

USAWC STRATEGY RESEARCH PROJECT

**PREVENTING NUCLEAR PROLIFERATION IN THE MIDDLE EAST:
IS A "NUCLEAR FREE ZONE" POSSIBLE?**

by

Colonel Abdulmohsen A. Alshatti
Kuwait Army

Colonel Michael P. Courts
Project Advisor

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 03 MAY 2004		2. REPORT TYPE		3. DATES COVERED -	
4. TITLE AND SUBTITLE Preventing Nuclear Proliferation in the Middle East: Is a "Nuclear Free Zone" Possible?				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Abdulmohsen Alshatti				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army War College, Carlisle Barracks, Carlisle, PA, 17013-5050				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See attached file.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 30	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

ABSTRACT

AUTHOR: Col. Abdulmohsen A. Alshatti

TITLE: PREVENTING NUCLEAR PROLIFERATION IN THE MIDDLE EAST: IS A
"NUCLEAR FREE ZONE" POSSIBLE?

FORMAT: Strategy Research Project

DATE: 1 March 2004 PAGES: 30 CLASSIFICATION: Unclassified

Nuclear weapons proliferation issues are of increasing concern in the broader region of the Middle East. Although in late-2003 Libya made an affirmative commitment to dismantle all of its programs involving weapons of mass destruction, including its nuclear weapons program, recent revelations demonstrate the widespread flow of sensitive nuclear technologies, materials, and weapon designs. There are increased suspicions that Iran has a nuclear weapons development program while Israel has been for some time an "undeclared" nuclear weapons state. This SRP examines the recent information relating to nuclear proliferation in the Middle East and advocates the establishment of a "Nuclear Free Zone" for the broader Middle East region.

TABLE OF CONTENTS

ABSTRACT..... iii

ACKNOWLEDGEMENTSvii

PREVENTING NUCLEAR PROLIFERATION IN THE MIDDLE EAST: IS A “NUCLEAR FREE ZONE”
POSSIBLE? 1

DISCUSSION2

 CONVENTIONAL AND UNCONVENTIONAL VIEWS ON NUCLEAR PROLIFERATION2

 MOTIVES AND CAUSES OF NUCLEAR PROLIFERATION 5

 ABANDONMENT OF NUCLEAR WEAPONS PROGRAMS10

 CONTROLLING NUCLEAR PROLIFERATION IN THE MIDDLE EAST11

IMPLEMENTING “NUCLEAR FREE” ZONES IN THE MIDDLE EAST13

ENDNOTES 17

BIBLIOGRAPHY21

ACKNOWLEDGEMENTS

I would like to thank Mr. Labros Pilalis for his assistance in developing this Strategy Research Project (SRP). His aid in the research, review and editing of this work was invaluable. The culmination of this effort is a direct result of his constant encouragement and selfless assistance. I am very grateful for all his help.

PREVENTING NUCLEAR PROLIFERATION IN THE MIDDLE EAST: IS A "NUCLEAR FREE ZONE" POSSIBLE?

The proliferation of nuclear weapons or nuclear proliferation is at the forefront of bilateral and international relations. The revelations about Libya's emerging nuclear weapons program that is currently being dismantled, the role of Pakistani scientists in proliferating critical nuclear weapons technologies and designs, the continuous suspicions about Iran's civilian nuclear power program, and the recent U.S. policy initiatives in combating nuclear proliferation, underline the threat that nuclear proliferation poses for international peace and security.

The terrorist attack of September 11, 2001 against the U.S. has also reemphasized the potential use of nuclear weapons by non-state actors in acts of asymmetric warfare. The presence of militant non-state organizations in the Middle East that engage in asymmetric warfare against various nation-states, provides additional motives that militate against the presence of nuclear weapons in the broader region.

The subject of nuclear proliferation is of extreme importance in the very sensitive region of the Middle East. The Gulf War of 1990-1991 and Operation Iraqi Freedom in the spring of 2003 have put a permanent end to the nuclear weapons aspirations of the defunct regime of Saddam Hussein in Iraq. The alleged continuation of Saddam's efforts and intentions in acquiring fissile materials and technologies for the development and production of nuclear weapons was one of the reasons that prompted the Coalition's military intervention in Iraq. As noted above, there are continuous concerns about the Iranian civilian nuclear power program and whether it is being illicitly used for the research and development of nuclear weapons. It is also widely accepted that Israel is an "undeclared" nuclear weapons state, i.e., Israel has not formally declared that it possesses nuclear weapons. The actual and potential nuclear weapons capabilities of certain nation-states in the Middle East are coupled with ever evolving capabilities to target and launch these weapons through a multitude of delivery vehicles. For example, both Iran and Israel possess indigenously developed and produced theater ballistic missiles (TBMs) that can carry nuclear warheads. It is obvious that the debate about nuclear weapons proliferation is closely interrelated with proliferation issues for the technologies of other weapons of mass destruction (WMDs), e.g., TBMs.

The development and the operational deployment of nuclear weapons by nation-states in the Middle East immensely increase the regional threats against international peace and security. Although nuclear weapons may be widely viewed by nation-states as instruments of deterrence against external threats, their development and possession often cause unexpected reactions and consequences that can and do undermine overall parameters of regional peace,

security and stability. These reactions and consequences often arise from the complex bilateral and multilateral linkages that exist in the international relations of a particular region. In this respect, the deterrence value of nuclear weapons for a specific nation-state can be significantly degraded. As the recent Pakistani experience has revealed, nuclear weapons technologies, designs, and know how can proliferate among non-state actors with relative ease and can considerably enhance their *international* asymmetric warfare capabilities.

The present Strategy Research Project paper focuses on nuclear weapons proliferation and its prevention in the broader region of the Middle East. The paper examines the possibilities and viability of creating a Nuclear Free Zone in the broader Middle East region.

