

Global Threats and Challenges Through 2015

**Vice Admiral Thomas R. Wilson
Director, Defense Intelligence Agency**



**Statement for the Record
Senate Armed Services Committee
8 March 2001**

The Emerging Global Security Environment

“What’s past is prologue” Shakespeare wrote. Those words have relevance today with respect to the recent and future global security environment. The 1990s were a time of transition and turmoil as familiar Cold War issues, precepts, structures, and strategies gave way to new security paradigms and problems. That transition continues, with the end nowhere in sight. In fact, I expect the next 10 to 15 years to be at least as turbulent, if not more so. The basic forces bringing stress and change to the international order – some of them outlined below – will remain largely at work, and no power, circumstance, or condition is likely to emerge capable of overcoming these and creating a more stable global environment.

Globalization – defined here as the increasing (and increasingly less restricted) flow of money, people, information, technology, ideas, etc. throughout the world – remains an important, and perhaps even the dominant, influence. Globalization is generally a positive force that will leave most of the world’s people better off. But in some ways, globalization will exacerbate local and regional tensions, increase the prospects and capabilities for conflict, and empower those who would do us harm. For instance, the globalization of technology and information – especially regarding weapons of mass destruction (WMD) and advanced conventional weapons – will increasingly accord smaller states, groups, and individuals destructive capabilities previously limited to major world powers. Encouraging and consolidating the positive aspects of globalization, while managing and containing its ‘downsides,’ will be a continuing challenge.

Globalization is independent of any national policy and can weaken the power of governments to control events within and beyond their borders. Nevertheless, many individuals, groups, and states equate globalization to ‘Americanization’ ... that is, the expansion, consolidation, and perceived dominance of US power, values, ideals, culture, and institutions. This dynamic –

in which the US is seen as both a principal proponent for and key benefactor of globalization – and the global reaction to it, will underpin many of the security challenges we face during the first two decades of the 21st century.

Not everyone shares our particular view of the future and ***disaffected states, groups, and individuals*** will remain an important factor and a key challenge for US policy.

- Some (e.g. Iran, various terrorists, and other criminal groups) simply reject or fear our values and goals. They will continue to exploit certain aspects of globalization, even as they try to fend off some of its consequences (like openness and increased global connectivity). They will frequently engage in violence – targeting our policies, facilities, interests, and personnel – to advance their interests and undermine ours.
- Others, either unable or unwilling to share in the benefits of globalization, will face deepening economic stagnation, political instability, and cultural alienation. These conditions will create fertile ground for political, ethnic, ideological, and religious extremism. For many of those ‘left behind,’ the US will be viewed as a primary source of their troubles and a primary target of their frustration.
- Still others will, at times, simply resent (or be envious of) US power and perceived hegemony, and will engage in ‘milder’ forms of anti-US rhetoric and behavior. As a consequence, we are likely to confront temporary anti-US ‘coalitions’ organized or spontaneously forming to combat or rally against a specific US policy initiative or action.

Global demographic trends remain a factor. World population will increase by more than a billion by 2015, with 95 percent of that growth occurring in the developing world. Meanwhile developing-world urbanization will continue, with some 20-30 million of the world’s poorest people migrating to urban areas each year. These trends will have profound implications that will vary by country and region. Poorer states, or those with weak governance, will experience

additional strains on their resources, infrastructures, and leadership. Many will struggle to cope, some will undoubtedly fail. At the same time, some advanced and emerging market states – including key European and Asian allies – will be forced to reexamine longstanding political, social, and cultural precepts as they attempt to overcome the challenges of rapidly aging populations and declining workforce cohorts. In these and other cases, demographic pressures will remain a potential source of stress and instability.

Rapid technology development and proliferation – particularly with respect to information, processing, and communications technologies, biotechnology, advanced materials and manufacturing, and weapons (especially weapons of mass destruction) – will continue to have a profound impact on the way people live, think, work, organize, and fight. The globalization of technology, the integration and fusion of various technological advancements, and unanticipated applications of emerging technologies, make it difficult to predict the technological future. Regarding military technology, two other trends – constrained global defense spending, and the changing global armaments industry – will affect the nature of future conflict.

- Global defense spending dropped some 50% during the past decade and, with the exception of Asia, is likely to remain limited for some time to come. This trend will continue to have multiple impacts. First, both adversaries and allies are not likely to keep pace with the US military (despite our own spending limitations). This will continue to spur foes toward asymmetric options, widen the capability gap between US and allied forces, reduce the number of allied redundant systems, and increase the demand on unique US force capabilities. Additional, longer-term impacts – on global defense technology development and proliferation, and on US-allied defense industrial consolidation, cooperation, and technological competitiveness – are likely, though difficult to foresee.
- Limited defense budgets, declining arms markets, and the globalization of technology are leading to a more competitive global armaments industry. In

this environment, with many states attempting to diversify either export markets or sources of arms, technology transfer restrictions and arms embargoes will be more difficult to maintain. Military technology diffusion is a certainty. Advantages will accrue to states with strong commercial technology sectors, the 'adaptiveness' to successfully link civilian technologies to defense programs, and the foresight to accurately anticipate future warfare requirements. China is one state that meets these criteria, and pursues an aggressive, systematic, comprehensive, and well-integrated technology acquisition strategy.

