

# Key Determinates of Nuclear Developments in the Middle East

---

Prepared for the Nonproliferation Policy Education Center

1 July 2009

Richard L. Russell, Ph.D.\*

20484 Ashley Terrace

Sterling, VA 20168

(202) 685-2163

[rlr8@georgetown.edu](mailto:rlr8@georgetown.edu)

---

\* Richard L. Russell is Professor of National Security Affairs at the National Defense University's Near East and South Asia Center for Strategic Studies and Adjunct Professor of Security Studies at Georgetown University's Edmund A. Walsh School of Foreign Service. He is the author of *Sharpening Strategic Intelligence: Why the CIA Gets It Wrong and What Needs to Be Done to Get It Right* (Cambridge University Press, 2007) and *Weapons Proliferation and War in the Greater Middle East: Strategic Contest* (Routledge, 2006).

## Key Determinates of Nuclear Developments in the Middle East

Iran's nuclear weapons ambitions are a leading key determinate of nuclear developments in the Middle East. Tehran's suspected pursuit of nuclear weapons is poised to fuel a regional nuclear arms race in the Middle East over the next twenty-five years. In fact, nation-states in the Middle East already are hedging their bets that Tehran will one day harbor a nuclear weapons arsenal even if it is an undeclared one, much like that of Israel.

We are already seeing preliminary signs that the arms race is getting underway in the Persian Gulf area. The Gulf Cooperation Council, led by Saudi Arabia, has publicly announced plans to invest in nuclear power industry. The GCC members claim they are hedging their energy needs against the days in the future when their oil reserves are depleted. The GCC though probably has sending a not too thinly veiled threat to Iran that they too can follow suite with nuclear weapons programs under the guise of a civilian nuclear program if Tehran does not cease its uranium enrichment activities. The United Arab Emirates (UAE) has been particularly active in soliciting nuclear power bids from the United States and France.

Elsewhere in the Middle East, other countries are leaning toward nuclear power which would lay foundations for military nuclear weapons programs in the next twenty-five years. Turkey, a state with one geopolitical foot in Europe and the other in the Middle East, has showed renewed interest in its nuclear power infrastructure. Egypt too has publicly declared its revamped interest in nuclear power technology. Syria appears to have been harboring a clandestine nuclear program until Israel, the first nuclear-weapons capable state in the Middle East, launched airstrikes in October 2008 to destroy Syria's North Korean-supplied nuclear reactor.

While Iran's pursue of nuclear weapons is a key determinate of the looming Middle East nuclear arms race, it is not the only one. This chapter argues that five overarching key determinants are fueling the Middle East appétit for nuclear weapons. These determinants are the desire for nuclear weapons to deter adversaries, compensate for conventional weapons shortcomings, fight wars, garner domestic political power, and to win international political power especially to leverage against the United States. Given this powerful array of key determinants for nuclear weapons present and pervasive in the Middle East, the current Western push to market and sell nuclear power infrastructure and capabilities to the region is dangerously short-sighted. These capabilities pose likely risks to be converted for military nuclear weapons programs in some shape or form in the next generation.

### Deter Adversaries

Middle Eastern states will look to nuclear weapons to deter regional adversaries in the next twenty-five years. Israel's nuclear weapons program is a prime regional example of this driving determinant for nuclear weapons, and other states will likely follow suit in the years ahead. Israel has long had a non-declared nuclear weapons program in the Middle East, which has been a security concern for Arab states. The Israelis, who leveraged their French-provided nuclear

power plant at Dimona for its clandestine nuclear weapons program, sought nuclear weapons to deter and offset numerical military superiority of conventional Arab military forces.

Tel Aviv publicly neither confirms nor denies its nuclear weapons capabilities. As Avner Cohen and William Burr explain, the Israelis have steadfastly maintained that they would not be the “first country in the region to introduce nuclear weapons into the region,” a diplomatic nuisance meaning openly testing and publicly declaring nuclear weapons.<sup>1</sup> This posture allows the Israelis to have plausible deniability about their nuclear weapons capability while at the same time influence the strategic thinking of Arab leaders on decisions of war and peace with the threat of Israeli nuclear weapons.

The deterrence afforded Israel by its nuclear weapons capabilities has been problematic. Contrary to expectations by deterrence theory enthusiasts, Israel’s thinly veiled nuclear weapons capabilities did not deter Egyptian and Syrian forces from attacking Israel in the 1973 Middle East war.<sup>2</sup> The Israelis in the earliest stages of the 1973 suffered severe battlefield losses to Egyptian forces on the Sinai. Reports have circulated for years that the Israelis were so alarmed that they were about to be defeated by Egyptian forces that they had readied their nuclear weapons, which Israel had clandestinely developed and acquired. Israeli nuclear forces in 1973 consisted of French-built Mirage aircraft capable of delivering nuclear bombs and a small force of ballistic missiles armed with nuclear weapons.<sup>3</sup> The Israelis, however, were able to marshal an impressive conventional military turn-a-round and nearly routed Egyptian forces had it not been for American diplomatic intervention to stop the war. Israel’s impressive conventional military reversal alleviated its need to resort to nuclear weapons against Egyptian forces to defend Israel proper.

