

Executive Summary and conclusion

Even before Iran's nuclear ambitions surfaced the Middle East was the most proliferation-prone region. With the imminent juxtaposition of two hostile nuclear rivals, the Middle East promises to be the hub of future proliferation concerns as well.

This region has witnessed more wars than any other and their legacies, conflicts, mistrust and rivalries persist and have scarred inter-state relations. Even not counting Israel the region has seen four states attempt to become nuclear powers, averaging one a decade in recent history. There are many factors specific to the Middle East to account for this, including weak political systems, military regimes, competition for regional leadership and cross-cutting rivalries, oil revenues, complaisant suppliers and the record of use of weapons of mass destruction such as chemical weapons. Conflicts here have been seen as existential and zero-sum. Added to this is the action-reaction of many states to others' policies; hence the revived interest in nuclear technology ostensibly for power purposes, in fact as a form of hedging their weapons options.

A number of factors will act as a brake on rapid proliferation, the most obvious being the lack of a developed nuclear infrastructure, which will take time to remedy, in most states. An important further constraint is political: some states, notably Egypt and Saudi Arabia, enjoy good relations with the US and would be loathe to jeopardize their security relations for the uncertain benefits of a nuclear capability. But things change -- especially in Middle Eastern politics -- and with them perceptions of cost-benefit, and trust in reliance on the US, can literally be reversed overnight.

One can identify a number of catalysts that would encourage moves toward a more explicit nuclear weapons capability:

- a) Iran crossing the threshold to a clear weapons capability;
- b) Israel ditching its doctrine of 'opacity' and openly declaring its capabilities ;

- c) A weakening of the security relationship with the US, whether due to reduced credibility of Washington; a reorientation in domestic politics of the state concerned or from a crisis in bilateral relations.
- d) A further factor would be a general perceived weakening of the NPT, with other states hedging; possibly as result of the continuing erosion of the authority of the UN Security Council, especially when it comes to enforcing the provisions of the NPT. Another part of this scenario is the failure to strengthen the NPT by making the Additional Protocol compulsory and limiting the spread of enrichment and reprocessing facilities.

Factors making this possible include supplier competition to transfer sensitive materials (or criminal suppliers like North Korea/A.Q. Khan); and domestic politics which favor grandstanding and posturing, giving leaders incentives to 'play to the gallery.'

Assuming Libya, Iraq and Syria's ambitions are *in the immediate future* a thing of the past, (and Jordan's proliferation incentives will be more than counterbalanced by location-constraints and its political ties with the US) future candidates for proliferation include Saudi Arabia, Egypt/ Algeria and Turkey. None has a developed nuclear power infrastructure and all but Algeria would be reluctant to alienate the US. All of them have prestige incentives (perhaps Saudi the least) to match Iran, Egypt in particular would be reluctant to be seen a 'second rate' power. If Egypt were to 'go nuclear', it seems unlikely that Algeria with its leadership pretensions would be far behind. Both Egypt and Algeria have enough experience with nuclear technology and large enough research reactor plants, to be able to move relatively quickly once a decision is made. On the other hand, Saudi Arabia has the most direct *security* incentive. It also has money to spare (and possibly a supplier in Pakistan) but the Kingdom still depends on the US more than the others, and lacks a credible substitute source of security. Turkey is the most interesting case. It is a pro-western state a member of NATO but unhappy with its current status. A rising power in the Near and Middle East, following a neo-Ottoman foreign policy in the Islamic, non-aligned world, Turkey wants to be taken seriously as a medium power. Would it rely on NATO for security or seek self-reliance if one of its neighbors, Iran, were to cross

the threshold? Without a nuclear infrastructure, Turkey is far from a capability. But Turkey's diplomacy appears to be one intended to leave open as many doors as possible. Iran has so far provided a model: get access to sensitive technology within the NPT, deny any ulterior intent and get as close as possible to the threshold without ostensibly breaking the treaty, at least without leaving a 'smoking gun' around.

Introduction

The Middle East has been -- and will remain -- the most likely region for the proliferation of weapons of mass destruction, notably nuclear weapons. This is due to its multiple on-going conflicts which generate the *demand*, its international connections which provide the *supply*, and oil revenues, which finance these transactions. Quite apart from the legacy of the recent past, which fosters distrust and competition, *current* trends in the shape of Iran's nuclear ambitions, and the 'nuclear renaissance,' make it likely that more states will position themselves to follow Iran's example, should they deem it necessary. The outcome of the Iran nuclear question; how the Arab-Israel dispute evolves; regional politics and the economics of energy including nuclear, will all have a bearing on the nuclear choices of the key states. So too will the availability of suppliers able to covertly support those willing to pay for assistance. This paper will examine these briefly having sketched out the background of proliferation in the region and the political context in which decisions will be made. Neither of these gives us cause to be sanguine about the prospects for limiting proliferation in the region in the next ten to fifteen years. Yet the technological base from which new proliferators will have to start, may provide a time-cushion for responses that make a 'nuclear cascade' less likely; a more accurate image is that of a steady drip, which will erode the nonproliferation regime, slowly but inexorably. Unless measures are taken on a wide front, this seems the most likely outcome of current trends.

The background

No discussion of future proliferation and the proliferation choices of concerned governments is possible without a quick glance back at the recent experience of the region, events which will inevitably color the perceptions of people's and regimes in the area. In doing so we also underscore the key point about the Middle East: it has been the one region in which WMD have been used, (with impunity); where nuclear proliferation has been repeatedly tried and continues; and in which one (and presumably soon, two) nuclear weapons states exist in a hostile relationship with each other and their immediate neighbors. Since 2006, (that is since the Iranian nuclear issue went to the Security Council) no fewer than 13 Middle Eastern countries have declared their intention to initiate or re-launch nuclear power projects. Not all of these make sense economically and can be seen as hedging strategies.

First, the record. Gamal Abdul Nasir's use of chemical weapons against Yemeni tribesmen in the 1960's elicited no more condemnation of Egypt than did Saddam Hussein's use of such weapons against Iraqi Kurds or Iran, two decades later. Iraq's use of missiles against Iran in the Iran-Iraq war saw Iran scrambling to obtain equivalent missiles. The result was the 'war of the cities' in 1987 which saw the terrorizing of the civil populations and their deliberate targeting. One of the lessons drawn by Iran from both these experiences was that Iran could not rely on international condemnation. To prevent future such cases Iran needed to prepare for any eventuality¹ Iran thereafter sought missiles to substitute for aircraft, whose supply could not be guaranteed since suppliers were apt to embargo or manipulate their supply in your hour of need. [Syria had drawn similar lessons about the relative merits of missiles versus aircraft after losing 82 aircraft to Israel in one day in 1982.²

¹ No 'technological surprises', see this author's [Iran's National Security Policy](#) Carnegie/Brookings 1994.

² Anthony Cordesman, [Weapons of Mass Destruction in the Middle East](#) (NY:Brassey's,1991)p.141

In response to this evolving trend Saudi Arabia sought its own long-range missiles in a clandestine purchase from China CSS-2, (1986-88). Iraq's subsequent use of missiles against Israel and Saudi Arabia in 1991 confirmed what some have called the emerging 'missile culture' in the region.

The great advantage of missiles for countries with poor air forces (pilots, training, systems integration) or who distrust their pilots (who could defect), was that missiles, however inaccurate, could be counted on for penetration, could be made survivable (through mobility and camouflage) and above all could be manufactured locally, thus rendering the state less dependent on unreliable outside suppliers.

On the nuclear front the region has not been inactive either. From revolutionary Libya's initial efforts to buy a weapon from China "off the shelf" to its later efforts at purchases of components from A.Q.Khan's network through to its formal renunciation of such bids in 2003, Libya has only been one case among several. The Iraqi case starting in the 1970's (with French and Italian assistance) driven underground by Israeli attack on Osirak in 1981, had been renewed underground with revelations in 1991 that the program had survived and progressed over the previous decade. Putting aside Iran's program there is also that of Syria, which from its reaction to the destruction of its undeclared North Korean reactor at Al-Kibar in 2007 by Israel, suggests a covert nuclear program unrelated to energy. Then there is the Israeli nuclear program started in the 1950's with French assistance. The only state that is a non-signatory of the NPT, with a substantial but undeclared nuclear weapons capability, Israel furnishes every other state the excuse that the West and the NPT are discriminatory and that honor and prudence demand an equivalent "Islamic bomb."

Other Middle Eastern states have used this Israeli exception to refuse to ratify various WMD conventions and/or to tie their own ratifications to the establishment of a zone free of weapons of mass destruction (WMDFZ) or at the very least a nuclear free zone (NFZ) a precondition for this being Israel joining as a *non nuclear* weapon state. *The upshot is that the region remains one with the greatest*

*concentration of states not party to one or more international treaties dealing with WMD.*³ and the existence of a de facto link among WMD in region, meaning that there must be progress towards eliminating nuclear weapons for progress on eliminating biological or chemical weapons .⁴

It bears emphasis that the record of cheating in respect to the NPT and the IAEA safeguards it demands by Iraq, Iran, Libya, Egypt, and Syria has only underscored the weakness of the safeguards and inspections systems, which will remain weak unless states voluntarily accept stronger provisions, starting with the application of the Additional Protocol, which appears unlikely. That the UN Security Council has so far proven unable/unwilling to enforce provisions of the NPT and that one state – Israel --in two of these cases, has had to resort to unilateral action (under the 'Begin doctrine'), weakens confidence that future proliferators can be deterred from cheating.

The proliferation experience of the region to date is also one of supplier irresponsibility: whether France or Italy, China or Russia, North Korea or Pakistan, suppliers have put commercial or bilateral strategic relations above non-proliferation considerations.⁵

Pakistan's case is especially interesting as in offering to supply Iraq and Iran --- hostile states -- it showed political even-handedness even though it risked assisting (in the case of Iran) the creation of (another) nuclear neighbor. Perhaps the case of Libya which appears to have been purely commercial in motive explains Pakistan's behavior.⁶

³ Merav Datan , "Nuclear Futures for the Middle East: Impact on the Goal of a WMD -free zone." *Disarmament Forum* (Geneva: UNIDIR, 2, 2008) p.23)

⁴ Datan "Nuclear Futures", p26

⁵ For background see Nuclear Black Markets: Pakistan, A.Q.Khan and the rise of Proliferation Networks: A Net assessment (IISS: London, 2007)

⁶ G.ordon Corera, Shopping for Bombs: Nuclear Proliferation, Global Insecurity and the rise and Fall of the A.Q.Khan network (NY: Oxford UP, 2006) pp.53, 104 and Albright, Peddling Peril (NY:Free Press,2010)

Strategic considerations have also resulted in major powers turning a blind eye to proliferation, the cases of Israel and Pakistan being illustrations. These as well as the US-India nuclear deal furnish ammunition to the charge of 'selective proliferation.' Unsurprisingly China has reciprocated by openly supplying Pakistan. (Neither India nor Pakistan as non-members of the NPT are eligible for technical assistance.)

