Toward a Nuclear Middle East

Yoel Guzansky and Ron Tira

In recent years, the Iranian nuclear project has been at the center of the world's attention and has motivated other states to take the nuclear path. Indeed, countries from Turkey and Saudi Arabia to Egypt and the United Arab Emirates are developing nuclear infrastructure and know-how without a possible military dimension (PMD) as far as we know. Of course, Iran's progress toward nuclear weapons could accelerate these processes and increase the incentive to give these projects a military dimension. While significant research has focused on the nuclearization of Iran and the threat it poses, less attention has been given to the formation of a multipolar regional nuclear system, the inherent risks, and the challenges involved in maintaining nuclear balance. The purpose of this chapter is to analyze the risks inherent in a multipolar regional nuclear system; to review the current nuclear situation in the Middle East; to recognize the accelerating and inhibiting factors in the region's nuclearization; to identify possible trends of nuclearization that have military dimension; and to recommend an Israeli strategy to counter this threat.

Background: The Implications of a Multipolar Regional Nuclear System

In the absence of precedents for a multipolar, regional nuclear system, any analysis is inherently challenging. Moreover, it is unlikely that the theories and concepts that developed about the nuclear issue during and following

The writers would like to thank Dr. Ephraim Asculai, Mr. Yahel Arnon, Brig. Gen. (ret.) Itai Brun, Dr. Ofir Winter, Col. (res.) Itamar Yaar, Dr. Gallia Lindenstrauss, and Prof. Zaki Shalom for their helpful comments.

the Cold War would be applicable in the Middle East. The most significant conceptualization during the Cold War revolved around the doctrine of mutually assured destruction (MAD), which relied on the survivability of the nuclear attack capability in order to carry out a second strike after having suffering a first strike. This sustainability was ensured in two ways: First, the superpowers had numerical redundancy. At the height of the Cold War, the two superpowers possessed tens of thousands of nuclear warheads. Second, they had platforms that were highly survivable, such as deep-water nuclear submarines that could remain under the arctic ice cap; a fleet of bombers that could remain airborne for a long period; and surface-to-surface missiles that were silo-protected or mobile. This ensured the adversary's intelligence was not able to locate all of the enemy's existing platforms at any moment, and even when a platform was located, it was sometimes difficult to destroy.

During the Cold War, the United States and the Soviet Union defined additional conditions necessary for enabling second-strike capability. First, the adversarial sides had to have some geographic distance between them. The Cuban missile crisis in 1962 resulted, in part, from the fact that the stationing of Soviet ballistic missiles with nuclear warheads in geographically close proximity to the United States could have shortened the warning time and limited the American second-strike capability (at least in terms of command, control, and retaliation from the territory of the United States itself). Second, they had to be capable of identifying an attack in advance. In the case of the superpowers, only the massive launching of thousands of nuclear weapons could have brought about the destruction of the adversary's nuclear capabilities, and this kind of volley would have had a high signature, allowing for advanced warning.

In the case of a multipolar regional nuclear system, however, it is doubtful whether the concepts of the Cold War are even relevant. Each regional player likely would amass a modest number of nuclear weapons, especially in the first few years of nuclearization, and it is improbable that they would possess platforms such as nuclear submarines loitering under the arctic ice cap or a fleet of bombers continuously in the air. Therefore, it might be possible to track the enemy's weapons and destroy them in a first strike, thus denying the enemy the ability to carry out a second strike. Under these circumstances, the option of a nuclear attack becomes a rational decision. In addition, the regional players are geographically closer and sometimes border one another; thus, attacking a small number of nearby strategic sites could be possible without giving an early warning and enabling the adversary to respond.

During the Cold War years, theoretical models developed by the Rand Corporation, Thomas Schelling, and others served as a substitute for the lack of actual experience with nuclear crises. 1 Borrowing from these models, we can present a model in which states A and B each possess two nuclear bombs that are each stored in a bunker in the heartland of the two states. In this situation, it is possible to locate the bunkers where the two adversarial states store their two bombs, as well as attack the bunkers. Here, the use of nuclear weapons for a first strike on the bunker of the adversarial state could be considered a rational act. In addition, each of the two states may fear that the other has already located or is about to locate the bunker in which its nuclear weapon is stored, leading both to rationally conclude that they must preemptively attack the adversary's bunker before the adversary does. This creates a dynamic, which as stated, is completely rational, of accelerating the nuclear escalation.