Even though Arab regimes routinely and loudly denounce Israel’s nuclear weapons inventory, Middle Eastern states--aside from Saddam Hussein’s Iraq and Syria’s recent flirtation with a nuclear program--have not perceived an immediate and grave threat from Israel’s nuclear weapons. Israeli nuclear weapons have more been an affront to Arab prestige than an acute security threat and have not sparked a nuclear arms race in the Middle East.

In marked contrast, the public revelation that Iran had a clandestine uranium enrichment program sent shudders down the backs of Arab Middle Eastern states. Iran was for nearly two decades working on and off on uranium enrichment capabilities. The program, which began in the mid-1980s with centrifuge parts and drawings from the “father” of Pakistan’s nuclear weapons program Abdul Qadeer Khan, was revealed to the world in 2002 by Iranian dissidents. The Iranians had built a facility at Natanz with plans for installing 50,000 centrifuges.<sup>4</sup> The Iranians failed to notify the International Atomic Energy Agency (IAEA) of this program despite its obligation to do so under the terms of the Nonproliferation Treaty to which Iran is a signatory.

It probably is no coincidence that after Iran’s uranium enrichment centrifuge program was publicly exposed in 2002 that in relatively short order the most oil-wealthy states in the world—joined by other states in the Middle East--suddenly decided to diversify their sources of energy and invest in nuclear power plants.

- The Gulf Cooperation Council under the Saudi leadership has tasked a team in May 2009 to begin the study the peaceful purposes of nuclear power.<sup>5</sup>

- The Saudis are negotiating with France for the purchase of nuclear technology and Paris already has signed civilian nuclear deals elsewhere in the Middle East to include Algeria and Libya.<sup>6</sup>
- The UAE is energetically working with both France and the United States on developing its nuclear power industry.<sup>7</sup> South Korea too will be providing aid to the UAE's nuclear power program.<sup>8</sup>
- Kuwait also has shown interest in nuclear power cooperation with France and Kuwait's Emir in February 2009 said that Kuwait is "seriously considering joining the nuclear club but only for peaceful purposes."<sup>9</sup>
- Jordan in May 2009 signed a nuclear energy cooperation agreement with Russia in which Moscow would provide Amman with power plants, research facilities, and training centers.<sup>10</sup>
- President Mubarak in 2007 announced that Egypt would redouble investment in its nuclear power infrastructure.<sup>11</sup> Mubarak signed a nuclear energy deal with Russian President Putin in March 2008 giving Russia the go ahead to bid for building the first of four new nuclear power plants in Egypt.<sup>12</sup>

The relatively sudden surge in Arab state interest in nuclear technology after the exposure of Iran's clandestine centrifuge program suggests that they perceive a more acute threat stemming from Iranian nuclear weapons in the future than they do from Israel's nuclear weapons today. The Arab states after all have lived with Israel's veiled nuclear weapons capabilities for decades, but it was only after Iran's nuclear efforts became public did they move from rhetoric of denouncing Israel to moving to concrete nuclear capabilities. The Arab Gulf states would be especially eager to have nuclear weapons to deter the use of Iranian ballistic missile and nuclear weapons use against them.

The Arab states undoubtedly fear that nuclear weapons in Iranian hands will further bolster Iranian power and influence in the Gulf and Middle East. Nuclear weapons would enable Tehran to even more aggressively and energetically support its growing surrogate influence through Shia militias in Iraq, Hezbollah in Lebanon, and Hamas in the Palestinian community. The Arab states probably calculate that they would be exceedingly vulnerable to Iranian political coercion and military intimidation in the future if Iran has nuclear weapons. Part and parcel of the Arab state sudden and sharp focus on nuclear technology is an effort to signal to Tehran that they too could follow Iran's path toward nuclear weapons under the guise of civilian nuclear power production infrastructure.

Turkey too probably is strategically thinking much like the Arab states. Ankara has a working relationship with Iran, but it too probably will want to hedge its bets against an Iran armed with nuclear weapons in the not too distant future. The Turks may very well have this set of calculations in the back of their minds with their recent renewed interest in revamping their nuclear power infrastructure.<sup>13</sup> Again, it probably is no coincidence that Turkey publicly announced plans to reinvest in its nuclear power infrastructure not too long after the exposure of Iran's uranium enrichment plant at Nantz.

