

**HEARING TO RECEIVE TESTIMONY ON THE
CURRENT AND FUTURE ROLES, MISSIONS,
AND CAPABILITIES OF U.S. MILITARY LAND
POWER**

THURSDAY, MARCH 26, 2009

U.S. SENATE,
SUBCOMMITTEE ON AIRLAND,
COMMITTEE ON ARMED SERVICES,

Washington, DC.

The subcommittee met, pursuant to notice, at 2:01 p.m. in room SR-222, Russell Senate Office Building, Senator Joseph I. Lieberman (chairman of the subcommittee) presiding.

Committee members present: Senators Lieberman, Hagan, Begich, Burris, Inhofe, and Thune.

Majority staff members present: Creighton Greene, professional staff member; Michael J. Kuiken, professional staff member; and William K. Sutey, professional staff member.

Minority staff members present: William M. Caniano, professional staff member; Paul C. Hutton IV, professional staff member; and David M. Morriss, minority counsel.

Staff assistants present: Ali Z. Pasha, Brian F. Sebold, and Breon N. Wells.

Committee members' assistants present: Todd M. Stein, assistant to Senator Lieberman; Jon Davey, assistant to Senator Bayh; Gordon I. Peterson, assistant to Senator Webb; Julie Holzhuenter, assistant to Senator Hagan; David Ramseur, assistant to Senator Begich; Brady King, assistant to Senator Burris; Lenwood Landrum, assistant to Senator Sessions; and Jason Van Beek, assistant to Senator Thune.

**OPENING STATEMENT OF SENATOR JOSEPH I. LIEBERMAN,
CHAIRMAN**

Senator LIEBERMAN. The Subcommittee on Airland will come to order. Good afternoon. Let me first say, since this is our first subcommittee hearing this year, how much I look forward to working with my colleague and friend Senator John Thune in his capacity as ranking member of the committee. We've had a very good line of partners in this committee. I guess I go back to Senator Santorum, Senator McCain, Senator Cornyn; and always worked in a bipartisan way on behalf of our military, and I know we will here as well.

The Subcommittee on Airland meets this afternoon in the first of two hearings intended to broadly explore the Nation's current

and future roles and requirements for military land and air power. This afternoon we focus on land power. We're going to follow with an additional hearing next month on air power.

It's the intent of these hearings to identify requirements for our land and air power as part of our annual responsibility, really primary responsibility, to authorize funding for the programs for air and land power that we conclude are necessary to provide for the common defense. But we also do so this year to anticipate the administration's reassessment of the National security strategy, the National military strategy, and the quadrennial defense review.

Over nearly 8 years of war in Iraq and Afghanistan, we've watched with pride and gratitude the magnificent performance of America's land forces, our soldiers and our marines. They have repeatedly shown that they can rise to the challenge on battlefields on which they have not fought before. They have adapted through major combat operations, counterinsurgency, and irregular warfare in response to evolving challenges that they have faced in battle.

But I believe that we have not done enough to support our ground forces' transformation or to prepare them to meet future threats. That's why at today's hearing I hope our witnesses will help us answer three basic questions: What threats are American ground forces likely to face in the foreseeable future? Is American land power now sized, organized, and equipped to defeat those threats? And if not, what changes do we need to make in the size, organization, and equipping of American land power?

It is encouraging that the Army and Marine Corps have achieved the targets for end strength growth that members on both sides of this committee and in the Senate have worked hard to set 3 years ago. But I don't believe that this growth is sufficient to meet current and future land power requirements. I'm concerned that in the near term the Army will not be able to finish building all of its remaining 48 active duty brigade combat teams or the critically necessary enablers that they require; and that this growth will be insufficient in the long run for the Army to stand up any additional specialized units that it needs. We've got to organize the force to do the missions we ask of it and provide the force with the personnel it requires.

The Obama administration is also reassessing the Department's previous strategy for modernizing our land forces. Although the fiscal year 2010 defense budget request has not been delivered yet in detail to Congress, there are reports that defense procurement funds will probably be redirected from the Army's most technologically sophisticated programs toward capabilities that target counterinsurgency or irregular warfare.

I'm very interested and concerned about the administration's plans for the Army's major modernization program, the Future Combat Systems program. We've invested a lot of money into the FCS and some of the results are already helping our warfighters. But we've got to ask now in this particular environment what is the future of the Future Combat Systems program? Should it be modified, terminated, or continued on the course it's on now?

The defense budget will also face pressure because of the need to reset the equipment that has been used in our ongoing wars

while also shifting new resources to support the fight in Afghanistan.

In short, this is a time when we really have a responsibility to conduct an examination of our Nation's land power and its needs. To help us with that examination today we're fortunate to welcome a panel of really extraordinary witnesses whose testimony will provide I think a range of views with respect to the current state and future roles and requirements for our ground forces and help us answer the questions that I have posed.

With that, Senator Thune, I would welcome an opening statement.

**STATEMENT OF HON. JOHN THUNE, U.S. SENATOR FROM
SOUTH DAKOTA**

Senator THUNE. Thank you, Mr. Chairman, and I too look forward to working with you. You've outlasted a number of our colleagues on the committee on this subcommittee, but I'm very—you've been a great leader on these issues and I'm certainly honored to have the opportunity to work with you on what are going to be important national security issues to come before this subcommittee and the full committee in the days ahead.

I think this is an important hearing. I want to join you in welcoming our witnesses. In the next few months this subcommittee may be called upon to make some very consequential budget decisions on a number of major defense acquisition programs. None of these decisions are going to be easy. These decisions will require this subcommittee and the entire Congress to make careful assessments of the risks and tradeoffs associated with each program.

This hearing will help inform those assessments and sharpen our thoughts about the character of future land warfare. Specifically, I want to hear the witnesses' views on whether or not land forces acquisition programs, along with the roles and missions assigned to our land forces and the forces' size, organization, and training, are suitable or at least sufficiently agile.

I believe it's reasonable to assess that the precise requirements for land forces will continue to evolve through the first quarter of this century and that the geopolitical implications of the current economic crisis on our National security and the security of our allies have not been fully realized. This makes the future character of land power all the more complex. The range of diverse threats and trends that our land forces must be prepared to address will likely escalate.

While some have called this an era of persistent conflict, I submit it may certainly be persistent, but I'm concerned that the future will be more uncertain and more unstable. Accordingly, I sense the character of the era of persistent conflict will be more irregular than conventional.

The subcommittee will want to hear and learn the witnesses' views on the difficult threats and rising trends we will face in the decades to come and the implications for our land forces.

In January the Department of Defense released the 2009 quadrennial roles and missions, or QRM, review report.

Within the 2009 QRM review, the DOD defined its core missions as missions for which DOD is uniquely responsible, provides the

preponderance of capabilities, or is the U.S. Government lead as established by national policy. The QRM review found that DOD's core mission areas are: homeland defense and civilian support, deterrence operations, major combat operations, irregular warfare, military support to stabilization, security, transition, and reconstruction operations, and military contribution to cooperative security.

This is clearly a full spectrum of operations and each has a sizable land force component. Do we have land forces that are designed and organized to rapidly adapt across the entire spectrum of operations? Do the Army's modular organizations give us versatile capability? Is the size and projected growth of our land forces sufficient? Is the education of our military leaders adequate? The subcommittee will want to learn the witnesses' thoughts on these important issues.

Our soldiers and marines have been deployed almost continually since 2001, performing courageously against adaptive enemies. The strain on our forces and their families has been significant. The state of the Army is, as General Casey testified, out of balance. General Casey has also said we're not able to build depth for other things; we're running the All-Volunteer Force at a pace that is not sustainable.

The subcommittee will want to hear the witnesses' opinions on the principle of balancing our force, the future of the All-Volunteer Force, the utility of the Army force generation, or ARFORGEN, model that is used to build readiness, and the future roles and missions of the Reserve component land forces.

