

***CSIS***

---

**Center for Strategic and International Studies  
1800 K Street N.W.  
Washington, DC 20006  
(202) 775-3270  
Acordesman@aol.com**

**The US Military and the Evolving Challenges  
in the Middle East**

**Anthony H. Cordesman  
Arleigh A. Burke Chair in Strategy**

**March 9 2002**

The US military have faced evolving challenges in the Middle ever since their birth as military services and have generally done so with considerable success. Moreover, the attacks on the World Trade Center and Pentagon on September 11<sup>th</sup> did not create a radical new of problems s in the Middle East for services that had already experienced attacks on the Marine corps Barracks in Lebanon, attempts a hostage rescue raid in Iran, punished terrorism by attacks on Libya, fought over a decade of asymmetric warfare with Iraq, and suffered from attacks on the National Guard Training Center and Al Khobar barracks in Saudi Arabia and the USS Cole in Yemen. Neither September 11<sup>th</sup> nor the war in Afghanistan has made fundamental changes in US strategic interests in the Middle East or changed the basic strategic rationale behind the existing US military presence in the Gulf or the Mediterranean. If anything, September 11<sup>th</sup> and the war in Afghanistan have acted to exposed the depth of the challenges that have been evolving for many years, and the risks the US faces if it does not come to grips with the security problems of the Middle East.

Terrorism and asymmetric warfare are clearly part of that challenge, but only part. Our vital strategic interests in the Middle East have not changed. We still face the problem of protecting a key source of the world's energy supplies, of protecting key Arab allies and Israel, of securing naval lines of communication, and dealing with the problem of proliferation. We still face the risk of major regional contingencies and war with Iraq, and possibly Iran. Terrorism and asymmetric warfare simply add a new dimension to these existing challenges, and are only part of the need for change.

## **The Problem of Energy Exports and Lines of Communication**

The Middle East may pose a significant part of the global terrorist threat to the US, as well as the threat posed by asymmetric warfare, but we need to remember what our key strategic priorities are. The US is steadily more dependent on a global economy and the global economy is steadily more dependent on Middle Eastern energy exports, particularly from the Gulf.

We tend to take this so much for granted that we sometimes fail to consider just how serious this dependence is and how much it is estimated to grow in the future. There also is still a tendency to view the issue in terms of American import dependence, our normal peacetime dependence on given countries for imports, and dependence on direct imports. These are all false

approaches to the problem. We are steadily more dependent on global imports; what affects the global economy affects us and our direct level of oil imports is no measure of strategic dependence.

Similarly, we compete for oil on a world market. Any shortage or price rise in a crisis forces us to compete for imports on the same basis as every other nation. Finally, focusing on direct imports of oil ignores the fact that the US has steadily shifted the pattern of its manufactured imports to include energy dependent goods, particularly from Asia. These, in turn, are produced by economies that are critically dependent on oil imported from the Middle East. Estimates of import dependence that only include direct imports of crude and product understate our true net dependence on oil imports to the point where they are analytically absurd.

### **The New Level of Strategic Dependence on Energy Exports**

To put the trends involved in perspective, the Gulf region alone has two-thirds of the world's proven oil reserves. Algeria, Libya, and the Levant add another 3.7%. The US government estimates that Saudi Arabia alone contains at least 262 billion barrels of proven oil reserves or 25.4% of the world supply. This compares with 11% for Iraq, 9.6% for the UAE, 9.2% for Kuwait, 8.6% for Iran, 13% for the rest of OPEC, and 22.6% for all of the rest of the world.

These Gulf reserves make the Gulf region the one area in the Middle East that is a truly vital American strategic interest, although the US has major strategic interests in friends like Israel and Egypt. The sheer scale of Gulf oil reserves explains why the US Department of Energy estimates that Gulf oil exports will have to rise by 125% between 2000 and 2020 to meet the world's need for energy.

The Department also estimates that Gulf producers will account for more than 45 percent of worldwide trade by 2002 — reaching this percentage for the first time since the early 1980s. After 2002, the Gulf share of worldwide petroleum exports is then projected to increase gradually to almost 60 percent by 2020. The impact on key countries is illustrated by the fact that the Department's estimates indicate that Saudi oil production capacity must rise from 14.5% of all world export capacity in 2000 to 19.2% of the world's total capacity by 2020.

These figures do not take account of the fact that the Middle East is also the location of roughly 40% of all the world's gas reserves, some 35% of which are in the Gulf and similar

increases must take place in gas exports. They also do not take account of demographic trends that ensure that Middle Eastern imports must also rise. They also cannot reflect the fact that most other importers have few or no strategic reserves and are more and more dependent on a constant predictable flow of oil and gas. Finally they cannot reflect the fact that most of the growth in exports will go to nations that can only be reached by tanker and not by pipeline.

The growth in world import dependence will also be accompanied by major changes in the world energy market which mean that more and more highly specialized product will be exported from the Middle East of a kind that end users cannot easily replace or find substitutes for. It means that today's ports must be massively expanded, that tanker and cargo ship movements must vastly increase, and that the timeliness and continuity of movement through the world's sea-lanes will become more and more dependent.

### **The Military Challenge**

Even today, most ports are highly vulnerable, many oil facilities are near coastlines or in relatively exposed inland areas, and a handful of chokepoints are of critical strategic importance. About 3-3.3 MMBD moves through the Bab el Mandab at the southeastern end of the Red Sea, about 15 MMBD moves through the Strait of Hormuz at the entrance to the Gulf, and another 3.0-3.1 MMBD moves through the Suez Canal. This involves roughly 240 tanker movements a month through the Red Sea, and over 1,400 movements by tankers and product carrying ships through the Strait of Hormuz, plus a vast number of additional cargo ships. If the Department of Energy projections are correct, these figures should triple by 2020.

At the same time, however, more and more nations will acquire long range and highly sophisticated anti-ship missiles, strike and maritime patrol aircraft, submarines, and mines. They will acquire weapons of mass destruction and long-range cruise missiles and precision ground attack missiles that can be used to attack port and oil facilities or key points of vulnerability like desalination plants. The very meaning of choke point is changing as regional power acquire longer and longer range strike systems, the ability to hit the source of enemy exports, and better sensor and targeting systems.

Alternatively, terrorist and asymmetric attacks are likely to involve far better planning as to what targets to attack, what equipment is most costly and has the longest replacement lead times, and how to inflict politically sensitive casualties, The use of chemical, biological,

radiological, and nuclear (CBRN) weapons is becoming increasingly possible, and so are attacks planned to produce the maximum disruptive effect, lasting levels of contamination in key facilities, and impacts on the world oil market.

No other combination of powers from inside or outside the region has the existing military presence, power projection capabilities, force levels, and technology to protect the sources of Middle Eastern energy exports, the global flow of energy exports, and deny hostile states the ability to use military threats to attack or blackmail exporting states. No country other than the US can hope to adapt to the strategic challenges involved, or provide the necessary seapower.

No other country can link that military power to the mix of joint and coalition warfare capabilities, or provide the steadily higher level of heavy and light land power, air and missile power, ASW, mine warfare, escort, maritime surveillance, air defense, and missile defense capabilities. No other power can provide an integrated defense against asymmetric attacks by forces like the Naval Branch of the Iranian Revolutionary Guards. No other power has any serious prospect of both deterring and defending against the threat or use of CBRN weapons.

Yes, defense of energy facilities and exports is an old mission and virtually a strategic cliché. It lacks the glamour and attention being paid to terrorism per se. The fact is, however, that the scale and importance of the mission will change radically over the next few decades, and the question is whether the US military services, and particularly the Navy and Marine Corps have fully reexamined these changes and planned to resize and alter its capabilities. If they have, they done so with far more stealth than has ever been achieved by a B-2B or F-117A. If anything, the current success of the US forces in the region, and particularly the 5<sup>th</sup> and 6<sup>th</sup> Fleets, may have taken the need for highly detailed force and operational planning partly off the US agenda. The fact remains, however, that the only vital US strategic interest in the region is the security of energy facilities and exports, and fundamental strategic interests still matter.

## **Changes in the Regional Strategic Climate: Key Challenges and the Best and Worst Case**

The US military do, however, face newer challenges, and ones that are more directly related to terrorism and asymmetric warfare. Over the years, they have developed an enviable mix of forward bases, exercise and training activities, advisory efforts, port calls, and other

military presence activities in the Mediterranean, North Africa, the Levant, Red Sea, and the Gulf. Many of these arrangements have survived past crisis in US relations with nations in the region, including the height of Nasser's influence and Arab nationalism and the oil embargo following the October War in 1973. The US has steadily strengthened its presence in the Gulf since the "tanker war" with Iran that began in 1986, a development reinforced by the Gulf War and the continuing threat posed by Iran and Iraq.

Ironically, however, maintaining that military presence and rapid power projection capability may become steadily more difficult at a time when it is becoming steadily more necessary. The aftermath of the attacks of September 11<sup>th</sup> have exposed tensions between the US and its Arab friends and allies, as well as a level of popular hostility to the US, that is considerably deeper than many US analysts previously estimated. The forces involved affect the entire region and affect a wide range of issues. As a result, it seems useful to discuss each of the major challenges the US faces in maintaining its forward presence in the Gulf and the best and worst cases that may result:

### **The "Clash Within a Civilization?"**

Western fears of a clash between civilizations are only a side effect of the struggle within the region to modernize its political structure, economy, social structure, and Islamic practices. Economic progress has lagged behind population growth for nearly a quarter of a century, threatening to turn oil wealth into oil poverty and sharply lowering living standards in many states. Governments have talked and not practiced economic reform, and have failed to modernize and open-up political systems.

A massive youth bulge is only beginning to create critical unemployment problems and the percentage of young men and women in the labor force will increase for at least two decades because of population momentum. At the same time, hyperurbanization and population mobility are destroying traditional social safety needs, while modern media publicize the region's weakness and constantly portray secular wealth many citizens can never obtain. The end result is to drive many back towards religion and some towards an Islamic extremism that is at least as much anti-change and anti-regime as anti-western.

*The Best Case*

Most regimes and pro-reform/pro-modernization elites finally face the fact they are dealing with an enduring crisis that only they can solve. Economic reform plans are actually implemented. The need for population control is recognized and acted upon. Educational systems are modernized to create job skills. Moderate Islamic scholars meet the challenge from Islamic extremists. Political systems are liberalized enough to create a rule of law, stable structure for economic development, and broader participation. It is a close race between reform and regression, and the race is lost in some countries. In broad terms, however, the more progressive forces win.

*The Worst Case*

Regional elites continue to talk and not act, and export the blame and responsibility for their problems. A systemic mix of economic and population problems creates massive internal instability. The West gets much of the blame, but effective political leadership, economic action, and modernization becomes impossible. Moderate Islamic leaders continue to temporize and avoid coming to grips with extremists. The end result plays out differently in each state, but the cumulative result is structural economic collapse and political turmoil with no near-term prospects of progress.

**The Impact of the Arab-Israeli Conflict and the Second Intifada**

The struggle between Israel and the Palestinians and the broader struggle between Israel and its Arab neighbors is only one factor fueling regional extremism, resentment of the US and the West, and terrorism. It is, however, a critical one. If Arab leaders sometimes use it as a scapegoat or distraction for their own failings, it also remains a real human tragedy for Israeli and Arab alike.

*The Best Case*

An early return to serious peace talks and to the terms of Tabah and Camp David seems impossible. The Second Intifada may well drag on for several years in some form, and escalate sporadically even under best-case conditions. Sheer exhaustion and frustration, however, eventually force changes in political leadership in both Israel and the Palestinian Authority and leads Syria to face the need for real-world compromises. Israel, the Palestinians, and Syria edge back towards negotiations. They finally reach a series of compromises that are unpopular on all

sides but which all sides can live with. Peace, however, is still based on anger, distrust, and sometimes hate. Violence without peace is replaced by peace with some level of violence.