DISCUSSION

CONVENTIONAL AND UNCONVENTIONAL VIEWS ON NUCLEAR PROLIFERATION

The conventional views on the proliferation of nuclear weapons were established during the Cold War. The parameters governing the conventional views on nuclear proliferation were developed in an era when the U.S., the UK, France, the People's Republic of China, and the U.S.S.R., were the only "declared" nuclear weapons states. Their respective development and possession of nuclear weapons was generally governed by various nuclear deterrence doctrines that had evolved within the context of the U.S.-U.S.S.R. Cold War global rivalry. In this context, the development and possession of nuclear weapons by other states was considered to be destabilizing and increasing the risks of accidental nuclear war.¹ These all encompassing global views largely ignored the positions of non-aligned or Third World nation-states as well as regional security realities.

The continuous nuclear arms race between the U.S. and the U.S.S.R. in both *strategic* and *tactical* nuclear weapons prompted the development of alternative views about the development and possession of nuclear weapons. By the mid-1960s India and probably other Third World nation-states adopted the position that the development and possession of nuclear arms were both necessary and legitimate for their respective national security interests. This viewpoint was based both on the premise that the continuous nuclear arms race between the Superpowers was in itself illegitimate and unnecessary, and the inherent right of a nation-state to obtain all available means that are necessary for its self-defense. Furthermore, India and other nation-states since the 1950s had adopted the position that the development and possession of nuclear weapons could provide them with the necessary deterrent capabilities against potential aggression by the Cold War Superpowers.²

Although India and other non-aligned countries sought to benefit from the international transfers of nuclear technology for peaceful purposes and applications in the 1950s and 1960s, they also kept open their respective options for developing and deploying nuclear weapons.³ India and other non-aligned nation-states adopted the notion that the conventional parameters that were adopted by the Cold War Superpower rivals for the control of nuclear weapons proliferation amounted to “neocolonialism” and a form of “nuclear apartheid.”⁴ Thus, it is not surprising that countries such as India and Pakistan refused to sign the UN Non-Proliferation Treaty (NPT) that adopted in March 1970 the *de facto* classification of “nuclear” and “non-nuclear” weapons states.⁵ India and Pakistan became “declared” nuclear weapons states through the series of nuclear tests that they both carried out in 1998 (India had also detonated a “peaceful” nuclear explosive device in 1974).

The fall of the U.S.S.R. and the Warsaw Pact, and the knowledge that has been gained about the WMD programs in countries such as Iraq, Iran, Libya, and the People’s Republic of Korea (North Korea), and the presence of militant international non-state organizations that engage in asymmetric warfare, are currently redefining the debate on nuclear proliferation issues. On February 11, 2004, U.S. President George W. Bush stated the following in announcing a new nuclear counter proliferation policy initiative during a speech at the National Defense University:

In recent years, another path of proliferation has become clear, as well. America and other nations are learning more about black market operatives who deal in equipment and expertise related to weapons of mass destruction.

These dealers are motivated by greed, fanaticism or both. They find eager customers in outlaw regimes; paid millions for the parts and plans they need to speed up their weapons programs.

And [with] the deadly technology and expertise on the market, there’s the terrible possibility that terrorist groups could obtain the ultimate weapons they desire most.

* * *

There is a consensus among nations that proliferation cannot be tolerated. Yet, this consensus means little, unless it is translated into action. Every civilized nation has a stake in preventing the spread of weapons of mass destruction. These materials and technologies and the people who traffic them cross many borders.

To stop this trade, the nations of the world must be strong and determined. We must work together. We must act effectively.

* * *

The nuclear Non-Proliferation Treaty was designed more than 30 years ago to prevent the spread of nuclear weapons beyond those states, which already possess them.

Under this treaty, nuclear states agreed to help non-nuclear states develop peaceful atomic energy, if they renounce the pursuit of nuclear weapons. But the treaty has a loophole, which has been exploited by nations such as North Korea and Iran.

These regimes are allowed to produce nuclear material that can be used to build bombs under the cover of civilian nuclear programs. So today as a first step, I propose a way to close the loophole.

The world must create a safe, orderly system to field civilian nuclear plants without adding to the danger of weapons proliferation. The world's leading nuclear exporters should ensure the states have reliable access at reasonable cost to fuel for civilian reactors, so long as those states *renounce enrichment and reprocessing*.

Enrichment and reprocessing *are not necessary* for nations seeking to harness nuclear energy for peaceful purposes.

The 40 nations of the Nuclear Suppliers Group should refuse to sell enrichment and reprocessing equipment and technologies to any state that does not already possess full-scale, functioning enrichment and reprocessing plants.

This step will prevent new states from developing the means to produce fissile material for nuclear bombs.

Proliferators must not be allowed to cynically manipulate the NPT to acquire the material and infrastructure necessary for manufacturing illegal weapons.⁶

The Bush non-proliferation policy initiative introduces new parameters and issues in the international effort to control the transfers of sensitive nuclear materials, technologies, and know-how. This policy initiative goes beyond the application of traditional nuclear non-proliferation safeguards under the NPT and it seeks to reform the NPT itself. For example, as President Bush pointed out in his speech, signatories to the NPT are not prohibited from

engaging in nuclear fuel enrichment, fabrication, and reprocessing as long as these activities are utilized within a strictly civilian nuclear power program and associated fuel cycle, and are subject to continuous International Atomic Energy Agency (IAEA) safeguards and inspections.⁷ The IAEA safeguards and inspections are designed to detect and prohibit the illicit diversion of fissile material to a nuclear weapons program. However, the Bush non-proliferation initiative presents the usual array of issues for nation-states that wish to develop and utilize nuclear energy resources.

The involvement of a nation-state with the development and utilization of civilian nuclear energy programs often requires an immense commitment of its necessary and scarce national resources, e.g., large and long-term capital investments that cannot easily find alternative uses, human resources with high levels of technical training, etc. A nation-state that undertakes such efforts most likely will seek to maintain a level of independence of its nuclear energy programs from external factors that may threaten its continuous operation and reliability. This independence is sought even if the nation-state is fully compliant with the NPT multilateral non-proliferation inspections and safeguards. It can be easily seen that the Bush policy initiative can and will introduce various political and economic factors that can affect the civilian nuclear power infrastructure and programs of a nation-state. If the nation-state in question lacks the major components and infrastructure of the complete nuclear fuel cycle, e.g., nuclear fuel enrichment and fabrication facilities, then its access to nuclear fuel and other necessary technologies is totally dependent on the supplier nation-states. In turn, these supplies can be adversely influenced by a variety of political and/or economic considerations that can be separate and distinct from whether or not the particular nation-state in question seeks to acquire nuclear weapons.

