cost of a major earthquake, which could occur in the near future, has been estimated in the assessment adopted by the government in 2012, based on a study by a professional committee headed by Dr. Benny Begin, to reach some 7,000 fatalities, 8,600 people injured, 9,500 people trapped in collapsed buildings, 28,000 severely damaged buildings, and about 170,000 individuals left homeless. Is it possible to prepare for such a severe scenario? The answer is complicated, but clearly positive. What must be done to mitigate the damage is well known - and yet, much remains to be done.

Earthquakes are natural phenomena that occur in the Middle East, as well as elsewhere. The most extensive and deadly event in the region occurred in July 1927, and before that in 1837. A powerful earthquake in Israel could be a multi-faceted disaster, largely due to the lack preparedness, and particularly because of the unstable condition of many old buildings, which were not constructed according to the anti-seismic standards published in 1980. Hence it is imperative to strengthen these edifices as part of the preventive process.

Over the last decade, Israel has invested increased efforts to prepare for earthquakes, including through two national exercises (2012 and 2017) that were dedicated entirely to this challenge. The Home Front Command's search and rescue capacities have been enhanced, as were those of the firefighters and other first responders, through the improvement of inter-organizational coordination. In addition, civilian voluntary rescue teams (SAAR – from the Hebrew acronym for Initial Self Help) have been established in several local authorities, and tenth grade pupils have been trained in rescue techniques. However, in at least two critical fields the government cannot point to adequate achievements:

a. Early warning: about 18 months ago deployment began of "tru'ah," the national early warning system for earth shocks (sensors placed along the Syrian-African rift). The current estimate is that the system will be completed by 2019; however, the budget allocated by the government for the purchase of sound alarms is insufficient for the planned scope of purchases. Moreover, notwithstanding the government decision in 2009,

establishment of the Seismology Unit in the Geological Institute is not yet complete. The unit is designed to provide ongoing assessments on earthquakes for the sake of taking the necessary rescue and mitigation decisions.

b. Preventing and mitigating damage: in striking contrast to the Israeli investment of billions of shekels in sheltering, particularly in the area around the Gaza Strip, and in promoting preparedness to face the threat of rockets and missiles, including through active defense, an early warning system, reinforced Home Front Command capabilities, exercises, and enhanced coordination, the investment in preparedness for earthquakes is negligible, particularly relative to the severe risk. Ninety-nine percent of public buildings that require reinforcement – such as hospitals – remain unattended. Out of 80,000 residential buildings that have been defined as old and requiring reinforcement against earthquakes, only 2.4 percent (2780 buildings, mostly in costly high demand areas) have been reinforced as part of the TAMA 38 national plan. Recently the cabinet decided to adopt a reinforcement plan for 2019-2030 that includes a special budget allocation to reinforce buildings in high risk areas.

The considerable gaps between the level of risk and the related needs and the required response show that Israeli governments are apparently more concerned with the risks of a war and the political consequences of a war scenario than with the consequences of a destructive earthquake, which could actually be far more severe in terms of loss of life, property, and infrastructure but happens less frequently. These gaps reflect the centrality of the security challenges in the Israeli mindset, which also explains the decisive role of the IDF in the decision making process, and its natural tendency to give priority to implementing a military approach, even in this civilian context. This gap represents a failure of national magnitude.

The failure is not due to any lack of knowledge about the threat of a powerful earthquake and the enormous potential for damage to the country's population and its critical infrastructure. This has been clear from many studies and reports published over the last twenty years. The report of the State Comptroller in July 2018 states expressly that "the State is not properly prepared for a severe earthquake." In July 2017, the Internal Affairs Committee of the Knesset received a report from its Center for Research and Information that showed that an absolute majority of local authorities were not ready to cope with an earthquake. According to the figures, in 2015 only about a quarter of local authorities were ready to handle emergencies. In a Knesset debate, the Minister of the Interior stated that the government was not doing enough to prepare for a disaster.

What can be done, in the short range, to improve readiness for a severe earthquake?

a. The subject of preparing for earthquakes must be promoted to a much higher position on the national agenda. In this framework, it will be important in the first stage to ensure

that all existing government resolutions on this matter are fully budgeted and actually implemented, in a reasonable timetable, and with close supervision by the relevant ministries. It is also necessary to prepare a policy of educating the public about the severity of the risk and what can be done in advance and during the event. Public knowledge and awareness play a decisive role in saving lives in the event of a large scale disaster.

b. Define a senior national body to be affiliated with the (existing) ministerial committee on National Earthquake Readiness. This organ will be responsible for implementing government policy and for the necessary coordination between the relevant ministries, first response agencies, and local authorities. The existing steering committee is mainly an advisory body to the ministerial committee, and as such has no executive powers or legal means of obliging any sector to prepare for an earthquake. Until recently, the National Emergency Management Authority (NEMA) was also assigned to promote the preparedness for earthquakes, but the recent decision of the Minister of Defense to limit its areas of operation raises a question about its scope of responsibility, or that of the Home Front Command, in this matter. In any event, the proposed organ must be responsible for coordination between the relevant agencies before, during, and following an earthquake, to include the long and complex stage of recovery. Presently, the Prime Minister's Office is responsible for recovery; this arrangement should be revisited in this context. At any rate, this entire issue should be regulated by legislation, so as to ensure that the organization in charge will have enforcement authority.

c. Local authorities must have the executive responsibility for managing the disaster on the ground, as it occurs. This is a difficult, complex task, especially since many of the relevant localities lack the capacity to stand up to the mission. Therefore the government must help them with resources and training, to develop the required overall capability.

d. There must be an immediate change in the concept and method of reinforcing construction. Implementation of existing plans to reinforce public buildings must be revived and prioritized according to their necessity and location with respect to the expected earthquake. At the same time, it is essential to update the concept regarding reinforcement of residential buildings, with preference given to areas close to earthquake risk zones, particularly in peripheral areas, where TAMA 38 and the "Vacate & Construct" plans are not economically viable. For this purpose, the Ministries of the Interior and Housing should oblige the relevant local authorities to define and implement a quota of building reinforcement, where the cost will be divided between the owners of the assets, the local authorities, and the government.

The current state of preparedness for a powerful earthquake is lacking and worrying, but it can be improved greatly, including by utilization of the far greater preparedness for security disruptions. This requires the government to make the right decisions in the immediate term, and to invest a concentrated and ongoing effort to remedy the situation.

The process will probably be long, but it must be launched immediately. Public awareness and pressure could help advance this matter.

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