- While the US will remain in the vanguard of technological prowess, some aspects of our general military-technological advantage are likely to erode, and some technological surprises will undoubtedly occur. But we cannot be very specific about which technologies will 'show up' ... in what quantities ... in the hands of which adversaries ... or how those technologies may be applied in innovative ways.

The complex integration of these factors with other 'second and third order' trends and consequences – including the frequency, intensity, and brutality of ethnic conflict, local resource shortages, natural disasters, epidemics, mass migrations, and limited global response capabilities – portend an extremely dynamic, complex, and uncertain global future. Consider for instance the significant doubts we face today concerning the likely directions of Russia, China, Europe, the Middle East, and the Korean peninsula. Developments in each of these key states and regions will go a long way toward defining the 21st century security environment, but outcomes are simply too tough to call. This complexity humbles those of us charged with making judgments about the future and makes specific 'point-projections' of the future threat less meaningful. It is perhaps more useful for us to identify some of the more troubling potential circumstances, and broadly define the kinds of challenges we are most likely to encounter.

Key Near Term Concerns

While specific threats are impossible to predict, and new threats and challenges can arise almost without warning in today's environment, over the next 12-24 months, I am most concerned about the following potential situations.

- **A major terrorist** attack against United States interests, either here or abroad, perhaps with a weapon designed to produce mass casualties. Terrorism remains the 'asymmetric approach of choice' and many terrorist groups have both the capability and desire to harm us. Terrorism is the most likely direct threat to US interests worldwide. I will discuss the terrorist threat in more detail a little later on.
- **Worsening conditions in the Middle East.** An expansion of Israeli-Palestinian violence and the complete collapse of the Middle East peace process would have numerous troubling implications:
 - An increased risk of anti-American violence – particularly terrorism.
 - An increased risk of a wider regional conflict.
 - Intensified Iraqi efforts to exploit the conflict to gain relief from sanctions.
 - An increased chance that Iraq will be successful in gaining widespread support for lifting UN sanctions ... a development that would likely strain our relations with regional and European allies, allow Iraq to rearm more rapidly, and ultimately, threaten the foundation of our Middle Eastern policy.
- **Dramatic changes on the Korean peninsula** ... either a breakdown in rapprochement and a return to an increased threat of war, or, less likely, an accelerated move toward reunification whose impact catches regional powers unprepared.
- **An expanded military conflict between India and Pakistan over Kashmir** ... with the potential for a nuclear exchange. Both sides operate from 'zero-sum perspectives,' retain large forces, in close proximity, across a tense line of control. The potential for mistake and miscalculation remains relatively

high. Meanwhile, both continue to pursue a wide range of WMD and missile programs.

- ***Intensifying disagreements with Russia*** (over National Missile Defense, the ABM Treaty, European security issues, etc.) spurred by President Putin's more assertive and potentially confrontational foreign policy.
- ***Increased anti-American violence and regional instability*** as Colombian insurgents and drug traffickers react to the implementation of Plan Colombia.
- ***Another outbreak of violence in the Balkans*** ... between Belgrade and Montenegro and/or Belgrade and Kosovo ... as these smaller territories continue their demands for increased autonomy or independence.
- ***Conflict between China and Taiwan*** ... resulting from increased pressure by Beijing for reunification or a more assertive stance from Taiwan on independence.

Longer-Term Threats and Challenges

Beyond these immediate concerns, I have a long list of more enduring potential threats and challenges. Some of these are in the category of 'the cost of doing business' in that they are generally a consequence of our unique power and position and will exist so long as we remain globally engaged. Others are more a reflection of the complex mix of political, social, economic, technological, and military conditions that characterize today's world. Still others reflect more direct anti-American sentiments held by various nations, groups, and individuals. While none of these individual challenges is as directly threatening to the US as the Soviet Union was during the Cold War, collectively they form a significant barrier to our goals for the future.

Engagement challenges

So long as the global security environment remains turbulent and the US retains (and remains willing to exercise) unique leadership and response capabilities, we will likely experience a high demand for military, diplomatic, and intelligence engagement. Global turbulence could spawn a spectrum of potential

conflict ranging from larger-scale combat contingencies, through containment deployments, peace operations, and humanitarian relief operations. Such wide-ranging contingencies would pose diverse challenges for our defense and intelligence services.

First, 'engagement contingencies' will generally occur toward the lower end of the conflict spectrum, in less-developed nations. As a consequence, they will frequently require our forces to operate in challenging 'asymmetric environments' (urban centers, or remote, austere, or otherwise underdeveloped areas with limited infrastructures, inadequate health and sanitation facilities, high levels of industrial or other toxic contamination, etc.). These environments will present unique deployment, operational, intelligence, and logistical problems that may limit many of our 'information age' force advantages. Similarly, such contingencies will, more often than not, pit us against adversaries who are likely to employ a variety of asymmetric approaches to offset our general military superiority. (I will address some of these in the following section).

Another consequence of high levels of peacetime engagement is increased operations (and personnel) tempo (OPTEMPO) for both our military and intelligence services. High OPTEMPO strains equipment, resources, and personnel, reduces time for 'normal' activities such as training, education & maintenance, disrupts personnel and unit rotation cycles, and stresses personnel. These impacts are cumulative, worsening over time. Speaking strictly from the intelligence perspective, I was very concerned during the recent Kosovo campaign that we would have had a tough time supporting another major crisis, should one have arisen. Additionally, as a manager of intelligence resources, I remain concerned that our intelligence capability is being stretched 'a mile wide and an inch deep.' Prioritizing our efforts against the most important threats ... maintaining focus on those ... doing the research, data base maintenance, and long term analytic projects required to maintain our analytic

depth ... and generally being proactive instead of reactive ... are all more difficult to do in a high tempo security environment.