MOTIVES AND CAUSES OF NUCLEAR PROLIFERATION

There are multiple motives and causes that propel nation-states to actively seek the acquisition of nuclear weapons. This paper briefly examines such causes and motives for nation-states that are not members of the established Superpower nuclear weapons "club." The acquisition of the nuclear weapons capability and the related development of TBM delivery systems by the State of Israel is considered to be a matter of national survival. Israel's nuclear warheads are intended to be used both as a deterrent against external aggression, as well as a weapon of "last resort" or as commonly called the "Samson option."⁸ The "last resort" use of Israel's nuclear weapons can and will take place when and if the external aggressor is deemed to enjoy a high probability of success in threatening Israel's survival as a viable nation-state.

Israel's "last resort" employment of nuclear weapons can and will take place even if the external aggressor utilizes purely conventional military means in the armed conflict with Israel. For example, Israel had removed its available nuclear weapons from storage and was preparing to launch them during the Arab-Israeli conflict in October 1973, when Israel was under intense military pressure by Egypt and Syria respectively in the Sinai and the Golan Heights.⁹

Under the leadership of Prime Minister David Ben Gurion, Israel pursued the development and operational deployment of nuclear weapons since the 1950s as part of its national security deterrence capabilities.¹⁰ Israel's national security strategy is based on the premise that since it lacks the necessary strategic depth it cannot afford to lose a single war that is fought with conventional means. Thus, Israel not only utilizes its nuclear weapons as part of its deterrence strategy but it also seeks superiority in conventional weaponry over potentially hostile states in the region. Israel is also both an advocate and a practitioner of preemptive military action against state and non-state actors that it perceives as threats against its national security. For example, Israel preemptively attacked Egypt, Jordan and Syria during the June 1967 Middle East War (the "Six Day War"), and in 1981 Israel destroyed the French-supplied Iraqi Tammuz (Osirak) nuclear reactor installation.¹¹ Israel also indicated its willingness to use its nuclear arsenal against Iraq if the regime of Saddam Hussein were to launch attacks against Israeli territory with TBMs equipped with biochemical warheads during the 1990-1991 Gulf War.

Israel has a number of motives for not officially declaring that it is a nuclear weapons state. The major reason is that such a declaration may bring difficulties into the special national security relationship that Israel enjoys with the U.S. The U.S. has incorporated Israel's survival as one of its own national security strategy objectives and generously subsidizes Israel's qualitative superiority in conventional and *nuclear* weaponry in the broader region of the Middle East by providing military assistance to Israel that often exceeds \$2 billion annually. For example, Israel has started receiving deliveries of its 102 U.S.-built Lockheed Martin F-16I Fighting Falcon or Sufa (Storm) fighter aircraft at a cost of \$4.5 billion that is largely funded through the U.S. military assistance to Israel. The Israeli F-16Is possess a range of about 1,500 kilometers (approximately 930 miles), and are capable of reaching targets anywhere within the Middle East without in-flight refueling. It is commonly accepted that F-16 variants can be used as nuclear delivery vehicles. The F-16I can be utilized in launching preemptive air strikes against Iranian nuclear program installations, an action that Israel has threatened to take in September 2003.¹²

An Israeli declaration or an action amounting to a declaration, i.e., an overt nuclear weapon test, would put the U.S. into the awkward position of actively seeking the non-

proliferation of nuclear weapons while Israel already possesses and improves them. For example, the U.S. Administration of President William Jefferson Clinton imposed various sanctions on India and Pakistan following their respective overt nuclear weapons tests in May 1998.¹³ Israel is believed to possess at least 100-200 nuclear warheads, and it appears to be developing its nuclear weapon delivery capabilities in a manner that parallels the U.S. nuclear triad of land-based, sea borne and airborne nuclear weapons.¹⁴ Furthermore, Israel possesses the indigenous capability of manufacturing TBMs and cruise missiles (e.g. the Jericho TBM and the Popeye air-to-ground cruise missile), and combines this capability with its indigenous strategic space-based assets such as photoreconnaissance and communications satellites. Israel is also a recipient of U.S.-generated strategic and tactical intelligence.

Regional linkages have proven very significant in the development of nuclear weapons and proliferation. The rivalry between India and the People's Republic of China (China) in the early 1960s accelerated India's decision to develop nuclear weapons after China tested its first nuclear fission device in October 1964. The Indian nuclear program and Pakistan's defeat in the 1971 Indo-Pakistani conflict over Bangladesh (what was East Pakistan) prompted Pakistan to initiate its own nuclear weapons program. Both India and Pakistan also developed various TBM models that can be used as nuclear weapon delivery vehicles. For example, Pakistan has utilized North Korean missile technology in developing the Hatf-5 (Ghauri) TBM that is capable of a 1,300-1,500 km range with a 700 kg conventional, chemical or nuclear warhead.¹⁵ Both countries overtly tested a series of nuclear fission and thermonuclear devices in May 1998.

In the Middle East regional linkages have also played a role in the development of nuclear weapons programs. The now defunct Iraqi nuclear weapons program may have been initiated as a reaction to the Iranian nuclear power program ambitions that were being implemented by the Shah of Iran, and as a reaction to the emerging knowledge about the Israeli nuclear weapons capabilities. The motives for the suspected Iranian nuclear weapons development program that may be in existence today were formulated during the Iraq-Iran War of 1980-1988. During that conflict, Iran became the target of Iraqi chemical weapons and TBMs. Iran's abilities to respond in kind were severely limited because of an international arms embargo.¹⁶ Since the end of that conflict, Iran sought to increase its deterrence capabilities and increase its regional power and influence both in the Gulf and in the Caspian Sea regions through the indigenous development, production and operational deployment of its WMD systems.