The situation is even more complicated in a multipolar system, as it is more difficult to create situational awareness and to analyze the strategy of each player against the others, thus increasing the potential for errors. Due to the difficulties in creating situational awareness, there is a fear that a bipolar nuclear event could develop into a multipolar nuclear crisis. Some of the Middle Eastern players do not yet have systems that can be adapted for nuclear command and control, and it is not clear how fortitudinous the political leadership can be in supervising the exercise of military force. In addition, the regional states do not have any credible and institutionalized channels of communication through which they could manage nuclear crises. Furthermore, there is a tangible danger that the collapse of a regime or state could cause components of its nuclear weapons to fall into the hands of various radical sub-state organizations. Moreover, a nuclear attack does not have to come from the territory of the aggressor state but could rather come from the territory of a failed state or via a sub-state proxy. These characteristics do not fit the Cold War's nuclear models and produce a dangerous and complex reality that is much more difficult to manage.

Given how Iran handles its affairs, it is doubtful whether it is a natural candidate for a paradigmatic nuclear partnership with its adversaries like the one that existed between the United States and the Soviet Union during the Cold War. As a rule, Iran is unlikely to view nuclear weapons as an all-ornothing measure. Its natural tendency is to create obfuscated gray situations, to exercise brinkmanship, to defy on the one hand and give in on the other. This great "creativity" characterizes Iran's strategy, and Iran could find ways to leverage the power of extortion in nuclear and sub-nuclear crises, including turning its nuclear capabilities into a protective shield behind which it could carry out subversive activity or conventional warfare.

The Region's States and the Nuclearization Process: A Situation Assessment

In October 2015, Iran began to implement the nuclear deal that it had signed with the world powers; in the spring of 2019, however, it began to gradually and unilaterally erode the restrictions that had been imposed upon it according to the agreement. Iran's violations of nuclear limitations in the JCPOA continued and its stock of low enriched uranium grew to 2324.9 kilograms of low enriched uranium enriched below 5 percent. As a result its breakout timelines decreased slightly to an average of 3.5 months, with a minimum of at least 3.1 months.²

Saudi Arabia feels threatened by Iran's nuclear project. Given this position as well as its considerable financial resources, Saudi Arabia is the leading Arab candidate for developing a nuclear program with possible military dimensions. In addition, the kingdom has long declared its intention to develop a nuclear program for peaceful purposes, and it is preparing to implement this decision. Among other things, in the spring of 2019, it was reported that the kingdom had acquired a small research reactor made in Argentina and that it is in advanced stages of construction at a site near Riyadh. In parallel, Saudi Arabia would like to build nuclear power plants for producing electricity, is negotiating with the United States in order to receive assistance for civilian nuclear development, and is working to erode the taboo against enriching uranium.³ In this context, Saudi Arabia's energy minister, Abdulaziz bin Salman, said at a conference in Abu Dhabi in September 2019 that the kingdom is interested in controlling all the components of the nuclear fuel cycle, including the enrichment of uranium.⁴ The United States, for its part, demands that the kingdom sign a comprehensive supervision agreement with the International Atomic Energy Agency (IAEA) and even adopt the additional protocols of the Treaty on the Non-Proliferation on Nuclear

Weapons so that Congress will be able to approve the 123 Agreement for nuclear cooperation between the two countries, which is named after Section 123 of the US Atomic Energy Act of 1954.5 Over the years, and since the signing of the nuclear deal with Iran, senior officials in the kingdom have spoken out against Iran's attaining nuclear weapons. The Saudi crown prince, Mohammad bin Salman, explicitly and publicly clarified the implications for Saudi Arabia during a visit to the United States in the spring of 2018. In an interview, he declared that "Saudi Arabia does not want to attain a nuclear bomb, but there is no doubt that if Iran develops a nuclear bomb, we will attain a nuclear bomb as soon as possible."6