#### *The Worst Case*

Three failed leaders -- Sharon, Arafat and Assad – slowly drag their countries into a steadily escalating conflict. Israel responds with a policy of forced separation, pushing Palestinian out of some areas and leaving them without an economy and the shell of a state. The Palestinians acquire longer-range weapons. Jordan is destabilized and becomes anti-Western, anti-peace and pro-Iraqi. Egypt distances itself from peace and from the US. Nuclear and biological saber rattling becomes a constant pattern. Syria and Iran expand their support of extremists and use of proxies in a low intensity war. The US and the West get much of the blame, and terrorism becomes a constant fact of life.

### **Saudi Arabia and the Southern Gulf States**

Events since September 11<sup>th</sup> have created major new tensions between the West and the Gulf states and particularly between the US and Saudi Arabia. They have also exposed the degree to which Saudi Arabia must take urgent action to diversify and privatize its economy, deal with its massive population problems and youth bulge, modernize its education system and implement Saudisation, and come firmly to grips with the need for religious modernization and cope with Islamic extremism.

#### *The Best Case*

The US and Saudi Arabia realize that military disengagement and political feuding are no substitute for forging a more effective partnership. Crown Prince Abdullah and President Bush concentrate on creating a new strategic partnership. Saudi Arabia aggressively implements its economic reform plans, efforts to diversify and privatize its economy, and efforts to encourage economic reform. The educational system is reformed and the regime comes firmly to grips with the need to oppose Islamic extremism and terrorism while maintaining its religious legitimacy with them moderate Ulema. Political reform keeps pace with the evolution of Saudi society,

#### *The Worst Case*

The US and Saudi Arabia reach the point where the US largely disengages in military terms, creating a power vacuum in the Gulf, leaving Saudi Arabia without effective military advisors and technical support, and making effective cooperation in counter-terrorism

impossible. Saudi efforts at economic, population, educational, religious, and political reform falter and create growing internal instability. The Saudi regime falls, along with progress technocrats and businessmen. The result is a weak, extremist Saudi Arabia that cannot achieve the level of investment necessary to expand oil exports to meet world demand.

### **The Impact of Iran**

Iran is not "evil," but it is deeply divided between religious hardliners and more moderate elements. It is a major proliferator and has significant capabilities to threaten and attack the flow of oil through the Gulf. It is committed to supporting anti-Israeli movements. At the same time, its internal economic problems threaten its stability as an oil exporter and ability to attract the outside investment and technology it needs to maintain and expand energy exports.

#### *The Best Case*

The moderate factions in Iran slowly win their long political battle with the hard-liners and extremists. Iran carries out serious economic reform and restructures its energy sector to attract large-scale foreign investment. Proliferation is cutback and major CBRN forces are not openly deployed. Iran seeks regional stability and peaceful political influence. Its opposition to Israel is reduced to political opposition and it accepts an eventual peace settlement.

#### *The Worst Case*

Moderation and a significant degree of democracy fail because the hard-liners successfully block reform, assert their power over the internal security apparatus, and drag Iran into conflicts with the West, Israel, and Iran's neighbors both as a means of mobilizing the state and out of conviction. Iran supports terrorism and expands its arms shipments to Palestinian and Lebanese extremists. It openly proliferates, and used its missiles and CBRN capabilities to open threaten its Gulf neighbors, Israel, and US forces in the region. It expands its maritime and air threat to Gulf shipping to use it as a further means of politico-military leverage.

### **The Impact of Iraq**

More than a decade since the Gulf War has left Saddam Hussein's regime in power, left a still powerful conventional military machine in being, left Iraq with considerable capability to proliferate, and made Iraq a continuing threat to Kuwait, Saudi Arabia, and Iran. Iraq plays a growing role in supporting Palestinian hardliners. At the same time, renewed oil wealth and oil

for food have not begun to correct the effects of some 20 years of crisis and war and failure to develop, nor is there a stable climate to develop energy resources.

*The Best Case*

Iraq's regime proves to be far more fragile than is expected and internal tensions destroy not only Saddam Hussein but also the elite around him. Leaders emerge who focus on the peaceful development of Iraq and can force sufficient unity of action by Sunni, Shi'ite, and Kurd. Economic reform takes place; resources go into social development and not arms, and Iraq becomes a major but peaceful player in regional and Arab politics.

*The Worst Case*

Saddam Hussein's tyranny continues and becomes hereditary as his younger son institutionalizes his power. Efforts to support an uprising around a weak opposition fail and strengthen Saddam by default. This "Bay of Kurdistan" deprives the US of the regional allies it needs for a major war to remove Saddam from power. Saddam breaks out of UN sanctions, rearms, and re-proliferates. He is a constant source of tension throughout the Middle East and supports terrorism by proxy. This hardens Iranian attitudes and poses a constant threat to the region and its energy exports.

**Another "Algerian Civil War" in North Africa?**

Algeria has "won" its civil war against its Islamic extremists, but every North African state has failed at effective economic reform and faces a major demographic crisis. Islamic extremism is gaining in influence for the same reasons it is gaining influence in other parts of the Middle East.

*The Best Case*

North African states finally act upon their economic and political reform plans. They aggressively deal with the problem of population growth. They encourage serious privatization and foreign investment and avoid military adventures. Morocco, Libya, and Tunisia succeed in internal economic reform. Algeria's vicious and corrupt military junta is overthrown without shifting power to Islamic extremists.

*The Worst Case*

North Africa becomes a cesspool of failed regimes and economies. A new Algerian-style civil war breaks out. Energy investment is inadequate and political and economic instability

encourage attacks on energy facilities, massive new flows of immigration, and the export of terrorism.

### **Extremism and Terrorism**

The Middle East is scarcely the only source of global terrorism, but it is a serious problem in many countries and among many movements.

#### *The Best Case*

Regional regimes realize that they cannot tolerate extremism and the export of terrorism without being counterattacked, without encourage their own eventual overthrow, and without further crippling their prospects for social and economic development. In the short run, they deal effectively with internal security issues. In the long run, they make the economic, social, political, and religious reforms necessary to deal with the root causes of terrorism.

#### *The Worst Case*

Leaders temporize, dither, and exploit extremism and terrorism for short-term advantage. Terrorists are used in both regional and global proxy wars and attacks. Radical regimes steadily encourage terrorism and provide better weapons. They tolerate or encourage the acquisition of CBRN weapons. US and Western counterterrorist attacks and campaigns win tactical victories but cannot address the root causes and each success breeds more skilled and determined terrorist groups.

### **Proliferation and CBRN Weapons**

Algeria, Libya, Egypt, Israel, Syria, the Sudan, Iran, and Iraq are all proliferators. Al Qaida has shown that terrorists have a serious interest in CBRN weapons as well. Current arms control and export control policies cannot deal with the problem.

#### *The Best Case*

A total roll-back in CBRN weapons capability is impossible, and no amount of controls and inspection can prevent states from being able to manufacture significant amounts of biological agents with nuclear lethalties with only limited warning, if any, the resolution of regional quarrels, political and economic reform, and some form of inspection and arms control, does, however, reduce proliferation to very low-profile stockpiling, eliminates the specter of hair trigger missile and air delivery forces, and produces true roll-back in some countries.

*The Worst Case*

The race for weapons of mass destruction becomes increasingly region-wide and spills over into the India-Pakistan conflict. Saber rattling and CBRN threats become endemic. Nations develop first strike options, launch on warning, and launch under attack options. Terrorists lever this fragile situation to trigger a major exchange somewhere in the region, or a radical leader starts a process of escalation that cannot be stopped.

**Immigration, Labor Mobility, and Prejudice**

Europe already sees regional immigration – particularly illegal immigration – as a major security threat. Economic and demographic pressures can make these threats much worse in the future. The resulting racial and religious prejudice can harden Islamic antagonism with the West and encourage terrorism.

**The Best Case**

Wide spread economic and population control reforms attack the root cause of the problem while Western and regional governments work far more closely together to limit its near term impact.

*The Worst Case*

Massive waves of attempted and successful illegal immigration trigger Draconian European responses and equally hostile regional reactions. A so-called “clash between civilizations” becomes a clash over immigration.

**Redefining Forward Presence: What the Navy and Marine Corps Can and Cannot Do**

There are several aspects of this list of challenges that need to be kept careful in mind. The first is that only some of these problems and challenges will have major impact at any given time. The second is that neither the best or worst case normally take place. The actual pattern of events almost always occurs somewhere in between. The third is that the primary response must come from within the region, and is not a problem that can be fixed from the outside -- although this is not reassuring in a region that has mastered the art of exporting the blame while failing to take decisive action. The fourth is that no one can predict which challenge will emerge at a given time, the exact threat it will pose, or what other challenges may be ongoing. Finally, the US military power in the Middle East can help deal with all of these problems to a greater or lesser

degree, but the primary area for US action in dealing with the political dimension and the grand strategic outcome will be at the level of the President, Secretary of State, Secretary of Defense, and Joint Chiefs.

### **Creeping Withdrawal Versus Positive Engagement**

That said, US military forces cannot afford to simply deal with these problems passively and wait for events to take their course. It is easy to call for a low profile, reduced forces, and moving US forces and facilities offshore and over-the-horizon. The practical question, however, is whether this will really make the US any more popular or less controversial, and be as effective as making a major effort to engage and explain. There is a real risk that no critic of the US will notice or care about reductions in presence and visibility, that there will be steady escalating demands to eliminate a US presence of any kind, that the US and its allies will have substantially less deterrent and defensive capability.

And, there are a number of important actions that US forces *can* take. In terms of forward presence, they can greatly strengthen its engagement efforts in dealing with both Middle Eastern military forces and civilians. This inevitably means putting men and women, aircraft, ships, and facilities into harms way. It means expanding diplomatic and outreach activities, increasing and restructuring training and exercise activity and related outreach programs, and making a far more deliberate effort to explain the value of a US presence to the Arab media and to civilians. The Navy in particular has long been a de facto diplomat. All US military services and commands must now become regional politicians that are ready to deal with the political aspects of terrorism, asymmetric warfare, and coalition building. The US needs to staff, prioritize, and fund for this mission as one that may well be more important than purely military missions like air strikes and mine warfare.

The US military alone, however, cannot reach out effectively beyond military-to-military relations. If the US is to explain and justify its presence, its arms sales, its security relations, and efforts to build regional coalitions, the US State Department and US Embassies in the region must be far more active and effective than in the past.

The US State Department has a long way to go. It has done a wretchedly incompetent and inactive job of dealing with the public diplomacy of issues like US policy towards Iraq and the impact of sanctions. It has failed to create a public diplomacy to deal with terrorism and

extremism. Its efforts to explain the threat of proliferation have been both patronizing and childish. Above all, it has accepted the concept that regional governments can maintain virtual silence about their military relations with the US and rely on sheer authority, rather than explain and justify these relations to their people. This simply is not an acceptable approach in an era of broad social and economic unrest, Islamic extremism, the backlash from the Arab-Israeli issue and the impact of sanctions on the Iraqi people. It simply is not an acceptable approach in an era of satellite television, Internet newsletters, and constant questions, criticisms, and attacks.

### **Shifts in Military Posture and Activity**

US military forces inside and outside the Middle East do, however, have other options. One is to comprehensively reexamine their advisory, arms sales, and foreign training programs, including such relatively low cost programs as IMET. This can be coupled to a second option: Finding ways to make friendly navies even more of partner, give them as many meaningful mission and exercise task as possible, and stressing low cost and low technology forms of interoperability.

Another is to clear up the corruption surrounding even FMS sales created by the systematic US contractor and in-country abuse of so-called offset arrangements and the corruption involved in hiring consultants, shipping military items, and purchasing related items through non-FMS contracts. US arms sales under FMS have far more integrity and effectiveness than those of most other countries, but better integrity no longer is good enough. Furthermore, public diplomacy must explain and justify such sales in ways that are convincing to people in the region, show they are honest, show they really contributed to effective national defense, and show that we are serious about coalitions and interoperability.