Although Iraq has for the time being ceased to be the primary concern of the Iranian deterrence strategy, the existing hostility that exists between Iran, the U.S. and Israel provides strong motives for the Iranian leadership to continue with the WMD programs, including a covert

nuclear weapons program despite official denials to the contrary. Israel has openly threatened to attack Iran's nuclear power program installations in order to halt the development of Iranian nuclear weapons, and the U.S. – a close supporter of Israel – has now established a strong military presence at Iran's own borders after implementing a "regime change" in Iraq. These regional developments provide sufficient incentive for the Iranian leadership to pursue the nuclear weapons option as part of Iran's national security deterrence strategy. The Iranian leadership is conscious of the fact that although the U.S. may desire a "regime change" in North Korea, it cannot pursue it by force since North Korea is believed to possess a limited number of nuclear warheads that can be used in combination with its TBM delivery systems with devastating effects for the Korean Peninsula and possibly Japan as well.

Iran is a signatory to the NPT and its nuclear power programs and facilities are subject to the NPT's safeguards and IAEA inspections. In 2002-2003 the IAEA became concerned that Iran's nuclear program activities and facilities did not meet the transparency and safeguard criteria of the NPT.¹⁷ The subsequent revelations about Iran's nuclear program heightened the prevailing suspicions that Iran has a covert nuclear weapons development program.

Earlier intelligence assessments and analyses had alleged that Iran was receiving illicit and covert Russian support for a covert nuclear weapons program. However, recent developments indicate that Iran relied on the "second-tier" proliferation of nuclear dual use technologies that originated in Pakistan. The 2002 revelations that Iran had completed its own facility equipped with the centrifuge technology for the production of highly enriched uranium (HEU) prompted additional scrutiny by the IAEA and a negative reaction by the international community. This also triggered a reorientation of various intelligence assessments, which, originally, were focused on the potential reprocessing of Iranian spent nuclear fuel and the illicit diversion of extracted weapons-grade plutonium. The presence of the Iranian uranium enrichment facility at Natanz indicated that the suspected Iranian nuclear weapons program could be seeking the development of nuclear fission warheads with HEU instead of plutonium (plutonium is a highly toxic isotope byproduct of irradiated enriched uranium U-235). Spent nuclear fuel will be generated at Iran's Bushehr nuclear power generating station that is being constructed with Russian assistance at a cost of \$800 million. This new assessment was reinforced by the fact that Iran had agreed with the Russian suggestion to send back to Russia spent nuclear fuel for reprocessing¹⁸

A crisis loomed as the U.S. Administration of President Bush pushed for a finding that Iran was in violation of the NPT. Such a finding by the UN Security Council could lead to the imposition of punitive economic sanctions against Iran that could potentially damage its oil

exporting economy. Through the intercession of certain European Union countries this crisis was avoided and Iran was obliged to sign an additional inspection protocol under the NPT in October 2003. Subsequent revelations about previously undisclosed Iranian fuel uranium enrichment centrifuge designs, Iranian experiments involving the radioactive element Polonium-210 which can be used as a neutron-initiator in a nuclear weapon device, and the illicit trafficking of Chinese designs for a 500 kg nuclear implosion-type weapon between Pakistan and Libya, reinforce the notion that Iran has undertaken a number of steps in the covert development of a nuclear weapons capability.¹⁹ Iran has also announced the planned construction of a 40 megawatt-thermal heavy-water reactor. Heavy-water nuclear reactors are commonly considered as conducive to nuclear weapons development and proliferation since they are capable of producing relatively large amounts of weapons-grade plutonium through the irradiation of uranium fuel of low enrichment (including natural uranium with a 5% U-235 enrichment level). The planned Iranian heavy-water reactor would be capable of producing 8-10 kilograms of weapons-grade plutonium annually. These quantities are sufficient for the production of about two nuclear warheads per year.²⁰

Iran's potential nuclear weapons capability is linked with its indigenous production of TBMs that can be used as delivery vehicles. Iran's TBMs are an integral component of its conventional deterrence capabilities and there are no doubts that they will be used as a response to an external attack that may target Iran's nuclear power program facilities.²¹ Iran has developed with technical assistance from Korea, China and Russia the Shahab-3 TBM (Meteor-3 or Shooting Star in Farsi). The Shahab-3 has a range of 1,300 kilometers (800 miles) and is capable of carrying a 1,000 kg warhead. Thus, the Shahab-3 is an ideal delivery vehicle for nuclear warheads that can reach the State of Israel. Recently, Iran announced that it will not be developing the Shahab-4 TBM but indicated that it will continue with the improvement of the Shahab-3.²²

A more worrisome and generally less addressed aspect of Iran's WMD activities is the fact that these programs, including the potential development of nuclear weapons and the indigenous design, production and deployment of TBMs, appear to be under the supervision of the Islamic Revolutionary Guard Corps (Pasdaran).²³ The Pasdaran are considered to be the guardians of the Islamic Revolution. Consequently, it is unclear whether elected Iranian governments and Presidents exercise sufficient positive and/or negative command and control over the operational release of WMDs that are under Pasdaran supervision. It is also unclear whether the elected leadership of Iran is fully apprised of all the WMD research and development programs that the Pasdaran supervise.

The regional linkages of nuclear weapons development and deployment become apparent when one considers that Iran's potential development of nuclear weapons will translate into a concrete strategic national security threat for Saudi Arabia and the smaller Arab Gulf states including Kuwait. Reportedly, Saudi Arabia has commenced a strategic review that includes the possible acquisition of nuclear weapons.²⁴

ABANDONMENT OF NUCLEAR WEAPONS PROGRAMS

A number of countries have abandoned their nuclear weapons programs and those who had developed and deployed nuclear warheads did dismantle them under international supervision. A variety of political and economic considerations and conditions contributed to such constructive decisions that, collectively, have enhanced both regional and international stability, peace and security. Upon the political transition to a majority rule from the former apartheid regime, the Republic of South Africa became an NPT signatory and in 1993 it announced the voluntary dismantlement of a limited number of nuclear warheads that it possessed. This action was confirmed by IAEA inspections in 1994. Although South Africa and Israel may have jointly tested a nuclear device in the Indian Ocean and otherwise shared in the exchange of nuclear technologies and materials, U.S.-Soviet cooperation and joint political pressure had prevented South Africa from carrying out an overt nuclear weapon test on land in the mid-1970s.²⁵ U.S. explicit and/or implicit defense guarantees and various diplomatic initiatives have persuaded the Republic of Korea (South Korea) and Taiwan from initiating and/or continuing with their own respective programs for the development of nuclear weapons.