In the past, there were reports of possible military nuclear cooperation between Saudi Arabia and Pakistan, while an Iranian nuclear breakout likely would increase Saudi pressure on Pakistan to provide it with immediate nuclear reassurances. In such a case, the prepositioning of Pakistani nuclear weapons within Saudi Arabia—under Pakistani command—is more likely than the transfer of nuclear warheads from Pakistan directly to Saudi possession and control. Concerns over Riyadh's nuclear intentions increased at the end of 2018, with the disclosure of a facility for producing surface-to-surface missiles, the first of its kind in the kingdom, which seems to have been built with Pakistani and/or Chinese assistance. The site, in the southwest of Riyadh, is similar to one that China built northwest of Islamabad.⁷

Turkey is developing a significant civilian nuclear program for the construction of some twenty electricity reactors by 2030 and will receive assistance from foreign companies at least for building the first few reactors.8 In 2010, Turkey signed a deal with the Russian government corporation Rosatom for the construction of a power plant consisting of four units, each generating a capacity of 1,200 megawatts of electricity. The deal cost twenty billion dollars, and it includes light-water reactors, which are supposed to begin operating in 2023—a three-year delay in regards to the original plan.9 Turkey does not have known plans to enrich uranium or process plutonium, but Prime Minister Erdoğan declared that his country retains the right to do so.10

Egypt has also been pursuing a civilian nuclear program. This program includes two research reactors located at the nuclear research center at Inshas. For many years Egypt has discussed the possibility of building nuclear power plants, and in recent years it even signed agreements in principle with Russia for supplying reactors. The laying of the cornerstone for the construction at El Dabaa is planned for 2020. Presidents Anwar Sadat and Hosni Mubarak decided not to pursue military nuclear development, although not all Egyptian officials agreed with this decision. 11 During one of its routine visits to Egypt in 2009, the IAEA discovered highly enriched uranium particles; however, Egypt did not have a satisfactory explanation. 12 Egypt also has refused to sign the "Additional Protocol" of the Non-Proliferation Treaty (NPT)—a step which would allow the IAEA to conduct more precise testing on its territory. Over the years, within international forums, Egypt has called for making the Middle East a nuclear-weapons-free zone—directed mainly at Israel. Egypt has been less involved in this in recent years, as it may understand that its activity in this area has encountered significant obstacles and has not yielded any real results.

The United Arab Emirates (UAE) is the most advanced state in the Arab world in terms of civilian nuclear development. In 2018, the UAE completed the construction of the first of four nuclear reactors; when it is operational, the UAE will be the first Arab state operating a civilian nuclear program. The UAE claims that it needs nuclear energy in order to catch up with its increasing energy needs and to reduce its dependence on oil, so that it can export more of the oil it produces. In order to alleviate international concerns about its nuclear intentions—as part of a 123 Cooperation Agreement with the United States—the UAE committed in 2009 to not enriching uranium or to processing plutonium. This threshold was set as the regime's "gold standard" for preventing nuclear proliferation, and the agreement opened the door for the UAE to engage in international nuclear cooperation and to accelerate its nuclear program.

The nuclear deal between the world powers and Iran could place the UAE in an inferior position. The agreement it signed with Washington is less beneficial, as it provides a much narrower leeway than in the agreement signed with Iran. For this reason, some Arab governments criticized the UAE for adhering to the 123 Agreement.¹³ After signing the deal with Iran, the UAE's ambassador in Washington, Yousef Al Otaiba, insinuated that the UAE might reconsider its position regarding the enrichment of uranium and may not continue to see itself obligated by the nuclear cooperation agreement that it signed with the United States.14

Jordan also conducted negotiations on a civilian nuclear cooperation agreement with the United States, but these negotiations did not progress due to its insistence on not relinquishing the option of enriching uranium. The kingdom aspires to start a nuclear program for producing electricity within its territory though this aspiration is suffering from significant economic and political difficulties. Jordan's increasing demand for energy, its lack of oil reserves (some 90 percent of its energy consumption is imported), the prolonged disruption in the past to both the supply of oil from Iraq and natural gas from Egypt, as well as the presence of significant uranium deposits in its territory have compelled the kingdom to strive for civilian nuclear capability in cooperation with Russia.

