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How Prepared is Israel for an Earthquake?

Meir Elran and Alex Altshuler

On October 21-25, 2012, Israel held its first national exercise to examine how prepared the state and its institutions are for a severe earthquake. This was the country's sixth home front exercise, held annually as part of the lessons learned from the Second Lebanon War. The annual exercise is also the climax of a series of smaller exercises held throughout the year. Until now, the annual exercises were based on security scenarios, primarily missile and rocket attacks on the civilian front. The decision to devote this year's scenario to an earthquake is notable, as it implies (a) recognition of the importance of preparing for natural disasters whose damage to life and property are expected to be much higher than those inflicted by war, terrorism, and other man-made conflicts; and (b) the adequate understanding that preparing for an emergency is essentially generic in nature, as many of its components are shared by man-made and natural disasters. Thus, preparedness for natural disasters in general and earthquakes in particular has a direct impact on the preparedness for the more familiar security scenarios.

The goal of the exercise was defined as "improving the integrated response and preparedness on the part of the home front organs and the population to manage a severe earthquake hitting Israel." The exercise examined the response of municipal and national civilian and military units, infrastructure systems, and the population at large in the case of an earthquake measuring 7.1 on the Richter scale, occurring at a depth of 10 kilometers in the Hula Valley area in the country's northern region. According to the scenario, the quake also generated high sea waves (5-15 meters) along the coast, damaging the port of Haifa and the Reading power station in Tel Aviv.

According to the recently determined framework for emergency preparedness, which also served the concrete scenario for the exercise, the earthquake caused 7,000 fatalities (less than half of the past scenarios), 8,600 severely to moderately injured, 37,000 lightly wounded, 9,500 people trapped under rubble, 170,000 people displaced from their homes, 28,000 buildings with heavy damage, and severe disruptions to many critical infrastructures. The scope of the economic damage at the national level was estimated at a minimum of NIS 50 billion. The principal issues examined in the exercise were:

command and control, continuous functioning, civilian services, evacuation, international assistance, and multi-stage rehabilitation. The specific objectives of the exercise were: raising the public awareness to the gravity of the challenge, validating the response strategies, examining future improvements to preparedness, and creating the conceptual basis for systemic post-disaster reconstruction.

There were several significant insights to emerge from the exercise, including:

- The national exercise was based on the assumption that Israel is not properly prepared for a severe earthquake with mass casualties, and that despite some initial steps taken recently, the nation must undergo a long, complicated process.
- Exercises in general and the current one in particular are crucial for the sake of enhancing systemic preparedness at the national and local levels. An exercise reflects the basic assumption that there is a direct, positive correlation between appropriate preparedness and the reduction of damage inflicted by foreseen disasters, whether natural or man-made. To its credit, Israel is one of the world leaders in holding exercises of this sort.
- After many years of focusing almost exclusively on security-related emergencies, the civilian front has now been drilled on the challenges of response to natural disasters. While less common in this region, their damage can be much more severe and it is important to be prepared for them.
- Beyond the immediate casualties, the anticipated damage to routine life is a critical issue requiring the formulation of a strategic approach and meticulous preparedness. At the heart is the sensitive question of mass evacuation and the supply of services in emergencies. Theoretical solutions on the drawing board are important, but it is doubtful they can provide the necessary response.
- The question of international assistance was central to the exercise and for good reason. The issue was dealt with mostly at the technical level, focusing on the orderly intake of foreign aid. This is of course important, but no less significant is the realization that Israel is incapable of handling widespread disasters on its own. This has a bearing on other contexts as well.
- The expected damage to critical infrastructures (electricity, water, communications, transportation) is a key topic demanding thorough study and prior preparation suitable for this present scenario as well as for other (perhaps more likely) hazardous episodes, such as cyber attacks or widespread war / terrorist activity. This is a challenge that calls for urgent attention to ensure redundancy and improve systemic flexibility, which currently appears insufficient, in part because of budget limitations.
- Authority and responsibility / command and control: as always, the twofold question arises of who is responsible for preparing the systems and for managing the events as they unfold. The legal issue has yet to be resolved. Unlike the

security realm, the civilian system is far from being properly regulated. The situation is more complicated because of the nature of natural hazards, the high number of casualties and the scope of damage, and – no less importantly – the possible damage to means of communications and control. As with other scenarios, the expectation here was that the IDF, partly by deploying the Home Front Command, would take charge at an initial stage. But for this to happen, even in the most limited fashion, the IDF must prepare in advance for sensitive civilian scenarios. This is a difficult challenge.

- Handling the issue of rehabilitation and recovery after a mass disaster has always been an Achilles' heel. The very fact that the issue was raised specifically in the present drill reflects constructive thinking. Hopefully this will generate concrete, long term systemic processes to create mechanisms that will allow relatively rapid and appropriate rehabilitation after severe future emergencies.

After a long period of neglect, Israel has drawn a clear starting line for the systemic tackling of mass natural disasters. To what extent will the exercise generate a structured and effective system of preparedness that meets different needs, including the omnipresent security challenges? Hopefully, future deliberations will generate a more adequate balance between the commonly emphasized prevention posture of disasters and defense against them on the one hand, and what has been generally neglected, i.e., preparation for the day after, in the form of ensuring the sequential functioning and rehabilitation. To date, there has been little progress toward this much needed balance.