The Turkish General Staff would not want to be in an inferior bargaining position should relations with an Iran armed with nuclear weapons deteriorate. Some observers might argue that Turkey could rely on its NATO membership for a nuclear security umbrella to deter Iranian aggression, but that suggestion is likely to be less than satisfactory comfort to the Turkish military. Turkey remembers well that when it prudently turned to NATO for protect from potential Iraqi retaliation in the run up to the American-British 2003 war against Iraq, Turkey was sternly rebuffed. That experience was a bitter pill to swallow for the Turks who would want to their own nuclear deterrent against Iran's nuclear stockpile.

## **Backstopping Conventional Military Shortcomings**

Another key driver for nuclear weapons in the Middle East will be the desire to plug holes in defenses because of conventional military shortcomings. Even though the Arab states are plush with the most advanced ground, air, and naval weaponry, their conventional military capabilities suffer from numerous problems. Arab Gulf states, for example, lack strong population bases to draw educated and technologically capable soldiers, sailors, and airmen to man their expensive weapons systems and train for modern mobile-conventional warfare. These traits leave the Arab Gulf states excessively reliant on foreign contractors to maintain and field their military forces. Family and tribal ties, moreover, trump military competence for high command in Arab Gulf states.

Arab Gulf states likely would look to nuclear weapons as the “quick fix” for all of their conventional military shortcomings. They might even calculate that nuclear weapons in the future would relieve Arab Gulf states from the arduous and long-term work needed to improve their conventional military forces which, more often than not, are reflections of the shortcomings of their own cultures, histories, and societies.<sup>14</sup>

Gulf state regimes would be drawn to the allure of nuclear weapons as the ultimate guarantee of their survival in a future military crisis with larger Iranian conventional military forces. The Gulf state regimes might calculate that in a future crisis with an Iran armed with nuclear weapons, the United States would be deterred from entering the fray, leaving the Arab Gulf states to fend for themselves.

To ensure that they could hold Iranian targets at risk the Arab Gulf States are likely to be interested in acquiring and modernizing their now limited ballistic missile holdings. The Saudis clandestinely procured intermediate range CSS-2 ballistic missiles from China in the mid-1980s and the UAE clandestinely procured in 1989 Scud missiles from China.<sup>15</sup> These missiles are old though, and the UAE and Saudi Arabia no doubt would like to modernize their ballistic missile holdings. Pakistan, China, North Korea, and Russia would be the places for them to shop and they could offer lucrative sales to countries willing to skirt the Missile Technology Control Regime, a voluntary cooperative effort by western states to stem the flow of ballistic missile-related technology to nation-states trying to build-up their ballistic missile capabilities.

Syria also has an acute interest in nuclear weapons to compensate for its conventional military shortcomings in its rivalry with Israel. Syrian conventional military forces have been consistently bested by Israel conventional forces in the Arab-Israeli wars as well as in clashes in

and around Lebanon. Syria's conventional military capabilities eroded even more when the Soviet Union collapsed and the Moscow arms pipe line dried up. Moscow under Putin's muscular foreign policy might yet renew major conventional arms supplies to Syria to revamp its conventional military forces in the not too distance future. But modern Russian arms alone would not be sufficient in of themselves to redress Syria's conventional military shortcomings against Israeli forces.

The Syrian regime apparently decided to look to nuclear weapons to make up its conventional military shortcomings. Damascus ran the risk of detection by Israel and was clandestinely assembling a North Korean-supplied nuclear reactor until the Israelis mounted an airstrike and destroyed it in September 2007. The Syrians spent months razing and cleaning up the site before allowing international inspectors to investigate.<sup>16</sup> The Israelis have neither confirmed nor denied the airstrike, a posture which helped keep the strike from spiraling into a broader Middle East war. Had Israel publicly and blatantly lauded the strike, the bravado might have so humiliated the Damascus regime that it might have lashed out militarily with retaliation against Israel.

Egypt too might make a similar strategic calculus in the future to guard against the possible political collapse of its peace treaty with Israel. A political convulsion in the region or in Egypt itself could one day lead to the breakdown of the Egyptian-Israeli peace treaty to reawaken the bitter security rivalry that was the core of the Arab-Israel wars in the last century. The most well-organized Egyptian political opposition and the most likely to assault the Cairo regime would be the Muslim Brotherhood. And the Muslim Brotherhood in July 2006 publicly called on the Mubarak regime to develop a nuclear deterrent<sup>17</sup>, which suggests that a nuclear weapons capability would be high on the policy agenda for a Muslim Brotherhood-led government in Cairo. Egypt, unlike Syria, is well equipped with modern conventional weaponry thanks to decades of American security assistance. But Egyptian society and its armed forces suffer from shortcomings that prevent the full exploitation of the modern weaponry's capabilities leaving Egypt's conventional forces outclassed by Israel's conventional forces.