Syria, it appears, still retains an extremely limited civilian nuclear capability. This is under the restricted supervision of the IAEA, as Syria has not signed the "Additional Protocol." With North Korea's assistance, Syria secretly constructed a nuclear reactor intended for military purposes, which was destroyed by Israel in 2007. The media has reported that Bashar al-Assad has not completely given up on Syria's nuclear program, although there has been no official confirmation of this. 15

The above shows that the regional players have chosen to take different nuclearization paths—some more concerning than others. It is important to distinguish between nuclearization steps that affect Israel's set of strategic considerations and those that do not influence these considerations. For example, the development of nuclear weapons or the construction of nuclear facilities with a possible military dimension or the attainment of nuclear weapons from a third party should be differentiated from a civilian nuclear power plant. A civilian nuclear power plant that is based on a 123 Agreement; is constructed and operated by an international contractor; whose fuel is provided from an external source; is subject to IAEA supervision with the most stringent standards; and does not have potential military dimensions nor enables a significant transfer of knowledge is, of course, a lesser concern. However, we cannot ignore the fact that even civilian nuclearization paths lacking immediate military dimensions gradually create a new regional reality edging toward the proliferation of nuclear infrastructure, in which nuclear knowledge and competencies becomes more common, and step-bystep, the nuclear taboo is broken down.

The Nuclearization Paths

The Middle East countries has several possible paths to nuclearization. The most common is implementing research projects or constructing reactors for the production of electricity; both lack military dimensions and are carried out under the mantle of international legitimacy. These projects are undertaken mainly because of regional prestige and standing that accompany nuclear development and for the desire to build a basis of knowledge and to train technological personnel in the field. Due to this pursuit for nuclear development, we must not discount the possibility of a low-key civilian nuclear race.

Receiving a nuclear reassurance from a country such as the United States is one nuclear path that does not raise much concern. The experience of the Cold War, however, shows that written reassurances were not considered credible enough, and additional guarantees were needed, such as the prepositioning of American troops or American nuclear weapons within the borders of the states that received the reassurance. If the United States would demonstrate this kind of commitment while considering the sensitivities of each state (especially the Arabian Peninsula, where the stationing of non-Muslim forces can be a sensitive issue), it is possible that certain states would settle for this. In the past, the United States has used a physical guarantee to successfully reassure, at least partially, its allies Japan and South Korea from the threats inherent in the proliferation of nuclear weapons in Asia.

In the case of Saudi Arabia, a US nuclear umbrella of protection over the years has been considered preferable to its independently striving for military nuclear weapon. Nonetheless, Iran's nuclear weapons could have consequences on the Saudi kingdom's security, in addition to the increasing Saudi concern about the willingness of the United States to continue providing it with military backing in the face of Iranian aggression. In Turkey's case as well, it is not clear how willing it is to depend upon the United States in the long term. Turkey's acquisition of the S-400 air defense system produced by Russia (after which the United States suspended Ankara's participation in the F-35 program) suggests that Turkey does not have any level of trust toward the United States and its other NATO allies.

As for Egypt, several developments could cause concern. First, Egypt might want to move from a civilian nuclear program to a military one for several reasons. Egypt has a traditional national security doctrine, according to which stable peace is based on military force and requires developing elements of power, especially given that Israel is still perceived as a reference threat—despite the peace agreement—and given Israel's image as a nuclear state. Egypt also has ambitions to restore its standing as the region's leader by attaining nuclear weapons capability. Egypt also subscribes to the view that possessing nuclear weapons will guarantee the stability of its regime, while the possible collapse of the nuclear deal with Iran could ignite a regional nuclear arms race.