Finally, high levels of peacetime engagement can limit our flexibility and extend our response times because committed forces, personnel, and resources are not easily extracted and readily available for new contingencies. In fact, it may be that on a daily basis, our simultaneous involvement in 'many lesser crises' equates to a 'major theater war' contingency ... in terms of our available resources and capabilities.

Asymmetric challenges

Our future opponents – from states to drug lords – are likely to be smart and adaptive. Recognizing our general military superiority, they will avoid engaging 'on our terms,' opting instead to pursue strategies designed to render our military power indecisive or irrelevant to their operations and objectives. They will make the effort (intelligence work) to understand how we think, organize, command, and operate ... will attempt to identify our strengths, weaknesses, and potential vulnerabilities ... and will pursue a variety of generally lower-cost operational and technological initiatives which they hope will achieve disproportionate (especially psychological) results. They seek capabilities that we are either unwilling or unable to counter, thereby either denying our leadership the 'military option,' or forcing us to 'disengage' before they are defeated. At the worst, asymmetric approaches threaten to undermine the 'full spectrum dominance' envisioned in our Joint Vision 2020 concept.

While specific adversaries, objectives, targets, and means of attack will vary widely from situation to situation, I think most asymmetric approaches will fit generally into five broad, overlapping categories:

- **Counter will** ... designed to make us 'not come, or go home early' ... by severing the 'continuity of will' between the US national leadership, the military, the people, our allied and coalition partners, and world public opinion.

- **Counter access** ... designed to deny US (allied) forces easy access to key theaters, ports, bases, facilities, air, land, and sea approaches, etc.
- **Counter precision engagement** ... designed to defeat or degrade US precision intelligence and attack capabilities.
- **Counter protection** ... designed to increase US (allied) casualties and, in some cases, directly threaten the US homeland.
- **Counter information** ... designed to prevent us from attaining information and decision superiority.

Beyond these broader generalizations, I have highlighted below several types of asymmetric approaches we are most likely to encounter during the next 10-15 years.

Terrorism. Terrorism remains the most significant asymmetric threat to our interests at home and abroad. This threat will grow as disgruntled groups and individuals focus on America as the source of their troubles. Most anti-US terrorism will be regional and based on perceived racial, ethnic or religious grievances. Terrorism will tend to occur in urban centers, often capitals. Our overseas military presence and our military's status as a symbol of US power, interests, and influence can make it a target. However, in many cases, increased security at US military and diplomatic facilities will drive terrorists to attack 'softer' targets such as private citizens or commercial interests. The characteristics of the most effective terrorist organizations – highly compartmented operations planning, good cover and security, extreme suspicion of outsiders, and ruthlessness – make them very difficult intelligence targets. Middle East-based terrorist groups will remain the most important threat, but our citizens, facilities, and interests will be targeted worldwide. State sponsors (primarily Iran) and individuals with the financial means (such as Usama bin Ladin) will continue to provide much of the economic and technological support needed by terrorists. A move toward 'higher-casualty attacks' is predictable as globalization provides

terrorists access to more destructive conventional weapons technologies and WMD.

Information Operations. Information operations can involve many components including electronic warfare, psychological operations, physical attack, denial and deception, computer network attack, and the use of more exotic technologies such as directed energy weapons or electromagnetic pulse weapons. Adversaries recognize our civilian and military reliance on advanced information technologies and systems, and understand that information superiority provides the US unique capability advantages. Many also assess that the real center of gravity for US military actions is US public opinion. Accordingly, numerous potential foes are pursuing information operations capabilities as relatively low cost means to undermine domestic and international support for US actions, to attack key parts of the US national infrastructure, or to preclude (or make more difficult) our attainment of information superiority. The threat from information operations will grow significantly during the next decade or so.

- Computer network operations, for instance, offer new options for attacking the United States ... potentially anonymously and with selective (including non-lethal) effects. Attacks can be focused against our traditional continental sanctuary, or designed to slow or disrupt the mobilization, deployment, combat operations, and resupply of US military forces. Software tools for network intrusion and disruption are becoming globally available over the Internet, providing almost any interested US adversary a basic computer network (cyber) exploitation or attack capability. To date, however, the skills and effort needed for adversaries to use tools and technology effectively – such as intensive reconnaissance of US target networks, for example – remain important limits on foreign cyber attack capabilities.

WMD and Missile Proliferation. Many potential adversaries believe they can preclude US force options and offset US conventional military superiority by

developing WMD and missiles. Others are motivated more by regional threat perceptions. In either case, the pressure to acquire WMD and missiles is high, and, unfortunately, globalization creates an environment more amenable to proliferation activities. Some 25 countries now possess – or are in the process of acquiring and developing – WMD or missiles. Meanwhile, a variety of non-state actors are showing increasing interest. New alliances have formed, providing pooled resources for developing these capabilities, while technological advances and global economic conditions have made it easier to transfer materiel and expertise. The basic sciences necessary to produce these weapons are widely understood. Most of the technology is readily available, and the raw materials are common. All told, the global WMD/missile threat to US and allied territory, interests, forces, and facilities will increase significantly.