The era of burdensharing and arms sales is over. It is part of the problem and not part of the solution. The challenge now is to create a true partnership, one based on respect and without any vestigial elements of patronizing mentorship. Wherever possible, "joint" should mean "coalition." Exercises, operations, and other activities should be tailored to support and validate an engagement strategy.

At the same time, however, US forces need to look towards the future. Presence should not be forced on reluctant friends and allies, and it should be made clear to friend and threat alike that the US is strengthening both its over-the-horizon options and its ability to rapidly shift

forces in the region from country to country and still be able to operate effectively. In this regard, US Naval and Marine Corps Aviation need to take a very careful look indeed at their decades long tendency to chose other aspects of aircraft performance over range. They need to look at ways to engineer future ships for greater endurance and less dependence on local facilities and support. The Army, USAF, Marine Corps, and Navy also need to carefully examine the range payload and endurance of all future fixed and rotary wing aircraft to emphasize the ability to operate at long ranges, and some efforts to rush forward into relying on short to medium-short range UAVs and UCAVs need equally careful review.

The US needs to examine options for enhance use of ships as replacements for land facilities in the forward area, and how the Army and Marine Corps' search for new generations of lighter and more mobile weapons can be linked to new and more cost-effective approaches to sea-based prepositioning. It needs to tailor all aspects of its air and sea-based firepower and associated intelligence, targeting, and battle damage assessment systems to reduce both collateral damage and the intensity of attack – looking towards the future impact of actual combat in the region.

This affects several other elements of naval forces. One is the possible need for arsenal ships and long-range cruise missiles. At the same time, the Navy badly needs a low-cost cruise missile and possibly more than it needs a better one. Finding advanced and relatively low profile ways to deal with mines and coastal submarines may have even more priority. The value of ship-based long-range air and theater missile defenses may also be enhanced because of the ability to deploy major improvements in theater defenses without having to maintain a presence on allied soil. Retailoring maritime surveillance and intelligence capability to make more use of low profile assets like UAVs may also have similar value.

It should be stressed, however, that retreat over the horizon or to more remote bases in the region is a partial strategic defeat and not a desirable option. It may well prove far more expensive than engagement and partnership, be less effective, and ultimately do little to make the US more popular.

## **Redefining Low Intensity Combat**

US military forces cannot afford to focus on force transformation, and the need to improve their capabilities to deal with terrorism and asymmetric warfare, to the point they

weaken their capabilities to support a major regional conflict against Iraq or be able to deal quickly and decisively with any threat from Iran. They cannot deal with a political and strategic mosaic as complicated as the Middle East as if one approach to terrorism and asymmetric warfare could be applied to the entire region, with the kind of “911 mentality” that implies that the attacks on the World Trade Center and the Pentagon have somehow given the US freedom of action, the ability to ignore the views of friends and allies, or the ability to ignore the complications and risks that result from even the most successful US military action.

### **The Lessons and Non-Lessons of Afghanistan**

As the previous complex list of challenges has shown, the US must both take account of the broad forces shaping instability in the region, the views of its allies and the need to force coalitions as well as potential threats. It tailor its approach to deterrence and defense to deal with each individual country, each organization, and each major terrorist actor. This, in turn, means US military forces must be flexible and adaptive. One of the key lessons of past wars is that military doctrine should be trashed on the first day of conflict, and that strategy, tactics, and war plans should immediately give way to reality. This is even truer in the case of asymmetric warfare and counterterrorism, where rigidity and routine are synonyms for vulnerability.

As we are learning to our cost, even major military successes in Afghanistan may not bring us victory in any traditional sense of the term. In fact, it is unclear that even broad defeat of Al Qaida is victory. The classic case of Lenin’s brother is a warning of what may come. The Czarist secret police found and killed Lenin’s brother and destroyed the organization of which he was a part. In practice, however, they may have done a great deal in the process to shape Lenin’s attitudes and behavior as a far more serious threat.<sup>i</sup>

Secretary of Defense Donald Rumsfeld approved planning guidance after the collapse of the Taliban that the war could easily last to 2008 and beyond.<sup>ii</sup> US military planners and counterterrorism experts are also warning that the struggle in Afghanistan teaches enemies as well as US, British, and friendly forces. They speculate that one key lesson for future terrorist and asymmetric opponents will be to create far looser and more broadly distributed networks and groups of cells that have a high degree of individual independence and survivability and which do not have a rigid hierarchy and headquarters and physical facilities that can be located and attacked. They argue that a key lesson of Afghanistan to such enemies will be the need for more

anonymity, more emphasis on a cover organization and proxies, and on creating a campaign plan of sequential or multiple attacks from isolated cells and elements so that no victory in any one area can halt the overall campaign.

What remains to be seen is whether this is a potential lesson for future wars or a lesson for this one. Large elements of Al Qaida were not in Afghanistan and large numbers of Al Qaida fighters and leaders seem to have escaped. It is at least possible that Al Qaida will reorganize and go on with its attacks in the future. Alternatively, elements of Al Qaida may go underground, reconstitute themselves and emerge with new names and possibly new leaders, changes in goals and ideology, and changes in method of attack. It has become a cliché to say that death and defeat cannot deter a suicide bomber. It may be equally true that any given defeat of a terrorist or asymmetric opponent simply forces the opponent to adapt.

### **The Problem of States, Proxies, False Flags, and Trojan Horse Attacks**

There are other disturbing aspects of the partial victory to date that need to be kept in mind in interpreting the lessons of the Afghan War, and the challenges face the US Navy and Marines Corps. One lesson is that it remains impossible to prove a negative. If it is impossible to prove a nation like Iraq had some involvement in the conflict, it also remains impossible to prove that it did not. The same was true earlier of Syria's role in the Marine Corps Barracks bombing in Beirut and Iran's role in the bombings in Al Khobar. Nothing about Afghanistan indicates that the US has found a solution to state use of terrorists as proxies in asymmetric warfare.

This, in turn, raises the possibility that terrorist movements deliberately attempt to falsely implicate states in their attacks and drag them into the conflict as allies or make them false targets. The same may be true of states doing the same with other states. One has only to consider what would have happened if Al Qaida had deliberately tried to implicate Iraq or Iran had done the same thing. False proxies, Black and false flags, and Trojan horses may be just as much a part of future asymmetric and terrorist conflicts as real ones.

### **Using Nations as Venues to Expand Conflicts: "Low Hanging Fruit"**

There are other disturbing aspects of the partial victory to date that need to be kept in mind in interpreting the lessons of the Afghan War, and the challenges face the US Navy and Marines Corps. One lesson is that it remains impossible to prove a negative. If it is impossible to prove a nation like Iraq had some involvement in the conflict, it also remains impossible to prove

that it did not. The same was true earlier of Syria's role in the Marine Corps Barracks bombing in Beirut and Iran's role in the bombings in Al Khobar. Nothing about Afghanistan indicates that the US has found a solution to state use of terrorists as proxies in asymmetric warfare.

This, in turn, raises the possibility that terrorist movements deliberately attempt to falsely implicate states in their attacks and drag them into the conflict as allies or make them false targets. The same may be true of states doing the same with other states. One has only to consider what would have happened if Al Qaida had deliberately tried to implicate Iraq or Iran had done the same thing. False proxies, Black flags, and Trojan horses may be just as much a part of future asymmetric and terrorist conflicts as real ones.

### **The Limitations of the Afghan Conflict and Lessons for "Iraq"**

All of these factors are an equal warning about going from a defeat of an extremely weak opponent like the Taliban to fighting a much stronger opponent like Saddam Hussein and Iraq. There is no doubt that the Iraqi regime has its vulnerabilities. At the same time, it is a far better organized, stronger, and in some ways more popular tyranny. It is also a power with 2,200 tanks, nearly 400 aircraft, some weapons of mass destruction, and heavy forces capable of serious war fighting. If one consider the unique conditions of the Afghan conflict, and the luck the US and Britain had with several key intangibles, it should be clear that Afghanistan is not Iraq and that the military lessons of Afghanistan may at best have only limited applicability.

At the same time, Afghanistan is also warning about the dangers of putting too much emphasis on force strengths, military history, and the outcome of military analysis and ignoring the fact that "intangibles" can suddenly and unexpectedly change the outcome of wars. Military strength and the performance of other Afghan forces in past wars proved to be a poor measure of actual war fighting capability and endurance. The catalytic collapse of the Taliban and Al Qaida was always *possible*, but it was not *probable*. It was not possible to predict how long Serbian forces would hold out in Kosovo, or to tie estimates of battle damage either to confirmed kills or to Serbian political behavior. Iraq's performance in the final battles of the Iran-Iraq War was far more impressive than its performance during the Gulf War, and there was no way to be sure it would sit possibly in Kuwait while UN coalition forces acquired first decisive defensive strength and then equally decisive offensive capability.

While the US military experience in Afghanistan may not translate directly into warfighting experience in Iraq or any other case, factors like political and military leadership, morale, adaptability, and other intangibles could again lead to a far more rapid Iraqi collapse than going by the numbers would indicate or it could produce the opposite effect in terms of Iraqi nationalism, resolve, and hostility.

The uncertainties inherent in such “intangibles” can work in two directions and they can favor our opponents as well as ourselves. For all of our success to date, it is important to note that the US and Britain have not won a war, they have won a major victory in a single theater. The two key leaders of the opposition -- Sheik Omar of the Taliban and Usama Bin Laden of Al Qaida – remain unaccounted for. This is not complete victory in a war fought for political symbols, and to destroy the ability of political movements and terrorists organizations, as much as to defeat a military and paramilitary enemy.

### **Civilian Cover, Collateral Damage, and Human Rights as a Weapon of War**

The enemy use of civilian cover and manipulation of casualties and collateral damage may be an equally important lesson. The Gulf War, the fight against Iraq since that time, Kosovo, and the Afghan War all saw efforts to use civilians and civilian facilities as shields against US and allied attacks. Distributed terrorist networks and state-sponsored asymmetric forces can be expected to make steadily more use of civilians as shields and civilian areas as hiding places. Extremist groups like Hezbollah and Hamas have long gone further, as have Kurdish terrorist organizations in Turkey. They deliberately blur the line between terrorist and combat elements, religious elements and functions; educational, humanitarian, and medical elements and functions; and “peaceful” political elements and action.

In the process, both terrorist organizations like Al Qaida, and states like Iraq, have found that well-organized political and media campaigns can blur lines of responsibility for terrorist and military acts, and use collateral damage and human suffering as political weapons of war. Wrapping movements in the cloak of democratic values, exaggerating civilian casualties and suffering, and exploiting human rights and international law are becoming a steadily more sophisticated part of modern terrorism and asymmetric warfare.

So for that matter, are religion and ethnicity and the ability to exploit the causes and suffering of others. Al Qaida and Saddam Hussein, for example, have **systematically** exploited Islam, their identity as Arabs, and the Second Intifada. Milosevic and his elite did something very similar in Bosnia and Kosovo, exploiting Christianity and their Slavic identity with Russia. The Taliban exploited the Afghan situation by producing grossly exaggerated claims of civilian casualties. While an independent estimate by the Associated Press put the figure at roughly 500-600, the Taliban Ambassador quoted 1,500, Al Jahzira gave estimates as high as 6,000, and one economist at the University of New Hampshire produced estimates of 5,000, and then 3,100-3,800. In some cases, the Taliban is known to have reported civilian casualties when there were no such casualties at all.<sup>iii</sup>

The US faces a broad challenge in dealing with these issues because it has no clear methodology for estimating collateral damage, detecting it, or estimating its scale. The fighting in Afghanistan has shown, however, that pilots and UAVs cannot firmly characterize enemy forces and facilities from civilians in asymmetric wars in either built-up areas or in the field. The same seems to be equally true even of Special Forces teams on the ground. Independent teams cannot get the fully background on suspicious movements and behavior patterns and groups dependent on local allies often get misinformation or deliberate lies. In balance, Special Forces teams like Team 555 demonstrated that groups on the ground can sometimes get much better information on the kind of unconventional combatants that fought in the Afghan War than any form of sensor or airborne platform, but no amount of “fusion” of data from combat aircraft, satellites, UAVs, Sigint aircraft, Humint and on the ground presence could fully characterize many targets or distinguish combatants from civilians.<sup>iv</sup>

The US certainly seeks to minimize collateral damage in broad terms. Like other military powers, however, the US does not attempt to estimate either loss of life or the indirect costs of military strikes, particularly cultural and economic ones. Since Vietnam, it has avoided making any public body counts of either military or civilian killed. This allowed Iraq and Serbia to have some propaganda success in making grossly exaggerated claims of civilian casualties and collateral damage in past wars, and the Taliban to make equally exaggerated claims during the current fighting. While many human rights groups have been careful to examine such claims, others have taken them literally and hostile countries and political factions have done the same.