Second, the external involvement mainly of Russia in the construction of the nuclear power plant at El Dabaa and in improving Egypt's nuclear science infrastructure is worrisome. This cooperation with Russia is part of Abdel Fattah el-Sisi's policy to diversify Egypt's sources of support in terms of its arms procurement, which renders Egyptian-Russian military cooperation possible in the nuclear field as well. Furthermore, the current regime's political and economic challenges could make it easier for external players—Russian, Saudi, and others—to gain a foothold in Egypt. Cooperation between Egypt, Saudi Arabia, and the UAE in the nuclear field could magnify the shared knowledge, funding, and motivation vis-à-vis regional adversaries. In addition, reports have circulated about the existence of military ties between Egypt and North Korea and between the latter and the UAE, which could be expressed in pursuing a secret military nuclear program like the one built previously in Syria.

A third concern is Egypt's easing of diplomatic efforts to prevent the proliferation of nuclear weapons in the Middle East. While the construction of nuclear power plants for peaceful purposes at El Dabaa does not—at least for now—deviate from Cairo's traditional declarations about promoting a Middle East free of nuclear weapons, Egyptian diplomacy in recent years has notably stopped calling on Israel to sign the NPT. While this trend could reflect improved relations between Egypt and Israel, it could also reflect Egypt's understanding that there is no point in pursuing its previous policy as well as its decision to choose alternative ways of addressing Israel's nuclear superiority, such as by pursuing its own military nuclear project.

Another path to nuclearization is requesting nuclear reassurances or a weapon from a third party that is not a superpower. For example, a special relationship has developed between Saudi Arabia and Pakistan. Saudi Arabia sees Pakistan as both a strategic hinterland and an important asset in restraining Iranian influence, as well as fulfilling a need for a strategic ally that is not Arab. In return, Pakistan enjoys a relatively reliable economic mainstay, influence in the Gulf arena, and even a role in protecting the holy places of Islam. Although Riyadh and Islamabad have had disputes in recent years, especially when it comes to Saudi military involvement in Yemen (since March 2015), they have succeeded in overcoming them and in deepening their special relationship. If an Iranian nuclear breakout does occur, Saudi Arabia would increase its pressure on Pakistan to supply it with immediate nuclear reassurances. What is included in these nuclear reassurances and to the extent that Saudi Arabia would be willing to place its security solely in the hands of Pakistan are both unknown. Moreover, the United States likely would exert pressure on both Pakistan and Saudi Arabia to prevent them from strengthening their nuclear cooperation.

The nuclearization path that represents the highest level of escalation is the development of a nuclear project that has military dimensions, including the production of plutonium or enrichment of uranium and ultimately weaponization and the development of platforms that are capable of carrying weapons (such as surface-to-surface missiles). We must not discount the possibility of attaining nuclear weapons from third parties. It should be noted that at the time of this writing, we are not aware of a military nuclear effort in any one of the above-mentioned states except Iran.

Catalysts and Inhibitors of the Nuclearization Processes

The main catalyst of a nuclearization process of states in the Middle East is the nuclearization of their neighbors. This is due to the nuclear threat itself, the increased weight of sub-nuclear military threats under the umbrella of a nuclear threat, and considerations of hegemony and prestige. Iran is leading the nuclearization process, which could cause other regional players to accelerate their nuclear programs. Saudi Arabia feels especially threatened by Iran's nuclear program. If Saudi Arabia believes that Iran is advancing in its nuclear program and certainly if it declares that it has attained military nuclear capability or conducts nuclear testing, then the kingdom could utilize all its economic resources and mobilize a nuclear response to the growing Iranian threat in a relatively short amount of time.

The United States is the only country that can provide an effective nuclear umbrella to the Saudi kingdom, and this is well understood in Riyadh. Despite the lack of an official alliance, the United States and Saudi Arabia have significant security relations. Nonetheless, Saudi Arabia harbors a growing mistrust toward the level of American political and military support for it. The source of this mistrust is the attitude that both the Obama and Trump administrations have shown toward Saudi Arabia. This is the context for the formation of the special relationship mentioned earlier between Saudi Arabia and Pakistan, which may include secret nuclear understandings, and is based, in part, on Pakistan's extensive, proven military nuclear capability.