In closing, the subcommittee will benefit from the witnesses' opinions on the utility of some major acquisition programs. Specifically, we'll ask their views on the Army's Future Combat System, or FCS, program. The FCS is the centerpiece of the Army's modernization effort and it's intended to make the Army a lighter, more agile, and more capable combat force.

In recent weeks the Government Accountability Office cast doubt about FCS. The GAO found the FCS critical technologies are not currently at a minimum acceptable level of maturity and that the FCS acquisition strategy is unlikely to be executed within the current \$159 cost estimate. Our witnesses will be asked their views on the FCS program and whether or not there are other modernization routes for the Army.

Mr. Chairman, I thank you and I look forward to hearing the testimony of our witnesses today.

[The prepared statement of Senator Thune follows:]

[SUBCOMMITTEE INSERT]

Senator LIEBERMAN. Thank you, Senator Thune, for that very thoughtful statement.

I want to welcome Senator Hagan, Senator Begich, and Senator Burris to the subcommittee. We're honored to have you here. And I don't want to not welcome back Senator Inhofe.

We have three really great witnesses today. I asked the staff how they decided on the order and the good news, bad news for you, Andy, is that you're first because they've decided you're most senior.

[Laughter.]

Senator LIEBERMAN. Andrew Krepinevich is President of the Center for Strategic and Budgetary Assessments here in Washington. He's appeared before the Armed Services

Committee on many occasions before. His most recent study is "An Army at the Crossroads," one of the CSBA's studies intended to contribute to the new administration's defense strategy review.

I just finished reading—and I really did read it - - his "Seven Deadly Scenarios" book, which is really riveting and thought-provoking reading, and I'd recommend it to all my colleagues. I don't get any commissions on the sales, so that's really said from the bottom of my head.

Dr. Krepinevich, please proceed.

STATEMENT OF ANDREW F. KREPINEVICH, JR., PH.D., PRESIDENT, CENTER FOR STRATEGIC AND BUDGETARY ASSESSMENTS

Dr. Krepinevich: Thank you, Mr. Chairman. I will summarize the remarks in my testimony.

Senator LIEBERMAN. We'll include your testimony and all the others, which is very—you each did a lot of work on them. I appreciate it. We're going to include them all in the record as if read in full.

Dr. Krepinevich: I think the question of what kind of an Army do we need was a question that was fairly easily answered for much of the 20th century. The first half of the 20th century, the answer was we need an Army to beat the German army, World War I, World War II. The second half of the 20th century, we needed an Army to beat the Soviet army. These were armies that looked a lot like ours.

When you ask that question today, what kind of an Army do we need, there is no other army out there like our own. Both General Casey and the Secretary of Defense have said we are in an era of persistent conflict. I would insert one word into that phrase: We are in an era of persistent irregular conflict. The wars we have been waging for the last 8 years, what we're engaged in now and what we are likely to be engaged in for the foreseeable future are irregular wars.

When you begin to address the question of what kind of an army, I think you need to take that fundamental shift into account. We need an army that is expert at irregular warfare, a business in a sense we got out of after the Vietnam War and have recently gotten back into.

But we also need an army that can hedge against other kinds of conflicts, specifically conventional conflict. The problem that the army has had is that the army has a limit on its size, both in terms of the human resources it can reasonably attract at an acceptable cost and the force that it can modernize over time. As a consequence of that, the army has said, look, because we can only be so large and because the number of contingencies are great both at the high end and the low end, we need to have a full-spectrum army. We need an army where our brigades are fully capable of operating both at the high end of the conflict spectrum and at the low end, with high levels of proficiency and on short notice.

The question that concerns me is, while this may be desirable, it's not at all clear that it's possible. It's not clear that you can rap-

idly switch from the skill set that is required, as General Caldwell said, of strategic corporals in irregular warfare to participate in what I call the FCS ballet, the highly networked aggregation of 14 different systems waging high-intensity warfare.

The point I think also is that not only are we asking more of our soldiers, but if you look at the quality in terms of the way the army measures quality of the officer corps, the NCO corps, and the enlisted force, that quality has gone down, which I think is another reason why it's really a bit risky to say that we can have a full-spectrum army, an army that can seamlessly shift gears from one form of war to another.

Moreover, even if we have an army that is 48 brigades, that can handle these kinds of missions, even if you grant the army that assumption, the problem is a lot of the contingencies that we anticipate today or concern ourselves with today—what happens if there is a conflict in Iran and you have post-conflict operations, what happens if Pakistan comes apart at the seams, Nigeria, Indonesia.

There are any one of a number of planning scenarios that by themselves would overwhelm even a 48-brigade army with a 28-brigade Reserve component.

You see the wisdom in the strategy that was developed in 2006, but which really hasn't been embraced. The strategy is the strategy of the indirect approach or building partner capacity. The source of our advantage isn't in a large quantity of manpower; it's in the quantity—excuse me, the quality of manpower that we have, the skills of the relatively small numbers of soldiers that are in the army. So the idea is to leverage that quality by over time building up indigenous forces in other countries that are threatened by instability, threatened by state failure.

My point of view has been that as a consequence of that when the chief of staff of the Army talks about rebalancing the force, what you really need is a force that's balanced between conventional high-end operations and irregular warfare or stability operations, essentially an army that has two wings to it, not an army with divisions that only fight conventional war and brigades that only wage irregular warfare, but an army that has brigades that are oriented, although not optimized, for irregular warfare and an army that also has brigades that are oriented but not optimized for conventional warfare.

Right now we have an active force where the plan is to have 19 of 48 active brigades be heavy brigades. 40 percent of the active force is going to be oriented on conventional war. There are zero brigades that are oriented specifically on stability-cooperation operations.

Also, what I find ironic is that, while 40 percent of the active force is oriented on high intensity warfare, only 25 percent of the Reserve Force is, this despite the fact that the active force can be deployed more frequently in protracted irregular warfare operations. So I do believe that there is this imbalance, and I do believe that when the Secretary of Defense worries about the army not institutionalizing what it's learned in the wars in Afghanistan and in Iraq and the global war on terrorism he is concerned that the center of gravity is going to pull the army back toward its traditional comfort zone, which is high end conventional conflict.

So if you had a balanced force you'd be looking at brigade combat teams that were oriented on irregular warfare, a more formal training and advisory capacity, and also a governance capacity, because the army has signed up to the task of showing up and providing governance support in the event that the inter-agency team fails to show up.

This has significant implications for modernization.

The Future Combat Systems were originally designed with a vision toward open battle and conventional warfare operations. Having said that, I think there are four areas of risk associated with the Future Combat Systems. One is fiscal risk, as the chairman pointed out. A second is technical risk, as the GAO study pointed out. A third is temporal risk and a fourth is operational risk.

To the extent that we overweight our investments toward FCS and accept these kinds of risks, I think we jeopardize our ability to properly reset the force, and also we ignore the issue of the need prospectively for what I would call war Reserve stocks. If we are going to be in the business of building partner capacity and if we are going to be in the business of doing that rapidly, we are going to have to have stockpiles of equipment so that we can in the future help build up military forces that can provide for their own security or, as the case indicates now, building up the Afghan National Army, for example, and equipping them in ways that will enable them to take on more of the responsibility from our forces there.

I'll mention one final thing and that's what I would call the GRAMM threat. This is guided rockets, artillery, mortars, and missiles. Some people call it hybrid warfare. I think the clear example here is the Second Lebanon War in 2006, where Hezbollah fired roughly 4,000 projectiles into Israel, several hundred thousand Israeli citizens had to be evacuated, the Israelis had to shut down their oil refining and distribution system for fear that a lucky hit would cause untold damage.

I think the army has a real mission here in terms of looking at how air and missile defenses, counterbattery fires, and things like hunter-killer teams can begin to deal with this nascent threat that I think over the next decade will become a more direct threat to us.

So in summary, what I see is a fundamental shift, a very difficult question that was an easy question to answer in the 20th century, and an important question to address at this time, not just because the threat has changed, but also because you can only reset the force once. Congress has generously offered to write that big check, but once you write that big check for that equipment that's supposed to be in the field for 10 or 20 or 25 years, particularly in this fiscal year, it becomes a very difficult task to accept a response 5 years down the road: Gee, we made a mistake; please, we need to reset again.