Libya and its leader Colonel Muammar Qaddafi recently renounced all of its WMD programs and is openly and actively cooperating with the IAEA and other nations including the U.S. and the UK, for their verification and permanent dismantlement. Libya's actions not only prove that active *multilateral* counter-proliferation initiatives and quiet diplomacy can work in stopping the spread of nuclear weapons, but they also support the premise that a nation's long-term national security interests do not necessarily need to include WMD programs. It is beyond doubt that the international isolation and multiyear sanctions had severely impacted Libya's economy and started to undermine the totalitarian authority of Colonel Qaddafi. Access to modern means of communication such as the Internet has made many Libyans conscious of the backward state of their economy.²⁶

Following ten years of UN-imposed sanctions against Libya for the destruction of the Pan American Airways Flight 103 over Lockerbie, Scotland, Libya started negotiating under UN auspices for its return as a member of the international community. Libya eventually acknowl-

edged its responsibility for the Pan Am bombing and agreed to pay compensation to the survivors of the victims. In return, Libya gained the lifting of the UN sanctions but not of those imposed by the U.S. In March 2003, prior to the commencement of Operation Iraqi Freedom, Libya started negotiations with the aim of lifting the U.S. economic embargo. These negotiations involved various nations and personalities, including Prince Bandar Bin Sultan, the Ambassador of Saudi Arabia to the U.S., and Nelson Mandela, the former President of South Africa and a Nobel laureate. Libya also permitted British and U.S. intelligence experts to inspect its WMD programs, including its nuclear weapons development program. These intelligence teams inspected ten Libyan nuclear program sites and ascertained that "Libyan scientists were 'developing a nuclear fuel cycle intended to support nuclear weapons development'."²⁷

The inspections of the Libyan nuclear weapons development program were greatly assisted by the U.S.-led Proliferation Security Initiative. Under this program, a shipment of nuclear fuel enrichment centrifuge parts bound for Libya from Malaysia via Dubai was intercepted in the Mediterranean Sea on board a German-registered freighter.²⁸ A number of activities have been undertaken in order to verify Libya's nuclear fuel cycle and weapons program and permanently dismantle it. Noticeably, 25 tons of various sensitive equipment and material items and documentation of Libya's nuclear weapons and TBM programs were flown in January 2004 to the U.S. Oak Ridge National Laboratory in Tennessee for evaluation.²⁹ (Ironically, the Oak Ridge National Laboratory was created during the WWII U.S. Manhattan Project for the production of the necessary nuclear fissile materials that were used in the fabrication and assembly of U.S. nuclear fission and thermonuclear weapon warheads.) The intelligence that has been gathered so far from the dismantlement of Libya's nascent nuclear weapons program has revealed the extent of an international "black market" in sensitive nuclear material, dual use technologies, and nuclear weapons designs. These revelations have prompted the new U.S. non-proliferation policy initiative of President Bush.

CONTROLLING NUCLEAR PROLIFERATION IN THE MIDDLE EAST

The "second-tier" proliferation of nuclear weapon dual use technologies, equipment, and weapons designs, has proven that the NPT regime of safeguards and inspections is incapable of preventing and deterring state and non-state actors that do not abide by the underlying principles of the NPT. The activities of Dr. Abdul Qadeer Khan, the "father" of the Pakistani nuclear weapons program, are an indication that individuals within nuclear weapons states can be attracted by a mix of profit and ideological motives, engage in the illicit international trade of sensitive nuclear equipment components and weapons designs, and successfully evade

national and multilateral non-proliferation control regimes. In the case of Dr. Khan's illicit export and trade of such items, there are strong suspicions that Pakistani national military and intelligence authorities may have quietly acquiesced to Dr. Khan's activities since Pakistan itself may have benefited from the importation of WMD technologies and know-how from other countries such as North Korea.³⁰

The discovery of the international "black market" network that centered around Dr. Khan has also demonstrated the political expediency and the lack of impartiality that is present when there is selective application of non-proliferation policies. The U.S. recognizes the sensitive domestic political position of Pakistani President Musharraf who has survived a number of assassination attempts because of his stance in assisting the U.S. in its campaign against international terrorism in general and Al Qaeda's presence in Afghanistan in particular. Thus, the U.S., unlike its treatment of similar issues vis-à-vis Iran, has abstained from leveling any criticisms against Pakistan or taking any further punitive actions. More interestingly, the recent discussions about nuclear weapons proliferation within the U.S. mass media have conveniently omitted or seriously underreported the significance of the Israeli nuclear arsenal.

It is an accepted premise that the proliferation of sensitive nuclear technologies, materials and weapons designs takes place because there is an *international demand* for these items.³¹ The NPT was designed to permit the international transfer of nuclear technologies and materials for peaceful uses (e.g., under the U.S. "Atoms for Peace" program of the 1950s), while controlling the *supply* of those materials and technologies that could be used for the development of nuclear weapons primarily by state actors. This "first tier" non-proliferation approach has clearly failed. The Bush non-proliferation doctrine and the various national and multilateral technology and materials transfer regimes are also focused on controlling the supply of such items. However, there have been no concrete strategies that have focused on *reducing the demand* for sensitive nuclear technologies and materials that can lead to the development of nuclear weapons. In short, the problem of controlling nuclear proliferation mirrors the international and national policing of the illicit drug trade. It is commonly accepted that the effective policing of illicit drug trafficking involves national and multilateral efforts in reducing both the supply of *and* the demand for illicit drugs.