Middle East politics is another driver of proliferation of WMD. Weak or illegitimate governments seek to distract their citizens from their failures and focus on historical injustices, slights, and enemies. Israel furnishes the Arab states with plausible excuses for such diversions, while Iran fixes on the US. The 'oppression of Muslims' or solidarity with Palestinians fuels the 'Arab street' with anger and regimes can play on this to avoid domestic performance and put an emphasis on defense and "strategic parity" — a stated Syrian objective for many years.

Although instrumentalized by corrupt regimes, the issue of the treatment of the Palestinians has and will remain a potent force for mobilizing and radicalizing youth in Muslim world.

Middle East states see the US' non-proliferation policies "as driven more by power politics, and an attendant policy of 'selective proliferation', than by any consistent set of principles." ⁷

A related driver of proliferation in the region is non-performing government that also cannot claim the legitimacy of representing or accounting to their citizens. The temptations of populist politics and grandstanding on the nuclear issue *as a substitute* are all -too- evident. The reader can substitute any state -- Iraq, Iran, Libya, Egypt -- for that of Pakistan in the following quote:

In the general sea of disappointment, the development of [Pakistan's] nuclear capability is a unique national success story.

⁷ Reza Simbar, "Political Islam and International System : Impacts and Implications" *Journal of International and Area Studies* (vol.16 no.2. 2009 p115)

It is a story of selfless devotion, unbridled dedication, scientific brilliance, technological mastery and above all, supreme patriotism and religious fervour of thousands of silent workers. These men of science, these Mujahid's, have put [Pakistan] in the exclusive nuclear club, they have made Islamic nations proud.⁸

Security states, highly militarized and dependent on the military-intelligence services, with large 'defense' expenditures, are not the most reliable political systems to introduce debate, transparency or even balance about national security concerns. Whether as interest groups or as direct formulators of security policy, such institutions are likely to increase the militarization of security policy rather promote arms control. During the past decade (2008) the GCC spent on average more than 7 times as much on national security as Iran. This gap is increasing in light of arms orders since 2003, \$89bn versus \$5.6bn for Iran. ⁹ Further orders amounting to \$123 bn in 2010 may or may not reassure the Gulf states but they are surely good for business.¹⁰

Yet, if increased military expenditures and qualitative conventional arms advantages are not producing more security, what is the alternative?

If Iran's nuclear ambitions loom large especially for its smaller Sunni neighbors on the Arabian peninsula, Israel's undeclared arsenal stands as a reminder that nuclear proliferation is already a fact in the region. Nor is it clear that undoing one (i.e., Israel) will necessarily reverse the other, given Iran's inchoate ambitions and its strategic linkages with south Asia. Today's political focus on Israel, however satisfying, is thus unlikely to address Iran's underlying motivations.

⁸ Chief executive Gen Pervez Musharraf's speech at dinner in honor of Dr. Abdul Qadeer Khan and Dr. Ashraf Khan;
http://www.infopak.gov.pt/CE_Addresses/ce_speech_at_dinner_abdul_qadeer.htm
quoted in Gordon Corera, *Shopping for Bombs*: p.150

⁹ Cordesman, *The Conventional Balance in the Gulf* (Wash.:CSIS 2008)**Check**

¹⁰ See Roula Khalaf & James Drummond, "Gulf in \$123bn US arms spree." *The Financial Times* September 21, 2010.p.1

The 'Nuclear Renaissance' in the Middle East.

With increased concern for the environment and the extreme fluctuations in oil prices, in part a result of increased demand, interest has shifted to new, renewable and green sources of energy, notably nuclear power. Currently some fifty nuclear plants are under construction, most in China and India, although 130 might soon be built globally. This nuclear 'renaissance', as we shall discuss, is by no means assured. But it does raise questions about the impact it might have on nuclear proliferation. Concern about reactors and even more from facilities producing fuel or disposing its waste, will be increased not just by the increased numbers of installations but also by where they are located and the capacity of states to insure their safety and authorized functioning.

The Middle East has led the new interest in nuclear power. At present there is only one reactor being built and that is at Bushire (Iran). During 2006-2007 more than ten Arab states announced an interest in exploring nuclear power plans and several have begun negotiations or discussions with international bodies over facility and fuel possibilities. Whether this interest will materialize in a given time-frame; whether it is motivated solely by power generation considerations; and whether the transfer of technology will be subject to the strict proliferation concerns by suppliers (individually or as a result of a new consensus and a tightening of the NPT) remains unclear.

We shall argue that interest in nuclear power the Middle East cannot be divorced from the reaction of Iran's neighbors to its nuclear ambitions and constitutes a decision to 'hedge' their own options. The economics of nuclear energy may not play a large part in their strategy. What is of special concern here given the past record in the region, is first, the role of suppliers; second, the nature and terms of the transfer of technology and training, and third, the nature of the recipients regime. We shall start with a discussion of the general phenomenon and then focus on the specifics of the nuclear renaissance as it relates to the Middle East.

Predicting two decades ahead is difficult enough but in the case of energy use much depends on demand, technology and costs, none of which are easy to predict. What

seems clear is that with efficiency, conservation and alternative energy sources (gas from shale) demand for oil may decline (except for vehicles).

Second, based on experience, the costs of nuclear power have consistently been under-estimated. The large startup costs of plants, the need for subsidies, operating costs and especially waste management and de-commissioning costs, (not to mention ancillary costs for plant safety) make nuclear power plants much more expensive than often estimated, requiring subsidies. Also non-existent or inadequate grids, and ability of industry to build power plants are limiting factors. This means that the number of orders that are actually filled is likely to be considerably less than that advertised. Indeed without major changes in government policies and financial support, nuclear power may be a declining percentage of global electricity generation.¹¹

Third, the link between nuclear power and proliferation needs careful examination. Some analysts place stress on the conditions and terms of such transfers, recognizing the bargain of the NPT requires equitable access to technology.¹² Some industry spokesmen go further: .."objections to deploying nuclear energy in the developing world on non-proliferation grounds are politically and legally unacceptable and to me, ethically unacceptable . Nuclear energy is not just a privilege for rich countries." In this view, not only is the nuclear renaissance not a "proliferation risk" but it "provides a unique opportunity to promote an enhanced structure of nonproliferation." How is this to be done? By "ensuring the security of supply to states so that they do not perceive the need to develop sensitive technologies and facilities."¹³ However NPT members have not embraced the

¹¹ (*Sharon Squassoni,, Nuclear Energy : Rebirth or Resuscitation? Carnegie 2009*)

¹² Steven Miller & Scott Sagan "Alternative Nuclear Futures" *Daedalus* (Winter 2010)

¹³ See Anne Lauvergeon, CEO Areva, speech "Nuclear Industry's role in Non Proliferation" at Carnegie Endowment , April 6, 2009. For a discussion of the proliferation risks of civilian nuclear programs see Ch.7, Nuclear Programmes in the Middle East: In the Shadow of Iran (London: IISS, 2008)

various proposals for assuring security of fuel supplies such as multinational fuel banks or multilateral or regional enrichment centers in exchange for forgoing construction of sensitive technologies eg. uranium enrichment or plutonium reprocessing facilities.¹⁴

This puts the responsibility on suppliers to ensure that the terms of technology transfer are strict enough to ensure non-proliferation and the safety of dangerous materials. Yet it is not clear that this can be done. In the past at least civilian nuclear cooperation agreements have often been made for strategic and/or economic reasons. Suppliers have been complicit in the transfer of technology that is then used for proliferation. This raises the broader question *whether there is such a thing as a safe or "proliferation-resistant" technology?* The transfer of *any* nuclear technology and the training of experts all have proliferation ramifications. All nuclear technology supplies are potentially transferable to weapons programs. There is no such thing as inherently "peaceful" nuclear technology, how it is used decides what it is.¹⁵

It is the slow and reluctant recognition of this since the mid-1970's that has led some to argue that all nuclear exports are dangerous. A recent example is James Wolsey:

¹⁴ See Yuri Yudin, "Multilateralization of the Fuel Cycle: The need to build Trust" Geneva: UNIDIR, 2010; see also Geoffrey Forden & John Thomson, "Iran as Pioneer Case for Multilateral Nuclear Arrangements: MIT 4th ed. May 2009.

¹⁵ See especially Matthew Fuhrman, "Spreading Temptation: Proliferation and Peaceful Nuclear Cooperation Agreements" *International Security* Summer 2009 vol34 no1 pp7-41; Matthew Kroenig, "Importing the Bomb: Sensitive nuclear assistance and nuclear proliferation" *Journal of Conflict Resolution* 53:161-180; Matthew Fuhrman, "Talking a Walk of the Supply Side: The determinants of civilian Nuclear cooperation," *Journal of Conflict Resolution*, 53, 181-208.)

“If the United States is helping spread light-water reactors and thus enriched uranium around the world in the name of peaceful atomic energy, it is creating a huge and dangerous problem.”¹⁶

Quite apart from the record of suppliers, which at least in retrospect can be justly termed irresponsible, there is the issue of international regulations and safeguards. A recent authoritative assessment concluded regarding the so-called international security regime that it “is not ready for any form of nuclear revival that goes much beyond the existing nuclear states.”¹⁷

Even if the nuclear renaissance may, in fact, be more hyperbole than reality, there are still the related concerns of supplier (‘business as usual’) irresponsibility; of legitimate concerns about any nuclear technology transfer; of the lack of enthusiasm of non-nuclear weapon states to renounce the construction of sensitive facilities; and of the inadequate regulatory system that currently exists internationally and the likelihood that this and the NPT will remain substantially unreformed. What of the Middle East context itself, for after all, where plants are built, the technology transferred, the nature and politics of the receiving state itself will affect the proliferation risks attached to the spread of nuclear technology? Here based on the record of the region and its current condition there is little scope for optimism,

It is worth summarizing the optimal conditions for the transfer of technology to note how few are met by Middle Eastern states.¹⁸

¹⁶ “Too much Mr. Nice Guy on Nuclear Disarmament” *International Herald Tribune* May 7, 2010. P.6)

¹⁷Trevor Findlay “The Future of Nuclear Energy to 2030 and its implications for Safety, Security, and Non-Proliferation: Final Report, An Overview” p.26 [Ottawa :Centre for international Governance (CIGI) 2010.]

¹⁸ See Miller & Sagan “Nuclear Power Without Nuclear Proliferation? *Daedalus* (Fall 2009) pp.9-12.