So again, my belief is that the chief is right, what we need is a rebalanced army, but the kind of army that we're looking at right now is in my estimation far too rebalanced and oriented on traditional or conventional military operations.

Thank you, Mr. Chairman.

[The prepared statement of Dr. Krepinevich follows:]

Senator LIEBERMAN. Thank you, Dr. Krepinevich. You got us off to a good start.

Our next witness is Tom Donnelly, who I will describe as a recovering journalist. He was a professional staff member of the House Armed Services Committee, Editor of the Armed Forces Journal, and now is a Research Fellow at the American Enterprise Institute here in Washington.

Mr. Donnelly and co-author Fred Kagan recently published the study, "Ground Truth, the Future of U.S. Land Power." So he is again ready to be a helpful witness today. Thanks for being here.

**STATEMENT OF THOMAS DONNELLY, RESIDENT FELLOW,
AMERICAN ENTERPRISE INSTITUTE FOR PUBLIC POLICY
RESEARCH**

Mr. Donnelly: Thank you, Mr. Chairman. At least you didn't describe me as a recovering House guy. I have a lot of persistent diseases.

Senator LIEBERMAN. I'm going to hold my tongue at this point. [Laughter.]

Mr. Donnelly: I see very much a similar world to the world that Andy sees. It's always the case in these circumstances where the opening testimony becomes the standard and everything else becomes a commentary upon it.

So I see very much a similar world to the world that Andy sees, but I think Andy goes wrong, in general terms and in crude terms, by trying to fit the strategic requirement to land forces, to the size of the force and the shape of the force, rather than sizing the force and shaping the force based upon America's strategic goals in the world.

I would also say that those strategic goals have been remarkably consistent and are much clearer than people have almost been willing to accept over the last decade, in this regard. Administrations of both parties have wanted to preserve American leadership in a global sense and have taken the necessary steps, not often with perfect foresight or with perfect understanding, to maintain that position.

So I think we can see in that regard that the future for American land forces is not all that dissimilar from our recent post-Cold War experience or particularly from our post-September 11 experience. The war, the so-called long war where that we are now engaged in in the Middle East, meaning the attempt to build a Middle East, a greater Middle East, an Islamic world that we can live with, that the rest of the world can live with, is a mission that's been ongoing since the establishment of U.S. Central Command a generation ago, and if we look at the operation of U.S. forces in that region over the course of time it's been very much a growth industry, and it's transitioned from a maritime and aerospace presence to an on-shore land presence.

So we may not be able to tell precisely where our forces will be operating and what the tactical nature of the engagement will be for the future, but I think we delude ourselves if we don't think that the outcome of this war is critical to us and that the primary instrument that we have to achieve that success is our land forces, our Army and our Marine Corps. We have come ashore, so to

speak, in the region and if we withdraw that will be a huge setback for the United States.

Therefore we do have enough information to conduct intelligent force planning and in particular land force planning going forward. Now, my testimony sort of describes the general characteristics of the land force that we need, but in the interest of brevity and in response to some of the subjects that have been raised, I just want to make a couple of more precise remarks.

I think it's worth beginning first of all with the size of the force. Numbers really matter. If you want to have a force that's versatile, that's flexible, that's genuinely expansible, where the marine—pardon me—where the Reserve components are a strategic Reserve, not just a part of the operational conveyor belt, not just a substitute for the active force that we already have, the key to solving that puzzle is expanding the size of the active force and particularly the size of the Army, because the Army is America's long war force, meaning conducting sustained operations.

The fact that we have an insufficient Army not only has consequences for the Reserve components, but it has consequences for the Marine Corps. We have transformed, particularly in the last 5 years, the Marine Corps from being an expeditionary force, a force in readiness, as they would say, to yet another link in this conveyor belt of deployments to Iraq and Afghanistan. If we want the Marines to do the things that are uniquely Marine, again the answer in my mind is to have enough Army to be able to do what we need to do on a day in, day out basis.

So 547,000 active duty soldiers is not enough. We've been mobilizing more than 100,000 Reserve and National Guardsmen every day since 9–11 and so we have a pretty good idea of what the requirement going forward to operate at this pace is. I for one think it's a rebuttable proposition that we will not continue to operate at this pace going forward.

So when you kind of put really ballpark numbers on it or do the kind of troop-to-task analysis that force planners do, the answer should be to have an active duty Army that's somewhere about the size that it was at the end of the Cold War, that is about 780,000. Now—

Senator LIEBERMAN. 700 and—

Mr. Donnelly: 780,000.

Senator LIEBERMAN. 80.

Mr. Donnelly: That was the size of the active duty Army in 1991, before the post-Cold War drawdown. We had maintained a force of that size ever since the early 1980s, when the Army chose to, rather than expanding itself when the Reagan buildup began, to do accelerated modernization, resulting in the big five programs that are still the main front-line fighting systems of the U.S. Army today.

So we ought to return to something like that level, which we maintained for a generation back then. That would essentially make the size of America's land forces in total, meaning active Army and Marine Corps, something like a million people. That would be one-third of 1 percent of the American population, not something that's not sustainable, but a force of an adequate size to maintain the kind of pace of operations that we have seen persistently since 9–11.

A couple of quick final points because I know we're pressed for time. I regard our experience as not being just simply one of irregular warfare. But the term "hybrid warfare," and particularly when you take the experience as a whole and add in things like the Israeli experience in southern Lebanon in 2006, essentially means that all aspects of land forces have been stressed, I would say to the maximum extent that it's reasonable to imagine.

So the need for mounted forces, be they middleweight forces like Stryker brigades or Marine mounted forces, and even heavy forces have performed remarkably well in a variety of roles. So as we go forward I would certainly agree with Andy that as the Army grows I would prefer to buy lighter forces and more middleweight, Stryker-like forces, although the FCS would make for lighter units.

So in the shape of the correct size land force, I would agree that the balance between very heavy and lighter forces needs to be adjusted. But again, I think the first question is whether the force is large enough.

A final point about size is that we expect our land forces, as Andy suggested, to do many more non-combat kinds of missions and tasks than we thought they were going to be required to do a decade ago. That means that we do have to have people who are trained advisers to do the partnership role. It also means that we need our leaders to go to school, our NCOs to go to basic and advanced and sergeant major academy courses, and our officers to continue to go to staff college and war college, and in fact to make the rigor of our professional military education even higher than it has been.

So we need to have a force that's as well-educated, if not better educated, that has time to participate in the kind of quality of American life that all American citizens expect. That means they can't be getting off a plane for Iraq and then boarding another one for Afghanistan or wherever else they're going to go.

So all these things, all the qualities that we want to inculcate and maintain in the force, are dependent on having a force that's of adequate size. What we have done over the last 5 years is use a too small force too often, and we are not going to walk away from the mission without paying a huge price. So the question becomes are we willing to pay the price to execute the mission successfully.

I want to conclude with a few remarks about FCS because I regard that as a program that is profoundly misunderstood, in no small measure because the Army doesn't do a very good job of explaining what the requirement is. I believe that this will bring much greater flexibility to the force. We will have smaller, tracked combat vehicles that are more applicable to a wider variety of missions. They will be much more capable and adaptable to the kind of environment that we find ourselves in.

That means they will have not only lighter chassis, but chassis that are ballistically better protected against improvised explosive devices and threats that attack them not only from the direct front, the way the M-1 and Bradley are designed to do, but from underneath, from the top, and from the sides, as modern weapons suggest.

Networking is an essential feature of a small force in an irregular warfare environment or a hybrid warfare environment.

Finally, there's a whole host of things that are just necessary to do because simply extending the life of our current vehicles wouldn't solve some of the problems that we face. Just to take one final example, the FCS will have an engine that generates much more electricity than the current fleet of vehicles does. Soldiers now have to turn off the many computers and widgets and electronic devices that are part of their world, that are part of the way that they fight and operate, because they don't have enough electricity to keep them on all the time.