The US was able to largely avoid the political backlash from civilian casualties and collateral damage during the Gulf War, although exaggerated casualty claims – particularly relating to the “road of death” were a factor leading to the early termination of the coalition advance and declaration of a ceasefire. It has been less successful since that time in trying to deal with post-war attacks on Iraq by countering Iraqi claims on a strike-by-strike basis without addressing the details.

Both the US and NATO had to address civilian casualties and collateral damage in Kosovo on a daily basis, and often made mistaken claims or had to respond by admitting they were unable to confirm or deny many Serbian claims. This often gave Serbia a propaganda advantage during the fighting although the Department of Defense largely succeeded in dodging the issue in its analysis of the lessons of Kosovo by only issuing its after action analysis in report to Congress which came out after the issue had lost major media impact and by using such a narrow definition of collateral damage as to exclude many incidents.<sup>v</sup> At the same time, the problem is real, and there is little reason to suspect that it will not be even more serious whenever the US must deal with more serious threats or more intensive asymmetric wars.

### **Designing Weapons to Deal with Collateral Damage**

The other side of this coin is that properly design weapons and targeting and ISR systems can now greatly reduce the problem of collateral damage and civilian casualties. The global reaction to the fighting in Afghanistan shows that the US does not have to cope with the kind of extreme media and human rights criticism that attempts to make any use of military force impossible by seeing every attack that produces any form of civilian casualties, friendly fire, or collateral damage impossible. If the world accepts the need for military action, it will also accept the inevitability of such losses.

The US does, however, have to demonstrate that it has made a good faith effort to minimize collateral damage and civilian casualties, and ever since Vietnam, the history of war has shown that each improvement in military capability is matched by demands for higher standards of performance. The US effort to develop smaller precision-guided weapons like 250-pound versions of the JDAM is one example. So is the series of major improvements in target selection and review made throughout the air and missile targeting process after the strike on the Chinese Embassy in Kosovo.

There still, however, are a number of areas where the US can do more. British experiments with weapons designs that inactivate the warhead when systems malfunction or lose their targeting lock is one case in point. Another is the need to come to grips with long-standing problems in cluster munitions and dumb bombs that effectively turn them into mines when they do not explode. The use of improved release systems, navigation and targeting aids, and wind correction can help up to a point but the US dropped some 1,150 cluster bombs on 188 locations in Afghanistan as of early February.<sup>vi</sup> They had many of the same defects as the weapons dropped in Vietnam and the Gulf War and often produced duds that could be lethal if handled or contacted. This is not a problem it should take three decades to solve.

More generally, the US needs to examine ways in which it can design its ISR sensors and systems, and intelligence and targeting systems, specifically to minimize collateral damage and civilian casualties, and to provide some form of near real time warning and/or imagery to allow rapid confirmation of whether mistakes occur. This does not mean paralyzing operations; it does mean changing design criteria and methods to allow them to be sustained with minimal cost to the innocent and minimal political backlash.

One longer-run issue that needs to be addressed is the need for some mix of methods and technology that can produce meaningful body counts – at least over time. The disastrous emphasis on body counts in Vietnam – with its endless phony casualties and pressure to take risks in attacking civilian targets – is scarcely an example to follow. It is fairly clear, however, that if the US does not produce reasonable estimates of its own, others will produce unreasonable and politicized lies. Beyond that, minimizing casualties does require an understanding of what casualties are. Physical collateral damage can always be fixed or replaced. People cannot.

## **Power Projection and Force Transformation**

The Afghan War has again demonstrated the need to be able to rapidly project land and air power at very long distance. It has demonstrated the value of strategic airlift, long-range strike capability, and the ability to operate with limited forward basing. At the same time, it has confirmed the value of light forces like special forces in counterterrorism and some forms of asymmetric warfare and that planning for major regional contingencies and wars where the US must fight against heavy armor and heavily defend airspace are only one possible case in a changing spectrum of conflicts.

Again, it is dangerous to generalize without more detailed data on the forces engaged in the conflict and the history of their battles and engagements, and dangerous to generalize at all given the unique character of the Afghan conflict. Nevertheless, some lessons about force transformation and power projection do seem clear:

### **The Changing Nature of Joint Warfare and Combined Arms Mix**

Virtually every major recent war has shown the growing value of joint operations and of integrating land-air-sea operations in ways adapted to the needs of a given conflict. Like Kosovo, however, the Afghan conflict has shown that a combination of precision air and missile strike capability, coupled to greatly improved intelligence and targeting systems, can provide much of the heavy firepower in some contingencies that previously had to be provided by artillery and armor.

Part of the shift towards precision is indicated by the fact that some 6,700 of the 12,000 air weapons the US dropped by December 7, 2001 were precision guided or 56% of all weapons dropped. Later estimates indicate that roughly 10,000 weapons were precision weapons, out of a total of 18,000 dropped by early February, or still 56%. This compares with 35% of the 24,000 weapons dropped during the Kosovo campaign in 1999.<sup>vii</sup> It is also worth noting that the ability to correct the dispersal of unguided submunitions for wind, and greatly improved navigation and targeting capabilities also made the delivery of unguided weapons far more precise than it had been in the past.

It is dangerous to over-generalize, however, since much depended in both wars on near air supremacy and the ability to engage enemy ground forces in ways where they could make only limited or no use of their armor or artillery against US and allied forces – aside from local allies and proxies. Nevertheless, the nature of the air-land battle seems to have evolved significantly even in terms of the standards of a comparatively recent conflict like Kosovo.<sup>viii</sup>

Yet, that if the opponent had had more serious military capabilities, US and British land forces would have had the time to spend several weeks winning air superiority and carrying out the SEAD mission. They could also have added more attack helicopters and gunships to the battle, and possibly lighter and more mobile artillery and armor – although this presented equipment, lift, and mobility problems for both the Army and Marine Corps. (The Army lacks

sufficient LAVs and even ATVs for its special forces, and Marine Corps light mechanized forces are still too tied to amphibious missions versus projection by airlift.).

The US and Britain could also have added more highly special forces elements, forward air controllers, and experts with local language and cultural skills. Such forces obviously cannot substitute for heavy ground forces in many contingencies, but it is important to note that the Afghan war per se is not an argument for lighter tanks and artillery and lighter and more projectable mechanized ground forces. This poses an obvious challenge in restructuring the Marine Corps for operations in the Middle East, and possibly to the relative roles of the Marine Corps and the Army.

### **The Value of Coalition Warfare and Mission-Oriented Interoperability**

Recent wars have also demonstrated the value of coalition warfare in every aspect of operations from power projection to combat. The Afghan conflict, however, is interesting because light highly trained allied forces like the SAS could be highly effective without expensive high technology equipment, standardization, and interoperability. Similarly, relatively primitive allied local ground forces could be very effective substitutes for US ground forces when given the support of US special forces and advisors, and effective air and missile strike capability. This is a lesson that emerged in a different way from the role the KLA and other Kosovar forces played in Kosovo.

Once again, there are clear limits to this lesson. However, the US and British experience in Afghanistan may indicate that the US and NATO have overstressed the high technology and high investment aspects of coalition warfare and interoperability and paid too little attention to the value of being able to draw on a pool of highly trained lighter forces like the SAS or their Australian, Canadian, German, and other equivalents. The same may be true of the value of using limited but highly trained numbers of advisors and forward air controllers and targeteers on the ground, along with rapid transfers of low and medium technology arms, to strengthen local forces. It seems fair to say that in the past, the US has paid more attention to seeking technological clones or doing it alone, than using its specialized high technology strengths in ways which make it easier to operate with less well equipped Western and regional allied forces. This may well have been too narrow, if not the wrong, approach to coalition warfare and interoperability in many mission areas.

## **The Value of Speed, Readiness, and Range in Power Projection**

Recent wars have also demonstrated the value of coalition warfare in every aspect of operations from power projection to combat. The Afghan conflict, however, is interesting because light highly trained allied forces like the SAS could be highly effective without expensive high technology equipment, standardization, and interoperability. Similarly, relatively primitive allied local ground forces could be very effective substitutes for US ground forces when given the support of US special forces and advisors, and effective air and missile strike capability. This is a lesson that emerged in a different way from the role the KLA and other Kosovar forces played in Kosovo.

Once again, there are clear limits to this lesson. However, the US and British experience in Afghanistan may indicate that the US and NATO have overstressed the high technology and high investment aspects of coalition warfare and interoperability and paid too little attention to the value of being able to draw on a pool of highly trained lighter forces like the SAS or their Australian, Canadian, German, and other equivalents. The same may be true of the value of using limited but highly trained numbers of advisors and forward air controllers and targeteers on the ground, along with rapid transfers of low and medium technology arms, to strengthen local forces.

It seems fair to say that in the past, the US has paid more attention to seeking technological clones or doing it alone, than using its specialized high technology strengths in ways which make it easier to operate with less well equipped Western and regional allied forces. This may well have been too narrow, if not the wrong, approach to coalition warfare and interoperability in many mission areas. It is certainly a challenge in the Middle East where coalitions are vital in most contingencies, and it is a challenge that USCENTCOM and each of the US military services needs to closely examine.

### **“Closing the Sensor to Shooter Loop” in Near Real Time: Improved Intelligence, Targeting, Precision Strike, Assessment and Restrike Capabilities<sup>ix</sup>**

That said, no one can dismiss the major impact that new technologies did have, particularly because they were employed with new tactics and as part of new systems. According to General Tommy Franks, the US had flown an average of 200 sorties a day in Afghanistan by early February 2002, versus 3,000 a day in Desert Storm. It was, however, able to hit roughly the

same number of targets per day as in Desert Storm.<sup>x</sup> General Franks stated that the US needed an average of 10 aircraft to take out a target in Desert Storm, a single aircraft could often take out two targets during the fighting in Afghanistan. There also was much greater surge capability to use precision weapons against a major array of targets. In one case, the US fired roughly 100 JDAMs in a 20-minute period.<sup>xi</sup>

This was made possible both by added reliance on precision guided weapons and by the new abilities of US forces to draw on greatly enhanced real-time satellite, U-2, JSTARS, Rivet Joint, and UAV data on the movements of enemy and friendly forces, to target enemy forces with high precision in real time even as they were engaged by Afghan ground forces, to communicate this targeting data to US bombers and strike fighters, to use the data to conduct precision strikes with both precision guided weapons and area ordnance, and then at least partially assess damage as well as retarget and restrike almost immediately did involve a wide range of advance in tactics and technology. The US was able to “close the loop” in conducting air and missile strikes in near real time. It was an impressive further development of techniques that owe their origins to the use of spotter aircraft and kill boxes in the Gulf War and which were significantly further developed in Kosovo.

It is also clear that the level of US success in Afghan conflict scarcely sets the standard for the level of progress that can be achieved in “closing the loop” in the future.