Although national and multilateral control regimes for sensitive nuclear technologies and materials can provide concrete results in the short-term, i.e., seizures of such items, the long-term evasion of these controls is almost assured by both state and non-state actors. Furthermore, certain control and containment policies that appear to target the nuclear weapons potential of certain states may achieve exactly the opposite from the desired results. For

example, the lack of any rational political dialogue between the U.S., Israel and Iran may reinforce Iranian notions that they are under an imminent threat of external intervention, and that Iranian deterrence capabilities should be enhanced through the acceleration of any existing covert nuclear weapons and other WMD development programs. These notions may be reinforced in view of both U.S. and Israeli pronouncements involving the use of preemptive military strikes in order to forestall or delay the development of nuclear weapons in Iran. In these respects, the Iranian *demand* for the illicit transfer of sensitive nuclear technologies and materials would not be *decreasing* because of national and multilateral controls, but it would be *increasing* at an alarming rate. Libya is an example of a rather radical Middle Eastern regime that voluntarily gave up its WMD programs and resources and provides guidance for the adoption of alternative strategies for the control of nuclear proliferation in the Middle East.

IMPLEMENTING “NUCLEAR FREE” ZONES IN THE MIDDLE EAST

Effective strategies for the control of the demand for and the supply of nuclear proliferation items in the Middle East must be both multilateral and multidimensional. The implementation of the 1967 Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco) has succeeded in focusing the energies of nation-states in that region of the world on the peaceful uses of nuclear energy.³² Although for a time it was perceived that states such as Argentina and Brazil (both at various times governed by totalitarian military regimes) would become rival nuclear weapons states, the implementation of a “nuclear free” zone in Latin America has constructively refocused regional and national priorities on economic development, and sociopolitical modernization and democratization.

The goals of sociopolitical modernization and democratization are very much at the forefront for the broader Middle East. However, regional rivalries and strategies of containment and preemptive intervention are not creating an environment where the resolution of regional issues that threaten international peace and stability can be constructively and comprehensively addressed. The region has been for some time in a perpetual conventional and now nuclear arms race. Despite the various counter-proliferation initiatives and policies, the risks of suffering from the results of a nuclear weapon detonation in the region are increasing and not decreasing. Mirroring the comparable phenomenon of the Cold War, miscalculations and misperceptions, especially in the course of a regional crisis, lead to an increased risk for an accidental exchange of WMDs that can easily escalate to an exchange of nuclear weapons. Because of the presence of extreme ideological leanings in the region, there is an increased level of risk that

nuclear weapons will eventually fall in the hands of non-state terrorist groups with grave implications for international security.

Various initiatives that attempted to establish “nuclear-free” zones in the Middle East have failed in the past. One major stumbling block is the presence of the Israeli nuclear arsenal. In addition, original nuclear weapons states such as the U.S. and the UK, routinely introduce nuclear weapons in the region. It is generally accepted that U.S. Navy and Royal Navy warships are equipped with both conventional and nuclear munitions and these vessels do transit or are operationally deployed within the broader region of the Middle East.

A comprehensive “nuclear free” zone cannot be implemented in the broader Middle East region overnight. Instead, the broader Middle East region can become a “nuclear free” zone in a gradual fashion that will involve distinct geographic regions, national disarmament parameters, and regional confidence building measures.³³ First, the expansion of the Israeli nuclear weapons arsenal can be halted and then gradually reduced to its eventual elimination. Since the national survival and security of the State of Israel are inextricably linked with the national security strategy of the U.S., Israel can formally and openly come under the protection of the U.S. nuclear deterrence umbrella. A formal political dialogue between the U.S., Israel and Iran coupled with the appropriate lifting of economic sanctions is certain to lead to a repeat of the Libyan WMD voluntary disarmament example. Such an outcome will reinforce the democratic political movement within Iran and will refocus that nation’s energies on much needed economic and sociopolitical reform. The active involvement of the West in Iran’s peaceful nuclear energy applications will result in better non-proliferation enforcement than the current strategy of containment. Confidence building measures *must* include the technical communication means that can lead to the avoidance of the accidental exchange of WMDs. Although the benefits of the Washington-Moscow “hot line” are well known in the aftermath of the Cuban Missile Crisis, such “hot lines” do not currently exist between rival powers in the Middle East. Similarly, the U.S. did not hesitate to collaborate and export to the U.S.S.R. know-how and technologies that assured the positive and negative control of nuclear weapons during the Cold War thus reducing the risks of accidental nuclear war. Such technologies and know-how must become part of the command and control systems of those states in the Middle East that possess WMDs.

It must also be understood that the Muslim religion may condone the development and deployment of nuclear weapons and WMDs for the common defense. Interpretations of the teachings of the Quran mandate a defensive use of such weapons in a manner that is almost synonymous to a “no first use” policy. Since the defensive use of weapons must still avoid

human and material casualties among the innocent, the Quran's teachings can be effectively utilized as the ideological foundations for the establishment of a "nuclear free" zone in the broader region of the Middle East.

WORD COUNT=5993

ENDNOTES

¹ Col. Ali AlQallaf, Kuwait Air Force, *Policy Choices in Preventing Nuclear Proliferation*, unpublished paper, Course 2, October 17, 2002, U.S. Army War College, p. 1, citing Henry D. Sokolski, *Best of Intentions: America's Campaign Against Strategic Weapons Proliferation*, (Praeger Publishers, Westport, CT, 2001), p. 46.

² *Ibid.*, AlQallaf p.2., citing Sokolski pp. 46-47.

³ George Perkovitch, *India's Nuclear Bomb: The Impact on Global Proliferation*, (University of California Press, Berkeley, CA, 1999), pp. 34-37.

⁴ Alqallaf, p. 2.

⁵ *Ibid.*, citing Lt. Col. Mattheos Skouras, Hellenic Army, *Weapons of Mass Destruction*, unpublished presentation, U.S. Army War College, Carlisle Barracks, March 2001, p. 1.