- Russia, China, and North Korea remain the ‘WMD and missile’ suppliers of primary concern. Russia, for instance, has exported ballistic missile and nuclear technology to Iran ... China has provided missile and other assistance to Iran and Pakistan ... and North Korea remains a key source for ballistic missiles and related components and materials. Over time, as other nations (such as Iran) acquire more advanced capabilities, they too are likely to become important proliferators.
- Several states of concern – particularly Iran and Iraq – could acquire nuclear weapons during the next decade or so, and some existing nuclear states – India and Pakistan, for instance – will undoubtedly increase their inventories.
- Chemical and biological weapons are generally easier to develop, hide, and deploy than nuclear weapons and will be readily available to those with the will and resources to attain them. More than two dozen states or non-state groups either have, or have an interest in acquiring, chemical weapons, and there are a dozen countries believed to have biological warfare programs. I expect chemical and biological weapons to be widely proliferated, and they could well be used in a regional conflict or terrorist attack over the next 15 years.

- The potential development/acquisition of intercontinental missiles by several states of concern – especially North Korea, Iran, and Iraq – could fundamentally alter the strategic threat. Meanwhile, longer-range theater (up to 3,000 km) ballistic and cruise missile technology proliferation is a growing challenge. The numbers of these systems will increase significantly during the next 15 years. So too will their accuracy and destructive impact.

The Foreign Intelligence Threat. Adversaries hoping to employ asymmetric approaches against the United States need detailed intelligence on US decision-making, operational concepts, capabilities, shortcomings, and vulnerabilities. Consequently, we continue to face extensive intelligence threats from a large number of foreign nations and sub-national entities including terrorists, international criminal organizations, foreign commercial enterprises, and other disgruntled groups and individuals. These intelligence efforts are generally targeted against our national security policy-making apparatus, national infrastructure, military plans, personnel, and capabilities, and our critical technologies. While foreign states – particularly Russia and China – present the biggest intelligence threat, all our adversaries are likely to exploit technological advances to expand their collection activities. Moreover, the open nature of our society, and increasing ease with which money, technology, information, and people move around the globe in the modern era, make effective counterintelligence and security that much more complex and difficult to achieve.

Cover, Concealment, Camouflage, Denial and Deception (C3D2). Many potential adversaries – nations, groups, and individuals – are undertaking more and increasingly sophisticated C3D2 operations against the United States. These efforts are generally designed to hide key activities, facilities, and capabilities (e.g. mobilization or attack preparations, WMD programs, advanced weapons systems developments, treaty noncompliance, etc.) from US intelligence, to manipulate US perceptions and assessments of those programs, and to protect key capabilities from US precision strike platforms. Foreign

knowledge of US intelligence and military operations capabilities is essential to effective C3D2. Advances in satellite warning capabilities, the growing availability of camouflage, concealment, deception, and obscurant materials, advanced technology for and experience with building underground facilities, and the growing use of fiber optics and encryption, will increase the C3D2 challenge.

Counter-Space Capabilities. The US reliance on (and advantages in) the use of space platforms is well known by our potential adversaries. Many are attempting to reduce this advantage by developing capabilities to threaten US space assets, in particular through denial and deception, signal jamming, and ground segment attack. A number of countries are interested in or experimenting with a variety of technologies that could be used to develop counter-space capabilities. These efforts could result in improved systems for space object tracking, electronic warfare or jamming, and directed energy weapons. China and Russia have across-the board programs underway, and other smaller states and non-state entities are pursuing more limited – though potentially effective – approaches. By 2015, future adversaries will be able to employ a wide variety of means to disrupt, degrade, or defeat portions of the US space support system.

Threats to Critical Infrastructure. Many adversaries believe the best way to avoid, deter, or offset US military superiority is to develop a capability to threaten the US homeland. In addition to more traditional strategic nuclear threats (discussed below), our national infrastructure is vulnerable to disruptions by other forms of physical and computer attack. The interdependent nature of the infrastructure creates even more of a vulnerability. Foreign states have the greatest attack potential (in terms of resources and capabilities), but the most immediate and serious threat today is from insiders, terrorists, criminals, and other small groups or individuals carrying out well-coordinated strikes against selected critical nodes.

Criminal Challenges

International criminal activity of all kinds will continue to plague US interests. I am very concerned about the growing sophistication of criminal groups and individuals and their increasing potential to exploit certain aspects of globalization for their own gain. The potential for such groups to usurp power, or undermine social and economic stability is likely to increase.

- International drug cultivation, production, transport, and use will remain a major problem. The connection between drug cartels, corruption, and outright insurgency will likely increase (witness Colombia) as drug money provides an important funding source for all types of criminal and anti-government activity. Emerging democracies and economically strapped states will be particularly susceptible. The drug trade will continue to produce tensions between and among drug producing, transport, and user nations.
- I am also increasingly concerned about other forms of international criminal activity – for instance, ‘cyber-criminals’ who attempt to exploit the electronic underpinnings of the global financial, commercial, and capital market systems, and nationally based ‘mafia’ groups who seek to undermine legitimate governments in states like Russia and Nigeria. Globally, criminal cartels are becoming more sophisticated at exploiting technology, developing or taking control of legitimate commercial activities, and seeking to directly influence – through infiltration, manipulation, and bribery – local, state, and national governments, legitimate transnational organizations, and businesses. Increased cooperation between independent criminal elements, including terrorist organizations, is likely. Greater interaction among the US military, the Intelligence Community, and other federal agencies will be required to counter this growing threat.