(1. For the secure and safe development of a nuclear program, states should have inter alia domestic “good governance”; low degrees of corruption, political stability; high degrees of government effectiveness and a strong degree of regulatory effectiveness.

2. Each member of the NPT violating its Article 11 NPT commitment has been a non-democratic state and most, as noted above, are from the Middle East.

3. States facing terrorist threats would face special challenges securing their facilities and fissile material.

4. Another feature of the Middle East is the occasional *use* of terrorists for regional policy. The analogy with Pakistan’s use of jihadis against India is apt. So is the fact that Pakistan now finds itself besieged by a number of different terrorist groups endangering the state and its nuclear facilities.

One could add to these considerations, the following: the limited experience or success of regional cooperation; the lack of a large scientific community or base which could act as an interest group for maintaining peaceful programs. Finally there is the ‘demonstration effect’ or the tendency to be influenced by what others do, as we have seen in regard to missiles earlier.¹⁹ (The absence of civil society and the tradition to debate public policy, the prevalence of secrecy and absence of transparency, the lack of public accountability and the weakness of legitimacy, which impels political grandstanding and status projects to compensate for it, all make the region an outstandingly bad destination for nuclear technology.

The rationale for nuclear energy in the oil/gas rich Middle East is not, at first blush, evident either. In December 2006 and again in March 2007 the GCC states expressed a determination to apply nuclear energy for peaceful purposes.²⁰ (But imitation, hedging and aggressive salesmanship ---notably by President Sarkozy---so far have led to the UAE, Jordan and Egypt to decide to acquire nuclear power plants.

¹⁹ Sagan and Miller, “Alternative Nuclear Futures” *Daedalus* Winter 2010, pp.132, 129)

²⁰ see “Gulf Cooperation Council moves forward with Nuclear energy plans” *WMD Insights*

(http://www.wmdinsights.com/114/114_ME3_GCC_MovesForward.htm

(accessed 3/5/2010)

Sarkozy has phrased his sales-pitch-- predictably-- in terms of equity and access to high technology, even suggesting that by “upgrading the economies “ of the Arab states with the “energy of the future” , they would be insulated from the terrorism that “flourishes in the embrace of despair.”²¹.Sarkozy offered technical advice to Algeria , Egypt, Libya, Morocco, Saudi Arabia , Qatar, and the UAE.

These plans have already been delayed because of the global economic crisis and the drop in price of oil. Turkey for example announced in December 2009 that it had cancelled funding for new reactors , while Saudi Arabia also announced a delay in its timetable. ²² (Saudi Arabia is an interesting case of a major oil producer seeking nuclear technology. Putting aside the argument for energy diversification and self-reliance, (which are debatable), the Kingdom has a problem it shares with Iran: growing domestic consumption of energy due in part to subsidized prices and, in the case of Saudi, burgeoning population growth. Saudi Arabia has one of the highest rate of electricity consumption in the world (ranked 19th), while rising domestic consumption of oil threatens its oil exports.²³ Iran has an even more acute problem, for in addition to the wasteful and growing use of oil domestically due to subsidies, which do not reflect its world price and which leaves Iran with diminished revenues, its oil sector is in need of modernization. Due to sanctions and lack of access to technology and investment, Iran’s oil production has been declining at the rate of 200,000 barrels/day for each year, producing 5% less than its OPEC quota in

²¹ (“Sarkozy pushes for Nuclear Energy in the MidEast” *Washington Post* January 20, 2008 quoted in Merav Datan “Nuclear Futures for the Middle East” (*Disarmament forum*: UNIDIR, 2008,p.24)

²² see Chen Kane “The Middle East’s Interrupted Atomic Dreams” *Foreign Policy* December 2009) [http://www.foreignpolicy.com/articles/2009/12/29/what middle east](http://www.foreignpolicy.com/articles/2009/12/29/what_middle_east)(accessed 3/5/2010)

²³ (Kane and Andrew England & Abeer Allam “Rising domestic demand for oil threatens Saudi exports” *The Financial Times* April 24, 2010 p.3(www.ft.com/oil).

2006.²⁴ The net result is that Iran has –in theory --every incentive to conserve its oil for exports to realize foreign exchange revenues, while shifting to a more diversified energy base. In theory the same could be said for Saudi Arabia.

But the details matter here. Reactors take at least fifteen years to complete. They require a sound infrastructure, adequate manpower, a finished electricity grid, strong regulatory systems, a safe environment (politically and seismically), plant security, etc. Most of these are far from being present in most Middle East states. Nor, as suggested earlier, are the economics of nuclear energy at all clear; it may prove to be expensive as well as dangerous. Fluctuating prices is a part of the fate of being an oil producer; lean years follow fat ones without any clear pattern or predictability.

The United Arab Emirates (UAE) is the only state to have completed a nuclear accord. In this case a \$40bn agreement with South Korea for construction of four 1400 megawatt APR-1400 third generation pressurized water reactors, the first to be operational by 2017. The aim is for the UAE to generate up to 25% of its power from nuclear energy by 2020. The agreement forgoes the acquisition of sensitive technology and meets the US standard 123 agreement..²⁵

Turkey, a significant middle power and major energy importer, principally from Russia, has been interested in diversifying its energy dependence. It concluded a major gas deal with Iran in 1996 which became its second largest supplier of natural gas. This was expanded in July 2007 when an agreement was reached to transport 30bn cubic metres (bcm) of Iranian and Turkmen natural gas to Europe. The deal includes the construction of two separate pipelines to ship gas from Iranian and

²⁴ See inter alia, Najmeh Bozorgmehr, “Sanctions hit Iranian oil Production: *The Financial Times* May 25, 2010 p.1)

²⁵ (“UAE leads Gulf Nuclear –power plans” *Strategic Comments* ([http://www.iiss.org/publications/strategic-comments/past-issues/volume-16-2010/february/...\(accessed 3/23/2010\)](http://www.iiss.org/publications/strategic-comments/past-issues/volume-16-2010/february/...(accessed 3/23/2010))).

Turkmen fields and fits Turkey's strategy of becoming a major energy hub. In addition, the state owned Turkish Petroleum Corporation will be granted licenses to develop three different sections of Iran's gigantic south Pars gas field.²⁶

Turkey's energy needs could well justify the interest in nuclear energy that the country has demonstrated since the mid-1960's. At that time there was interest in building one or more power plants (tenders were even solicited for a 1200MW plant at Akkuyu Bay near Mersin. For a variety of reasons this and five other independent attempts to foster a civil nuclear capacity since 1970 have failed. Negotiations for power plants were conducted with Swedish, German, Canadian American, Korean and Argentine firms. Political interruptions, economic limitations and Western nonproliferation pressures were the principal reasons for failure. Though one can also note that environmental (seismic) risks have allegedly played a part as well.²⁷ Turkey currently operates two safeguarded nuclear research reactors :Turkish Reactor 2(TR-2)and the Istanbul Technical University Turkish Research reactor(ITU-TRR).In addition it has a pilot conversion an nuclear fuel fabrication plant, the Nuclear Fuel Facility Unit and a small nuclear-waste storage plant, the Radio Active waste Processing and Storage Facility, both at Cekmece Nuclear Research and Training Centre (CNAEM). A research reactor earlier operated between 1962-1977 when it shut down, apparently on financial grounds.

²⁶ Steve Larrabee "Turkey rediscovers the Middle East" *Foreign Affairs* (July/August 2007; and "Turkey's New Geopolitics" *Survival* (April/May 2010) pp.164-5.

²⁷ [see Leon Fuerth, "Turkey's Nuclear choices amongst dangerous neighbors" ch7 in Einhorn, Campbell & Reiss, p.160;David Martin "Nuclear Threat in the Middle Eastern Mediterranean: the case against Turkey's Akkuyu Nuclear Plant" Nuclear Awareness Project , Uxbridge Canada , June 2000(www.cnp.ca/issues/nuc-threat-mediterranean.pdf .see also Mustafa Kibaroglu, "Turkey's Quest for Peaceful Nuclear Power" *Proliferation review* vol.4 Spring/summer 1997

The TR-2 is operational on a mixed core of HEU and LEU, but is being fully converted to LEU, which the US encourages prior to completion of a US-Turkey nuclear technology transfer agreement.²⁸

As noted, caution is necessary in estimating the future and total costs of nuclear energy and the trade-offs against other sources of energy. Long lead times, slippage in construction, security and other costs make this hazardous. On the other side of the ledger, the economics of alternative energy is not clear either. The discovery of new technologies allowing horizontal drilling of shale for gas (so far a US technology) could make Turkey energy rich.²⁹

There are reasons to suppose however that this time Turkey will be determined to build up its nuclear expertise.

Growing interest in nuclear technology in the Middle East, will sooner or later be realized and there remains the question of what to do about commercial rivalry among suppliers that may undermine non-proliferation goals. Strict regulations such as requiring recipient states to accede to the Additional Protocol; agree to forego (or renounce) sensitive technologies and agree to return plutonium laden spent fuel to supplier countries could be useful.³⁰ It has also been suggested by

²⁸ The data above taken from the IISS Dossier: Nuclear Programmes in the Middle East, pp62-64

²⁹ See Gideon Rachman "Shale Gas will change the world" ,*The Financial Times* May 25, 2010, p.9; Judy Dempsey "Eastern Europe turns focus to shale gas" *International Herald Tribune* May12, 2010,p14

³⁰ (These are some of the suggestions of an ISIS report when it seemed that the nuclear plans of the Middle East states might be rapidly realized. See "Nonproliferation Experts warn of Middle Eastern Plutonium Stocks" Global Security Newswire Nov.2008 .

http://gsn.nti.org/sitesservices/print_friendly.php?ID=nw_20081117_7968

(accessed 3/5/2010)

experts that to keep the Executive branch vigilant about non-proliferation, it might be desirable to require both houses of Congress to pass on Executive agreements concluded in relation to supply of nuclear technology.³¹

The Politics of Nuclear Proliferation in the Middle East

An evaluation of the technological base of the Middle Eastern states,- ie. their nuclear infrastructure, ---Iran apart—is reassuring; no reactors building, manpower deficiencies; long lead times; and political constraints.³²

There is no automaticity to other states' response to a nuclear-capable Iran, or even to an Iran that overtly crosses the nuclear threshold. Although some analysts talk of a “cascade” or a “tipping point” other analysts argue that contagion has been exaggerated and will be limited:

In the Middle East, it is important to separate aspirations from realistic plans. Few countries ...have the scientific and technical infrastructure to support a nuclear weapons program. Saudi Arabia is a plausible buyer, although the United States would certainly make a vigorous effort to persuade it that it would be more secure under a US nuclear umbrella than with its own arsenal. Egypt's determination to acquire nuclear weapons...is limited by its weak scientific and technical infrastructure , unless it were able to rent foreign expertise.