So a vehicle that not only generates more electrical power on board, but can power many other kinds of devices, particularly the individual soldier devices that will be so essential to maintaining the effectiveness of dismounted infantrymen and other individual soldiers in a complex irregular warfare environment, is absolutely essential.

I could certainly continue in this vein. I look forward to answering your questions. But in my mind the question is both simpler and harder than many people are willing to acknowledge. I don't believe that we can reform or find a clever solution to our problems that will be sufficient. We simply need to have a larger and more modern land force, and FCS is probably the best alternative. To go back to a different form of modernization that modernizes in a stovepiped, individual platform way would be to repeat the mistakes of the past.

[The prepared statement of Mr. Donnelly follows:]

Senator LIEBERMAN. Thanks very much, Tom. Very interesting. It strikes me as we're talking today that we are assuming the centrality of our land forces in persistent irregular conflict, and of course we should. But it seemed not so long ago that there was some feeling, certainly during the 90s, that maybe we could deal with an irregular conflict from the air. Obviously, air power is very important, but I think everybody now agrees from our experience that land power is the key.

Our final witness, Dr. Pete Mansoor, has really been at the heart of the transformation of our land forces, a real scholar-soldier, Raymond Mason, Jr., Chair in Military History at Ohio State University. Last year he retired from the Army after commanding a brigade of the First Armored Division in Iraq, and later served as a Special Adviser to General David Petraeus at MNFI in Baghdad, in which capacity many of us had the pleasure to meet him.

Dr. Mansoor's experiences I think will add a valuable perspective on today's discussion, and for that reason and many others I thank you for being here.

STATEMENT OF PETER MANSOOR, PH.D., RAYMOND E. MASON, JR., CHAIR IN MILITARY HISTORY, OHIO STATE UNIVERSITY

Dr. Mansoor: Thank you, Mr. Chairman, Senator Thune, members of the committee. I appreciate the opportunity to appear today to discuss the ongoing development of our Nation's land power.

Due in no small measure to the remarkable capabilities of the other components of our armed forces, I believe that land power will be the deciding factor in our Nation's wars in the early 21st century. The United States remains the preeminent global power in conventional warfare, a fact well understood by our opponents.

It is far easier for the enemy to challenge the capabilities of American forces in an asymmetric fashion. In short, our enemies will most likely avoid fighting the type of wars the United States has organized and trained its armed forces to fight.

In the 1990s various military officers and defense analysts posited a coming revolution in military affairs based on information dominance coupled with precision guided munitions. Concepts such as networkcentric warfare envisioned near-perfect intelligence from manned and unmanned sensors, satellites, and other intelligence, surveillance, and reconnaissance assets. Accurate and timely information would lead to battle space dominance, prompt attacks on targets from extended ranges, and the execution of rapid, decisive operations that would quickly and precisely collapse an enemy armed force or regime at its center of gravity.

Advanced sensors and precision guided munitions, however, are tactical and operational capabilities. They are not a strategy. Those leaders who staked the outcome of the Iraq war on rapid, decisive operations misread the nature of war, and not just the nature of war in the post- Cold War era, but the nature of warfare in any era. Despite our high tech capabilities, uncertainty and the interplay of friction and chance on military operations will remain integral to war for the indefinite future.

There is a larger point here. The emphasis on technology over an understanding of the realities of war and conflict reflects the historicism not only of too much of the officer corps, but the American educational system as well. Our mistakes in Iraq and Afghanistan have come through a pervasive failure to understand the historical framework within which insurgencies take place, to appreciate the cultural and political factors of other nations and peoples, and to encourage to learning of other languages. In other words, we managed to repeat many of the mistakes that we made in Vietnam because America's political and military leaders managed to forget nearly every lesson of that conflict.

As appealing as high tech warfare with standoff weapons may seem, those who advocate it in the current environment are guilty of mirror imaging our opponents. State and non-state actors are using proxy forces and insurgencies in Iraq, Afghanistan, and elsewhere to advance their political goals along with their social and religious agendas. We cannot rely on high tech weaponry to check these groups. High tech weapons designed for combat at stand-off ranges are ill suited for combating insurgents in urban strongholds. Sensors are a poor substitute for personal interaction.

Therefore, we must closely examine expensive high tech programs such as the Army's Future Combat System to determine if they are useful in the current operational environment, where the typical engagement range is less than 500 meters and the need to engage the population is the paramount priority.

History has underlined again and again that counterinsurgency warfare can only be won on the ground, as you noted, Mr. Chairman, and only by applying all elements of national power to the struggle. These struggles are troop-intensive, for the counterinsurgent must secure and control the population, deliver essential services, and provide a basic quality of life. These requirements take energy, resources, and above all time.

Although the requirement to sustain counterinsurgency forces for extended periods suggests the need for considerable expansion of the U.S. Army and Marine Corps, as my colleague has noted, the best way to provide more ground forces is to procure them from the host nation. This realization mandates a significant focus on advisory duty and foreign internal defense, along with the creation of an institutional home for these activities in the armed forces.

We must, further, design our military forces with a balanced set of capabilities, but it is essential that they be capable of operating effectively in a counterinsurgency environment. During the 1990s U.S. Army leaders believed that units trained for major combat operations could easily adjust to take on other missions such as peacekeeping or humanitarian assistance. In Iraq and Afghanistan we have learned that counterinsurgency warfare actually requires a long list of added capabilities that training for conventional high end combat does not address. In short, counterinsurgency is a thinking soldier's war.

Military intelligence must also change or risk irrelevance. High tech intelligence capabilities are no substitute for human intelligence and cultural understanding. One cannot divine tribal structures, insurgent networks, sectarian divisions, and ethnic mosaics through technological means.

As the United States ramped up its math and science education following the Soviet launch of Sputnik in 1957, so must it now pursue excellence in humanities programs such as history, cultural anthropology, regional studies, and languages. Our Nation's universities, to include my home at the Ohio State University, stand ready to assist in this endeavor.

The transformation of American land power for the wars of the 21st century remains incomplete. Although bulky divisions have given way to smaller, modular, more easily deployable brigade combat teams, these units remain largely configured for conventional combat, and imperfectly at that. Brigades that are tailored for counterinsurgency operations would include more infantry, a full engineer battalion, augmented staff capabilities, and intelligence, surveillance, and reconnaissance assets, particularly armed reconnaissance units that can engage the people and fight for information.

The need for more infantry and engineers is especially critical, so much so that the Army should forgo the creation of additional brigade combat teams until existing units are reconfigured with the addition of a third maneuver battalion. If this seems like a small matter, if you did that across the force it would take about 45,000 soldiers to add another maneuver battalion and a full-up engineer battalion. The paucity of the current brigade combat team structure has forced brigade commanders to attach armor and infantry companies to the reconnaissance squadron, which is otherwise too lightly armed to act as a combat force.

A triangular organization would be more effective not just in counterinsurgency warfare, but would give our maneuver commanders the resources they need to fight more effectively in conventional conflicts as well.

Finally, the culture of the U.S. Army must continue to change or the organization will be unprepared to fight and win the wars of

the 21st century. While retaining the capability to conduct major combat operations, the Army must continue to embrace missions other than conventional land force combat. We must adapt the current personnel system, with its emphasis on rewarding technical and tactical expertise at the expense of intellectual understanding and a broader, deeper grasp of the world in which we live, to promote those leaders with the skill sets and education needed for the wars America will fight in the decades ahead.

In other words, to win the fight against 21st century opponents we must first adapt the organizational culture of our military forces to the realities of 21st century warfare.

Thank you and I look forward to your questions.

[The prepared statement of Dr. Mansoor follows:]

Senator LIEBERMAN. That was excellent. Thank you.

Unfortunately, a series of three votes went off at around 2:30. So if we hustle over now we'll get to the end of the first vote. We'll try to get back as soon after 3:00 as we can, but I'm glad we got the opening statements in. So please stand at ease for a while. The hearing will be recessed.

[Recess from 2:44 p.m. to 3:04 p.m.]