Egypt could turn to nuclear weapons to in the first instance to deter Israeli nuclear forces and in the second instance to counterbalance Israeli conventional military capabilities. In a future regional security environment mired with Egyptian and Israel tensions, Cairo would want nuclear weapons to reassure itself that the Israelis could not use the threat of nuclear and conventional military superiorities to politically coerce Egypt. Cairo would see nuclear weapons as the ultimate security guarantee should push come to shove in a regional crisis. Egyptian would want nuclear weapons to deter Israeli conventional forces from again storming over Egyptian military forces, flooding the Sinai Desert, and threatening to cross the Suez Canal to challenge the survival of Egypt's regime.

## **Fighting Wars**

Another key determinant for nuclear weapons proliferation in the Middle East is the desire for nuclear weapons to wage war. This view may be startling to some readers because many observers commonly judge that nuclear weapons are only good for deterrence and not for war fighting. The history of nuclear weapons development shows otherwise, however. The United States and its NATO allies during the Cold War procured and deployed nuclear weapons in

Europe, not as some grand deterrent bluff, but because they intended to use them had the Warsaw Pact forces invaded Western Europe with conventional forces. The United States and its NATO allies worried that Warsaw Pact forces outnumbered and outgunned NATO forces so that the alliance would have had to resort to tactical nuclear weapons to blunt a Warsaw Pact conventional military invasion.<sup>18</sup> Pakistan probably makes a similar strategic calculation today in seeing the numerical superiority of Indian conventional forces and the close geographic proximity of Pakistan's capital Islamabad to the border.

Middle Eastern states in the next twenty-five years might make similar strategic calculations. Saudi Arabia, for example, might come to think that the early use of nuclear weapons against Iranian forces invading through Kuwait would be wiser statecraft than letting Iranian forces get a operational foothold in the oil rich Eastern Province of Saudi Arabia, where a largely Shia population is alienated from the Sunni Saudi regime and is sympathetic to Iran. Kuwait itself has no geopolitical buffer zone separating it from numerically superior Iranian forces and might want to resort to nuclear weapons against Iranian forces before they cross into Kuwaiti territory. If the Kuwaitis were to hesitate to use future nuclear weapons, they would risk losing their country much as they had in Saddam Hussein's 1990 invasion and occupation of Kuwait. The Saudis and the Kuwaitis, on top of these calculations, might judge that they themselves would need to resort to nuclear weapons to blunt an Iranian invasion because the United States would not want to put their forces in the line of sight as they had in against Iraq in 1991 and 2003 because of the threat of Iranian targeting of American forces with nuclear weapons.

The Iranians certainly are aware of American conventional military prowess and would not seek a fair fight in a future military clash with the United States. Tehran watched American and British military forces dispatch Saddam Hussein's regime in three weeks, an impressive task that Iran was not able to accomplish after eight brutal years of war with Iraq which sapped Iran's national strength. The Iranians in the future, especially the Revolutionary Guards, might resort to nuclear weapons use against American conventional military forces should they fear for the survival of the Tehran regime. They might calculate that Iranian nuclear weapons use would shock the Americans and compel them to stand down their military operations. They might calculate on top of that the United States would restrain itself not to retaliate against Iran with American nuclear weapons given Washington's political interest in maintaining the non-use of nuclear weapons and the American preference not to inflict massive Iranian civilian casualties.

Syria and Egypt too might find themselves embroiled in a future Arab-Israeli war. If faced with a stark choice of allowing Israeli forces to capture Damascus or Cairo, the Syrian and Egyptian regimes would prefer to bludgeon Israeli conventional military advances with nuclear weapons. They might calculate that their use of nuclear weapons against Israeli conventional forces would not cross the threshold for Israeli retaliation with nuclear weapons against their capitals and population centers. These would be risky calculations to be sure, but they are plausible ones especially during crises in which authoritarian regimes believe their survival is at stake.

## **Political Power at Home**

Another key determinant for nuclear weapons is domestic politics and the struggle for power inside Middle East nation-states. Often overlooked is the fact that armed forces and domestic

communities and interest blocks become influential advocates for nuclear weapons programs in nation-state decision-making circles. As Scott Sagan points out, in examining cases of nuclear proliferation, a state's nuclear energy establishment to include civilian reactors and laboratories and elements with militaries, and politicians or the mass public which strongly supports nuclear weapons acquisition are important drivers of proliferation.<sup>19</sup> India's decision to test a nuclear device in 1974, for example, appeared to be more due to internal domestic politics than external threats.<sup>20</sup>

The Revolutionary Guards in Iran are undoubtedly powerful domestic advocates for Iranian nuclear weapons. Iranian President Ahmadinejad is a Revolutionary Guard veteran and under his leadership Guard commanders have filled increasingly important domestic political and economic posts to increase the institution's overall influence in government decision making. Although much is not known about Iran's nuclear weapons program, the Revolutionary Guards would likely be in control of Iran's future nuclear weapons much as they control other high value weapons like Iran's growing ballistic missile inventories. The Revolutionary Guard operates most of Iran's ballistic missiles and would be suspected of controlling Iran's future nuclear weapons, most or all of its chemical and biological weapons.<sup>21</sup> When push comes to shove in government power corridors, the Revolutionary Guards have vested interests in seeing that the nuclear weapons program proceeds and along with it, the Revolutionary Guard's status and prestige in Tehran.