Another analyst notes that Riyadh's “characteristic timorousness” would argue against its “rushing toward nuclearization.”³³

³¹ Martin Matishak, “Lawmakers seek fixes to oversight of Nuclear Trade deals” Global Security Newswire May10, 2010.

http://gsn.nti.org/sitesservices/print_friendly.php?ID=nw_20100510_3487 (accessed 5/11/2010).

³² For a comprehensive look country-by- country, including the Maghreb see Nuclear Programmes in the Middle East :In the Shadow of Iran. (London: IISS, 2008)

The same authors argue respectively that a Turkish nuclear bomb “would not only jeopardize Turkey’s role in NATO but also undercut whatever chances the country has for acceding to the EU.” And that Turkey’s relations with Iran are “generally sound” and Turkey’s NATO connection would argue against it. A specialist on Turkey argued five years ago that it was “most unlikely” that Turkey would seek nuclear weapons... “an inconceivable path under current conditions.”³⁴

I will argue the opposite: that political developments are eroding the constraints and pushing in the direction of nuclear proliferation; that strategic imperatives are aligned toward it while international constraints are not in place to prevent this. Above all regional instability and division, the steady, irreversible, decline of the US as a dependable strategic ally and the failures in Iraq and now in a different way in Iran, increase regional states’ incentives to adopt hedging strategies. I will look first at the dynamics of Middle Eastern politics, then look at the case of Iran and then to Turkey as an illustrative but not necessarily representative case.³⁵

³³ [See Graham Allison & Charles Ferguson “Is the nuclear Order about to collapse?” *Foreign Affairs* (Vol.89. no.1)Jan/Feb 2010 p.83; and Devin Hagerty “Iran: The Nuclear Quandary” Ch.10 in Muthia Alagappa (ed) The Long Shadow: Nuclear Weapons and Security in 21st Century Asia.(California: Stanford UP,2008) p315.]

³⁴ [Ian Lesser, “Turkey and Iran: The Nuclear Risks:” ch.4 in Henry Sokolski & Patrick Clawson (eds) Getting ready for a Nuclear-Ready Iran, 2005,p p.90,105-6.)

³⁵ (For discussions of Arab responses see Wyn Bowen & Joanna Kid “The Nuclear Capabilities and Ambitions of Iran’s Neighbors” Ch.3 and Richard Russell “Peering over the horizon: Arab Threat perception and Security Responses to a Nuclear Ready Iran” ch.2in Sokolski and Clawson,2005; On Egypt and Saudi Arabia see the respective chapters, 4 &6 by Robert Einhorn and Tom Lippman in Kurt Campbell, Robert Einhorn & Mitchell Reiss (eds) The Nuclear Tipping Point:Why States reconsider their Nuclear Choices (Wash.DC: Brookings ,2004) See also Tariq Khaitous, “Arab Reactions to a Nuclear-armed Iran” *Policy focus* #94, (Wash. DC: Washington Institute for Near East Policy June 2009; and Richard Russell, “A Saudi Nuclear Option?” *Survival*, vo.43 o.2 (summer 2001) pp.69-80) see

The Political context of proliferation

Comparing the Middle East today with a decade ago suggests how much has changed and how much has remained the same. The international context is vastly different. Instead of a unipolar world we now have a non-polar or a polar world. Rising Asian powers are interested customers of Persian Gulf and important commercial partners. US influence and standing in the Middle East is at an all-time low. The US has forfeited its moral authority in Abu Ghraib and Guantanamo, lost the confidence of its Arab allies as result of its poor judgment and ignorance in Iraq, its ineffectual policies toward Iran and its bias toward Israel and neglect of the Palestinian issue. The reputation of the US will suffer further if it "cuts and runs" before Iraq is fixed. In any case this precipitous decline in confidence in the US is not recoverable. Some states like Saudi Arabia have already diversified their defense relationships with other states like China. The fact that more and more middle powers practice China, Russia and Iran's "strategic defiance" of the US, such as Brazil, Turkey and even Syria (not to mention Venezuela and Cuba) says something about the US 'standing. Despite ostensibly "having nowhere else to go" the Gulf Arab states continue their massive purchases of arms from the US, but have little confidence in the US' discussion of extending deterrence to them ("too little, too late.")³⁶

With the world more decentralized, and US credibility and judgment undermined for its denizens, the Middle East is beginning to look like a truly dangerous place

also Gawdat Bahgat, Proliferation of Nuclear Weapons in the Middle East (Gainesville: University of Florida,2007)

³⁶ For arms purchases see James Drummond & Andrew England "Gulf states set to spend more on Armaments" *Financial Times* May 3, 1010; also see http://www.ft.com/cms/s/e26c7342-56cd-11df-aa89-0014feab49a,dwp_uuid=be75219e-940a-11da-82ea-0000779e2340,print=yes.html (accessed May 10,2010)

Neither US military power nor its ability to leverage this into coercive diplomacy are likely to make it less so. The limited value of sheer military power, the fragmentation of security issues, the loosening of alliances (reflected in the euphemism “coalitions of the willing”) all suggest a region strategically adrift. To the untutored eye, the Middle East itself may not appear radically different from a decade ago: conflicts, instability, wealth, corruption, authoritarian governments, extremism etc etc. In reality there are new problems accreted to the older ones.

In summary we can simply note

- the strategic centre of the gravity of the region has shifted to the Persian Gulf;
- Instability and uncertainty surrounding Iraq have taken it out of Middle East and Gulf politics, leaving Iran unbalanced.
- The Israel/Palestine equation has worsened with the Palestinians divided, Israelis equally polarized while levels of trust between the two sides have vanished.
- Civil wars and societal fragmentation continue to affect the politics of Iraq, Lebanon, Yemen, Palestine (and further afield Algeria).
- Regional politics are more polarized between the ‘moderate’ states (Jordan, Egypt, Saudi,) and the ‘resistance front’, (Iran, Syria, Hamas, Hezbollah)
- Militias and transnational organizations now compete with governments for power and influence.
- The region is an arena for a ‘civil war within Islam’. The existence of Al Qaida branches in Iraq, the Arabian peninsula and the Maghreb being expressions of this.
- Sectarian divisions have been aggravated in part by Sunni repression of Shi’ites, in part by an awakening of the Shi’is as a result of events in Iraq.
- The Arab states of the Persian Gulf always divided are further divided in their responses to Iran’s regional activism and its prospective emergence as a nuclear –capable state.

- Succession issues have kept Egypt in a state of suspended animation, with a five year state of emergency, and abdication of a leadership role regionally.
- Demographic and job creation pressures persist but now side-by-side with a more politically aware 'Arab street', better informed by satellite television and the internet.
- Government legitimacy remains weak in the poorer states, while the Gulf states are sitting on a powder keg in the form of large pools of crudely exploited foreign workers .

None of these individually or collectively change the fact that the nuclear infrastructure of the region (the 'capabilities' part of the equation) remains non-existent and that it will take time to change that. Even with the intention, or determination , to drive toward a policy of nuclear hedging, no country in the region is in a position to realize its aims quickly. But where the intention is there-- and I believe that the reduced confidence in the US, the changed environment and Iran's nuclear ambitions--- have changed intentions, states will find ways to realize these ambitions.

To illustrate this proposition that intentions drive policy and determination can be rewarded, I will briefly recapitulate the case of Iraq and then look at the Iran 'model,' before fixing on Turkey as the most likely candidate for hedging. My principal argument is that there are shortcuts; there are 'dodgy' suppliers, governmental and non-governmental and that our ability to detect or react effectively remains limited.

The failed case of Iraq continues to cast its shadow over current cases of suspected proliferation and will do so in the future . These maybe summarized:

- Intelligence failure and manipulation re. Saddam Hussein's possession of WMD. Assumption that Saddam Hussein had "something to hide" meant he was hiding WMD rather than hiding (from Iran!) that he did not have WMD.
- Conflation of aims regarding disarming a proliferator and regime change, suggesting a vendetta rather than nobler motives.

- Botched diplomacy in the UN Security Council and in the subsequent occupation.
- The legacy that sanctions imposed on the proliferating country hurt the guiltless civilian population.
- The precedent was set that where there was extreme distrust no amount, or form of inspections, would be enough to reassure the US. In the case of Iran inspections can act as a “tripwire” and “inspectors can perform an alert function.”³⁷

But whether the UNSC can agree on what constitutes definitive proof (“a smoking gun”) *before* a test or withdrawal from the treaty, or agree what to do about it, remains in doubt.

As the last comment suggests the Iranian case casts a long shadow on current and future cases of dealing with non-compliance with NPT obligations. Lacking enforcement provisions, the UNSC is the default agency for dealing with cases that has itself dubbed “a threat to international peace and security.” But those were in happier times. Where Iran is concerned, the prevailing mode of behavior of Security Council members China and Russia has been obstructionism, diluting sanctions and arguing for more time for diplomacy (after eight fruitless years). Unable to agree what constitutes non-compliance, or what to do about it, the UNSC has signaled potential proliferators that there is no automaticity of punishment to be anticipated.

The Case of Iran: Flaws and Enabling Factors as a Template for others

*If Iran is able to reach the end of the nuclear path, it will produce a new model of nuclearization which would be followed by other countries.*³⁸

*Muslims can] feel confident because a fellow Islamic nation possesses the know-how to build nuclear weapons.*³⁹

³⁷ (Charles Duelfer “Canaries in the Cooling Tower” *National Interest* No.102 (July/August 2009)p.60.

³⁸ *Kayhan* newspaper, May 6, 2010

Iran's path to nuclear capability has been a long and winding one; characterized by a steady, incremental, if uneven progress. Unlike that of Saddam Hussein it has not been a crash program. It does not appear to have been carefully planned, with a timetable or particular goal in mind. Its rationale has changed and its progress has been contingent on factors uncontrolled by Iran, such as the offer of the A.Q.Khan network or success in acquiring specific technology internationally.

Iran's 'model' is one of using the cover of a civil power program (and the NPT) for acquiring weapons-related capabilities *and* using international sources, licit *and* illicit, for that program. Given the very the nature of dual-use technology, a "suspicious" pattern of procurement, could be dismissed as being in the eye of the beholder and such purchases could sometimes take place "in plain sight."

Thus Iran's strategy was to buy "bits and pieces" and then try and use its own networks to create an *indigenous* centrifuge capability. (This was important for reasons of self-reliance, sustainability and pride). A.Q.Khan's "starter kit" was built on by Iran's own procurement networks.⁴⁰

Iran was aided by a large cast of characters: governments such Russia, China, North Korea ; companies from Germany and Switzerland, while technology was sourced from the US and Malaysia among other places. Iran's front companies experienced in breaching Western arms sanctions in the 1980's were natural instruments to seek illicit nuclear technology.