⁶ FDCH E-Media, "*Text: Bush Outlines Plan for Limiting Nuclear Arms*," *The Washington Post*, <<http://washingtonpost.com/wp-dyn/articles/A33368-2004Feb11.html>>, accessed February 11, 2004 (emphasis in italics added, thereafter referenced as "Bush non-proliferation policy").

⁷ The IAEA is the UN agency responsible for NPT enforcement.

⁸ Samson, the biblical hero of the Christian Old Testament, takes his revenge against his Philistine captors by bringing down their temple and causing his own death in the process. Old Testament, Judges, Ch. 16.

⁹ Skouras, p. 2, citing Federation of American Scientists, *Israel Nuclear Forces Guide: Strategic Doctrine*, updated May 25, 2000.

¹⁰ Avner Cohen, *Israel and the Bomb*, (Columbia University Press, New York, NY, 1998), pp. 1-17.

¹¹ Federation of American Scientists, *Israel Nuclear Forces Guide: Strategic Doctrine*, updated May 25, 2000, <<http://www.fas.org/nuke/guide/israel/doctrine/index.html>>, accessed February 17, 2004.

¹² Agence France Press, *Israel receives two new-generation F-16I fighter jets*, February 19, 2004, <<http://defense-aerospace.com/cgi-bin/client/modele.pl?session=dae.3166920.1077230880&pr...>>, accessed February 19, 2004.

¹³ Monterey Institute of International Studies, Center for Non-Proliferation Studies, *Israel's Nuclear Posture Review*, (Monterey, CA, 2002), <<http://cns.mii.edu/research/wmdme/israelnc.htm>>, accessed February 18, 2004.

¹⁴ Alqallaf, p. 2 citing Walter Pincus, "Israel Has Sub-Based Atomic Arms Capability," *The Washington Post*, June 15, 2002, p. A1; Strategic Forecasting, Inc., *Israel Moves – Quickly – To Beef Up its Submarine Force*, Global Intelligence Update, October 26, 2000; British Broadcasting Corporation, *Israel "may have 200 nuclear weapons"*, August 23, 2000; Federation of

American Scientists, "Israel Nuclear Forces Guide: Dimona Photographic Interpretation Report," August 18, 2000.

¹⁵ Monterey Institute of International Studies, Center for Non-Proliferation Studies, *Nuclear Weapons Database: Pakistani Nuclear Delivery Systems*, updated by Ben Friedman, <<http://www.cdi.org/issues/nukef&f/database/panukes.html>>, (Monterey, CA, June 20, 2002), accessed February 22, 2004.

¹⁶ Federation of American Scientists, *Iran Nuclear Forces Guide: Doctrine*, updated April 11, 2000, <<http://www.fas.org/nuke/guide/iran/doctrine/index.html>>, accessed February 17, 2004.

¹⁷ David Albright and Corey Hinderstein, "Iran, Player or Rogue?," *Bulletin of the Atomic Scientists*, Vol. 59, No. 5, September/October 2003 (52:58), p. 52.

¹⁸ *Ibid.*, pp. 53-54.

¹⁹ Karl Vick, "Another Nuclear Program Found in Iran: Undisclosed Experiments Heighten Suspicions About Intent to Make Arms," *The Washington Post*, February 24, 2004, p. A1; Peter Stevin and Joby Warrick, "U.N. Finds Uranium Enrichment Tools in Iran: Discovery Renews Doubts On Nation's Nuclear Goals," *The Washington Post*, February 20, 2004, p. A15; Stephen Fidler, "China to probe Libya nuclear weapons report," *Financial Times*, February 17, 2004, <<http://www.nytimes.com/financialtimes/international/FT1075982610897.html>>, accessed February 18, 2004.

²⁰ Albright and Hinderstein, p. 56.

²¹ Col. Abdulmohsen Alshatti, Kuwait Army, *Iraq and Iran: Foreign Involvement In Their Weapons of Mass Destruction Programs*, unpublished paper, Course 4, U.S. Army War College, January 22, 2004, p. 5 (discussion of September 28, 2003 interview of Iranian Foreign Minister Kharrazi by ABC television news commentator George Stephanopoulos).

²² *Ibid.*, pp. 4-5.

²³ Karl Vick, n. 19, *supra*; Andrew H. Cordesman, *Iran's Search for Weapons of Mass Destruction: Warfighting Capabilities, Delivery Options, and Weapons Effects*, (Center for Strategic and International Studies, Washington, DC, August 7, 2003), p. 41. This report is accessible through <www.csis.org>.

²⁴ Jane's Publishing Company, *Jane's Intelligence Digest*, (London, UK, October 21, 2003).

²⁵ Skouras, p. 4, citing Federation of American Scientists, *Republic of South Africa – Nuclear Weapons Program* (Washington, DC, May 29, 2000).

²⁶ Patrick E. Tyler, "Libyan Stagnation a Big Factor in Qaddafi Surprise," *The New York Times*, January 8, 2004.

²⁷ Patrick Tyler and James Risen, "Secret Diplomacy Won Libyan Pledge on Arms," *The New York Times*, December 21, 2003, pp. 1, 21.

²⁸ Voice of America News, *US Says Libyan-Bound Nuclear Equipment Seized*, January 1, 2004.

²⁹ Reuters, *U.S. Takes Possession of Libyan Nuclear Equipment*, January 27, 2004.

³⁰ John Warrick and Peter Slevin, "Probe of Libya Finds Nuclear Black Market," *The Washington Post*, January 24, 2004, p. A1; John Lancaster and Kamran Khan, "Musharraf Named in Nuclear Probe: Senior Pakistani Army Officers Were Aware of Technology Transfers, Scientist Says," *The Washington Post*, February 3, 2004, p. A13.

³¹ Rensselaer Lee, "Nuclear Smuggling: Patterns and Responses," *Parameters*, (U.S. Army War College, Carlisle Barracks, PA, Spring 2003, 95:111), pp. 103-111.

³² Alqallaf, p. 6.

³³ Brigadier Mohamed Hamed Goma, Egyptian Armed Forces, *Establishment of Nuclear Weapon Free Zone in The Middle East*, Strategy Research Project, (United States Army War College, Carlisle Barracks, PA, 2002), p. 11.