Strategic challenges

Beyond the asymmetric and infrastructure threats to our homeland outlined above, we will continue to face an array of more traditional, albeit evolving,

strategic threats. Under virtually any circumstance short of state failure, Russia will maintain a viable strategic nuclear force. Moscow has begun deployment of the new SS-27 ICBM and has upgrades to this missile and several other systems under development. While strategic forces retain their priority, they have not been immune to the problems affecting the rest of the Russian military. System aging, chronic underfunding, and arms control agreements ensure that Russian strategic warhead totals will continue to decline – from some 5,000 today to a future force perhaps under 1,500 warheads (depending on arms control treaties, decisions we make about missile defense, the state of the Russian economy, Russian perceptions of other strategic threats, etc).

At the same time, for at least the next decade or so, Moscow will rely increasingly on nuclear weapons to compensate for its diminished conventional capability. This policy – published in the October 1999 Russian Military Doctrine statement and reiterated in January and April 2000 – lowers the theoretical threshold for Russian use of nuclear weapons. One additional concern, which will remain with us so long as Russia remains in some turmoil, is the potential for a Russian nuclear weapon (or more likely, nuclear material) to be stolen by or otherwise diverted to a state of concern, a terrorist group, or other criminal organization.

One of Beijing's top military priorities is to strengthen and modernize its small, dated strategic nuclear deterrent. While the ultimate extent of China's strategic modernization is difficult to forecast, the number, reliability, survivability, and accuracy of Chinese strategic missiles capable of hitting the US will increase during the next 20 years. We know little about China's concepts for nuclear weapons use, especially with respect to Beijing's views on the role and utility of strategic weapons in an international crisis involving important Chinese interests (e.g. Taiwan or the Korean peninsula).

- China currently has about 20 CSS-4 ICBMs with a range of over 13,000 km. Several new strategic missile systems are under development, including two

new road-mobile solid-propellant ICBMs. One of these, the 8,000 km DF-31, was successfully flight-tested in 1999 and 2000. Another, longer-range mobile ICBM will likely be tested within the next several years.

- China currently has a single **XIA** class SSBN, which is not operational. It is intended to carry 12 CSS-NX-3 missiles (with ranges exceeding 1,000 km). China is developing a new SSBN and an associated SLBM (the 8,000+ km JL-2). These systems will likely be developed and tested later this decade.
- China also has upgrade programs for associated command, control, communications and other related strategic force capabilities.

Beyond China and Russia, several states – especially North Korea and, later on, Iran and possibly Iraq – could field small numbers of long-range, WMD-equipped missiles capable of striking the United States. Again, we know very little about how these states think about strategic weapons, deterrence, and escalation.

- North Korea has made substantial missile progress during the last several years. The August 1998 launch of the Taepo Dong (TD) 1 system demonstrated several of the key technologies required to develop an ICBM, including stage separation. A three-stage TD 1 could potentially deliver a light payload to the US, albeit with very poor accuracy. North Korea is also developing a TD 2 ICBM, which could deliver a several-hundred kilogram payload to Alaska or Hawaii, and a lighter payload to the western half of the US. A three-stage TD 2 could deliver a several-hundred kilogram payload anywhere in the US. In September 1999, and again in June and October 2000, North Korea agreed to refrain from testing long-range missiles ... a pledge it has lived up to so far.
- Iran's Defense Minister has publicly talked of plans for developing a platform more capable than the Shahab 3 (a 1,300 km MRBM based on North Korea's No Dong). While this could refer to a space launch vehicle, Iran may also have ICBM plans. Sustained cooperation with Russian, North Korean, and Chinese entities is furthering Tehran's expertise and it could test a space

launch vehicle (with ICBM applications) within 15 years. However, if Iran purchased an ICBM from North Korea or elsewhere, further development might not be necessary.

- Despite the damage done to Iraq's missile infrastructure during the Gulf War, Operation Desert Fox, and subsequent UNSCOM activities, Iraq may have ambitions for longer-range missiles, including an ICBM. Depending on the success of acquisition efforts and the degree of foreign support, it is possible that Iraq could develop and test an ICBM capable of reaching the US by 2015.

As these trends unfold, the strategic threat picture will become more complex, diverse, and complicated, leaving our homeland potentially more vulnerable to a wider array of strategic challenges.

Regional Military Challenges

Joint Vision 2020 is the conceptual template for US force development. It envisions a 21st Century 'information age' US military that leverages high quality, highly-trained personnel, advanced technology, and the development of several key operational concepts – including dominant maneuver, precision engagement, full dimensional protection, and focused logistics – to achieve dominance across the range of military operations. The United States is moving steadily toward the capabilities embodied in this vision.

In contrast, other large militaries are generally making much slower progress, and will continue to field primarily 'industrial age' forces – mostly mass and firepower oriented, equipped predominantly with late-generation Cold War (vice 21st Century) technologies, and retaining centralized, hierarchical command-and-control structures. While less advanced than the US military, these large regional forces will still be potent by regional standards, and, in many cases, be fully capable of accomplishing significant regional objectives. Moreover, during the next 15 years, many regional states will seek to augment

these 'traditional' forces with selected high-end capabilities, including: WMD and missiles, advanced C4I systems, satellite reconnaissance, precision strike systems, global positioning, advanced air defense systems, and advanced anti-surface ship capabilities. To some extent, these 'niche' capabilities will be designed to counter key US concepts (precision strike, global access, information superiority, etc.), in an attempt to deter the US from becoming involved in regional contingencies, or to raise the cost of US engagement.