Wide swaths of Iranian public opinion too support Iran's pursuit of nuclear technology. It would not be too much of a leap in reasoning to assume that public opinion would be proud of an Iranian government in the future that demonstrates Iran's technological prowess with the detonation of a nuclear device or devices. Iran's nuclear program is a source of national pride that significantly bolsters the Tehran regime's standing among the Iranian public. Iranian development of a nuclear power and potentially nuclear weapons infrastructure is a source of great domestic Iranian pride and nationalism. As Iran scholar Ray Takeyh observes, "Far from being a source of restraint, the emerging popular sentiment is that, as a great civilisation [sic] with a long history, Iran has a right to acquire a nuclear capability."<sup>22</sup> The pride that swells from Iran's nuclear activities helps to temper Iranian public frustrations with Iran's deteriorating economy and lack of political freedoms. Takeyh notes on this score that "The recent disclosures of the sophisticated nature of Iran's nuclear program have been a source of pride for a citizenry accustomed to the revolution's failures and setbacks."<sup>23</sup>

Iran's pursuit of nuclear weapons also has other powerful domestic constituencies. Takeyh elaborates that "Alongside this popular sentiment is the emergence of a bureaucratic and scientific establishment with its own parochial considerations. Under the auspices of the Revolutionary Guards, an entire array of organizations such as the Defense industries Organization, university laboratories, and a plethora of companies (many of them owned by hard-line clerics) have provided the impetus for Iran's expanding and lucrative nuclear efforts."<sup>24</sup>

Iranian public and government pride in its nuclear accomplishments mirrors the swells of national pride witnessed in South Asia's nuclear weapons arms race. Mass public outpourings of support were shown for the governments in New Delhi in 1974 and 1998, as well as in Islamabad in 1998, after these countries detonated nuclear explosions. Indian public opinion in June 1974, for example, was 91 percent of the adult literate Indian population knew about the explosion, and of those, 90 percent were "personally proud of this achievement."<sup>25</sup>

Regimes in the Middle East also would lean on nuclear weapons programs to hedge against internal threats to their rule. Many regimes in the Middle East over the next twenty-five years are likely to feel threatened by potential internal political convulsions and would view nuclear weapons as a hedge against succumbing to mob civil violence and coups. Syria's minority Alawite regime, for example, might have had an internal security threat contingency on its mind in working on its clandestine nuclear program with North Korea. Saudi Arabia might become gravely threatened by al Qaeda Sunni based insurgents or Hezbollah Shia insurgents in its heavily Shia populated Eastern Province. The royal families in the small Arab Gulf states, especially with those as the UAE and Kuwait with deep financial pockets, could see nuclear weapons as their "aces in the whole" to guarantee their survivals and control over their countries against the political weight of even larger populations of ex-patriots and foreign workers on which many government and private sector functions depend. Egypt could face a tumultuous political transition after President Mubarak's eventual death and nuclear weapons would be useful instruments to rally Egyptian nationalism to garner internal political support for a new regime in Cairo.

## **Regional Political Power and Leverage on Washington**

A determinant that looms large behind Middle Eastern aspirations for nuclear weapons is power and influence—beyond deterrence—in regional and international politics. The Iranians would want to parlay a nuclear weapons inventory to politically coerce Saudi Arabia and the Arab Gulf states to make them appease Iranian security policy and distance themselves from American power in the Gulf and Middle East. Saudi Arabia would want to tap a nuclear stockpile to counterbalance Iran's nuclear weapons inventory to maintain its political stature as leader of the Sunni Muslim world against Iran as the leader of the Shia Muslim world. The smaller Arab Gulf states, UAE and Kuwait in particular, would want to use nuclear weapons inventories to maintain their political autonomies from both Saudi Arabia and Iran in the event that the United States is compelled to lessen its military and political presence in the region in light of the proliferation of nuclear weapons.

Egypt, as well as Syria and Algeria, would see nuclear weapons as instruments for stopping the erosion of Arab political power in regional and international politics. They have been especially frustrated to see power shifting from northern Africa and the Levant to the Gulf. Egypt has long seen itself as the center of Arab politics, but frets that it is being eclipsed by Saudi and Gulf power. Egypt would look to nuclear weapons to reassert its stature as the preeminent Arab power. Cairo too would not want to be eclipsed by Shia Iranian power bolstered by Tehran's nuclear weapons which could be parlayed into more aggressive Iranian support for Hezbollah and Palestinian militant Islamists the likes of Islamic Jihad and Hamas to put Iran front and center of Middle Eastern politics. Algerian officials reportedly considered nuclear power as part of a plan to transform Algeria into a regional superpower, and nuclear weapons could have played a part in this strategy, opines nuclear weapons expert David Albright.<sup>26</sup>

Middle Eastern states would be especially keen to parlay nuclear weapons into influence abroad, with the United States, which is a final determinate for regional nuclear weapons proliferation. Middle East states have no doubt noticed that what captures acute American attention is nuclear

weapons proliferation. They see, for example, that two of the poorest per capita countries in the world, Pakistan and North Korea, are able to seize the attention of American policy makers and exert an influence on international politics well above their economic “throw weight.”