Iranian nuclearization—certainly if Saudi Arabia follows suit—would pose a dilemma for Turkey in terms of its response, if only for reasons of prestige. In a speech given in Ankara in May 2018, Turkish president, Recep Tayyip Erdoğan, declared that the main threats to his country and to the region are nuclear weapons. ¹⁶ In a speech delivered in September 2019, he criticized the countries with military nuclear capability for preventing Turkey from also arming itself with missiles that can carry nuclear warheads and said that he does not accept this.¹⁷ Turkey opposed the United States' decision to withdraw from the nuclear deal with Iran and impose sanctions on it, mainly because of its dependency upon energy imports from Iran. Although Turkey is a signatory to the NPT and the "Additional Protocol" and enjoys NATO's nuclear umbrella, the tensions between Turkey and its fellow NATO members could spur it to take an independent nuclear path.

The assumption that a nuclear Iran poses an equal threat to both Saudi Arabia and Turkey can be challenged. Iran and Turkey have disputes, and the tension between them sets the stage for the mutual threats that are made at times, but over the years the two countries have been able to maintain a more or less quiet border between them. In addition, as the international sanctions imposed on Iran for its nuclear program continue, Iran's dependence on economic relations with Turkey—allowing it to bypass at least some of the sanctions—will persist and perhaps even increase.

Egypt's regional leadership ambitions—even if they have been placed on the back burner as Egypt focuses on its serious domestic challenges—as well as its concerns over Iran's military buildup and the advancement of its nuclear program could drive Egypt to acquire military nuclear capability. Currently, Egypt is far from being able to produce nuclear weapons on its own, despite having a significant reservoir of Egyptian nuclear scientists and engineers. Egypt emphasizes that its energy needs justify its aspirations for a nuclear program, but, as already stated, what could push it toward nuclear development for military purposes—even if not immediately—is its regional significance and that Egypt traditionally sees itself as the leader of the Arab world.

From a broader perspective, there are several factors that restrain and inhibit the region's states on the path to nuclearization. The primary factor is the stance of the world powers, mainly the United States and Russia, which thus far have worked to block and curb the proliferation of nuclear weapons—even if they have not always been effective. Although the world powers' firm stand, backed by a definitive and credible strategy, could be an inhibiting factor in the nuclearization process, currently it is not the case. The existence of coherent and tight political blocs of client states in the region and of world powers reduces the incentives of these states to aspire to nuclearization, and it also renders the world powers' opposition more effective. The strategic credibility of the world powers, which is based mainly on demonstrating commitment to their allies, also influences the regional nuclearization trends.

The world powers and the international community adhere to the NPT regime, despite incidents in which it has been violated. Just as the NPT regime did not collapse after North Korea attained nuclear capability, and just as nuclear proliferation in northeast Asia did not expand, Iran's becoming a nuclear power will not necessarily lead to the collapse of the NPT regime, especially since the majority of countries in the world are interested in maintaining it. Therefore, we can speculate that the difficulties and political costs involved in the development of military nuclear capability may continue to deter Saudi Arabia, Turkey, and Egypt from choosing this option. But if Iran crosses the nuclear threshold, the ability of the international community to oppose additional countries from obtaining nuclear capability will diminish significantly.

Of course, one of the restraining factors is also the economic costs, the technical complexity, and the knowledge barrier that a country must overcome in order to implement a nuclear program that has military dimensions. Achieving nuclear capability possible military dimensions involves a more prolonged effort than in the past, and many barriers stand in the way of states that seek to attain independent nuclear capability. Egypt has the necessary some knowledge and infrastructure, but its economic problems diminish its chances of pursuing such an expensive project in the short term. Saudi Arabia is strategically motivated to create a nuclear response to Iran's nuclearization and has the requisite economic resources; Saudi Arabia, however, suffers from a lack of skilled local personnel, and whether it would be able to import external personnel that would assist it in advancing such a project is questionable. As for Turkey, it seems to have the necessary economic capability as well as human resources for the purpose of pursuing nuclear capability; however, its nuclear infrastructure is rudimentary, and the training of personnel necessary to advance a nuclear program there could take a long time. Furthermore, since the failed coup attempt in July 2016, Turkey has had to cope with the increased emigration of scientists.¹⁸