- Volumetric weapons (VW) are an example of the types of 'counter US' technologies potential adversaries may pursue. Unlike 'traditional' military weapons, which rely on high explosive technologies, VW depend primarily on simple air blast or overpressure to damage or destroy their targets. They actually form clouds, or volumes, of fuel rich materials that detonate relatively slowly. The result is a much larger area of high pressure that causes more damage to personnel (even dug in) and structures. VW technology is becoming more widely known, with several countries openly advertising it for sale. We should anticipate facing VW in either a terrorist or combat environment during the next 15 years.

For the most part, however, even large regional forces will be hard pressed to match our dominant maneuver, power projection, and precision engagement capabilities. But in a specific combat situation, the precise threat these forces pose will depend on a number of factors, including: the degree to which they have absorbed and can apply key '21st Century' technologies, have overcome deficiencies in training, leadership, doctrine, and logistics, and on the specific operational-tactical environment. Under the right conditions, their large numbers, combined with other 'situational advantages' – such as initiative, limited objectives, short lines of communication, familiar terrain, time to deploy and prepare combat positions, and the skillful use of 'asymmetric' approaches – could present significant challenges to US mission success. China and perhaps Russia at the high end, followed by North Korea, Iran, and Iraq, are all examples

of militaries that could field large forces with a mix of current and advanced capabilities.

China. Beijing recognizes that its long term prospects to achieve great power status depend on its success at modernizing China's economy, infrastructure, and human capital, and it will continue to emphasize those priorities ahead of military modernization. In addition to the limitations posed by these other priorities, China's military is moving from 1960s to 1990s technology, and can probably not efficiently absorb technology upgrades at a much faster rate. Accordingly, I expect China to continue to allow total military spending to grow at about the same rate as the economy, by maintaining a defense burden of roughly 5% of GDP (or about \$40-50 billion in defense spending last year). Part of this steady defense spending increase will be absorbed by rapidly rising personnel costs, a consequence of the overall transformation toward a market economy.

As I mentioned earlier, a top Chinese military priority is to upgrade its small, aging strategic deterrent force (although we have no indications that China intends to develop a 'first strike' strategic capability). In terms of conventional forces, Beijing is pursuing the capability to defend its eastern seaboard – the economic heartland – from attacks by a 'high-technology' opponent employing long-range precision strike capabilities. This means China is expanding its air, anti-air, anti-submarine, anti-surface ship, reconnaissance, and battle management capabilities, to enable the PLA to project 'defensive' power out to the first island chain. China is also rapidly expanding its conventionally-armed theater missile force (particularly the road-mobile, solid-propellant, 300 km CSS-7), in large measure to give it leverage against Taiwan and, to a lesser extent, other US Asian allies.

As a result of these and other developments, China's capability for regional military operations will improve significantly. By 2010 or so, some of

China's best units will have achieved a reasonably high level of proficiency at maneuver warfare (though they will probably not fully master large, complex joint service operations until closer to 2020). Moreover, by 2015 Chinese forces will be much better equipped, possessing more than a thousand theater-range missiles, hundreds of fourth-generation (roughly F-16 equivalent) aircraft, thousands of 'late Cold War equivalent' tanks and artillery, a handful of advanced diesel and third generation nuclear submarines, and some 20 or so new surface combatants. China is also likely to field an integrated air defense system and modern command-and-control systems at the strategic and operational levels. Selective acquisitions of advanced systems from Russia – such as **Sovremenny** destroyers and **SU-30/Flanker** aircraft – will remain an important adjunct to the PLA's modernization efforts during this period

The Taiwan issue will remain a major potential flashpoint, particularly over the near term. It is doubtful, however, unless Taipei moved more directly toward independence, that China would attempt a larger scale military operation to attack Taiwan outright. Beijing recognizes the risk inherent in such a move and, at least for the near term, probably has questions about its military ability to succeed. Nevertheless, by 2015, China's conventional force modernization will provide an increasingly credible military threat against Taiwan (though probably not the large amphibious capability necessary for invasion).

Russia. I remain relatively pessimistic about Russia's prospects, primarily because there are no easy, simple, or near term solutions to the tremendous political, economic, social, and military problems confronting Moscow. Consequently, I expect that many of the issues that concern us today – Russia's role as a proliferator of advanced military and WMD technologies and brainpower, the uncertain security of Russia's nuclear materials and weapons, the expanding local, regional, and global impact of Russian criminal syndicates, and Moscow's questionable reliability as a global security partner – will be with us for some time to come.

In the meantime, Russia's Armed Forces continue in crisis, with even priority strategic force elements receiving only a portion of their authorized funding. Compensation, housing, and other shortfalls continue to undermine morale. Under these conditions – chronic underfunding and neglect – there is little chance that Moscow's conventional forces will improve significantly during the next decade.

- Russia's defense resources remain especially limited, given the still relatively large Russian force structure. Moscow spent some \$40 billion on defense last year – about 3-5% of GDP – and the process of allocating monies remained extremely erratic and inefficient. This level of spending is not enough to fix the Russian military.