BIBLIOGRAPHY

- Agence France Press, *Israel receives two new-generation F-16I fighter jets*, February 19, 2004, <<http://defense-aerospace.com/cgi-bin/client/modele.pl?session=dae.3166920.1077230880&pr...>>, accessed February 19, 2004.
- Albright, David and Hinderstein, Corey, "Iran, Player or Rogue?," *Bulletin of the Atomic Scientists*, Vol. 59, No. 5, September/October 2003 (52:58).
- AlQallaf, Ali, Col., Kuwait Air Force, *Policy Choices in Preventing Nuclear Proliferation*, unpublished paper, Course 2, (U.S. Army War College, Carlisle Barracks, PA, October 17, 2002).
- Alshatti, Abdulmohsen, Col., Kuwait Army, *Iraq and Iran: Foreign Involvement In Their Weapons of Mass Destruction Programs*, unpublished paper, Course 4, (U.S. Army War College, Carlisle Barracks, PA, January 22, 2004).
- British Broadcasting Corporation, *Israel "may have 200 nuclear weapons"*, August 23, 2000
- Cohen, Avner, *Israel and the Bomb*, (Columbia University Press, New York, NY, 1998).
- Cordesman, Andrew H., *Iran's Search for Weapons of Mass Destruction: Warfighting Capabilities, Delivery Options, and Weapons Effects*, (Center for Strategic and International Studies, Washington, DC, August 7, 2003), p. 41. This report is accessible through <www.csis.org>.
- FDCH E-Media, "Text: Bush Outlines Plan for Limiting Nuclear Arms," *The Washington Post*, <<http://washingtonpost.com/wp-dyn/articles/A33368-2004Feb11.html>>, accessed February 11, 2004.
- Federation of American Scientists, *Iran Nuclear Forces Guide: Doctrine*, (Washington, DC, April 11, 2000), <<http://www.fas.org/nuke/guide/iran/doctrine/index.html>>, accessed February 17, 2004.
- Federation of American Scientists, *Israel Nuclear Forces Guide: Strategic Doctrine*, (Washington, DC, May 25, 2000), <<http://www.fas.org/nuke/guide/israel/doctrine/index.html>>, accessed February 17, 2004.
- Federation of American Scientists, *Israel Nuclear Forces Guide: Dimona Photographic Interpretation Report*, (Washington, DC, August 18, 2000).
- Fidler, Stephen, "China to probe Libya nuclear weapons report," *Financial Times*, February 17, 2004, <<http://www.nytimes.com/financialtimes/international/FT1075982610897.html>>, accessed February 18, 2004.
- Federation of American Scientists, *Republic of South Africa – Nuclear Weapons Program*, (Washington, DC, May 29, 2000).
- Gomaa, Mohamed Hamed, Brigadier, Egyptian Armed Forces, *Establishment of Nuclear Weapon Free Zone in The Middle East*, Strategy Research Project, (United States Army War College, Carlisle Barracks, PA, 2002).

- Jane's Publishing Company, *Jane's Intelligence Digest*, (London, UK, October 21, 2003).
- Lancaster, John, and Khan, Kamran, "Musharraf Named in Nuclear Probe: Senior Pakistani Army Officers Were Aware of Technology Transfers, Scientist Says," *The Washington Post*, February 3, 2004, p. A13.
- Lee, Rensselaer, "Nuclear Smuggling: Patterns and Responses," *Parameters*, (U.S. Army War College, Carlisle Barracks, PA, Spring 2003, 95:111).
- Monterey Institute of International Studies, Center for Non-Proliferation Studies, *Israel's Nuclear Posture Review*, (Monterey, CA, 2002), <<http://cns.miis.edu/research/wmdme/israelnc.htm>>, accessed February 18, 2004.
- Monterey Institute of International Studies, Center for Non-Proliferation Studies, *Nuclear Weapons Database: Pakistani Nuclear Delivery Systems*, updated by Ben Friedman, <<http://www.cdi.org/issues/nukef&f/database/panukes.html>>, (Monterey, CA, June 20, 2002), accessed February 22, 2004.
- Perkovitch, George, *India's Nuclear Bomb: The Impact on Global Proliferation*, (University of California Press, Berkeley, CA, 1999).
- Pincus, Walter "Israel Has Sub-Based Atomic Arms Capability," *The Washington Post*, June 15, 2002, p. A1
- Reuters, *U.S. Takes Possession of Libyan Nuclear Equipment*, January 27, 2004.
- Skouras, Mattheos, Lt. Col., Hellenic Army, *Weapons of Mass Destruction*, unpublished presentation, (U.S. Army War College, Carlisle Barracks, PA, March 2001).
- Slevin, Peter and Warrick, Joby, "U.N. Finds Uranium Enrichment Tools in Iran: Discovery Renews Doubts On Nation's Nuclear Goals," *The Washington Post*, February 20, 2004, p. A15
- Sokolski, Henry D., *Best of Intentions: America's Campaign Against Strategic Weapons Proliferation*, (Praeger Publishers, Westport, CT, 2001).
- Strategic Forecasting, Inc., *Israel Moves – Quickly – To Beef Up its Submarine Force*, Global Intelligence Update, October 26, 2000.
- Tyler, Patrick E., "Libyan Stagnation a Big Factor in Qaddafi Surprise," *The New York Times*, January 8, 2004, p. A3.
- Tyler, Patrick and Risen, James, "Secret Diplomacy Won Libyan Pledge on Arms," *The New York Times*, December 21, 2003, pp. 1,21.
- Vick, Karl, "Another Nuclear Program Found in Iran: Undisclosed Experiments Heighten Suspicions About Intent to Make Arms," *The Washington Post*, February 24, 2004, p. A1.
- Voice of America News, *US Says Libyan-Bound Nuclear Equipment Seized*, January 1, 2004.
- Warrick, John and Slevin Peter, "Probe of Libya Finds Nuclear Black Market," *The Washington Post*, January 24, 2004, p. A1.