Senator LIEBERMAN. Thanks for your patience in this. I thought, rather than just linger and schmooze with my colleagues, as enjoyable as that is, between the votes, it was good to come back. Senator Thune will follow. He has an amendment on the floor now, so he may take a while. Then one of us—we'll take turns going back for the last of the three votes.

Your opening statements were really excellent and responsive to what we were talking about. Let me focus for a minute on the Future Combat Systems and just try to draw you out in a little more detail, and then I'll come back to the Army personnel questions, which are very important, and some provocative ideas were presented.

Future Combat System, as you all know, features a tactical network, eight manned ground vehicles, two classes of unmanned aerial vehicles, and other robotic ground vehicles. The Army says it plans to build 15 FCS brigade teams and also plans to spin out certain FCS technologies and systems to the modular infantry brigades of the current force as they become available.

It's obvious that, pursuant to what the President has said, what the Secretary of Defense has said, that FCS is under review now. Each of you touched on the program in some ways. I suppose in the most direct way, and probably too simplistic, I want to ask you what you think—if you were—some of you do this, so I shouldn't pose the hypothetical. If you were advising the President—I'll state it that way since I don't think you've advised the President—on FCS, generally speaking to frame three options, would you recommend that it continue on the course it's on now, be modified, or be terminated?

Pete, why don't we start with you.

Dr. Mansoor: Thank you, Mr. Chairman. I'd like to go back to military innovation in general, so that we understand why FCS exists or if we can get the Army to tell us exactly what its aimed at. If you go back to military innovation in the interwar period between World War I and World War II, for instance, what you see

is that the best innovation, such as carrier aviation, armored warfare, the British integrated air defense system that won the Battle of Britain, are focused tactical, technical, and operational solutions to specific problems and specific challenges; that unfocused modernization that looks out at creating a kind of capability that has no historical antecedent usually creates the wrong type of capabilities and ends up being not a viable capability in the next war.

This is the issue with FCS. It's a system that's been built around unproven theories that are aimed at creating a kind of capability that really doesn't meet a specific strategic challenge. If you look out over the range of possible enemies the United States faces today, the number of possibilities of the United States engaging in mobile armored warfare on the ground with massed armies is pretty limited. On the other hand, if you look at the possibilities for irregular warfare, we're already fighting two, Iraq and Afghanistan. If you look at the possibilities in Pakistan or Mexico or any number of other areas of the world today, I would argue that the Army should be creating capabilities to meet those specific strategic challenges that exist. Therefore, I think that FCS, you should look at it with a view to modifying it to make sure that it meets those current challenges.

My issue with the system is it's really intended to fight at long ranges with a very networked sensor-heavy system, where you see first, act first, hit targets very precisely. But when you look at targets in counterinsurgency warfare, they wear civilian clothes, they hide among the people, they're in dense urban areas. I don't think FCS is really configured to fight that kind of war. Therefore, if we're going to equip 19 active Army brigades and maybe a number of other Reserve brigades with this system, you're creating the kind of capability that really isn't tuned to the kind of war that we're going to be facing for the next 2, 3 decades at a minimum. So I would think that the system would have to be modified.

Senator LIEBERMAN. I want to hear the other two, but I'll come back and ask you some questions. That was very helpful.

Andy, what would you say?

Dr. Krepinevich: I'd say major modification, for four reasons. One, I think there's a lot of, as I said, fiscal risk. The program's at about \$160 billion. Independent estimates put it closer to \$200 billion. It originally started out as 18 systems. To keep the costs under control, they had to reduce it down to 14 systems. Now there's discussion they're going to reduce it down to 10 systems, 10 new systems.

Technical risk. According to the GAO report, only 3 of the 44 critical technologies have reached the point where best business practices would say yes, this is a high—an acceptable risk in terms of moving forward with an entire program.

You've got an F-35 that's got 20 million lines of code. The FCS network is now up to 95 million lines of code. The Army has told me that about 70 million lines of this code are sort of code that's already been written for other purposes, that we're going to pull together. My one concern is that you could also say that Windows Vista was built on a lot of established lines of code and we were just adding code to it. I just think when you're adding as much code as is going to be in the F-35 that's a real significant issue.

There's temporal risk. General Shinseki when FCS started said: If we don't field this system by 2010, the Army risks becoming strategically irrelevant. Obviously we're not going to get there. It's not going to be 2012, it's not going to be 2015. Now we're talking 2017. At some point the assumptions you make about, okay, we're going to get rid of our oldest equipment because this is coming on—if that stuff doesn't come on at a certain point, then you incur another risk. You either have to start paying much higher O and M costs for the stuff that you can't get rid of or you have to start re-capitalizing the stuff that you already have. I don't think that's been given sufficient weight.

Finally, as Dr. Mansoor points out, this system was revolutionary for a form of warfare that I fear is passing into history: see first, understand first, act first, finish decisively. The idea was that, unlike the Army I grew up in, where you closed with and destroyed the enemy, you maneuvered, then closed with him in close combat and then defeated him, the idea here was you would see enemy armored forces at a distance and the decisive battle would occur at a distance.

Well, first of all, we can already do that if the Army and the Air Force work together. We showed that in the second Gulf War. But second, as Dr. Mansoor pointed out, our enemies don't fight that way any more and they have almost no incentive to go back to fighting that way.

I'm also concerned in terms of operational effectiveness about a system whose effectiveness in terms of public pronouncements is very much a product of simulations. Simulations about what's very effective in this environment, that's very effective - well, that's if everything works as assumed, because a simulation in many respects is only as good as the assumptions you put into it.

My feeling is that the big advantage that was supposed to be offered by the FCS was the network, the network that would enable you to violate the military principle of mass and disperse your forces, making them far less vulnerable. In an irregular warfare environment that kind of network may be highly useful. But we should build the network, number one. We should determine what kind of network we need, and I think principally it's a network for irregular warfare primarily.

Third, we should see whether it's possible to build that kind of network, before we really take big steps in terms of these are the kinds of ground combat vehicles that best suit this particular modernization program for the Army.

Senator LIEBERMAN. Thanks. That's very interesting. Good discussion.

My time is up. I wonder if you want to try a short answer, Mr. Donnelly, or wait until the second round.

Mr. Donnelly: Well, I'll try to be quick and then if it's inadequate you'll tell me so.

Senator LIEBERMAN. Okay, good.

Mr. Donnelly: I would accelerate the program actually. I think Pete's historical example is inapropos to the current moment. That was a period of strategic pause between two global conflicts. We are now, as everybody agrees, in an era of persistent conflict and

we have a need to continue to field a force on a day in and day out basis.

I would agree with Andy that the value of the network is really the key to the system, but we shouldn't measure it by the old outdated transformation rhetoric of 2000 and previous. The value of a network in an irregular warfare environment is something that we should test, and that's what the Army is doing at Fort Bliss. And I think we should have an open mind about whether it's going to work or whether it is worth the money.

The other part of the network or part of the program that I think is critical is the radio part of it. The value of a network is I think, particularly in a dispersed operational environment, is one that's self-generating. There are a lot of questions about the JDRS radio. I mean, I'm not an engineer, but I think it's really an engineering question as to whether it can be solved. But we need a network that it doesn't go blind or become useless when satellites are not available or when other nodes outside the ground network are unavailable.

Finally, the individual soldier gear, the revival of what used to be called the Land Warfare Warrior Program—

Senator LIEBERMAN. Right.

Mr. Donnelly:—is really, again particularly in the irregular warfare environment, and the rifle radio, as it was called—those kinds of little things that don't get the headlines. And we're going to need some new vehicles. The ones that we have are old and have reached the point where they can't really be modified to do what they need to do, and Stryker's only a little bit better than Bradley and Abrams in that regard.

Senator LIEBERMAN. So bottom line, you would continue on the current course and really try to accelerate it?

Mr. Donnelly: Particularly the individual soldier gear.

Senator LIEBERMAN. Got you.

Mr. Donnelly: The radio, and making the network work, which again I think are kind of software engineering things, challenges that are solvable.