Beyond the near term, the size, characteristics, and capabilities of Russia's conventional forces could vary widely, depending on the outcome of numerous unsettled issues. Among the most important of these are the level of Russian defense spending, Russian threat perceptions, the achievement of national consensus on a blueprint for military reform, and Moscow's success at restoring the 'intangible' components of military effectiveness (leadership, readiness, morale, sustainment, etc.).

I still see two principal alternatives for the Russian military beyond 2010. The first (more likely scenario) is that Russia will remain chronically weak (probably posing less of a military threat to the US than it does today). This future would result from continuing neglect of the Russian military by the political leadership – characterized by continued underfunding, lack of prioritization, and minimal success at military reform. If, on the other hand, economic recovery and leadership support come sooner rather than later, Russia could begin rebuilding an effective military toward the end of this decade, and field a smaller, but more modern and capable force in the 2015 timeframe. This improved force would be large and potent by regional standards, equipped with thousands of late-

generation Cold War-era systems, and hundreds of more advanced systems built after 2005.

Iran. The election of President Khatemi in August 1997 marked a turning point in Iran's domestic situation. Khatemi received the bulk of his support from minorities, youths, and women (all growing segments of Iran's population), and I am hopeful that Tehran will change for the better over time. For now, however, the religious conservatives who have held power since 1979 remain in control of the security, foreign policy, intelligence, and defense institutions, and generally continue to view the US with hostility. For these reasons, I remain concerned with Tehran's deliberate (though uneven) military buildup. That effort is designed to ensure the security of the cleric-led regime, increase Iran's influence in the Middle East and Central Asia, deter Iraq or any other regional aggressor, and limit US regional influence. While Iran's forces retain significant limitations with regard to mobility, logistics infrastructure, and modern weapons systems, Tehran is attempting to compensate for these by developing (or pursuing) numerous asymmetric capabilities, to include subversion and terrorism, the deployment of air, air defense, missile, mine warfare, and naval capabilities to interdict maritime access in and around the Strait of Hormuz, and the acquisition of WMD and longer range missiles to deter the US and to intimidate Iran's neighbors.

- Iran has a relatively large ballistic missile force – hundreds of Chinese CSS-8s, SCUD Bs and SCUD Cs – and is likely assembling SCUDs in country. Tehran, with foreign assistance, is buying and developing longer-range missiles, already has chemical weapons, and is pursuing nuclear and biological weapons capabilities.
- Iran's navy is the most capable in the region and, even with the presence of Western forces, can probably stem the flow of oil from the Gulf for brief periods employing *KILO* submarines, missile patrol boats, and numerous naval mines, some of which may be modern and sophisticated. Aided by

China, Iran has developed a potent anti-ship cruise missile capability to threaten sea traffic from shore, ship, and aircraft platforms.

Although Iran's force modernization efforts will proceed gradually, during the next 15 years it will likely acquire a full range of WMD capabilities, field substantial numbers of ballistic and cruise missiles – including, perhaps, an ICBM – increase its inventory of modern aircraft, expand its armored forces, and continue to improve its anti-surface ship capability. Iran's effectiveness in generating and employing this increased military potential against an advanced adversary will depend in large part on 'intangibles' – command and control, training, maintenance, reconnaissance and intelligence, leadership, and situational conditions and circumstances.

Iraq. So long as Saddam or someone of his ilk remains in power, Iraq will remain challenging and contentious. Saddam's goals remain to reassert sovereignty over all of Iraq, end Baghdad's international isolation, and, eventually, have Iraq reemerge as the dominant regional power. For the time being, however, his options are constrained. Years of UN sanctions, embargoes, and inspections, combined with US and Coalition military actions, have significantly degraded Iraq's military capabilities. Manpower and materiel resource shortages, a problematic logistics system, and a relative inability to execute combined arms operations, remain major shortcomings. These are aggravated by intensive regime security requirements.

Nevertheless, Iraq's ground forces continue to be one of the most formidable within the region. They are able to protect the regime effectively, deploy rapidly, and threaten Iraq's neighbors absent any external constraints. Iraq's air and air defense forces retain only a marginal capability to protect Iraqi air space and project air power outside Iraq's borders. Although the threat to Coalition Forces is limited, continued Iraqi confrontational actions underscore the regime's determination to stay the course. Iraq has probably been able to retain

a residual level of WMD and missile capabilities. The lack of intrusive inspection and disarmament mechanisms permits Baghdad to enhance these capabilities.

- Iraq probably retains limited numbers of SCUD-variant missiles, launchers, and warheads capable of delivering biological and chemical agents.

Baghdad continues work on short-range (150 km) liquid and solid propellant missiles allowed by UNSCR 687 and can use this expertise for future long range missile development. Iraq may also have begun to reconstitute chemical and biological weapons programs.

Absent decisive regime change, Iraq will continue to pose complex political and military challenges to Coalition interests well into the future. Saddam has been increasingly effective during the past year at circumventing sanctions and exploiting the Israeli-Palestinian conflict to garner sympathy for Iraq's plight by linking the Iraqi and Palestinian causes. Should sanctions be formally removed, or become de facto ineffective, Iraq will move quickly to expand its WMD and missile capabilities, develop a more capable strategic air defense system, and improve other conventional force capabilities. Under this scenario, Baghdad could, by 2015, acquire a large inventory of WMD – including hundreds of theater ballistic and cruise missiles – expand its inventory of modern aircraft, and double its fleet of armored vehicles. While this force would be large and potent by regional standards, its prospects for success against a western opponent would depend ultimately on how successful Baghdad was in overcoming chronic weaknesses in military leadership, reconnaissance and intelligence, morale, readiness, logistics, and training.