Iran was the beneficiary of the hostility of key Pakistan actors to Israel, a sense of grievance and a certain strategic sympathy for fellow Muslims' aspirations.⁴¹

³⁹ Iranian Foreign Minister in Pakistan after nuclear detonation, quoted in Shah Alam "Iran-Pakistan Relations" *Strategic Analysis* (October-December 2004).

⁴⁰ See Albright, *Peddling Peril* pp.80, 120

⁴¹ See Albright *Peddling Peril* pp91-92, 173; Gordon Corera, *Shopping for Bombs* pp71-72, 122; and David Sanger *The Inheritance* p.205

Iran had not anticipated the discovery of its Natanz enrichment plant in 2002 and had to adopt a damage-limiting strategy until it discovered that the US was unable to enforce its coercive non-proliferation policy unilaterally .

The risk of an united international front against Iran was limited. The mistakes in Iraq loomed large. The difficulties ---and subjectivity-- inherent in ascribing motives were clear enough. The strategic interests of China and Russia in politely defying the US were all-to-obvious- (though there was reluctance to admit it in the West). Iran played on these differences, seeking to divide the UNSC members by using commercial inducements, playing the 'victim' and blowing hot-and-cold on negotiations and compromises. Playing cat and mouse with the IAEA inspectors, Iran used the threat of ending cooperation with the Agency (ie. blinding it as to its activities) to keep the Agency from issuing strong condemnatory reports. Using widespread anti-Americanism in the UN— which still has considerable political mileage in countries of the South—Iran could block unanimous resolutions internationally.

Iran emphasized its rights over its obligations in the NPT, preferring the letter of the treaty to its spirit (though some would even dispute that).

However Iran's emphasis on the non-compliance of the Nuclear weapons states with their obligations in the NPT (Article VI) and its corresponding refusal to accept new obligations (including the application of the Additional Protocol, or the renunciation of the "right" to enrichment) were arguments that had resonance in international *fora*.

All of this playing-for-time was to allow Iran to reach a *fait accompli* of mastery of the fuel cycle. Difficulties in running enough centrifuges long enough without breakdowns continued to be problem, both the quality of the centrifuges and sabotage of some of the parts acquired abroad, being partly responsible. Iran also continued to be reliant on the steady supply of spare parts for aging manufacturing equipment." ⁴²(This implies that Iran's drive toward the nuclear threshold can be

⁴² Albright , Peddling Peril p201.

slowed by international measures but it would be wildly optimistic to believe that it can be stopped.

While much of the focus has been on Iran's enrichment ambitions and capabilities, its activities with respect to the plutonium route have been given shorter shrift. Yet Iran's heavy water plant at *Arak* once operating will be well-suited to providing bomb-grade plutonium. At present the IR-40 reactor is still under construction and there are now 756 (50litre) drums containing heavy water at the uranium conversion facility (UCF) in Natanz. The IAEA has had no access to Arak in 2010 and thus relies on satellite imagery to access plant operations.

It is worth remembering that North Korea which helped Syria with its reactor has emphasized the plutonium route and that Iran-North Korea cooperation in the missile field may well have also included cooperation with Iran (as it has with Pakistan) in the nuclear field. It would certainly meet both parties needs of money on the one side and for technology/know-how, on the other.⁴³

It may be the case that a much underestimated part of nuclear proliferation has been how much depended on nuclear smuggling (as opposed to the cover of a power program). It is also the case that our ability to deter or prevent construction of secret nuclear facilities has proven inadequate. But there is no sign that either have improved over the past decade.⁴⁴

The Iran case demonstrates that over time, a determined state, even with limited disbursements, can acquire nuclear technology from a variety of sources, including illicit networks, (which can be motivated by a combination of commercial/ and or strategic considerations); that local deficiencies can be overcome in time; that international inspections and state intelligence agencies cannot with confidence prove weapons –intent; and that international responses can be mitigated by

⁴³ See Siegfried Hecker & William Liou, "Dangerous Dealings: North Korea's Nuclear Capabilities and the threat of Export to Iran" *Arms Control Today* vo.37, No.2 (March 2007) pp.6-11.

⁴⁴ Albright, Peddling Peril p.5

political factors unrelated to proliferation. The arrival of new suppliers, the accessibility of the technology over time, which will lower the barriers to entry, all suggest that things may get easier for others. (Indicative is N.Korea: which “asks only two things of customers: can they pay and can they keep a secret?”⁴⁵

How Iran has been handled should serve as an object lesson for others considering proliferation, but what are the lessons? So far there is little that suggests that a subtle form of proliferation that edges toward a capability without denouncing the treaty or ---as Albert Wohlstetter noted--“quite breaking the rules”, will be unduly punished.

“The longer Iran is allowed to defy the inspectors trying to discover the truth about its nuclear work, the greater the risk that others in the Middle East and beyond will start rethinking their nuclear options too.”⁴⁶

Turkey: Political incentives and embryonic infrastructure

With one foot in Europe and another in the Middle East, a member of NATO, a candidate member for accession to the EU, the only Muslim country in the region that is secular *and* democratic , Turkey ‘ has it all’ . Turkey, without oil, has developed economically and its tourist sector generates as much foreign exchange earnings as the oil of some states, with the added advantage that earnings go to society and not the state. Turkey would appear to be a model, worthy of emulation on many fronts, for its neighbors.

Turkey in recent years has reoriented itself from an almost exclusive concern for integration with the West to a more balanced policy of focus on the Balkans, and the Middle East (as well as the Caucasus/Central Asia). Turkey’s relations with Russia , the country’s traditional nemesis, have vastly improved , reflected in the rapid expansion of trade (energy, tourism).Whether this is called neo-Ottomanism or simply a Turkish rediscovery of its Middle Eastern identity, it is the same: Turkey is

⁴⁵ Albright *Peddling Peril* p.160.)

⁴⁶ *The Economist* (edit.)“Defending the NPT: If not now, when?” May1, 2010,p.15

playing a more independent role globally , unconstrained by the concerns of the US in particular or the European states. Turkey is thus answering those who in the 1990's argued "Turkey has nowhere else to go."

Domestically Turkey has rolled back the extreme version of Atatürkism . The headscarf/veil is no longer taboo; the entrenched power of the military is being challenged incrementally and their veto over policies eroded. Turkey is becoming comfortable again with its Islamic heritage, rebalancing from its stern secularism to a synthesis which is still being worked out. Still very conscious of threats to the state from Kurdish nationalists (e.g. in Iraq) and terrorism (from the PKK), Turkey is using a more subtle diplomacy to combat these than in the past. A new nationalism is emerging which drives Turkey's foreign relations.

Turkey has loosened its relations with Israel (very much a military/defense - centered tie) , voiced support for the Palestinian cause, and positioned itself in its ties with Syria and Iran to play a mediating role in regional affairs. Turkey has publicly refused to entertain the possibility that Iran's nuclear program is motivated by military considerations.⁴⁷

b Turkey as a non-permanent member took a defiantly independent position on this issue in UN Security Council voting in mid-2010 voting against sanctions and arguing for more diplomacy. It was active, with Brazil in finding a solution to the swapping a large chunk of Iran's fissile material through Turkey in exchange for more enriched fuel for its medical needs. ⁴⁸ This independent approach, which takes the pressure off Tehran, giving it time for further development of its program, can be seen as an assertion of Turkey's solidarity with an important neighbor (a fulfillment of the doctrine of "zero problems with neighbors"); simply an assertion of its independence; or an act of "strategic defiance" of the West, a cover for its own

⁴⁷ PM Erdogan called this "just gossip" March 16, 2010, London Agence France Press]

⁴⁸ See David Gardner "Assertive Turkey strives to prove its usefulness to reluctant EU" *The Financial Times* May 17, 2010, p.2

unformed strategic ambitions. I will argue that Turkey's behavior is closest to the last interpretation.

Seen from Turkey, its relations with the US and Europe have been a one-way street, in which it has been taken for granted, its interests slighted or neglected.

[Dissatisfaction goes along way back at least to President Johnson's "letter" threatening Turkey over Cyprus in 1964]

Turkey has the largest land army of the European NATO members yet some members have been reluctant to extend coverage of Article V protection to Turkey in 1990/91, a war which cost Turkey substantial financial loss. Some major countries have essentially "lost the dossier" of Turkey's candidature for the EU, with others now 'jumping the queue.' Like the EU, US showed great insensitivity toward Turkey, in this case taking it for granted in the run-up to the war with Iraq in 2002/3 and then neglected Turkey's interests in cultivating and giving substantial autonomy to Iraqi Kurds and failing to suppress the activities of the PKK. The general decline in confidence in the US in the Middle East noted earlier, above all the lack of confidence in its judgment and staying power, has not escaped Turkey. All of this has been taking place in a strategic environment in which Turkey no longer faces a major strategic threat requiring US/NATO protection by nuclear weapons.

Turkey's reconsideration of its security policies thus occur in a period when domestic politics are in transition, where identity is being redefined and the strategic environment is being transformed. All the *political* barriers or arguments against Turkey's movement towards a nuclear capable status have also palpably weakened. The summary discussion below is intended to stimulate thought not argue the case definitively.

- A security environment of more diverse threats requires more and different means;
- A secure, nationalist and independent Turkey will want to explore those means, hedging its bets for the future; while staking out security policies independent of those of the past.

- The US relationship is today is “less a source of security” than a “source of risk.”⁴⁹
- The US tie cannot thus act as a restraint on Turkey’s major decisions, as it has in the past.
- Turkey today needs NATO less than the alliance needs Turkey. This is especially the case, if, as has been argued, the treaty itself has been overtaken by “coalitions of the willing”.⁵⁰ Regional leadership requires that Turkey plays an active role regionally, implying that it must compete with others who seek to play the same role.
- Turkey takes Iran seriously as a regional power but has no major bilateral dispute with Tehran. However a nuclear-capable Iran might become more assertive regionally and though it will not necessarily threaten Turkey directly, it might threaten it with “regional marginalization.”⁵¹
- Turkey’s independent policy in the Middle East is as likely to clash with that of the US as to complement it.

⁴⁹ Leon Fuerth, in Einhorn et al. *TippingPoint*, p.156.