Conclusion and Recommendations

Israel considers preventing the development of a regional nuclear threat as a primary strategic objective. The prevention strategy that Israel has implemented for the past few decades (at least since 1981) is aimed at enemy states (Iraq, Syria, and Iran) and combines covert and overt measures, including diplomatic and, if necessary, also military-kinetic means. Nonetheless, several basic facts have changed since this strategy, known as the Begin Doctrine, was first formulated. First, Israel's international standing has strengthened, and today it can rely on international measures more successfully than it could in the past. Second, the reference scenario could change. If Iran pursues a path of nuclearization, after which military nuclear projects also begin in Saudi Arabia, Egypt, or Turkey, then the scope of the challenge could require new measures that differ from the traditional ones of the Begin Doctrine. Consequently, from the outset, Israel must work to prevent the emergence of this threat profile. Third, Israel's relations with the Arab world have shifted as some of the Arab states have become its allies (overtly or covertly), while the main threat reference is now Iranian and not Arab.

Israel has an interest in preventing nuclearization with possible military dimensions even in states that have an overt or covert strategic partnership with it, out of concern that their orientation could change; their policy could reverse (for example in the case of the fall of a regime); or that the nuclearization of one state will encourage other states in the region to follow suit. Improving relations with these states could reduce the dynamics of a nuclear arms race. In this context, Israel should examine in depth whether the Begin Doctrine is still relevant to Arab states that are allied with the West. Preventing the nuclearization of enemies requires comprehensive prevention—of both allies and adversaries—in order to prevent a nuclear arms race in the first place. Israel's intelligence should pay attention to the regional cooperation in this field, especially in the development of networks of nuclear assistance. For example, countries such as Egypt and Pakistan have a considerable number of nuclear scientists, while the Gulf States, which launched their own nuclear programs long ago, can provide funding for nuclear projects. Ultimately, it is important to remember that a multilateral nuclear system is unstable and could escalate into a multilateral nuclear crisis that could involve Israel, even if the crisis does not begin bilaterally between Israel and a nuclear state in the region.

Preventing the nuclearization of states that are not enemies is a complex issue. While any prevention strategy ultimately could include a kinetic effort, halting the nuclearization of a friendly state requires many prior and additional endeavors, including the exposition of the nuclear effort. Preventing the nuclearization of Iran understandably would reduce the motivation of players such as Saudi Arabia, Egypt, and Turkey from pursuing the path of nuclearization. That is, by preventing the nuclearization of its adversaries, Israel could prevent the nuclearization of some players who are not enemies, and vice versa. In this respect, the nuclear efforts in Saudi Arabia, the UAE, and Turkey might not contribute to the efforts to halt Iran's nuclear program; rather, they increase Iran's motivation to continue its nuclear program.

Israel can also try to influence the United States to provide a nuclear umbrella, if needed, to countries such as Saudi Arabia, as it has a clear interest in fostering trust in the relations between the United States and Saudi Arabia. For Israel's sake, it is, of course, preferable that the United States—and not Pakistan—provide the nuclear umbrella. From Israel's perspective, it is certainly desirable that Saudi Arabia does not receive nuclear weapons from Pakistan or from any other source. In addition, Israel has an interest in Turkey's remaining within the framework of NATO. Consequently, from Israel's perspective, working to promote the deep and credible involvement of the United States in the Middle East is considered the right approach, as it serves as a barrier to nuclearization.

As for the time frame for the threat's materialization, these are longterm projects that are affected by various catalysts and inhibitors. Those who are close to completing nuclear projects—such as the UAE, which will inaugurate its reactors in the near future—are not a threat to Israel, as long as they retain their current dimensions. Nonetheless, even though the time frame for completing nuclear projects is long, the possibility that one of Israel's neighbors will attain operational military nuclear capability is a severe threat that requires ongoing monitoring and the appropriate allocation of resources.

Simultaneously, Israel needs to consider whether it should acquiesce to neighboring nuclear programs that do not have a military dimension but rather are meant for prestige and for discharging political pressures. To a large extent, this is a moot point, as several large-scale civilian nuclear programs have already been undertaken in the Middle East in recent years.