Senator LIEBERMAN. Thank you.

Senator THUNE.

Senator THUNE. Thank you, Mr. Chairman.

Thank you all very much for your testimony. Mr. Donnelly, you had mentioned that the force isn't large enough. You mentioned 780,000 in 1991. I'm just curious, perhaps from each of you, what you might think the optimal force size is for the modern Army.

Mr. Donnelly: Well, again, in order to maintain the pace of operations that I think is reasonable to expect, to be able to give people time to train, to be educated the way we want them to be, to have a decent quality of family life so they stay in the Army, so the compact between America and its soldiers is not violated—and I go through the arithmetic in the book in a pretty wonkie kind of a way. But, plus or minus, I would say somewhere in the 750 to 800,000 ballpark for the Army, is what I would keep coming back to.

Senator THUNE. Dr. Krepinevich?

Dr. Krepinevich: I guess in an ideal world I would like Tom Donnelly's Army. In the real world what I see is an Army leadership

that is asking more of its soldiers and its officers. General Craddock says it's not strategic corporals any more; I need strategic privates. I need even the most junior soldiers to be able to operate at a very high level of competence, and across the full spectrum of conflict, so high end, low end, almost seamlessly.

What we're also seeing, though, is despite the fact that we keep demanding more, the quality is going down in terms of the quality of enlistees, in terms of the quality of the NCOs. It's now automatic promotion to E-5 and E-6. That brings back memories of the Vietnam era Army that I served in, the shake and bake NCOs. These are people some of whom should not be junior NCOs. The increased stress on senior NCOs, the accelerated promotion rates for officers.

So what we have is a situation where the demands go up, the quality goes down, and oh, by the way, the cost per soldier has increased nearly 50 percent in real terms since 9-11. We can say we want a 781,000-soldier Army. The fact of the matter is we can't afford it. If we tried to get it I think the quality would go down even further.

Strategy is about playing to your advantages. Our advantage is not large quantities of manpower. Our advantage is technology and high quality manpower. I think the Defense Department has it right. The way we leverage technology, the way we leverage our quality manpower, is to train, organize, advise, and equip the indigenous forces of other countries, both to prevent from descending into instability and becoming failed states, and also obviously to be able to have a sufficient force, which I think we can do with roughly the numbers we have now, to be able to plug the gap in cases where we haven't been successful and where the failure of a state or the loss of a region would be unacceptable to us in terms of our interests.

So again, our advantages, quality personnel, technology, equipment, and also allies. We have more allies than any other country in the world. Leverage them, train them, equip them to the extent that we can, rely on diplomacy to help them get more in the game.

But I think the notion that somehow you can have a much bigger Army and retain quality and not suffer unacceptable costs in terms of trying to pay and equip that Army, I think is an illusion.

Dr. Mansoor: Thank you, Senator. I think with 48 active brigade combat teams, if you want to be able to deploy one-third of them on a continual basis, we're able to deploy 16 at any given time. If you add the capabilities that I called for in my testimony, I think you get up to a figure somewhere short of 600,000.

But I'd like to add on to what Dr. Krepinevich had to say because I think it goes to something that's really crucial. That is, it's just not total numbers of soldiers. We need ought substantially increase the number of officers that we have, and for several reasons. The ability of this Nation to provide advisers to foreign militaries is a crucial component, I think, of our military strategy going forward.

Those advisers cannot be trained quickly. They have to be officers and even senior noncommissioned officers with years of experience in the force. Where the Army used to get these officers and noncommissioned officers during the Cold War was from Training and Doctrine Command. But what we've done in the 1990s is we've gutted Training and Doctrine Command, moved those active offi-

cers into active units, and instead staffed those positions with contractors. So we've taken out all the fat in the system, if you will, but we've made it almost impossible to find the number of advisers that we need for the kind of requirements that we have.

The other thing I'd say about increasing the officer corps is it would give our officers time for increased professional military education in future years, because this is what is going to be really, really crucial to our Army and Marine Corps and the other services as well going forward. We have to have officers who understand the way the world works well beyond just the kind of professional military education they get at Fort Leavenworth or the War College. I think it calls for additional years of education in the mid-grade period, but that's going to require a bigger officer corps to make sure that we can provide the time for them to do that.

Senator THUNE. Thank you.

Mr. Chairman, I think I'm going to run over and vote and try to come back. Do you want to keep going?

Senator LIEBERMAN. Yes. I think we probably—are you prepared to come back or do you want to go forward a little bit?

Senator BURRIS. Mr. Chairman, mine are quick.

Senator LIEBERMAN. Go ahead, go right ahead. Senator Burriss, thanks for being here.

Senator BURRIS. My pleasure, Mr. Chairman.

Let me just present this to especially Dr. Krepinevich. Is that the correct pronunciation, doctor?

Dr. Krepinevich: Yes, Senator.

Senator BURRIS. I want to make sure that I get that correctly.

Dr. Krepinevich: Not too many get it right on the first try.

Senator BURRIS. In your statement you say that the Army has understandably felt compelled to pursue the full spectrum approach owing to the need to cover a range of missions within the limitations on its size imposed by fiscal constraints and its all-volunteer character. You then go on to imply that this approach is not viable, but to counter the Army's shortcomings the U.S. defense strategy is based upon the Army's focusing on building up the military capabilities of threatened states. Then you state that the Army must give greater attention to supporting this strategy.

Recently we have been briefed by the ten unified combat commands. I noted that each mentioned their military to military activities, that they desire to increase these activities.

Dr. Krepinevich, are the military to military activities specifically what you are addressing in your statement?

Dr. Krepinevich: In part. Military to military activities might be joint exercises or combined exercises with other militaries. They might be officers attending our staff colleges and war colleges, our officers going and attending theirs. But it might also extend in my estimation to things like training, organizing, equipping, and operating with their military units, depending upon the situation in the field and in combat, if it's a state that's threatened by disorder, by terrorism, by insurgents.

So it's much more expansive than just formal meetings and exchanges of students at staff and war colleges. I would see certain Army brigades that are oriented in this way as being available to support requests from other countries for that kind of support, for

support in enabling them to defend themselves from internal insurrection or external subversion.

Senator BURRIS. Another question, doctor. Do you have evidence or instances where the combat commanders are not supporting current U.S. defense strategies, and could you please help me put this into context if those combat commanders are not.

Dr. Krepinevich: I don't have any evidence that they're not supporting U.S. strategy. In the case of the Army as an institution, not a combatant commander, my concern is that their approach in supporting the strategy places too much emphasis on dealing with the risk of conventional war, which I think is relatively low compared to irregular war, and not enough attention on creating the capability and the capacity to execute what is the Defense Department strategy, which emphasizes building up—not deploying our forces to fight their wars for them, but helping these people build up their own forces, train their own forces, advise them when they go into military operations until they learn to stand on their own two feet.

That is where we have the advantage. We don't have a huge army. We don't have a large population that we can draw upon. We have a relatively small Army for the tasks that it's been asked to address. But the way to leverage our advantages—our advantages are we have very high quality soldiers that can train, that can advise. We have a large defense budget that can help us buy equipment to equip others, so we don't have to do the fighting ourselves. And we do have allies that, if hopefully we engage properly, we can help get them to help participate in this kind of endeavor.

At the end of the day, the best force to impose security in a country and a society are the indigenous forces, not external forces.

Senator BURRIS. Mr. Donnelly?

Mr. Donnelly: Oh, I'm sorry. On the same question, I'm sorry.

Senator BURRIS. No, this is another question for you, because I'm trying to deal with your 1 million, your 800,000 force. Now, given the fact that we don't have a draft, how do you think we can maintain, get that number up, when it's all volunteer?

Mr. Donnelly: First of all, the professional force, All-Volunteer Force, the original All-Volunteer Force that we raised, trained, and equipped for the Cold War was that size, was 780,000 men. It was all volunteer. It was highly professional. Senator Lieberman noted at the beginning of this hearing that the Army had already reached the increased size of 547,000 that originated with the plan that originated with the Bush Administration, that President Obama has indicated his support for. The Army has reached that number early, before it was planned to reach that number.