North Korea and Iran in particular are able to capture American policy maker attention largely because of their nuclear weapons-related activities. If not for their ambitions and nuclear weapons activities, these countries would not merit the extraordinary American attention that they do. As for Iran, Iran expert Karim Sadjadpour notes from a private conversation he had with a former member of Iran’s nuclear negotiating team in which he opined Iran’s nuclear program was not so important until it became important to the United States, and the Iranian official responded, “That’s absolutely right.”<sup>27</sup>

Syria with a bleak economic picture comparable to that of Pakistan and North Korea probably harbored illusions of one day presenting the world with a fait accompli nuclear weapons capability. Damascus could have parlayed nuclear weapons capabilities for the attention of and influence on American policy in the Middle East. That tact would have been in keeping with Syria’s long standing regional role as the “spoiler” with its support to Palestinian and Shia Hezbollah opposition, and more recently of Sunni jihadists in Iraq, to make sure that no major regional agreements could go through without Syria’s approval.

Egypt too could think along similar lines. Cairo sees self image as the power center of Arab politics deteriorating as Jordan plays a greater role in regional issues, Saudi Arabia increasingly exerts a leadership role in Arab politics based on wealth and stature, and Iran strengthens its regional role in the Gulf and in the Levant. Cairo could parlay its nuclear power infrastructure into a military nuclear weapons program to redress Egypt’s sliding prestige in the region against Israel, Arab states, and Iran. Egyptian leaders might calculate that the peace treaty with Israel would protect it from Israeli military strikes should a clandestine Egyptian nuclear weapons program be exposed. The Egyptians could present the United States with a fait accompli nuclear weapons capability and use it as leverage to gain more American security assistance to Egypt. Cairo could argue that unless Washington rackets up its military security assistance, Egypt would have to move from a minimalist nuclear weapons inventory to a maximalist one.

Algeria too could reawaken its nuclear weapons program to extract American policy attention. Algiers might find itself in the next generation under renewed and even more strident militant Islamic opposition than in the 1990s. Algerian officials could argue that they need major infusions of American military and security assistance to make sure that nuclear weapons remain secure in secular Arab political hands in Algiers, and not fall into the hands of the likes of al Qaeda of northern Africa. The Algerians might take pointers on this tact from how Pakistan is extracting across the board economic, military, security, and intelligence assistance from the United States because Washington is increasingly uneasy about the security of Pakistan’s nuclear weapons inventory in light of the Taliban and al Qaeda inroads in Pakistan.

## **Nonproliferation Policy Implications**

The great danger is that the United States is “cutting off its nose, despite its face” with nuclear weapons proliferation in the Middle East. Washington has shown an eagerness to support

nuclear power infrastructure in the Gulf based largely on commercial interests. It is actively marketing nuclear plants and assistance to UAE and Kuwait. The United States no doubt wants American industry to win regional commercial competition against French and other foreign firms which are aggressively marketing their nuclear wares in the region. The American, French, and European commercial perspectives on nuclear power in the Middle East, however, neglects the stubborn key determinants of nuclear developments discussed in this chapter.

Middle Eastern states will be under heavy pressure in the future to convert ostensibly civilian nuclear power programs into clandestine military nuclear weapons programs given the key determinants at play in the region. The Western community is putting itself at risk by essentially replaying the French mistake of supplying Israel and Iraq ostensibly civilian nuclear power reactors which in the last century were clandestinely harnessed for military nuclear weapons programs.

Even if western nuclear technology is not directly harnessed for military nuclear weapons programs, the expertise and technology could be easily diverted to the military. The United States, France, and other western countries, for example, made that mistake in supplying South Africa with civilian nuclear technology and assistance. Although that assistance did not directly build South Africa's nuclear weapons before the 1990 abandonment, the assistance substantially increased the technical competence of Pretoria's nuclear engineers, technicians, and scientists which was South Africa's nuclear weapons intellectual capital.<sup>28</sup>

Some observers might argue that Arab states would not dare risk jeopardizing their bilateral security relationships with the United States by embarking on clandestine nuclear weapons programs. But these programs could be very small and difficult to detect. The South African case is illustrative of how medium-sized powers like the Arab states could nurture nuclear weapons programs which could go undetected. The South African bomb program in the 1980s employed only 100 people, of which only about 40 were directly involved in the weapons program and only about 20 of whom built South Africa's small nuclear arsenal and by the time the program was cancelled by 1990, the work force still only had about 300 people.<sup>29</sup>