UAVs have become the focus of much of the attention to technology during the Afghan conflict, but the US only possessed limited numbers of many of the key UAVs involved and that many of the “24/7” improvements it plans to make in imagery satellites and electronic intelligence satellites were not yet deployed. The Predator, for example, remains a deeply trouble system. It largely failed operational testing before the Afghan conflict with some eight crashes in the six months before the conflict. It cannot take off in severe rain, snow, ice, or fog conditions; its imagery lacks the definition to find and characterize some types of targets: it is a slow flier (90 MPH) that operates best at 10,000 feet which puts it within range of many forms of light anti-aircraft defense and which has led to losses in Afghanistan and Iraq; it has awkward control systems and ergonomics; and each unit (four planes and a ground station) costs about \$25 million.<sup>xii</sup>

Little detail is available on the strengths and weakness of the AWACS, JSTARS, U-2, Rivet Joint, P-3, satellite, and other sensors platforms that ultimately did most of the work. It is clear from the FY2003 defense budget submission, however, that funds are being provided to improve virtually every system, and that serious attention is being given to adding sensors to aircraft like tankers, and adding more sophisticated mixes of sensors to existing aircraft. The idea of a single platform to perform the functions of the AWACS and JSTARS is also being explored. Similarly, at least some of the data links used to provide real-time retargeting data to aircraft were still relatively crude and had poor ergonomics; avionics and air munitions were not fully optimized to use such data.

The number of Special Forces teams deployed to provide on-the-ground intelligence and targeting designation was very limited and probably only a fraction of the number that will be found useful in the future.<sup>xiii</sup> Many of the on-the-ground data links, targeting systems, and communications systems provided to special forces and rear area intelligence/targeting analysts lacked the desired range and reliability and can still be greatly improved.<sup>xiv</sup> Other such improvements include the provision of lighter and longer-range laser designators, and light all-terrain vehicles and trucks that offer higher mobility and less detectability than systems like the HMMWV.<sup>xv</sup>

Furthermore, virtually all of the assets involved can be improved in ways that simultaneously increase the tactical impact of given strikes, increase their lethality, and reduced both the risk of friendly fire and collateral damage.

### **The Problem of Targeting, Intelligence, and Battle Damage Assessment**

Technology, however, is only part of the challenge. During the Gulf War, Desert Fox, and again in Afghanistan, the US has faced several major problems in using its strike power effectively that will not be solved with better sensors and C4I systems. The problems in targeting terrorist and asymmetric forces have already been touched upon, as well as the related problems of estimating collateral damage and civilian casualties.

These problems are virtually certain to be just as serious in other types of conflict. While most Middle Eastern wars will not be “mud hut” conflicts, the US may well face larger-scale conventional contingencies in which a power like Iraq chooses to fight inside cities and urban areas, rather than the open desert. It may also have to strike at similarly dispersed CBRN

facilities and forces. Furthermore, it may find that factions and their efforts to use or mislead the US in conducting strike operations can be just as much of a problem in nation like Iraq as in Afghanistan.

US ability to locate some kinds of targets is far better than its ability to characterize them, judge their importance, or assess the level of damage it did to their functional capabilities once it struck them. The US did not demonstrate during the Gulf War, Desert Fox, and in Afghanistan that it had a valid doctrine for striking at leadership, infrastructure, civilian C<sup>3</sup>I, LOC, and other rear area strategic targets. It essentially guessed at their importance and bombed for effect.

Reference has already been made to the fact that General Franks gave testimony to the Senate Armed Services Committee that that the US needed an average of 10 aircraft to take out a target in Desert Storm, a single aircraft could often take out two targets during the fighting in Afghanistan.<sup>xvi</sup> It seems virtually certain that these figures will ultimately prove to be just as unrealistic as the initially battle damage claims made in the Gulf War, Desert Fox, and Kosovo. To be blunt, the US military services and intelligence community simply do not have a credible battle damage assessment capability. They rather have an ever-changing set of rules that transform vague and inadequate damage indicators into detailed estimates by category and type. Their rules and methods have only the crudest analytic controls, and cannot survive simple review methods like blind testing. They rely heavily on imagery that cannot look inside buildings and shelters, which often cannot tell whether a weapon was inactive or had already been damaged by other kinds of fire, and which is essentially worthless in estimating infantry and human casualties.

US ability to characterize sheltered and closed-in target remains weak, as does its ability to assess and strike at hardened targets. This remains a major problem in the case of nations that make extensive use of such facilities like Iraq and Iran, but it is important to note that US sensors and teams on the ground never succeeded in characterizing many much simpler Taliban and Al Qaida facilities like caves. For example, the Navy SEAL team that explored the cave complex at Zhawar Kili in February had no idea that it would turn out to be the largest complex yet uncovered, and had to physically enter the area to determine that the US air strikes on the facility had had little or no effect and left large stocks of supplies intact.<sup>xvii</sup>

The US has better ability to assess physical damage to surface buildings, but limited ability to assess damage to their contents. Its ability to assess functional damage to complex systems like land-based air defense systems, and the resulting degree of degradation in their operational capabilities is also generally weak. The US had major problems in these areas in the Gulf War, Kosovo, and in ten years of strikes against the Iraqi air defense system. The US had – and still has -- major problems in locating key targets like the leadership of hostile powers or the facilities and forces related to weapons of mass destruction.

The Middle East presents particularly serious challenges in terms of proliferation, since the US and its allies face ongoing problems in terms of proliferation in Iran, Iraq, and Syria; and the possible acquisition of such weapons by terrorist forces. More broadly, the ability to reliably perform battle damage assessment remains a weak link in the US ability to “close the loop” even in dealing with conventional military targets like armor, major weapons, depots, and infantry.

In short, Afghanistan is yet another warning that “closing the loop and many other potential advantages of the “revolution in military affairs” requires far better strategic assessment and intelligence capability to determine the nature and importance of targets, better ways to assess their strategic impact and the impact of striking them, and an honest admission by the US military services and intelligence community that its battle damage assessment methods are crude and inadequate, if not actively intellectually dishonest.

### **The Problem of Intelligence**

There are broader lessons regarding intelligence. Afghanistan again showed the need to maintain a large cadre of language and area skills to deal with the need for area expertise, the ability to conduct coalition warfare, to support ground and air operations, and deal with the complexities of targeting and battle damage assessment. The fact that the US was concentrated on China in the spring and Afghanistan and some 67 other countries after September 11<sup>th</sup> also shows that developing a suitable pool of field capabilities and analysis capabilities cannot be tied to predictions about the threat and scenarios.

Humint is one aspect of building up such capabilities, but its importance and value has often been exaggerated. It takes an average of two years to recruit, validate, and train a foreign source. The British found in dealing with Northern Ireland that it often took seven years to go further and penetrate a tightly organized network in some element of the IRA.

Afghanistan is yet another demonstration that most human sources are unreliable or have only limited access to the collection target. Their information has only limited value and credibility unless it can be cross-correlated by an analyst using other intelligence sources. In short, Humint can help in some areas but it normally will not be a solution to any major problem in technical intelligence collection, and it has little or negative value without major improvements in analysis and the ability to focus and fuse all-source intelligence collection.

Similarly, “data mining” can automate some aspects of intelligence collection and can enable the intelligence community to make far better use of unclassified media and other sources. It can also help recognize patterns in terms of indications and warning. Data mining, however, is not substitute for analysis and for large analytic staffs. At present, it also does a far better job of impressing the contractors and data systems experts that promote it than intelligence analysts and military users. It must be highly adaptable, easy to use, and constantly tailored by an experience analyst to a specific need to really help and not simply automate the problem of translating collection in to analysis.

There is also a major difference between operations and either collection or analysis. Afghanistan again shows that virtually all low intensity and asymmetric wars require both intelligence and military personnel on the ground to support coalition operations, directly support targeting, and gain information in real time that can support operations. The US was fortunate that it had some recent regional Special Forces experience in Afghanistan, but it had only a very limited pool of military and CIA operations personnel, and almost certainly would have done better with more.

In short, improved intelligence and operations require improvements in all five areas: technical collection, processing and fusion, Humint, Sigint, and operations. Improving any given area, and particularly ignoring analysis, is not a lesson of the war and is an almost certain recipe for failure.

### **Indications and Warning**

Finally, it seems highly doubtful that improvements in intelligence will really succeed in doing a much better job of guaranteeing indications and warning for future wars and major terrorist attacks in the Middle East that they did before September 11<sup>th</sup>. It is important to note that the US had long seen Al Qaida as an enemy and had blocked several previous attacks.

September 11<sup>th</sup> came because Al Qaida changed its methods, had an unusually expert group of attackers, and was lucky. As has been noted previously, it seems likely that future attackers will also innovate and some will be highly professional and/or lucky.

Ever since the beginning of the Cold War, the US has conducted various post-crises indications and warning studies. Some have produced scapegoats and some have made significant improvements in indications and warning capabilities. In general, however, indications and warning analysis has simply kept pace with the evolution of threat techniques. The chances that any post Afghanistan improvements in indications and warning will be enough to prevent future attacks from succeeding are probably near to zero.

### **Mission Effectiveness versus Mission Intensity: The Duel Between Offense and Defense Continues**

“Closing the loop” in near real time intelligence, targeting, precision strike, assessment and restrike operations may significantly improve US mission effectiveness in the Middle East in ways that reduce the need for sheer force numbers and mission intensity. Not only did airpower substitute in many ways for heavy ground forces, armor, and artillery, precision air power and far better targeting almost certainly substituted for air power numbers. This indicates that deploying even more effective real-time intelligence, targeting, and damage assessment systems can either make a given force steadily more effective in battle or allow a reduction in force numbers and mission intensity.<sup>xviii</sup>

There are potential countermeasures to such advances and ones that are all too familiar to most military forces in the Middle East. They include:

- A shift to more distributed forms of warfare, where terrorists and other opponents seek to present smaller and smaller targets.
- Hide or shield operations by more and more use of collocation with civilians,
- The constant relocation of operations make it harder to target by function. Under such conditions, no advances in technical platforms will be able to compensate for a lack of reliable human intelligence and/or enhanced presence on the ground.
- Disperse assets before or during a conflict without any normal indicators of combat operations -- just as Iraq dispersed chemical weapons near unmanned air facilities during the Gulf War.

- Deploying distributed mixes of highly advanced surface-to-air missiles like the SA-10 or SA-11, shorter-range systems, sensors, and command and control links, to deny effective long-range air strike capabilities.
- Creating retaliatory forces with weapons of mass destruction that can be launched on warning or under attack.

Even so, there are limits to the adaptiveness that enemy forces can show in response to such US capabilities. Large masses of armor, artillery, and combat air assets can scarcely be distributed. Indeed, moving them may simply make them targets. Distributed forces are weaker forces, and hiding among civilians is a two edged sword that may alienate those you hide among. Buying very expensive and highly sophisticated air defense systems can also be countered with new targeting and strike technologies. Relying on CBRN weapons as a deterrent is only credible if they cannot be targeted and it is clear that they will be used.

## **The Challenge of Force Transformation**

There is no easy way to separate the evolution of US military forces in the Middle East from the broader force transformation efforts, which began early in the Bush Administration. It is also clear that force transformation is still very much a work in process. The Quadrennial Defense Review was issued in the late fall of 2001, before there was time to react to the course of the fighting in Afghanistan. It set six major goals for force transformation: protect the U.S. homeland and critical bases of operation; deny enemies sanctuary; project and sustain power in access-denied areas; leverage information technology; improve and protect information operations; and enhance space operations. The planning and budgeting documents that have been issued since that time reflect both the Department's view of the initial lessons of Afghanistan and its conclusion that the US experience in fighting terrorism has validated many of the conclusions in its force transformation studies.

As the same time, the US military posture in the Middle East must adapt to one of the paradoxes inherent in President Bush's FY2003 budget request and the new FY2003-FY2007 Future Year Defense Program. Short of a major regional war, President Bush's budget request probably represents the practical funding ceiling US military forces can expect for the foreseeable future and the Congress may not fully fund this request. No US military service, however, has a viable force modernization within the planned funding level. US military aviation is headed for a major crash.