I would think—I sort of lament to say this in some ways—that in difficult economic times the task of recruiting is going to be a little bit easier. Also, one of the big failings of President Bush was his failure to appeal to Americans to serve their country in uniform specifically. I would certainly think that President Obama has unique moral authority to make that kind of appeal to Americans.

So I think actually getting the force size up is quite an achievable goal, and maintaining the quality is also quite good. We shouldn't measure quality by inputs per se, but rather by the performance of the force in the field. And all of us have said, including the committee has noted, really the quite remarkable performance

of soldiers and marines over the last couple years in responding to challenges that they did not anticipate and in fighting a different kind of war than they were originally organized, trained, and equipped for.

So actually I feel quite confident in the Army's and the Marine Corps's ability as institutions to shape young Americans to perform superbly under very stressful conditions. I just think we need to give them the means to execute the range of tasks that we have asked for.

Senator BURRIS. Is there any conflict between you and Dr. Krepinevich? Because he just said that the quality of the soldiers when you expand is going down.

Mr. Donnelly: First of all, the measures that we're referring to are things like scores on aptitude, Army aptitude tests and high school graduates and things like that. There has been a marginal diminution in that quality in the last couple years. On the other hand, when we again look at the performance of the force in the field we haven't seen much repeat of things like the Abu Ghraib scandal or the Haditha killings, for example.

So in my judgment, again the performance of the force as we see it and how it operates on a day in and day out basis really exceeds what I think any of us would have just sort of guessed on September 10. If you had told us on September 10, 2001, what was coming down the pike, we would all have said: Oh my gosh, this is really probably going to break the Army. And for all the stress the Army and the Marine Corps have taken on, they've performed remarkably well in my judgment.

So when we measure quality as output, I'm quite impressed.

Senator BURRIS. Mr. Chairman, I see my time has expired.

Senator INHOFE. Go ahead. There's only two of us here. Take all the time you want and I'll follow up.

Senator BURRIS. Well, no. I think I've got to go vote.

Senator INHOFE. Oh, you haven't voted yet? You better go vote.

Senator BURRIS. I better go vote. I had something about the technology and I wanted to know whether or not batteries, which is now the capability that is going to be able to be used in the battlefield, because I hear these technologies are improving the life of those, the abilities for those electronic weapons to work if we get the correct batteries.

Thank you, Mr. Chairman.

Senator INHOFE. You bet.

Gentlemen, thank you very much for your testimony. It's kind of good that you don't all agree with each other and that helps me out a little bit. We can always find someone who agrees with me and then I can concentrate on them.

[Laughter.]

Senator INHOFE. You know, he was pursuing this force strength and the capabilities and can we sustain those numbers. I have to tell you, I was dead wrong. I was a product of the draft before most of these guys were born, and I never believed prior to 9-11 and seeing the performance that I saw that we would have the quality that we have.

In terms of, the retention has been very good. The recruitment's been good. Generally that helps a little bit when you're in combat,

to have those results. Do you think we can sustain that kind of retention and recruitment that we've been enjoying here recently?

Mr. Donnelly: I'll volunteer. I would never take that for granted. Senator INHOFE. No, I know that.

Mr. Donnelly: I think we have—again, the thing that really worries me is that we don't know where the cliff is until we've taken the one step too far. I think the force has responded in ways that far exceed what our expectations would have been. We're continuing to put it under a huge amount of stress, and a lot of that again just goes to the fundamental question of asking a small amount of people to do a whole lot of work, and we've got to spread the load a little bit more by having a larger force.

Senator INHOFE. You know, I agree with that. I think I have probably made more trips over there than any other member has and I do take it very seriously. But let me just go on another line of questioning. Dr. Krepinevich, I heard your testimony and I know that a lot of the decisions that are made today in terms of force strength and modernization are made in conjunction with expectations, what our needs are going to be. I think that you guys are smart and we have a lot of smart generals, and if you're asked what we're going to have to have 10 years from now you're going to come out with some real good answers and you're probably going to be wrong.

I mentioned several times in my last year in the House and on the House Armed Services Committee we had someone testifying that said 10 years from now we won't need ground troops. So as needs change and times change, I've come to the conclusion that, even though I know that others are in different positions than I am, that we really should have the best of everything for all possible contingencies. We don't know the asymmetric threats that are out there, or maybe the conventional threats.

But in terms of strike vehicles, for example, I was very proud of John Jumper—this was before he was chief of the Air Force—back in the late 90s talking about the fact that other countries—and he was referring to Russia at that time, the Su series, were cranking out strike vehicles better than the best that we had, which at that time was F-15s and F-16s.

To me, I find that just unacceptable. The same thing is true with—we've had quite a bit of discussion here about FCS. My feeling there is that if you take any element that's on the ground that our troops are using in the defense of themselves and of America, I think they should be the best of everything. When you see some elements of FCS, well, of what we're using right now, the Paladin, the non-line of sight cannon. We went through this thing where we were going to get to the Crusader and correct that thing, and then that was axed. In fact, that was axed. I'm a Republican and of course Bush was a Republican. He did that with almost no warning.

Then I thought that was a blessing in disguise as the months and the years went by because that kind of led us into the FCS mentality of just doing something where we can be superior in every way. I can remember telling this committee that the Paladin was our best cannon at that time. You had to actually get out and swab the breach after every shot—World War Two technology. Five

countries, including South Africa, had a better cannon than we did. So I found that to be unacceptable.

I remember at I think it was the first confirmation hearing of Rumsfeld when I gave the same thing. You know, I think our kids should have the best of everything. And I said, how do you get there if you would agree with me? He said: Well, it has to do with the overall funding, and we went through the entire 20th century with 5.7 percent of GDP to support the military, and we went down to as low as just under 3 percent at the end of the 90s, and where should we be?

Well, he gave me his opinion of where we should be. Let me just ask you all. You've given a lot of thought to this. Where do you think we should be in terms of overall funding to defend America?

Mr. Donnelly: I will always step to a quiet microphone, but I'd defer to Andy or Pete to go first.

Senator INHOFE. I think I'm going to like your answer better than I get from the rest of them.

[Laughter.]

Mr. Donnelly: Let me just make—Andy I think has rightly suggested that the United States should employ its competitive advantages, the things that we have that our adversaries or potential adversaries don't have. One of the things that we have is money. Even allowing for our current economic distress, we're a very rich society. And you are quite right, we were able to sustain during the Cold War on a 50-year basis 5 or 6 or 7 percent of GDP on defense.

So I think we are quite capable of paying at a level of 4.5 or 5 percent absolutely indefinitely until the end of time. So we can afford the military power that we need, and to constrain our strategy to a budget number rather than again to build a force that will support our strategic requirements seems to me to be looking through the telescope from the wrong end.

Senator INHOFE. I agree with that.

Any thoughts on that?

Dr. Krepinevich: A couple, Senator. I think perhaps even more than money, the best thing we can do right now, particularly at the beginning of a new administration, the first new administration since 9–11, is to engage in some detailed in-depth strategic thinking. We don't have an unlimited amount of resources, so whatever we choose to spend, we want to ensure that we spend it the most effective way possible.

President Eisenhower in conducting probably the best strategic review of any President since the end of World War II gave three pieces of guidance to the people who would be conducting his review for him, and he actively participated in it. The three pieces were: One, I will not support any strategy that undermines the economic foundation of this country, because he saw that as the way of preserving what Tom Donnelly says is an enduring source of American competitive advantage, the ability to in a sense compete on a scale that is impossible for others.

Second, Eisenhower said—and I think that—repairing our economic foundation I think needs to be a major consideration. We talk about tradeoffs and where are we going to allocate resources.

Second, he said: I will not support any strategy that cannot be supported by those countries we deem to be key allies of the United

States. Here again, an important part of strategy. You can outsource certain things. Cultivating allies, I realize it's difficult, it's not easy to do. But the point is to the extent that we can do that we create an advantage for ourselves and we have resources either to build a bigger army that Tom Donnelly wants or to do other things that are important to us in terms of national priorities.