North Korea. Despite the unexpected relaxation of tensions on the peninsula during the past year, and the real potential for further improvements, North Korea retains a large, forward deployed military force, capable of inflicting significant damage on the South. War on the peninsula would still be very violent and destructive, and could occur with little warning. Moreover, even if the North-South rapprochement continues, Pyongyang is unlikely to significantly reduce its

military posture and capability in the near term, because the North needs its military forces to ensure regime security, retain its regional position, and provide bargaining leverage. In the meantime, the Korean People's Army continues to demonstrate resiliency, managing during the past several years to stop the general capability decline experienced during most of the 1990s and, in some ways, marginally improve its readiness and capability for war.

For the near future, I expect North Korea will continue to proliferate WMD and especially missile technology – one of the few areas where North Korea has something to offer for hard currency on the international market. Pyongyang's proliferation of No Dong missile technology is particularly important for those states seeking to extend the range of their missile fleet. I also expect North Korea to continue to develop and expand its own 'asymmetric' capabilities – WMD, missiles, Special Operations Forces, small submarine insertion platforms, etc. – in part to offset its conventional force shortcomings. And, as I said earlier, I think North Korea has the potential to field an ICBM sometime within the next several years. In short, as long as North Korea remains around in its present form, it will represent one of the major threats to our regional and global interests.

The Bottom Lines

The complex mix of global political, economic, social, technological, and military conditions at work during the next 15 years will spawn wide ranging challenges for our defense and intelligence establishments. Transnational issues – such as terrorism, weapons and technology proliferation, and global criminal activities – will likely be more difficult to address as a result of globalization. Meanwhile, continuing global turmoil will create the conditions for our involvement in a variety of complex operating environments, against adversaries employing a wide range of asymmetric approaches. These 'contingencies' will pose unique challenges for our military and intelligence services. At the same time, we will continue to face an array of strategic threats – from Russian and Chinese strategic nuclear forces, from potential new ICBM states like North

Korea, probably Iran, and possibly Iraq, and from emerging 'non-traditional' threats to our homeland and critical infrastructure. Collectively this mix will compound the strategic threat picture. Finally, we must remain capable of dealing with large, mostly 'industrial-age' regional military forces, augmented by WMD and longer-range missiles and selected '21st Century' technologies & capabilities. Under the right conditions, these regional militaries could pose a significant challenge, despite our enduring overall military superiority.

The defense intelligence community is working hard to develop the processes, techniques, and capabilities necessary to handle these new and emerging security challenges ... even as we preserve our capability to understand more traditional military threats and enhance our ability to support military operations on the conventional battlefield. I am very proud of our accomplishments to date and have confidence that, with your continued support, we can provide military operators, policymakers, and acquisition professionals the intelligence they need.

But as I think about our long-term readiness to meet the challenges of this new century, I am concerned about several issues. For instance, some of our unique technical collection systems that have served the nation well for the past 20 years are aging and badly need capital reinvestment. The Measurement and Signature Intelligence (MASINT) systems-of-systems is crucial to maintaining coverage against global WMD and missile developments. I also believe we need to expand and revitalize our Defense HUMINT Service, as a key part of the overall push to enhance our collection against difficult worldwide targets. We also need to increase analytic depth and breadth, and improve the content and responsiveness of our data bases. These efforts are absolutely essential if we are to maintain the capability to provide vital intelligence on adversary plans, intentions, capabilities, and vulnerabilities ... before those adversaries are able to do us harm.

Another area of concern, highlighted earlier in this statement, is mitigating the analytic and other 'opportunity costs' of a high peacetime engagement posture. We need to understand 'up-front' that as we surge to support a given military operation, we pay a very real price in terms of our capability to address longer-term challenges. I am also worried about the long-term trend of decreasing fill rates for military billets within our overall intelligence personnel structure. As a combat support agency, we need the unique insights and expertise these military professionals provide. We also need to ensure that our people – the life-blood of the intelligence enterprise – have the right skill mix, and the secure facilities, bandwidth, connectivity, and collaborative tools to do the job. And finally, some of the information systems that have served us so well in post-Desert Storm military engagements need to be replaced and, as 'Defense of the Homeland' initiatives are considered, reducing intelligence system vulnerabilities should be a priority.

In this regard, I would like to close on a positive note, by highlighting our 'Four Thrust' initiative ... a collective effort that is critical to our success in confronting the wide ranging defense and intelligence challenges addressed throughout this testimony. Some 18 months ago, the defense intelligence leadership (including the service intelligence chiefs and command J-2s) identified four priority areas where we must make significant progress in order to be ready for the 21st Century. Those were: improving the quality of our military intelligence data bases, ensuring our intelligence systems 'plug and play' in the computer and decision networks of our military customers, shaping to meet the asymmetric threat, and revitalizing/reshaping the work force. Under the leadership of small senior steering groups drawn from throughout the defense intelligence community, we have formulated plans of action to meet the overarching goals of the four thrusts, gaining endorsement by the Military Intelligence Board before moving forward. The thrust areas are all interconnected, and goals, plans, and actions are synchronized to build on the progress of each. Collectively, they are

critical to our building a defense intelligence community well-positioned to support the military today and tomorrow.