Far too many expensive new programs are to be deployed in far too small a time and this affects every service. This is of critical importance to every service. The Navy's ship building program continues a trend that would leave the US with a 150 ship Navy. The Army has cancelled 18 programs for its existing of legacy forces, has developed a family of light armored vehicles for its new light brigade that is now too heavy to move by air, and has not credible plan to actually fund and develop its future combat systems. The Marine Corp has given up firepower to keep funding three active brigades, and lacks a credible air and amphibious modernization plan at current funding levels.

No one can predict what this really means for US military forces in the Middle East, but if politics is the art of the possible, force planning is the art of the fundable. No service chief of staff, no service head of planning, and no service head of programming and budgeting can current be said to have shown that he or she is competent in practicing this art. For all the past and current success of US forces, and for all of the opportunities now available, every comment on force transformation should be prefaced with the fact that in one key dimension, US military forces have not yet adapted to meet the evolving challenges in the Middle East.

### **The "Force Transformation PDM"**

That said, there are many positive trends and areas where action is taking place. While the plans for many aspects of the US force transformation effort are not yet complete, press reports indicate that the US Program Decision Memorandum 4, the so-called "Transformation PDM," called for:<sup>xix</sup>

- Some \$2 billion for improved satellite communications.
- A major acceleration of unmanned combat vehicle programs and serious examination of new programs to supplement or replace manned combat aircraft. Procure more RQ-1 Predators with the ability to fire AGM-114 Hellfire missiles. Examine the option of arming them with smaller 250-500 pound versions of the JDAM.
- Modifications and improvements, including security and survivability, to the Global Positioning Satellite system.
- Procurement of much larger numbers of RQ-1 Predator, RQ-4A Global Hawk and other Unmanned Aerial Vehicle intelligence and targeting systems. This could include developments like converting retired manned aircraft to UAVs, or older target drones like the BQM-145, BQM-34S and MQM-34D.<sup>xx</sup>
- Make major improvements to their endurance, payload capability, sensors, downlinks, survivability, and launch/recovery systems, including their electro-optical,

infrared, and synthetic aperture radar sensors. Possible addition of UAVs to future maritime patrol aircraft. (Approximately 20 of the 68 Predators delivered to date have been lost, largely to operator error or enemy fire.)<sup>xxi</sup>

- Improvements in space-based radars and imagery systems.
- Procurement and improvement of Tomahawk cruise missile systems.
- Convert at least four more C-130s into gunships and improve AC-130 special operations combat aircraft and other Special Forces variants of the C-130, including countermeasures for air defense. Improve video and infrared targeting and surveillance systems and fire-control capability, and refine the datalink systems between the AC-130 and Predator/Global Hawks that were rushed into deployment during the war.<sup>xxii</sup>
- Procurement and improvement of portable and theater-deployable intelligence and targeting systems and rear echelon and national capabilities.
- Improvements in communications, secure data links, displays, weapons dispensers, and precision weapons to make real time targeting and restrike capabilities more effective.
- Acceleration of the Airborne Laser theater missile defense system.
- \$63 million for upgrading of NORAD computers and radars.
- Acceleration of hard target and underground facility penetration weapons. These would replace or enhance the GBU-28 5,000 pound “bunker buster” bombs and AGM-130s used to attack hard and deeply buried targets during the Afghan War. The Department of defense estimates that there are some 10,000 hard and deeply buried targets (HDBTs) in the world, that some 1,000 have critical strategic value, and that their number will advance steadily as improved tunneling equipment becomes available. Most are 20 meters or less underground.

The US is examining ways to add hard target kill capabilities to its cruise missiles and there are unconfirmed reports that one such missile, the AGM-86D, was used during the fighting. Other options include a hard target defeat thermobaric weapon, the FMU-157 hard target smart fuse, and BLU-116B advanced unitary penetrator warhead.<sup>xxiii</sup>

- Acceleration of programs to develop unattended ground sensors and long-loiter collection platforms to characterize and monitor activities in facilities. Develop remote sensors for the penetration of caves and sheltered facilities.

### **The Force Transformation Impact of the FY2003 Budget**

The President’s FY2003 budget request sets forth a list of additional “force transformation efforts” that affect US military capabilities in the Middle East. These efforts include:

- Convert four Trident submarines to cruise missile carriers. It also seeks to capitalize on U.S. asymmetric advantages in developing new classes of satellites—including a

- space-based radar—and improving existing capabilities and hardening them against attack.
- Initiate development of the DD(X) surface warfare ship, a test bed for future Navy systems, a senior defense official said. Plans are to insert and test new stealth and propulsion technologies in the DD(X) and to test new manning programs. The budget request asks for \$961 million for this effort.
  - Spend \$1 billion to go to procurement and research of unmanned aerial vehicles. DoD wants to spend \$154.1 million to buy and arm 22 Air Force Predator UAVs in fiscal 2003. The Air Force has also allocated \$170.8 million for three Global Hawk UAVs. There is another \$100.7 million set aside to buy 12 Army Shadow UAVs.
  - The USAF will buy 70 more Global Hawks and associated equipment for \$1.55 billion and the US Navy will buy 28, which it will deploy in seven systems, each with four aircraft and support elements.<sup>xxiv</sup>
  - Accelerate funding of Global Hawk research and the Navy's Fire Scout UAV. The request also accelerates research in unmanned combat aerial vehicles. "These UCAVs are not just UAVs with weapons added...They are combat airplanes built from the ground up, just without pilots." The request also increased funding for the DARPA future UCAV program, with a deployment goal of 2015, and unmanned underwater vehicles.
  - Transform the old strategic nuclear Triad—land-based ICBMs, manned aircraft, and submarine-launched ballistic missiles,. President Bush has announced plans to reduce offensive nuclear warheads from 6,000 to between 1,700 and 2,200. The new Triad is the scaled-down nuclear deterrent, a more deadly and responsive conventional deterrent, and missile defense.
  - The overall procurement budget is set at about \$72 billion. The Army is set for \$13.8 billion, the Navy/Marine Corps for \$24.9 billion, the Air Force at \$27.3 billion, and \$2.8 billion for defense wide buys. There is also \$3.2 billion in the Defense Emergency Response Fund.
  - Raise the budget for research, development, testing and evaluation to \$53.9 billion in fiscal 2003, up from \$48.4 billion this year. This would continue development of the Joint Strike Fighter and accelerate special operations capability. It also funds the restructured V-22 Osprey program.
  - Increase science and technology funding by a billion dollars to \$9.9 billion, or 2.7 percent of the DoD budget topline. The money would fund Army research in future combat systems, medical technology and other basic research. Navy funds would go to mine warfare and mine countermeasures, undersea systems and basic research. The Air Force would look at directed energy, aircraft propulsion and uses of space.
  - Canceled older programs out of line with the transformation strategy and shift almost \$10 billion to other projects. Cancelled projects include the Navy DD-21 destroyer and Theater Area Missile Defense programs, the Air Force Peacekeeper missile program and 18 Army "legacy" programs. The services will retire some older systems faster, such as older F-14 Tomcats, Vietnam-era UH-1 helicopters and the Navy's Spruance destroyer class.

- Provide \$707 million for the Army's Future Combat System. In addition, the Army would buy 332 interim armored vehicles and 5,631 M-16 rifles. The request budgets \$910.2 million for continued development of the RAH-66 Comanche helicopter
- Fund two DDG-51 Arleigh Burke-class destroyers, a Virginia-class attack submarine, an LPD-17 amphibious transport dock ship and a Lewis and Clark-class auxiliary dry cargo ship. The Navy would also buy 15 MH-60S helicopters, five E-2C Hawkeye aircraft and 44 F/A-18E/F Hornet fighters. The service will also continue with the EA-6B Prowler electronic surveillance and control craft modernization program.
- Fund 12 more C-17 airlifters, one E-8C Joint Surveillance Target Attack Radar System aircraft and 23 F-22 Raptor fighters. The budget also funds modernization programs for the B-2 Spirit bomber, the F-16 fighter-bomber and the F-15E multimission fighter.

### **Other Advances in Tactics and Technology**

The US also seems to be conducting a number of relevant and Afghan-war related efforts in other areas:<sup>xxv</sup>

- Pursue a broad goal of tightening the delay between real-time intelligence gathering and targeting at the shooter platform to no more than 10 minutes.
- Improve relevant central planning and data transfer facilities like the American Joint Analysis Center at RAF Molesworth in Cambridgeshire, England and ensure that the US does not become over-dependent on regional facilities like the Combined Air Operations Center (CAOC) in Saudi Arabia.<sup>xxvi</sup>
- Accelerate the development of systems to detect and characterize biological and chemical weapons and attacks. One particularly promising area for targeting and Middle Eastern operations is the use of unattended ground sensors to provide capabilities that can monitor and characterize activity in various complexes and buildings, and possibly in underground facilities.
- Accelerate the development of sea-based wide area missile defenses, and the selection of a suitable replace to the E-6B electronic warfare aircraft as part of a joint airborne electronics attack program.
- Reexamine the value of weapons like the BLU-82 15,000-pound GSX-jellied slurry bomb in terms of hard target kill and psychological impact and/or re-weaponize fuel-air explosive weapons like the BLU-72.
- Upgrade the communications, display, and munitions systems on B-52 and other US bombers, and US strike fighters, to improve the ability to retarget in mid-flight and retarget and restrike during the same mission.
- Improve some relevant subsystems on the RC-135V Rivet Joint signals intelligence aircraft, and U-2.<sup>xxvii</sup>
- Improve the J-8 JSTARS targeting software.<sup>xxviii</sup>

- Develop advanced targeting pods for existing aircraft, and built-in systems for the Joint Strike Fighter with third generation forward-looking radar sensors and charge-coupled imagers capable of identifying individual weapons at distance.
- Increase dissemination of electronic and IR intelligence systems and other surveillance platforms on various existing airborne platforms such as tankers.
- Replenish stocks of the GPS-guided Joint Direct Attack Munition (JDAM) – the \$18,000 kit used to convert regular bombs into smart weapons. Approximately 4,6000 JDAMs were used out of a total inventory of 10,000 by December 2001. This is roughly 38% of the 12,000 weapons used as of that date.<sup>xxxix</sup>
- Enhance use of the wind corrected munitions system (WMCD) which was used in the Afghan War to dispense combined effects munitions like the CBU-130 (a weapon with some 202 BLU-97/B cluster bombs more accurately).
- Complete development of the sensor fused submunition (SFW) with a smart IR-homing capability for anti-armor and vehicle use and develop improved submunitions with a fail safe option to prevent them from remaining live for extended periods.<sup>xxx</sup>
- Deploy a dedicated Multi-Sensor Command and Control (MC2A) aircraft by 2009 to support advanced closed loop missions, including ones by stealth aircraft like the F-22 and B-2A by 2009.<sup>xxxi</sup>
- Improve three-dimensional mapping and imagery to improve the accuracy of GPS guided weapons and determine the proper angle of attack.<sup>xxxii</sup>
- Begin development of an advanced, next-generation manned or unmanned bomber capable of surviving extremely advanced developmental surface-to-air defenses like the Russian S-400 Triumf (SA-20).
- Revise the defense communications satellite and MILSTAR problem to handle far great communications densities, integrate information systems, and standardize on one set of terminals and downlink communication systems with different echelons of access and security.<sup>xxxiii</sup> Add lasercom data and increase support to small scattered US and allied ground units for secure communications, imagery, and targeting data.
- Improve the integration and user friendliness of NRO and NSA data and systems used to support operations, targeting and ISR.<sup>xxxiv</sup>

The US does, however, face the practical problem of shaping these programs to fully reflect the lessons of Afghanistan, as part of its efforts to develop a coherent approach to force transformation. This is needed not only to redefine missions and war plans, but also to ensure that force transformation does not ignore the war's lessons regarding coalition warfare, interoperability, basing and forward presence requirements, and power projection.

