



PERSPECTIVES

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The Day After an Iranian Nuclear Strike

by Dr. Col. (res.) Ori Nissim Levy

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EXECUTIVE SUMMARY: There is much discussion around the world about how to prevent Iran from obtaining nuclear weapons. But few, if any, international bodies deal with the question of how to prepare for the day Iran achieves such capabilities, if that day has not already arrived.

Defining the problem

The geopolitical struggle in the Middle East between Iran (either directly or via proxy) and its regional rivals is a battle for supremacy, not a battle for destruction. The mullahs' desire for a nuclear program does not revolve around the potential destruction of Israel, though one might reasonably conclude otherwise from their public statements. Their central object is, rather, to render the regime immune to external attack as it pursues its dogged quest for regional hegemony and spreads Tehran's Islamist message across the world.

With that said, there is no question but that Israel must prepare itself for the prospect of a nuclear Iran. Israel has outstanding technological abilities, is an innovator in high-tech military and civilian industries, and has – through its long history of coping with military threat – excellent military capabilities and a fundamental understanding of security needs. Israel is thus able to be a world leader in nuclear defense preparedness.

The nuclear world is already very dangerous. Extensive nuclear activities are being conducted around the globe, and serious mishaps do not stop at national border lines – the accidents at Chernobyl and Fukushima, for example, spread radioactive materials far and wide. Over 10,000 nuclear warheads are scattered around the world. More than 51 nuclear devices have been lost entirely, their whereabouts unknown. To date, there have been more than 2,200 nuclear incidents; the world average is two per month. Just a few weeks ago, a fire broke out aboard the Russian AS-12 Losharik nuclear submarine that killed 14

people – the worst loss of life aboard a Russian submarine in over a decade. The Putin government has been accused by the Russian media of covering up many details of the incident.

An ostrich policy leads to risk and weakness

A nuclear weapon is by definition a tool of military aggression. If it exists, it can be used, even if the likelihood of such use is slim. If such a weapon were to be created by Iran, the Israeli home front would have to dramatically change its level of preparedness and create new programs based on comprehensive and up-to-date analysis. The ostrich policy of some countries could lead to catastrophe. Huge failures, such as those at Chernobyl and Fukushima, reached their massive proportions because of mismanagement.

First things first. A realistically sized nuclear bomb detonated in a central Israeli city would not be the end of the world, and would not lead to a post-apocalyptic future. Though it would be a painful blow and would likely cause tens of thousands of casualties, according to experts, it is possible that “only” 1,000 civilians would be killed. The parameters affecting the number of casualties would include whether the attack occurred during the day or night, the specific hour, whether it took place during a weekend, what the weather was like, and so on.

A calculation by Dr. Yehoshua Sokol, chairman of the Academic Forum for Nuclear Awareness (AFNA), argues that if 80 atom bombs (!) were to land in Israel, less than 10% of the population would be injured and “only” 300,000 people would die. The number of casualties would not increase in line with the number of bombs.

What this means is that a nuclear strike scenario is not an endgame military maneuver. Many of us think in terms of the dramatic pictures of Hiroshima and Nagasaki after nuclear attack – images of charred lands going on for miles. These images do not apply to today’s cities. Japanese cities in 1945 were crowded urban landscapes consisting of one- or two-storey wood and paper houses. Those structures were consumed by fire generated by the heat of the explosions. The vast majority of casualties resulted from the enormous fires that raged across the cities for days on end and from flying debris from the fragile wooden homes that maimed the unprotected.

The situation today

Today’s cities are very different, particularly in Israel. Israel’s cities are newer than most urban landscapes around the world, and 93% of the country’s population lives in them. Israeli cities are built from steel, brick, and concrete. Ever since 1975 (with the last update in 2014), Israeli urban structures have been built according to specific standards against earthquakes. In 1991, it was further

mandated that every new apartment be fitted with a protected space (a *mamad*) with 30 cm-thick reinforced concrete walls. The *mamad* provides adequate protection from a nuclear blast and its aftereffects (though not perfect, as radiation can penetrate the windows). Tama-38, a building restoration and renovation program operating since 2005, reinforces older structures by adding protected spaces to each apartment. Older buildings and complexes have communal public shelters that can be modified to provide excellent protection against nuclear weapons as well as against conventional bombs.

Israeli urban construction can be a model for nuclear defense preparedness around the world. It shows how, through simple but adequate preparation, the number of potential casualties can be greatly reduced. Professionals in the field claim loss of life and damage can be reduced 10- to 20-fold by taking some basic steps. Catastrophic results can be mitigated through preparation, advance attention to rehabilitation needs, and strong national leadership that takes action immediately following an event.

21st century weaknesses

It must be considered that modern-day urban areas have flaws that older Japanese cities did not have. Car fuel tanks, for example, could light up like sulfur. A key weakness is our 21st century reliance on a technological and electrical infrastructure that would be seriously affected by a nuclear attack.

Apart from its ability to destroy the target's power grid and telecommunications infrastructure, a nuclear device has an EMP (electromagnetic pulse) effect – a power surge that effectively burns out electrical devices within a 5-10 km radius. Combined with the physical power of a bomb, an EMP could lead to more casualties in the weeks following an attack than would be caused by nuclear fallout and radiation. We depend on our power infrastructure for our water, air, sanitation, food supply, and contact with the world, including access to vital emergency services such as hospitals and firefighters. The loss of that infrastructure would be a major blow.

Though Israel is a small state, most of its emergency forces and facilities outside the bombed area would likely remain intact and could provide relatively quick aid to those affected. Still, Israelis must prepare not just for immediate damage and fallout, but for life without power or technology.

The most important element is missing

The simplest and possibly most effective method of preparedness is communication with the public. Information is key. Public knowledge and preparedness should not be restricted to operational guidelines on how to act in a crisis – instead, citizens should be provided ahead of time with sufficient

knowledge to enable them to decide for themselves how to behave. Informing the public about multiple possible defensive methods can vastly mitigate the number of casualties from a direct blast. People who have received prior information on how to survive without power, food, and water would be much better prepared to handle the period between a nuclear blast and their extraction from the area.

A flow of knowledge about what to do the day after a nuclear attack is critical to preparing the public – but no one in Israel seems to want to talk about it. Plans are made far from the public eye, but civilian defense cannot happen without the participation of the most important actors – the civilians themselves.

The policy of silence on what can and should be done in case of a nuclear emergency is inadequate in today's world, considering recent changes in Iran's perception of the nuclear deal. Chances remain small that an attack will occur, but the possibility grows as regional instability rises. There is a need for a policy of providing preemptive information to civilians that would direct them to the nearest shelters, teach them the effects of a nuclear blast, and instruct them on how to protect themselves in their neighborhoods and ensure that their food and water are not contaminated. Civilians need to know how they can survive, stay informed, and communicate with others as they await rescue.

The true power of the nuclear weapon is intimidation

The real power of nuclear weapons is their ability to intimidate. If a target country is well prepared, it can significantly reduce those weapons' power to do it harm. Preparation can be even more valuable than huge investments in structural shelters.

Israel, which is a world leader in many security and civil aspects, can set a new bar for global preparedness for nuclear attack. Israeli urban construction provides an excellent model for nuclear preparedness. It can be part of a comprehensive preparedness model for the rest of the world to follow.

Dr. Col. (res.) Ori Nissim Levy is an international expert in nuclear defense. In the IDF, he was responsible for building large-scale military exercises and was Chairman of the Nuclear Forum. Dr. Levy prepares countries and cities for nuclear events based on the Operational Nuclear Defense Model (ONDM), which addresses the life cycle of a nuclear event from preparations through rehabilitation.