International safeguards under the auspices of the International Atomic Energy Agency (IAEA) would be little more than road bumps for determined Middle Eastern proliferators to overcome. North Korea has set a model of behavior in which nation-states could ostensibly comply with IAEA safeguards for years until their nuclear capabilities have sufficiently matured to allow them to go it alone without international community assistance after they had withdrawn from the Nonproliferation Treaty. Or if they were the least bit cunning, they could play along with IAEA inspections and hide military nuclear weapons programs for as long as possible much as Iraq had done prior to the 1991 war.

IAEA safeguards would hamper, but not stop determined Arab efforts to shift or divert civilian nuclear power infrastructure toward military nuclear weapons programs. Arab states, for example, might acquire large uranium holdings from the international market and then give formal notice and withdraw from the treaty and its inspection requirements. Uranium stocks could then be run through reactors and reprocessed for weapons-grade plutonium, perhaps by parallel and clandestine plutonium reprocessing facilities purchased from China or other states. Uranium stocks too could be run through clandestine centrifuges--perhaps acquired from Pakistan much like North Korea appears to have done—and refined to weapons grade.

The Arab Gulf states are relying on international technical assistance from France, the United States, China and Russia to name just a few, to get their nuclear power infrastructure foundations laid and then up and running. In the meantime, Arab Gulf states are training a cadre of domestic talent which over a generation could be ready to fill foreign shoes and assume the reigns of the nuclear power infrastructure, especially if Arab Gulf states withdrew from IAEA safeguards and the Nonproliferation Treaty and shifted their civilian programs to wartime-like military nuclear weapons programs. Emirati officials, for example, readily admit today that they are developing domestic talent to run and maintain nuclear reactors by creating nuclear science and engineering degree programs at Khalifa University, the country's largest technical school.<sup>30</sup> One cannot help but suspect that U.A.E. officials look to how far Iran has progressed in its nuclear programs and are determined to keep pace even though the Emirates got a late start.

One of the delivery vehicles of choice for nuclear weapons in the Middle East would be combat aircraft. The West too has been gracious in selling high performance aircraft such as Mirage and F-16s that could be modified to carry nuclear payloads. The Pakistanis appear to have "wired" their American-built F-16s to carry nuclear payloads.<sup>31</sup> It would be a fair bet that Pakistan would contract for the right price its expertise to the oil-rich Gulf States to help them modified their F-16 to do likewise.

Middle Eastern states would be concerned that air defenses of adversaries could stop many of their combat aircraft from arriving over targets. They would be keen to upgrade now limited ballistic missile capabilities to ensure that nuclear payloads would get through enemy air defenses and in shorter time than combat aircraft. The Arab states would be eager to purchase solid fuel and longer range and more modern and reliable ballistic missiles and would look to Pakistan, China, and Russia would be the most likely sources of modern ballistic missiles. Middle Eastern states would entice Pakistan, China, and Russia to break international restrictions for providing renewed ballistic missiles and technologies to the region with lucrative "cash on the barrel head" offers. Islamabad, Beijing, and Moscow too would be interested in shunning international arms restrictions to gain strategic footholds in the region and to offset the American hegemony there.

Pakistan and India are setting the pace for the Arab states to move beyond combat aircraft and ballistic missiles and into cruise missiles as a delivery means for nuclear weapons. Pakistan is producing streams of plutonium for nuclear warheads for cruise missiles launched from ships, submarines, and aircraft while India is designing cruise missiles with nuclear warheads by relying on Russian missile design assistance.<sup>32</sup> Middle Eastern states would likely follow suit and begin moving into cruise missile technologies for future nuclear weapons inventories in the next twenty-five years.

## ENDNOTES

The views in this paper are not those of the U.S. government, the Department of Defense, or the National Defense University. They are the author's alone.

---

<sup>1</sup> Avner Cohen and William Burr, "The Untold Story of Israel's Bomb," *Washington Post*, 30 April 2006, B1 & B3.

<sup>2</sup> Ward Wilson, "The Myth of Nuclear Deterrence," *Nonproliferation Review* 15, no. 3 (November 2008), 434.

<sup>3</sup> Patrick Tyler, *A World of Trouble: The White House and the Middle East—from the Cold War to the War on Terror* (New York: Farrar Straus Giroux, 2009), 141.

<sup>4</sup> William J. Broad and David E. Sanger, "As Crisis Brews, Iran Hits Bumps in Atomic Path," *New York Times*, 5 March 2006.

<sup>5</sup> "GCC Work Team on Peaceful Nuclear Energy Use Meets," *Oman Daily Observer*, 20 May 2009.