## **Other Lessons and Issues**

There are several other areas where lessons, and important issues, seem to be emerging as to how the US should reshape its forces to fight in the Middle East..

### **The Media and Psyops Battle.**

The Office of the Secretary of Defense feels that it did a much better job of dealing with the media and psychological dimensions of the war in the terms of the reaction of the US and Western media, but that it was slow to focus on the regional media and deal with psychological operations. It is not yet clear how the US can improve its efforts to deal with regional media, and strengthen and modernize its psyops capabilities, but this seems to be a significant lesson and one the Department will act upon over time.

Its creation of an Office of Strategic Influence is a clear first step in this direction, although it is far from clear exactly how this office will interact with the role of the US State Department and activities like the Voice of America, or how it will carry out systematic “information” or propaganda efforts to deal with the US and foreign media and public opinion.<sup>xxxv</sup>

### **US Marine Corps, the Osprey, the AV-8B, and Non-Littoral Warfare**

The US Marine Corps faces a potential crisis over the reliability and cost of the Osprey, the readiness and effectiveness of the AV-8B, and the need to modernize many aspects of its transport helicopter, combat aviation, land systems, and amphibious systems. In spite of the increase in defense spending under the FY2003-FY2007 defense program, it is not clear that the US Marine Corps will get the funding it needs to be able to properly sustain air operations in a major regional contingency like Iraq. Some long overdue force improvements like adding the LITENING 2 infrared targeting pods to the AV-8B will help in some ways – although not necessarily correct range, sustainability, and reliability problems.<sup>xxxvi</sup>

At the same time, its role in Afghanistan raises issues about the need to plan for more non-littoral operations and to create real Special Forces capabilities with language, area, and advisory expertise. The success of US Army special forces, ranger units, and Marine Corps forces in Afghanistan may well show that that the so-called lessons of Task Force Hawk, and the failure to commit US Army light and attack helicopter forces in Kosovo, may not be lessons are all, but rather the result of political decisions and unique training and readiness problems.

Certainly, the US Army's ability to airlift and drop more than 200 rangers and intelligence officers into Taliban controlled territory in Operation Rhino on October 19, 2001 indicates that properly planned assault operations can be very effective.

There seems to be a good case for examining how force transformation, and a shift to longer-range strike and airmobile operations, should affect the future of the Marine Corps. In particular, it is not clear that present programs call for a proper level of modernization in attack helicopter and airmobile forces and for improving their capability to conduct counterterrorism and asymmetric warfare missions –missions that seem likely to be a key aspect of future combat in the Middle East.

### **Carrier Operations, Cheap Cruise Missiles, and Naval Strike Power**

Successful as USN carrier operations were during the fighting in Afghanistan, they were heavily dependent on USAF air assets based in Bahrain, Qatar, the UAE, and Oman. Even during the Gulf War, questions arose about the need for longer-range carrier strike attack aircraft that could carry more weapons, deliver them with maximum accuracy, avoid having to return with munitions loads or dump munitions, and reduce the burden on USAF refueling assets.

The Navy and Marine Corps need to closely examine the real-world performance of the JSF in the light of this history, mission requirements in the Middle East, and possible reductions in the ability to base USAF tankers and other support aircraft forward in their present numbers. This does not seem likely to not mean radical changes in the role of the carrier per se, but it does mean rethinking these aspects of USM and USMC combat air operations and particularly the capabilities and associated systems of the Joint Strike Fighter to see how these aspects of sea-based strike capabilities can be improved over time.

Here, closing the loop in terms of the ability to improve targeting and the Navy and the Marine Corps ability to use airpower to deliver precision guided munitions effectively and with maximum strategic and tactical impact seems to have even more value in carrier than other air operations. There are finite limits to carrier sortie rates both in terms of peak and sustained operations. The fact that three carriers sustained an average of under 70 attack sorties per day during the peak of the Afghan fighting is in some ways an illustration of this point.

So is the fact that the US Navy flew 4,900 of the 6,500 strike sorties flown between October 7 and December 17 2001, or 75% of the total but delivered less than 30% of the

ordnance. Comparisons of fighters to bombers may not be “fair” in terms of airframe-to-airframe comparisons, but the issue is mission capability and not aircraft type.

The fact remains that “antique” B-52s and B-1s flew 10% of the missions from Diego Garcia, but delivered 11,500 of the 17,500 weapons dropped – 65% of all weapons dropped and 89% of all weapons dropped by the USAF. While the bombers dropped the vast majority of the 6,500 500-pound dumb bombs used, they also dropped roughly half of all the guided munitions.<sup>xxxvii</sup> It is far from clear that bombers could operate as easily in a less permissive air defense environment, but the same is equally true of carrier strike aircraft.

The continued delays in replacing the EA-6B, and what may be serious engine life problems, also illustrated the need to rethink carrier strike operations in terms of the ability to deliver Afghan-like persistence over target and survivability in an air environment where nations like Iraq have dense surface-to-air missile assets in some areas and other threats like Iran may acquire systems like the SA-400. The kind of permissive environment that allowed aircraft like the AC-130 near freedom of operations over Afghanistan may not exist in future contingencies in the Middle East.

Making individual sorties more effective is not only the most cost-effective way of dealing with these limitations, it also is the best way of dealing with the complications of a steadily increasing need to reduce civilian casualties and collateral damage, and deal with steadily more complex asymmetric wars.

At the same time, the Afghan War again raises questions about the sheer cost of the cruise missile, and the best way to arm the kind of arsenal ship represented by the DDX. It is one of the ironies of the cruise missile that that the Navy needs more and more long-range strike assets, but that only a relatively few targets merit strike systems that cost nearly \$1 million a round. The Navy seems to have a very high regional priority for cost-engineering some form of cruise missile that comes closer to the cost level of \$200,000 or less than \$1 million or more.

### **The Marine Corps, the LHA-X, LHD-X, the Army, and Maritime Prepositioning**

Amphibious capability and maritime prepositioning may become even more important in the Middle East in the future if the US cannot establish the kind of support for coalition operations in needs from Egypt and the Gulf States. The US also faces a potential legal problem

in terms of the British ability to maintain sovereignty over Diego Garcia. At the same time, as the Army lightens its power projection forces, this raises questions about the future force mix and role of Marine Corps forces, and the extent to which amphibious ships and prepositioning ships should support a given mix of Marine Corps and Army forces.

These are scarcely issues that affect the Middle East alone, but any regional force planning exercise should examine force transformation options for changing the overall mix of Marine Corps and Army land forces, the possibility of standardization on some equipment like LAVs and light artillery, and new mixes of amphibious, and maritime prepositioning capability that could be more effective than the present mix of capabilities in the Mediterranean, Indian Ocean, and the Gulf.

One case in point is the use of the Kitty Hawk to provide a base for Army Special Forces. The Key West agreement defining the present roles and missions of the services has no functional meaning. If Army forces can make better use of Navy platforms than the Marine Corps in any given contingency, they should do so. Conversely, the US should not pay to convert US Army units to light forces where the mission can be performed by a restructured set of Marine Corps forces with the capability to sustain operations for longer periods and heavier equipment. The US force transformation exercises seem to have avoided asking any fundamental questions about the overall Army-Marine Corps force mix. Afghanistan indicates that these questions need to be asked.

### **US Army Legacy and Light Forces and the Future Combat System**

Afghanistan also raises broader questions about the US Army force mix and its suitability and capabilities for future conflicts in the Middle East. While the Afghan War is being used to justify the US Army's effort to transform its present armored and mechanized power projection forces into forces with much lighter armor and artillery and which can be moved and deployed much more rapidly, it is far from clear that the Afghan conflict per se really provides this lesson or that even an increase level of defense spending will allow the US Army to accomplish such a force transformation on a timely basis.

The FY203 budget request does, however, encourage some important programs and cancel others. It calls for procurement of 332 Interim Armored Vehicles (\$935.9 million) and the creation of a new six-brigade force based upon 20-ton wheeled vehicles. One brigade is to

the able to deploy anywhere in the world by C-130 within four days and a four brigade division within 30 days. (Goals that would be more innovative if a somewhat similar force plan had not been discussed within the Army back in 1974).

It will spend \$717 million on the development of a Future Combat System to create a far more advanced rapidly deployable set of Army ground forces – evidently to be deployed at some point well beyond 2010. Other improvements will occur in medium tactical vehicles, although the experience in Afghanistan indicates that most of the 3,574 may be too heavy, too large, and lack the needed all terrain mobility. Improvements will be made of the AH-64A/D attack helicopters.

At the same time, the endless “development” of the Comanche continues, and the Army will still spend a great deal on older, heavy, legacy systems.<sup>xxxviii</sup> The Army is also canceling some 18 programs during FY2003-FY2006 because it says they do not fit into the future objective force.<sup>xxxix</sup> Some are heavy systems unrelated to the need for more effective light forces demonstrated in Afghanistan. About half, however, are light systems or programs like the Battlefield Combat Identification System that do seem to mesh with the lessons of the conflict. The end result is that that Army may well focus on a e Future Combat System that is desirable, but far too far in the future in terms of actual deployment while not fund the mix of interim systems it will need over the next decade.

### **Special Forces, Rangers, and Light Army Forces**

In contrast, the success of the US Army 10<sup>th</sup> Mountain Division, US Army special forces and ranger units in Afghanistan illustrate that the so-called lessons of Task Force Hawk, and the failure to commit US Army light and attack helicopter forces in Kosovo, may not be lessons are all for future combat in the Middle East. Certainly, the US Army’s ability to airlift and drop more than 200 rangers and intelligence officers into Taliban controlled territory in Operation Rhino on October 19, 2001 indicates that properly planned operations can be very effective. The same is true of the success of much larger US ground forces in the fighting around Shah e-kot and Gardez in March 2002.

There seems to be a good case for examining the expansion of special and ranger forces, modernizing their equipment, and tailoring attack helicopter and airmobile forces for counterterrorism and asymmetric warfare missions. As part of this examination, there seems to

be an equal case for reexamining the role that CIA operations should play and the interface between the CIA and Special Forces.

The same is true of how Special Forces are commanded and integrated into policy. At present, there seems to be a gap between the service commands, military command of SOF, role of the civilians in SOLIC, and the policy offices under the Secretary. In practice, it is clear that Special Forces are primarily a tool for joint warfare, but the issue of exactly who is in charge at the top is one that needs to be resolved in way that put some one clearly in charge. The last thing on earth Special Forces need is either an overcomplicated chain of command or one that is over-politicized.

## **Giving New Priority to Offensive and Defensive Counterproliferation**

President Bush may have used uniquely awkward language including Iran and Iraq in an “evil axis,” but a poor choice of words does not mean that proliferation will not pose a growing challenge to US Navy and Marine Corps operations in the Middle East. Iran, Iraq, Israel, and Syria are major proliferators. Algeria, Libya, Egypt, and the Sudan are proliferators to a less degree.

### **The Changing CBRN Threat**

The US still has not resolved the source of the Anthrax attacks that followed the attacks on the World Trade Center and the Pentagon. This raises the prospect that states or other terrorists may piggyback on a conflict in unpredictable ways and that future opponents may see a counterterrorism campaign or asymmetric war as a window of opportunity in terms of US vulnerability and confusion, rather than as a deterrent.

It is now clear that Al Qaida had a major effort underway to examine chemical and biological weapons and was examining nuclear terrorism in terms of attacks on power plants, radiological weapons, and crude nuclear devices. At least one Indian general drew the lesson from the Gulf War that, “No one should go to war with the US without nuclear weapons.” It is equally possible that terrorists will draw the lesson that if they can only launch one major series of attacks, they should not do so without CBRN weapons.

Middle Eastern states, on the other hand, may learn both lessons. They may see the value of giving proxies aid in developing CBRN weapons and they may see acquiring CBRN weapons

as a key deterrent to US action in asymmetric wars. They may also see that the ability to launch on warning or under attack against US allies and friends, or targets in the US homeland, will either deter the US or force it to limit its range of attacks and goals in war.