- ⁵⁰ See Richard Haass, “A Waning Europe matters less to America” *The Financial Times* May13, 2010 p.9 In short all the reasons experts adduce for Turkey not going toward the nuclear threshold such as ties with the US; EU; or the NPT appear much weaker than even a decade ago

⁵¹ See Alexandra Bell, “Turkey’s Nuclear Crossroads” *Good*, August 25, 2009
<http://www.good.is/post/turkeys-nuclear-crossroads/>; “Chain Reaction: Avoiding a Nuclear Arms Race in the Middle East” *Report to the Committee on Foreign Relations*, US Senate, 110th Congress, 2nd Session, Feb.2008
<http://www.gpoaccess.gov/congress/index.html>

See also Jessica Varnum “Turkey in Transition: Toward or Away from Nuclear Weapons? In William Potter (ed) *Forecasting Nuclear Proliferation in the 21st Century: A comparative Perspective*” (Palo Alto: Stanford U.P. 2010 forthcoming).

- An Iran that crosses the nuclear threshold, or which attempts to exploit its threshold status, would presumably elicit a more assertive Turkish response in terms of its own hedging.
- The unraveling of the NPT if other states start imitating Iran, or like Brazil insist on the right to enrichment, is another factor that could stimulate or harden a decision by Turkey to hedge.

Turkey as noted, harbors ambitions to develop as an energy hub with gas transiting from Turkmenistan, Russia, Iran and soon Iraq. Despite potential hydro-electric power, Turkey is a major and growing energy importer.

Turkey thus needs to assure its own energy security.

Turkey's past interest in nuclear energy never materialized due in part to financial considerations. This should no longer be a limiting factor. Iran's nuclear ambitions have now galvanized Turkey's nuclear efforts⁵² What is clear is that Turkey today is looking nuclear energy afresh. It has signed deals with Russia and South Korean firms for preliminary studies of a complex on the Black Sea and another on the Mediterranean, with a total power up to 10,000 megawatts, equal to 10 large reactors.⁵³

A major agreement with Russia in May 2010 (worth some \$20bn) which included an oil pipeline bypassing the Bosphorus to the Black Sea centered on the construction of Turkey's first nuclear plant.⁵⁴

It could be argued that this is a prudent diversification of energy in that nuclear does not yet figure in Turkey's energy mix. If so, the agreement with Russia is not a diversification of dependency on sources, as Turkey already relies on Russia. However it could also be that Turkey expects Russia to be

⁵² Congress : "Chain Reaction" p.36.

⁵³ David Broad & David Sanger "US is pushing to deter Mideast arms race" *New York Times*. May 2, 2010.

⁵⁴

<http://www.nytimes.com/2010/05/13/world/europe/13turkey.html?pagewanted=print> (accessed May 13, 2010). Skepticism is in order whether this will see fruition, given technical and financial considerations.

more lax than other suppliers in its control of technology. Whatever the reason, it is clear that Turkey has decided this time to initiate a nuclear program, in part as a response to Iran and the goal of having options in the future. Its overtures to Iran and its tentative development of a nuclear industry is consistent with a policy of hedging politically and technologically. There are other, less conspicuous, signs that Turkey is hedging. There are reports that there are divisions between the technical experts dealing with the power generation program and others in the Foreign Ministry and PM/Presidential office (**(check)**) who are dealing with nuclear R&D. This bifurcation of the nuclear program, separation of responsibility and information may reflect more than that different focus. It could mean a difference in intent or goals.⁵⁵

In the Nuclear Suppliers Group (NSG) Turkey has resisted making the supply of technology dependent on the acceptance of the stricter inspections of the Additional Protocol. At URENCO Turkey has been exploring uranium enrichment projects, setting up the excuse, should its bid fail, to move to a national program. Turkey may be setting up research related to the nuclear program under the guise of energy and power needs, which like Iran's can quickly be turned towards a weapons program. If determined, Turkey will not lack the manpower or finances to do so. Nor as a state in good standing should Turkey have difficulty gaining access to technology denied rogue or suspect states.⁵⁶

Turkey does not currently have the ability to produce significant quantities of fissile material usable in a nuclear-weapons program. There is no proof that Turkey's official research institutes or universities have conducted research related to weaponization. though there is indirect evidence of interest in weaponization. Turkey may have the technical capability to manufacture many of the components

⁵⁵(Differences between the F. Ministry and the Prime Minister on Iran's nuclear ambitions have also appeared see Yurter Ozcan, "New US National Security Strategy and Implications for Turkey" *Cumhuriyet* WINEP, May 11, 2010)

⁵⁶ Authors Interviews with experts Brussels/Paris April 2010.

for a gas-centrifuge uranium enrichment program, although there is no indication that it has done so.⁵⁷

But, to repeat, it is technically able to do so.

In the past Turkey has been suspected of aiding and abetting or simply neglecting commerce of nuclear-related technology taking place from its territory with Iran and Libya . There is also some question whether Turkey was also offered nuclear technology from the A.Q.Khan network along with Iran, Iraq and Libya. But so far its record officially has been flawless.⁵⁸

Turkey's policies in other respects , such as in the Nuclear Suppliers Group, is ambiguous. It rejects efforts to tie technology transfers to the acceptance of the Additional Protocol, surely a prudent requirement given recent experience with proliferation. Similarly Turkey rejects the idea of foregoing enrichment or reprocessing. It takes the Non Aligned argument that NPT members should not be asked to accept additional obligations until others have fulfilled their part of the bargain. Turkey also along with the NAM distinguishes between measures that are legally obligatory from those that are (merely) for building confidence, an attitude which narrowly focus on the letter of the law rather than its spirit, with respect to inspections etc. All of this suggests a deliberate attempt to widen the loopholes that exist rather than narrow them, t surely a clear sign of hedging.

Similarly if Turkey tries to tie the denuclearization of the region (ie. the creation of nuclear free zone) to its own renunciation of such technologies, there will be ample cause to find the argument above more plausible. Finally Turkey's position on the removal of US tactical nuclear weapons from Europe should be another indicator.

⁵⁷ (The assessment in this paragraph is taken from the IISS dossier. Nuclear Programmes, p.64)

⁵⁸ Albright Peddling Peril, p.126; Corera , Shopping for Bombs pp. 70,115,226)

Analysts believe that Turkey will object to their removal or use it as a reason to develop its own.⁵⁹

It is possible that Turkey will take no active part in the debate on their removal, voicing no support for their retention either, but simply take their removal as a further excuse to develop its own option.

The argument has been that Turkey is shaping up as a potential nuclear proliferator; that it has good reason to develop nuclear energy but not in the configuration it is going about it; that is positioning itself to have a secret nuclear program that is analogous to that of Iran, in that it will be a hedge should it seek a weapons capability. While starting from a very limited base Turkey has the manpower, scientists and access to technology that will allow it to move relatively quickly. Its past, murky contacts in these areas may stand it in good stead. The decision-making system may also permit/encourage the emergence of a parallel program. With the phenomenon of the “deep state” we have seen that democracy at least in Turkey is no guarantee of transparency.

Conclusion: Proliferation in the Middle East: A balance sheet.

Any assessment of the Middle East has to balance two opposing factors; on the one hand the record of conflict and attempted proliferation, political tensions and current crises over real and suspected nuclear weapons and the insecurity they generate with the fact, on the other hand, in most cases, Middle Eastern states have small or non-existent nuclear infrastructures which cannot be substantially augmented quickly or without attendant risk of exposure. While the motives may be there, the capabilities are not and not likely to be any day soon.

Looking at the capabilities, which cannot change as quickly as intentions, we note that *broadly speaking* there are two principal pathways to a nuclear weapons

⁵⁹ Mark Landler “US wants to keep nuclear weapons in Europe” *International Herald Tribune* April 23, 2010 p.4 and Miles Pomper, William Potter & Nikolai Sokov “Reducing Tactical Nuclear Weapons in Europe” *Survival* vol.52 no.1 (Feb.-March,2010) pp75-96.]

capability. One is to use the cover of the NPT and a power/research program, which will be safeguarded in some manner, to create a parallel weapons program and eventually to leave the treaty. Another path is to seek a weapons capability from abroad, off-the-shelf or turnkey, perhaps using whatever domestic program existed for training manpower.

Nuclear power reactors by themselves, (without uranium enrichment facilities or the capacity to reprocess plutonium) are not a proliferation risk. Research reactors, which are relatively cheap and require limited manpower, can be a risk, depending largely on reactor design. Diversion of fuel for weapons purposes would probably be detected and would thus be more likely as part of a decision to leave (“breakout”) of the treaty. No enrichment plants currently exist in the Middle East and future one’s will be carefully watched for diversion. However the more elaborate the nuclear infrastructure, the more numerous the declared facilities, the more difficult it will be, with limited resources for inspections, to be sure that in large countries there are no parallel undeclared facilities and programs. It is also possible that several states might cooperate together on a weapons program and break out together.⁶⁰ Without facilities though, the aspiring proliferator is constrained: dependent on an outside supplier; betting on evading inspections; counting on amassing enough fissile material to make withdrawal/breakout worthwhile and hoping that the international reaction will be as tepid as in the past.

The argument in this paper has been deliberately political rather than technical, based on the record of the past in the region, where political decisions have outweighed economic/technical or prudential considerations. Saddam’s crash program, and Qadafi’s off-the-shelf ambitions and Syria’s stealth program, contrast with Iran’s purposive, deliberate indigenization of the technology, combined with deception, duplicity, provocation and manipulation to deflect international

⁶⁰ (See the discussion in IISS Nuclear Programmes Dossier, 2008 Ch7, pp141-149)

pressures. Only Israel's "now you see it now you don't" program is comparable in opacity though exceeding it in magnitude.

The question posed in this paper is whether in light of new incentives one acute (Iran) and one more diffuse (the decline of the US) other states, taking advantage of the permissive environment for proliferation, will not have sufficient incentive to move towards, or over, the nuclear threshold?

This environment has been characterized by the inability to date of the UNSC to agree on a response; of the IAEA to formulate a definition of non-compliance giving 'timely warning' *ahead* of the full frontal emergence of a proliferator; the emergence of nuclear black markets and proliferation networks, including the dubious supplier practices of some states (e.g. North Korea and Pakistan). Furthermore there is the fact that in the region the Additional Protocol is not becoming adopted universally nor enrichment renounced.

I have suggested that the loss of US influence and standing in the region, (which will continue even with an "Obama bounce") has seen Saudi Arabia diversify its security ties, and anti-Americanism increase in the region (esp. Turkey) while the price of defying the US (Iran) has declined. A more complex a-polar world will increase states' incentives to hedge militarily. Turkey especially is posed to play a more important role internationally while it recalibrates its relations with the US and the EU. It is the 'ideal' candidate for adopting a hedging strategy on nuclear weapons, for seeking a policy that widens its options. However it is constrained technically, starting from a low base. How it overcomes this, what strategies it adopts, what constraints it accepts, and rejects, bear watching as clues to its future intentions.

Saudi Arabia is the other case. Directly in line of fire -- as it were--- of Iran's nuclear ambitions, there appears to be precious little that the Kingdom can do.