<sup>6</sup> "Saudi-French Civil N-Pact 'Soon,'" *Saudi Gazette*, 11 May 2009.

<sup>7</sup> James Kanter, "France Set to Announce UAE Nuclear Deal," *International Herald Tribune* 14 January 2008; Jay Solomon and Margaret Coker, "Oil-Rich Arab State Pushes Nuclear Bid with U.S. Help," *Wall Street Journal*, 2 April 2009.

<sup>8</sup> "South Korean Cabinet Approves Peaceful Nuclear Accord with UAE," *Kuwait News Agency*, 17 June 2009.

<sup>9</sup> "Kuwait Eyes Civilian Nuclear Power Project with French Help," *The Peninsula*, 19 February 2009.

<sup>10</sup> "Russia, Jordan Sign Nuclear Cooperation Agreement," *Haaretz*, 23 May 2009.

<sup>11</sup> "Egypt Unveils Nuclear Plants Plan," *BBC News*, 29 October 2007.

<sup>12</sup> "Russia-Egypt Nuclear Deal Signed," *BBC News*, 25 March 2008.

<sup>13</sup> Karl Vick, "Energy, Iran Spur Turkey's Revival of Nuclear Plants," *Washington Post*, 7 March 2006.

<sup>14</sup> For a comprehensive analysis of Arab military shortcomings, see Kenneth M. Pollack, *Arabs at War: Military Effectiveness, 1948-1991* (Lincoln, Nebraska: University of Nebraska Press, 2002).

<sup>15</sup> Richard L. Russell, *Weapons Proliferation and War in the Greater Middle East: Strategic Contest* (London and New York: Routledge, 2006), 64.

<sup>16</sup> Jay Solomon, "Syria Signals It Will Stop U.N. Nuclear Inspectors," *Wall Street Journal*, 4 October 2008.

<sup>17</sup> James A. Russell, "A Tipping Point Realized? Nuclear Proliferation in the Persian Gulf and Middle East," *Contemporary Security Policy* 29, no. 3 (December 2008), 530.

<sup>18</sup> For an insightful treatment of nuclear weapons strategy in Cold War Europe, see Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: St. Martin's Press, 1983), 288-293.

<sup>19</sup> Scott D. Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security* 21, no. 3 (Winter 1996/97), 63-65.

<sup>20</sup> Scott D. Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security* 21, no. 3 (Winter 1996/97), 67-68; and, Tanya Ogilvie-White, "Is There a Theory of Nuclear Proliferation? An Analysis of the Contemporary Debate," *Nonproliferation Review* (Fall 1996), 46 and 58 (endnote no. 58).

<sup>21</sup> Anthony H. Cordesman and Martin Kleiber, *Iran's Military Forces and Warfighting Capabilities: The Threat to the Northern Gulf* (Westport, CT: Praeger Security International, 2007), 73.

<sup>22</sup> Ray Takeyh, "Iran Builds the Bomb," *Survival* 46, no. 4 (November 2004), 58.

<sup>23</sup> Ray Takeyh, *Hidden Iran: Paradox and Power in the Islamic Republic* (New York: Henry Holt and Company, 2006), 154.

<sup>24</sup> Ray Takeyh, *Hidden Iran: Paradox and Power in the Islamic Republic* (New York: Henry Holt and Company, 2006), 156.

<sup>25</sup> Scott D. Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security* 21, no. 3 (Winter 1996/97), 68.

<sup>26</sup> David Albright and Corey Hinderstein, "Algeria: Big Deal in the Desert?" *Bulletin of the Atomic Scientists* 57, no. 3 (May/June 2001), 47.

<sup>27</sup> Quoted in Theodoros Tsakiris (ed.), "Iranian-American Relations Under the Early Obama Administration: Virtual Dialogue," *Middle East Economic Survey Research Special Report*, 15 April 2009.

---

<sup>28</sup> J. W. de Villiers, Roger Jardine, and Mitchell Reiss, "Why South Africa Gave Up the Bomb," *Foreign Affairs* 72, no. 5 (November/December 1993), 105.

<sup>29</sup> David Albright, "South Africa and the Affordable Bomb," *Bulletin of the Atomic Scientists* 50, no. 4 (July 1994).

<sup>30</sup> Jay Solomon and Margaret Coker, "Oil-Rich Arab State Pushes Nuclear Bid with U.S. Help," *Wall Street Journal*, 2 April 2009.

<sup>31</sup> Sharon Squassoni, *Indian and Pakistani Nuclear Weapons*, Congressional Research Service Report for Congress, 17 February 2005, 3; and, Bruce Riedel, "Pakistan and the Bomb," *Wall Street Journal*, 30 May 2009.

<sup>32</sup> R. Jeffrey Smith and Joby Warrick, "Nuclear Aims by Pakistan, India Prompt U.S. Concern," *Washington Post*, 28 May 2009.

DRAFT