### **The Limits of Arms Controls and Export Controls**

This raises major new questions about the future of arms control and the value of existing arms control agreements. It also raises questions about the growing ability of Middle Eastern states and terrorist groups to conduct anonymous attacks with highly lethal or costly CBRN weapons like biological weapons. This not only raises the specter that one lesson of Afghanistan is that future opponents should use smallpox, or its equivalent, it raises the specter of how the US would deal with anonymous attacks on its economy with the equivalent of the hoof and mouth outbreak in Britain or the swine fever outbreak in Taiwan.

The discovery of a large-scale Al Qaida effort to develop CBRN weapons – as well as ongoing proliferation in nations like Iran, Iraq, and North Korea – illustrates the steadily growing importance of offensive counterproliferation capabilities as well as defense. The threat of biological warfare is particularly serious, and the US and its allies needs to rethink internal security planning, public health, response, and defense efforts to deal with the broad range of CBRN threats. The treatment of hoof and mouth disease and “mad cow” disease is almost a model of how not to deal with such cooperation, and a warning of how much more effort is needed.

Iraq is the main nation-state proliferator in the region and one that illustrates several aspects of the evolving threat. It has shown it will take acute risks in escalating without warning, and will actually use weapons of mass destruction. It set up a crude launch on warning (LOW)/launch under attack (LUA) during the Gulf War. It converted a civilian pharmaceutical plant to the mass production of Anthrax weapons in a matter of months. It concealed many aspects of its CBRN and missile activities while UNSCOM inspectors have relatively freedom of action, and it now has had sufficient time to hide and disperse its activities in ways that virtually ensure no future inspection effort can be reliable or successful.

Much of the debate over the CW, ABM Treaty, BWC, and CTTBT has avoided coming to grips in detail with the threat of asymmetric attacks and terrorism, and has a heritage of focusing on large-scale conventional war fighting. The same has been true of export controls. A

joint effort at comprehensive review of how to change arms control agreements and export controls -- looking at the CBRN and advanced technology threat as a whole -- is needed to develop a more effective common strategy. While this is a global problem, the US also faces the reality that it can only be solved one proliferator at a time and most of the proliferators are in the Middle East.

### **The Need for a New Type of US Military Response**

The US must find ways to deal with these challenges in the Middle East that recognize the new threat, the need for new military options, and the need to blend conventional options with the kind of extended theater nuclear deterrence implicit in the new US nuclear military strategy set forth in the Nuclear Posture Review.

Proliferation does not challenge any given service more than others, and counterproliferation is inherently a joint mission. All of the US military services in the Middle East must give deterring, countering, defending against, and responding to the threat of CBRN weapon a high and a joint priority. As has been touched upon earlier, however, there are some areas like naval-based theater wide ballistic missile defense where the Navy may well be able to provide unique capabilities. There are other areas where the Navy and Marine Corps may have unique vulnerabilities. The unique vulnerability of ships to terrorist attacks using biological warfare has been recognized since the early days of the post WWII bio-weapons effort.

Several challenges are clear. The US military services, and our allies cannot plan on having the initiative. They must plan for risks like first strikes, launch on warning, and launch under attack. They cannot count on declarations of war, or even always knowing which enemy is responsible. The method of attack may not be easy to characterize, Unconventional delivery systems may be used as often as missiles.

Mixes or "cocktails" of biological agents may be very difficult to characterize and treat. Defense and force protection must be based on the full range of direct and asymmetric threats, and the US Navy and Marine Corps must begin now to face the challenge of advantages in biotechnology and genetic engineering that may radically alter the ease and lethality of using biological weapons in a region where so many countries have or are seeking to acquire such weapons.

Improved targeting, real-time intelligence, attack characterization and battle damage assessment pose ongoing challenges in conventional warfare. They are much greater challenges where CBRN weapons are involved. CBRN facilities, stockpiles, units, and delivery system must be attacked with a different level of intensity, in way that minimize the risk of secondary effects, and with far greater ability to assess damage and manage restrikes than conventional military targets.

The Navy may also have to play a role in regional response to attacks on ports and land facilities. Rapid sea-based medical and emergency response may sometimes be the only way of deploying the scale of facilities needs and containing biological threats. At the same time, being able to detect the presence of CBRN weapons on ships and in the hands of potential terrorists poses another kind of challenge in terms of protecting allied ships and inspecting ship movements. Homeland defense is not a luxury we can restrict to ourselves, It is a necessity where we must be able to help our allies.

## **Refining, not Reinventing, the Wheel**

US military planners have long recognized most of these challenges in some form. They have already begun to address virtually all of the issues and options addressed in this paper. There is no need to react to the challenges in the Middle East address by reinventing the wheel. US military forces must, however, “refine the wheel,” and tailor their planning, procurement, and operations to the evolving challenges in the region and its changing strategic priorities.

In this regard, the political complications of dealing with the new emphasis on terrorism and asymmetric warfare reinforce a lesson of seapower that is as old as history. The political, economic, and diplomatic dimensions of seapower are always as important in the long run as the military dimension may be in the short run. Seapower is a critical element of grand strategy in the broadest sense of the term, and this is even more true in a world that mixes steadily growing global economic interdependence with so many regional threats and tensions. It is always tempting to think of seapower largely in narrow war fighting terms, but the evolving challenges in the Middle East are yet another reason why such an approach is also a good way to snatch defeat out of the jaws of victory. Worse, if it means military unilateralism at the expense of partnership, it may be a powerful factor in turning alliance into alienation.

---

<sup>i</sup> For a short unclassified overview, see “What’s become of Al-Qaeda,” Time, January 21, 2002, pp, 18-22.

<sup>ii</sup> Sunday Telegraph, January 13, 2002, p. 17.

<sup>iii</sup> See Laura Kind, “A Civilian Toll in Afghan War Likely Lower,” Philadelphia Inquirer, February 12, 2002, p. 1. The AP estimate of civilian deaths includes 70 in Kabul, 81 in Khandahar, 55 in Jalalabad, 10 in Mazar e-Sharif, 18 in Herat, 25 around Spin Boldak, 55 in Karam, and 167 in the Tora Bora region (155 in Kama, 5 in Agom, and 7 in Pacair). Also see Barry Bearak, “Uncertain Toll in the Fog of War,” New York Times, February 10, 2002, P. A-1.

<sup>iv</sup> For a detailed description of the real world problems encountered on the ground, see Dana Priest, “In War, Mud Huts and Hard Calls,” Washington Post, February 20, 2002, pp. A-1 and A-8.

<sup>v</sup> The counts of total weapons used at given periods are approximate. General Franks referred to 18,000-19,000 in his testimony to the Senate Armed Services on February 5, 2002. <http://www.centcom.mil/news/transcripts/General%20Franks%20Testimony%205Feb02.htm>.

<sup>vi</sup> Chicago Tribune, February 6, 2002.

<sup>vii</sup> General Tommy Franks testimony to the Senate Armed Services on February 5, 2002. <http://www.centcom.mil/news/transcripts/General%20Franks%20Testimony%205Feb02.htm>; Bryan Bender, Kim Burger, and Andrew Koch, Afghanistan: First Lessons, Jane’s Defense Weekly, December 19, 2001, p. 20; New York Times, February 8, 2002, p. A-14, and Philadelphia Inquirer, February 12, 2002, p. 1.

<sup>viii</sup> For a more detailed assessment of these points and why the air environment in Afghanistan may not be relevant to fighting against countries like Iran, Iraq, and North Korea, see the presentation of General Hal Hornburg, commander of the Air Combat Command, and General Gregory Martin, commander of USAFE, before the Air Force Association Conference in Orlando Florida, as reported in Bloomberg.com, February 20, 2002.

---

<sup>ix</sup> For a good preliminary analysis of these lessons of war, see Bryan Bender, Kim Burger, and Andrew Koch, Afghanistan: First Lessons, Jane's Defense Weekly, December 19, 2001, pp. 18-21.

<sup>x</sup> Aerospace Daily, February 20, 2002; General Tommy Franks testimony to the Senate Armed Services on February 5, 2002.  
<http://www.centcom.mil/news/transcripts/General%20Franks%20Testimony%205Feb02.htm>.

<sup>xi</sup> Aerospace Daily, February 20, 2002; General Tommy Franks testimony to the Senate Armed Services on February 5, 2002.  
<http://www.centcom.mil/news/transcripts/General%20Franks%20Testimony%205Feb02.htm>.

<sup>xii</sup> Boston Globe, February 6, 2002, p. 10.

<sup>xiii</sup> Dana Priest, "In War, Mud Huts and Hard Calls," Washington Post, February 20, 2002, pp. A-1 and A-8

<sup>xiv</sup> Defense News, February 11-17, 2002, p. 8.

<sup>xv</sup> Defense News, February 11-17, 2002, p. 8.

<sup>xvi</sup> Aerospace Daily, February 20, 2002; General Tommy Franks testimony to the Senate Armed Services on February 5, 2002.  
<http://www.centcom.mil/news/transcripts/General%20Franks%20Testimony%205Feb02.htm>.

<sup>xvii</sup> Washington Post, February 16, 2002, p. A-27.

<sup>xviii</sup> For broader update on ISR and digital warfare, see Vernon Loeb and Thomas E. Ricks, "Is and Os Replacing Bullets in the US Arsenal," Washington Post, February 2, 2002, p. A-1.

<sup>xix</sup> Defense News, January 14-20, pp. 3, 28; Inside the Pentagon, January 31, 2001, p. 1.

<sup>xx</sup> See Kim Burger, and Andrew Koch, "Afghanistan: the Key Lessons," Jane's Defense Weekly, January 2, 2001, pp. 20-27.

<sup>xxi</sup> Financial Times, January 21, 2002, p. 15.

<sup>xxii</sup> Jane's Defense Weekly, January 2, 2001, p. 23

<sup>xxiii</sup> Jane's Defense Weekly, January 2, 2001, pp 22-23.

---

<sup>xxiv</sup> Defense News, February 11-17, p. 3., pp. 3

<sup>xxv</sup> For a broader summary of US force transformation activity, see Hans Binnendijk and Richard Kugler, “Adapting Forces to a New Era: Ten Transforming Concepts,” Defense Horizons, Number 5, Center for Technology and National Security Policy, National Defense University, November 2001,

<sup>xxvi</sup> London Times, January 23, 2002; Los Angeles Times, February 10, 2002.

<sup>xxvii</sup> Jane’s Defense Weekly, January 2, 2001, pp. 20-27.

<sup>xxviii</sup> Jane’s Defense Weekly, January 2, 2001, pp. 20-27.

<sup>xxix</sup> Bloomberg.com, January 22, 2002; Los Angeles Times, January 21, 2002, p. 1.

<sup>xxx</sup> Los Angeles Times, January 21, 2002, p. 1.

<sup>xxxi</sup> Jane’s Defense Weekly, January 2, 2001, pp. 20-27.

<sup>xxxii</sup> Defense News, February 11-17, 2002, p. 28.

<sup>xxxiii</sup> Aviation Week and Space Technology, January 21, 2002, p. 27.

<sup>xxxiv</sup> Aviation Week and Space Technology, January 21, 2002, p. 27.

<sup>xxxv</sup> Inside the Pentagon, February 12, 2002, p. 1; Washington Times, February 21, 2002, p. 4; Washington Post, February 21, 2002, p. 15; New York Times, February 21, 2002, p. 1..

<sup>xxxvi</sup> Defense News, February 18-24, 2002, p. 26.

<sup>xxxvii</sup> Los Angeles Times, February 10, 2002; General Tommy Franks testimony to the Senate Armed Services on February 5, 2002.  
<http://www.centcom.mil/news/transcripts/General%20Franks%20Testimony%205Feb02.htm>.

<sup>xxxviii</sup> Defense News, February 11-17, 2002, p. 28.

<sup>xxxix</sup> Defense News, February 18-24, 2002, p. 6,