Accommodate and appease Iran? Get closer to and trust a US umbrella? Seek an alternative to the US, perhaps China? Seek stronger measures to prevent the emergence of a nuclear Iran and risk a regional conflict? Seek a long term deterrent by building a nuclear infrastructure? Seek a short-term solution by alliance with Pakistan, if Pakistan is willing? None of these look attractive or even feasible?

The emergence of a nuclear Iran though will precipitate more than soul-searching. An Iran that in five years can bring Europe within range of its missiles, will not be an exclusively Saudi concern. ⁶¹

How others react will inevitably affect Saudi policy calculations. Will Iran become more confident and assertive regionally? Will it stay in the treaty and seek to exploit its ambiguous capability indirectly (as seems likely) or will a domestic or regional event catalyze a stormy withdrawal ? How will NATO and Turkey treat an Iran that is nuclear in all but name? What of other medium powers in other regions, will they seek nuclear options? Will the NPT to all intents and purposes, unravel? These and other questions will affect Saudi calculations but the decision to start a nuclear infrastructure will surely be made soon and implemented as quickly as possible. Turkey and Saudi Arabia lie on different parts of the political continuum. Neither Turkey nor Saudi Arabia has the ability to develop a nuclear option quickly but each has a (different) motive; each has advantages (manpower /money). Their motives may not be equally urgent, and their capabilities differ but they share one characteristic: an interest in widening their options whether for influence (Turkey) or for security (Saudi Arabia). The argument of this paper has been that where strong enough motives exist, in the current environment, the means will be found.

Appendices⁶²

Algeria: Technical capacity and status motivations

Algeria has had a relatively long nuclear history but no real or pressing need for nuclear energy. Nor has Algeria's security been threatened whether by neighbors or now by Iran's program. Nonetheless it went ahead with grandiose plans to

⁶¹ See Iran's Ballistic Missiles Capabilities :A Net assessment, (IISS: London, 2010; see also Iran's Nuclear and Missile Potential: A joint Threat assessment by US and Russian Technical Experts ,NY:East/West Center, 2009)

⁶² (Unless otherwise cited, the data in this appendix is derived from the IISS Nuclear Programmes dossier)

substitute nuclear energy for domestic consumption and free up its oil and gas for exports. Algeria joined the IAEA in 1963 ie. just after independence and since the 1980's has had a significant nuclear program, which include four safeguarded facilities at two locations; a research reactor (Nur, DZ-0001) used for research and production of isotopes; a pilot fuel fabrication plant named UDEC, located near the research reactor at Draria; the Es Salam research reactor (DZ-0002) owned by the Research and Higher Education ministry in the Sahara, inaugurated in December 1993 amid controversy. Supplied by China this reactor--- discovered by US intelligence---appeared destined for weapons-related in that the heavy water and large amount of LEU which figured in the agreement, could potentially allow the production of weapons grade plutonium. That and the fact that Algeria had not yet signed the NPT or been subject to safeguards were a cause of concern. So was the fact that the transaction with Argentina for the construction of the Nur reactor and the UDEC pilot fuel fabrication plant had involved a considerable transfer of nuclear skills and expertise which could be transferable to a weapons effort. Algeria has since ratified the NPT and is subject to safeguards and signed the CTBT, but while signing the Additional Protocol has yet to ratify it. Algeria continues to exhibit interest in nuclear technology and has signed agreements with France. Reports continue to come from various European countries about Algeria's continued interest in sensitive technology and the weapons related parts of nuclear technology such as hot cells.

Algeria has strongly supported Iran's right to the full fuel cycle and rejected any efforts to tighten the parts of the NPT that allow this. As a former leader of the Nonaligned Algeria clearly misses its leadership days. It remains mired in a political context in which a corrupt military oligarchy dominate the state ("le pouvoir") and despite the resources have failed to use them for the benefit of its citizenry. The result is the continued alienation of the populace and the relative impoverishment of a people who could be enjoying a better life. The attempt to justify emergency decrees by reference to the Islamist threat obscures the degree to which the regime itself is responsible for that Islamist opposition.

Algeria technically has a nuclear option (in the Ain Oussera complex, research reactor; hot cell labs; isotope –production plant; waste storage plant and suspected reprocessing plant). It could exercise this by breaking out of the treaty or by risking a clandestine program within the treaty. Without serious security concerns that could be met by such weapons, the motivation for the move to a weapons capability are not well-developed strategically. Like many other states though the lure of status and a false aura of legitimacy might be irresistible for a regime that has signally failed its people.

To sum up: currently constrained , Algeria is in a position to hedge for the future. Its large research facilities can be expanded; it has large recoverable U deposits and can produce plutonium, though the quantities are unknown. The knowledge acquired from its nuclear facilities puts it in a position to move quickly to a weapons program should it so decide. What would precipitate such a decision? A general deterioration , erosion of the NPT and an Egyptian decision seem the most likely catalysts. Iran's ambitions are not an especial concern but Egypt's might be. Unsettled domestic politics will always be a wild card. Like other M. East states Algeria might be motivated to improve or acquire legitimacy by such a prestige project.

Egypt : Perennial favorite Candidate

As the Arab's world's self-proclaimed leader and neighbor of an Israel with nuclear weapons that remains at odds with the Palestinians (and hence the Arab world) Egypt might be regarded as everyone's prime candidate for proliferation. The Iranian nuclear program is another challenge to Egypt's claims to regional primacy; a reproach in the view of some who see Iran representing Palestinian rights more effectively than Cairo. Egypt in recent years has been preoccupied with an era of 'fin de regime', grooming Mubarak's son Gamal as his successor, dealing with a restless domestic opposition and reacting to foreign affairs rather than shaping them. Egypt's relations with Israel remain cold though serviceable as both share a distrust of the Islamist movements like Hamas or their Salafi cousins and in Egypt's case the

Muslim Brotherhood, which it tolerates but controls rigorously. Cairo still depends on the US for economic assistance(\$1.5 bn/year) but has shown a willingness to defy Washington when it comes to cracking down on its domestic opposition. Or liberalizing politically.

Egypt has long shown an interest in nuclear energy but its ambitions have been limited by economic constraints . There were rumors of efforts to acquire nuclear weapons “off the shelf” in the 1960’s but these did not materialize. In 1968 Egypt signed the NPT. Annually since 1974 Egypt has tabled a resolution in the UN for a nuclear free zone in the Middle East,(NFZ) a goal it has sought more intensively in the five yearly NPT review conferences .Since 1990 Egypt has tied its own ratification of conventions on non-use/possession of Chemical and Biological weapons to the creation of nuclear free zone , in its initiative for a zone free of weapons of mass destruction in the Middle East(WMDFZ). Egypt has used Iran’s nuclear ambitions and programs to once again focus on the existing nuclear weapon state , ie. Israel.

In promoting a nuclear free zone in the region as a way of inhibiting Iran’s program, Egypt is calling for Israel’s nuclear disarmament prior to --and divorced from --any progress to the elimination of the political differences in the region which have given rise to these programs. Such an approach tends to provide cover for the Iranian program in international conferences like the NPT review conferences, without convincing Israel of Egypt’s bona fides. This campaign along with Egypt’s refusal to sign the Additional Protocol leaves Egypt’s intentions unclear. Egypt also refuses to accept any new obligations (such as renouncing sensitive technologies) or restricting their trade by making them conditional on acceptance of the Additional Protocol (like Turkey) suggests a hedging strategy for the future.

Egypt’s failure to report certain activities to the IAEA , as required by its safeguards agreement, came to light in 2005. Apparently Egypt produced “several kilograms of uranium metal and uranium tetrafluoride—a precursor to uranium hexafluoride

gas".⁶³ (This and other anomalies could suggest an undeclared military program or genuine oversights ; Egypt's cooperation with the investigation was generally praised and the episode largely overtaken.

Egypt's nuclear program is one of the largest in the region after that of Israel and Iran. Longstanding the program, which has been able to produce significant amounts of fuel, has never grown, but this is about to change given current plans. At present Egypt has a well-established administrative apparatus and several nuclear facilities. These are dispersed in several locations, and include two research reactors and exploratory uranium-mining operations. But this does *not* include sensitive areas of the fuel cycle such as a uranium enrichment capacity or plutonium, extraction facility. The research reactors are under IAEA safeguards .One came into operation in 1961 and is still used though less than fully, and the second was inaugurated in 1998. Egypt now fabricates the fuel for this reactor (a pool type light water) in its indigenous fuel fabrication plant in Inshas.

Several universities have departments dedicated to teaching nuclear physics and engineering . Egypt cooperates with several countries in the nuclear field, Argentina Canada, Germany, India , Italy, Russia ,and the US.

Egypt has legitimate energy security concerns (growing population and diminishing indigenous sources) and in 2006 Gamal Mubarak announced plans to restart its nuclear energy program. Since then Egypt has drafted a new nuclear law and submitted it to the IAEA for review. (Egypt expects to have tenders completed and its first power plant coming online in 2017-20).

Egypt sees itself as the natural host for a regional fuel cycle facility for the Arab states. (The GCC have mooted the possibility of such a regional facility, without reference to a location). This could be done building on Egypt's expertise in fuel fabrication.⁶⁴

⁶³ For references see IISS Dossier Ch. 1 P.24. For a good overall discussion of Egypt's programs and choices see Einhorn in The Nuclear Tipping Point ch.4).

⁶⁴ IISS Dossier , p,27).

But Egypt's revived interest in nuclear energy cannot be divorced from Iran's program. Egypt's regional leadership pretensions (which have not been in evidence ---or acknowledged as in the past-- in recent years) are challenged by Iran and Egypt's claims to pre-eminence require a demonstrative response. Active diplomacy against Israel cannot substitute for an Egypt that is in the forefront of this technology. Iran's threat for Egypt is not the use of nuclear weapons but the erosion of Egypt's importance in the Arab world. A revived nuclear program will be a response to that . It could also serve as a hedging strategy for a nuclear option. Domestic calls, principally from the Muslim Brotherhood, for the development of such an option, are not simply a lunatic fringe phenomenon. Hints from the Egyptian leadership have not denied such intent. ⁶⁵

Egypt's unwillingness to accept a position of inferiority vis a vis Israel and Iran is one driver of a nuclear option. Clearly an Iran that crosses the threshold, is in any way "rewarded" by nuclear weapons states, or which exploits its new capability (declared or undeclared) will act as catalysts that will solidify support for this option. Another catalyst would be Israeli reactions. Already Egypt and others have announced that an open statement by Israel that it had nuclear weapons would occasion their withdrawal from the NPT.⁶⁶ (Other factors bearing on an Egyptian decision are domestic : a succession struggle in which a more' nationalist' leadership emerged ; a government influenced by Islamists even of the Muslim Brotherhood variety; domestic failures requiring diversion, and substitution of energies. A critical constraint on such a move is the relationship with the US, which should not be allowed to deteriorate. A simple decision by Cairo to build up its nuclear program for

⁶⁵ (See inter alia the citations in IISS Dossier, p.29 and "Egyptian Foreign Minister Ahmad Abu Al-Gheit warns that Nuclear Iran would force the Arabs to Join the Nuclear Race" interview on Egyptian Channel 1, April 11, in *MEMRI* April 30, 2010.)