Israel can also provide a strategic hinterland, based partially on intelligence and missile defense, to the Arab states that feel threatened by Iran. Any prevention strategy against those who are adversaries and those who are obviously not should utilize non-kinetic measures, including recruiting the support of the international community in general and the United States in particular, pursuing sanctions, intelligence exposures, and cyber warfare.

Notes

- Thomas Schelling, Arms and Influence (Tel Aviv: Maarachot, 1976), 271–295 [Hebrew].
- 2 David Albright, Sarah Burkhard, and Andrea Stricker, "Analysis of the IAEA Iran Verification and Monitoring Report," ISIS, June 8, 2020.
- 3 For more on this, see Yoel Guzansky, "Saudi Arabia: Walking the Nuclear Path," Strategic Assessment 21, no. 2 (July 2018), https://www.inss.org.il/publication/ saudi-arabia-walking-nuclear-path/.
- 4 Rania El Gamal and Alexander Cornwell, "Saudi Arabia Flags Plan to Enrich Uranium as U.S. Seeks Nuclear Pact," Reuters, September 9, 2019, https://reut. rs/2BpaMJt.
- 5 Jonathan Tirone, "Saudi Arabia Pressed by Trump Envoy to Allow Nuclear Inspections," Bloomberg, September 17, 2019, https://bloom.bg/2kpLMNg.
- 6 "Saudi Crown Prince Says Will Develop Nuclear Bomb if Iran Does: CBS TV," Reuters, March 2018, https://reut.rs/2Isf70t.
- 7 Paul Sonne, "Can Saudi Arabia Produce Ballistic Missiles? Satellite Imagery Raises Suspicions," Washington Post, January 23, 2019, https://wapo.st/2Z7888p.
- 8 "Turkey Targets 20 Nuclear Reactors by 2030 official," Reuters, January 31, 2011, https://reut.rs/2H8inPx.

- 9 "Update 1: Turkey's First Nuclear Plant Gets Initial Approval," Reuters, October 20, 2017, https://reut.rs/2KDJvnB.
- 10 Hans Ruhle, "Is Turkey Secretly Working on Nuclear Weapons," *National Interest*, September 22, 2015, https://bit.lv/2H87xcs; Sinan Ulgen, ed. *The Turkish Model for* Transition to Nuclear Energy (Istanbul: Center for Economics and Foreign Policy Studies, December 2011), 156, https://bit.lv/31JwVwX.
- 11 Yoel Guzansky, Ephraim Asculai, and Gallia Lindenstrauss, "Civilian Nuclear Programs in the Middle East: Nuclear Spring or Nuclear Autumn?," Strategic Assessment 15, no. 1 (April 2012), https://www.inss.org.il/publication/civiliannuclear-programs-in-the-middle-east-nuclear-spring-or-nuclear-autumn/.
- 12 Joe Cirincione, "Egypt's Nuclear Dimension," *Huffington Post*, February 13, 2011, https://bit.ly/2YSPUs9.
- 13 Robert Einhorn and Richard Nephew, "The Iran Nuclear Deal: Prelude to Proliferation in the Middle East?" Brookings, May 31, 2016, https://brook.gs/31Oxs0T.
- 14 Yoel Guzansky, "The UAE Nuclear Push and the Potential Fallout for the Middle East," Foreign Affairs, February 19, 2017, https://fam.ag/2m8sibR.
- 15 Erich Follath, "Evidence Points to Syrian Push for Nuclear Weapons," *Der Spiegel*, January 9, 2015, https://bit.ly/2OYJP8R.
- 16 "Erdogan Voices Support for Iran Nuclear Deal," Hurrivet Daily News, May 22, 2018, https://bit.ly/31JsIJJ.
- 17 "Erdogan Says It's Unacceptable that Turkey Can't Have Nuclear Weapons," Reuters, September 4, 2019, https://reut.rs/2ksJ7SV; For more, see Gallia Lindenstrauss, "Erdogan's Threat of Nuclear Militarization," INSS Insight no. 1213, September 18, 2019, https://bit.ly/31ojHW0.
- 18 Carlotta Gal, "Spurning Erdogan's Vision, Turks Leave in Droves, Draining Money and Talent," New York Times, January 2, 2019, https://nyti.ms/2F4SqQM.