⁶⁶ Dossier p.32) See also "Egypt plays key non-proliferation role but keeps nuclear options open" Nuclear Threat Initiative"

(http://gsn.nti.org/siteservices/print_friendly.php?ID=NW_20200610_8351 June 10, 2010

power generation, will provide it with the means of going towards a weapons option sometime in the future. But as of to now it cannot convert its facilities very quickly.

Saudi Arabia: Motives without Capacity?

Saudi Arabia is in the frontline of regional proliferation, practically next door to Iran. Even worse the kingdom has found itself in competition with, and threatened by, the Islamic Republic for the past three decades. Quite apart from the rivalry stemming from Iran's Islamic leadership pretensions, which pit a Shi'ii Persian state against a Sunni (Wahhabi) Arab state ---Custodian of the Holy Places--that considers Shi'ism quasi -heretical, there are the differences of national interest. Iran is strongly anti-US (West), while Saudi Arabia relies for its ultimate security on the US/West. Rivalry between Iran and Saudi Arabia has fluctuated in the past three decades but distrust has been a constant, particularly aggravated since 2005 by Iran's nuclear ambitions and Ahmadinejad's policies. Saudi Arabia's security problems are compounded by the diminished standing of the US in the region and the reduced confidence of US allies in its judgment and more generally its embrace. In addition the "special relationship" between Washington and the Saudis had been irreparably damaged by 9/11.⁶⁷

The upshot has been that Saudi Arabia has been looking to diversify its security relationships and developing some sort of strategic partnership with China. There is no guarantee that even if successful this will be able to replace the military balancing role which the US has played over the years.

Saudi Arabia then is a state with a strong security motive to acquire nuclear weapons to balance Iran for it cannot rely on its frayed relationship with its traditional security guarantor 'to get it right.' At the same time while possessing the money to fund an ambitious nuclear program, it must start from scratch if it wishes to develop an indigenous capability, in terms of manpower and infrastructure.

⁶⁷ For a good discussion see David Ottoway, The King's Messenger, NY:Walker, 2008

Saudi Arabia has no nuclear reactors of any kind, though it has considered one for desalination. Nor has it any known uranium conversion, enrichment or fuel fabrication capabilities, nor any reprocessing capability. The country has conducted research into uranium prospecting, mining and milling. It also sits on significant phosphate deposits, which--in theory-- could be used for the extraction of uranium. Saudi Arabia does not yet have a serious safeguards agreement in place, which will have to be amended if it decides to expand its program.⁶⁸

Given these circumstances Saudi nuclear options are usually considered in terms of its relations with friendly Pakistan. It is known that there has long been security relationship between the two states. Pakistani soldiers have been deployed to the Kingdom in the past when needed, and offered again in 1990/1. It is believed that the kingdom helped finance Pakistan's nuclear program as part of this on-going security relationship. Saudi oil is also said to constitute payment for security guarantees. Saudi Arabia appears to trust Pakistan and probably could be more confident in its support than that of the US. It is thus often speculated that in extremis the Saudi would ask Pakistan to station nuclear forces in the Kingdom as deterrence against an Iranian threat. (It should be noted that this would imply a willingness on the part of Pakistan to antagonize a nuclear Iran, giving Pakistan the headache of *two* nuclear neighbors). A related line of reasoning is that the Saudis might try and purchase Pakistani nuclear warheads for their upgraded CSS-2.⁶⁹

⁶⁸ For information see IISS Dossier, pp40-42; and Thomas Lippman Ch7 in Einhorn et al Tipping Point see also Mark Hibbs " Saudi Arabia's Nuclear Ambitions" Q &A, July 20, 2010 (<http://carnegieendowment.org/publications.index.cfm?fa=view&id=41243>) see also Andrew England "US allies join the quest for atomic power" *The Financial Times* July 8, 2010, p.4

⁶⁹ (For discussions see Corera, Shopping for Bombs 12-13;254; Lippman; Kate Amin, "Will Saudi Arabia Acquire Nuclear Weapons? Issue Brief, NTI, http://www.nti.org/e_research/e3-40a.html (accessed 3/5/2010). And IISS Nuclear Programmes Dossier pp42-44.)

While the Saudi –Pakistani relationship is good and has extended to security and is balanced on the face of it by Saudi money and Pakistani manpower/know-how, it is still a long shot to assume that Pakistan will assist Saudi proliferation.

As with Pakistan, the principal *political* constraint on Saudi Arabia is still its relationship with the US, which would come under even more severe strain, if the Kingdom moved in this direction. This is especially true if it were discovered in the period before Iran emerged a nuclear weapons-capable. The efforts and success of US policy on non-proliferation in general and toward Iran in particular will surely figure in the Saudi decision-calculus. The reverse of this is that continued deterioration in relations with the US could see movement in this direction made more likely. (Congress,, Chain Reaction, 2008) The same goes for Saudi attempts to get Chinese nuclear assistance. Like Pakistan it is not clear they would be willing to antagonize the US, by so doing. Also though closely linked to Pakistan, China has shown a reluctance so far to take sides in the Gulf, where it has energy interests on both shores. Whether it will get over this instinctive mercantilism which translates into a neutrality regarding regional disputes, is uncertain.

Syria: ‘Outed’ Front-line state, with few resources

Syria’s front line is with Israel so it is not concerned by, and may even welcome, Iran’s nuclear ambitions. A founding-member of a rejectionist front where Israel is concerned, Syria has also long sought the goal of “strategic parity” with Israel , which has consistently eluded it. Deprived of access to free conventional weapons, and orphaned diplomatically by the end of the Cold War, Syria’s military options have narrowed to support for ‘resistance’ forces (called terrorists by some) and oblique references to WMD notably Biological and Chemical weapons. Syria’s emphasis on missiles since 1982(noted earlier) and a refusal to become party to Conventions banning BW and CW, are what remains of a deterrent capability.

Syria therefore has every motive to acquire a nuclear “equalizer” to Israel that would enhance its bargaining power, serve as a deterrent to Israeli pressure and inhibit Israel’s use of superior conventional forces.⁷⁰

Syria has an established relationship with North Korea which has supplied it with missiles for the past two decades. Syria’s nuclear ambitions as well as capabilities until recently were quite constrained . Syria signed and ratified the NPT in 1968, and concluded a full-safeguards agreement with the IAEA in 1992 when it started work on a miniature reactor.⁷¹

After many false starts, which were caused by financial considerations or political hesitation on the part of suppliers (Argentina, India and Russia among others), China began construction of a miniature neutron source reactor(MNSR), located at Der-Al-Hadjar near Damascus. This reactor, which went critical in 1996, is primarily used for teaching and, producing no fissile material has no proliferation potential. To date like many others Syria’s interest in nuclear power for energy purposes has not led to concrete projects. Despite this there have long been undocumented suspicions that Syria sought to develop its WMD capabilities but these largely focused on BW and CW . There were also suspicions of Syrian contacts with the A.Q.Khan network; not least because of Iran’s contacts and the closeness of Iran-Syrian defense ties.⁷²

In September 2007 Israeli aircraft bombed and destroyed a facility at Al-Khibar on the Euphrates. The site appears to have been a half completed gas-cooled , graphite –moderated reactor capable of producing plutonium for nuclear weapons. The

⁷⁰ For background see Murhaf Jouejati “Syrian motives for its WMD Programs and What to do about them” *The Middle East Journal* vol.59 no.1 (Winter 2005) pp.52-61; and Ellen Laipson “Syria” Ch.5 in Einhorn et al in [The Tipping Point](#)

⁷¹ This remains Syria’s only safeguarded facility . See IISS Dossier “Nuclear Programmes in the Middle East,’ on which the data here is based

⁷² Corera, [Shopping for Bombs](#) p.235; IISS Dossier, pp80-81.

reactor, which was not configured to produce electricity, was not suitable for research had not yet been fueled and was not operational . It resembled the North Korean 5MWe reactor at Yongbyon and there was evidence that North Koreans, who had decade-long ties with Syria in the nuclear domain, had assisted in its construction. Reportedly North Korea had also provided 45 tons of “yellowcake” uranium and Iran had provided funding for construction of the facility.⁷³

The embarrassed silence with which Syria responded to the Israeli attack and the subsequent revelations by the US (in 2008) as well as the muted response of the Arab world, suggests a certain reluctance to attract further attention to Syria’s program or the episode itself. Syria has refused cooperation with the IAEA to shed light on it., and no special inspection has yet been undertaken by the IAEA, to the chagrin of Israel and the US among others.⁷⁴

Syria’s refusal to accept the Additional Protocol, together with a continued rhetoric that asks ‘why shouldn’t an Arab country or Iran have nuclear weapons as long as Israel possesses such weapons’ , suggests that Syria’s quest for a nuclear option has

⁷³ (See Background Briefing with Senior US Officials on Syria’s Covert Nuclear Reactor and North Korea’s Involvement , April 24, 2008; Japanese sources *Mainichi* Japan February 28,2010;Albright, [Peddling Peril](#), pp2-5,167-168. See also US Congressional Research Service report: “Iran: US Concerns and Policy Responses” October 2008.

For overview of program see Syria Profile NTI,
http://www.nti.org/e_research/profiles/Syria/Nuclear/facilities.html
(accessed 2/23/2010)

⁷⁴ Andrew Tabler “How to React to a Reactor” *Foreign Affairs.com* April 19, 2010; and Martin Matishak “Syria urged to Cooperate with Investigation of Nuclear Activities “

Global Security Newswire, http://gsn.nti.org/siteservices/print-friendly.php?ID=nw_20100304-8660 (accessed 3/19/2010).

Israel has also accused N. Korea of supplying Syria with WMD: Global Security Newswire, http://gsn.nti.org/siteservices/print_friendly.php?ID+nw-20100512_1609 (accessed 5/19/10)

not definitively ended. That quest will have to continue however in a context of others' greater awareness of such a possibility and the ever-present risk of Israeli preventive and pre-emptive actions.⁷⁵

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⁷⁵ Syrian Daily *Al-Watan* April 27, 2010 in *MEMRI* May 4, 2010
<http://www.memri.org/report/en/print4132.htm> (accessed 5/4/2010.)