The third piece of guidance was that the President said: You should not assume that we will be in an improved situation after a general war. Essentially, he was ruling out a preventive war against the Soviet Union that had a small nuclear capacity at the time.

So I think the ability to craft a strategy that plays to your advantages, and so for example what I have been talking about is our advantages do not lie in building an ever bigger Army, at ever greater expense. Manpower is not an advantage for us in so many ways. What is an advantage is the manpower we have is very technically capable, very well educated relative to most of the rest of the world.

As Tom said, we still can compete in terms of scale.

We still have a lot of equipment and we can buy a lot of equipment. So our advantage isn't trying to say—if Pakistan were to fail tomorrow, stabilizing Pakistan according to the levels of forces that we have deployed to Iraq, for example, would require over 100 American brigades on a consistent basis. Well, that is a real problem, but that is not a real solution.

Again, I do think the solution that was developed in the latter part of the Bush Administration, that I hope will be sustained by the Obama Administration is, look, we can provide the trainers, we can provide the advisers, we can equip these people with combat vehicles, with artillery, whatever is needed, helicopters. That's our strong suit. We should play to our strong suit. We should get the manpower of other countries engaged, not our own. Our manpower can be used far more productively in other ways.

Senator INHOFE. I understand that and I agree with that, and I know that probably all three of you would be very strong supporters of 1206, 1207, the CERP program, CCIF, IMET, and all of those. We want to do that and we want to be prepared to do that.

My only point is this, and I find there's something in my own mind, perhaps my narrow mind, almost un-American that we would have a soldier on the battlefield or in the air or in the water that would be up against something that is better than we have. That's my goal. I'd like to get there some time during my lifetime where we wouldn't have that problem.

Dr. Krepinevich: I think that certainly was a major concern, as you pointed out, during the Cold War. We were in a race with the Soviets. We built a tank, they tried to build a better tank. We built a plane, they'd try and build a better plane.

There really isn't anyone out there right now that's trying to build a better version of the Abrams tank or the F-22 fighter or the—

Senator INHOFE. No, no. But if you take the clock back 10 or 15 years, there was somebody out there. Russia was actually making something that would be competitive to—and I can go into the de-

tails and you already know those as to how that would compare to our strike vehicles when I first started talking about this.

I just don't think—my own opinion is that we don't know what our needs are going to be in the future. It could be that we're not going to have the ground capability or the need for it. But I don't want to take that risk. And the only way I see to make this happen is to have the best of everything.

I agree with you, they're not out there right now. I think that's because we have gotten beyond that point and we are talking about the F-22, we are talking about the Joint Strike Fighter. But for a while that was kind of impaired.

Dr. Krepinevich: Well, I would just say that—and I may be stealing Dr. Mansoor's thunder, but the way I've always tried to look at these situations is from the point of view what are the major problems that the U.S. military has to be able to solve. Getting a little bit off track, but I think right now we have a problem in that we are being progressively locked out of our ability to project power to the Far East and to the Persian Gulf. With the advent of the kind of capability that Hezbollah showed in the Second Lebanon War, we are going to be progressively finding it difficult when we can project power, to defend those things that we seize forward because of the growth of these extended range rockets, artillery, missiles, and mortars.

We are going to be confronted with irregular warfare on a persistent basis, and we are already being challenged in what the military calls the global commons, which is space and cyber space by the Chinese, and progressively the seas and the undersea, most likely by the Chinese as well. That is a wide array of problems that I think are clear, they're unambiguous. There may be others that surprise us, but I think these are definite.

I think when Secretary Gates talks about a balanced defense he means you have to cover all these bases. When it talk about a balanced Army, I talk about an Army that I think is overly balanced in favor of traditional conventional war and not sufficiently focused on irregular war.

Senator INHOFE. What I would only respond—actually, you're supposed to respond, not me—that I don't have the faith in the accuracy of our crystal ball right now, and that's my major concern.

But thank you all for your testimony and for your comments.

I've abused the time a little bit, but you guys weren't here.

Senator Lieberman [presiding]: That was interesting. Thanks, Senator Inhofe.

Let me come back to Dr. Mansoor and ask you a question about Future Combat Systems. Based on what you said and to sort of put it maybe more simply than I should, the choice here is between developing or investing in systems, equipment, hardware that is responsive to actual strategic challenges that the Army faces, and on the other hand—and I'm going to spin it a little bit—modernizing for the sake of modernizing. I understand that that's a generally critical comment about FCS.

So me ask you, if you had your druthers what would you be investing in now in terms of better equipping the Army to face the challenges that it will face in the future? And as part of that an-

swer, are there any components of FCS that you particularly would continue to develop?

Dr. Mansoor: Thank you, Senator. Actually, I think that we're on the right track in terms of equipping our force for counterinsurgency operations. We've spent about \$20 billion equipping our Army with MRAP vehicles, the Mine-Resistant Ambush-Protected Vehicles that have proven very, very valuable. The Stryker vehicle has also proven very valuable.

Abrams tanks and Bradley Infantry Fighting Vehicles, when properly modernized and added with added applique armor and so forth, have been proven very effective. These are the kind of things that we can continue to provide our forces with as they reset and continue to fight these kind of wars. Meanwhile, we can continue to conduct the research and development to reduce that tactical and technical risk that Dr. Krepinevich talked about, rather than pushing FCS quickly into the hands of our forces, because it is designed really for high-end combat that no one at this table I think believes is going to happen in the next decade or two. Therefore we have some time to get it right.

In terms of the pieces of the system, because it is being spiraled out bit by bit into the field, there are pieces of the system that are really useful. I think the network once it's proved viable is a very, very valuable tool, no matter what platforms it's used on. The unmanned aerial vehicles, especially if they're armed, have been proven very, very useful both in counterinsurgency warfare and in high-end combat. So those are two examples of systems that I would continue to push forward into the hands of our troops. There are undoubtedly others. We need to replace—as Senator Inhofe said, we definitely need to replace our artillery systems because they're aging beyond the useful life of the system.

So pieces of FCS are really, really crucial, but we don't necessarily need the entire system of systems all at the same time.

Senator LIEBERMAN. Okay, that's very helpful.

Tom, did you want to add something?

Mr. Donnelly: Yes. It's going to be really hard to pick FCS apart. That's both the blessing and the curse of the system. The network, which I think all of us think is probably the signal attribute of the FCS system, is not going to be as valuable absent the JDRS radio or on an M-1, M-2 platform.

So it would be really difficult to go back to the old system of Army modernization, where you did it in a piecemeal fashion, and retain the value of the network. The network will be limited by the most constraining aspect of the things that plug into it. So you can do it and if you're in a budgetarily constrained situation you may have to do it. But you're going to end up getting less return on your investment if you start taking FCS apart in that way.

Senator LIEBERMAN. Thanks. Thanks for that addition.

Let me turn the discussion quickly to the question of the size of the Army. Mr. Donnelly has put out a number, but basically a concept, too. He has said go back to the 780,000 we were at before. I took you mean to meet both the conflicts we're going to face, but also to go back to a rotation which allowed more time here or at base, and also to allow for more time for individual members of the

Army to go to the kind of educational opportunities that you talked about and have better training.

I wanted to ask Dr. Krepinevich, Dr. Mansoor, to give us your thoughts about the ideal size of the Army and whether, if you reject Mr. Donnelly, if you do for reasons of sort of what you consider to be reality, which is we're not going to pay for that size Army, or whether you think really it's more than we need. To some extent I hear you, Andy, saying maybe it is more than we need; even if we could afford it, we'd be better with a smaller force than that, but one that's highly trained, high quality.

Dr. Krepinevich: Well, Mr. Chairman, Tom spoke about the Army that I served in, the 781,000-soldier Army. That was a garrison army. The working environment was very different from the working environment of soldiers today. That's one of the reasons why the real cost of a soldier has gone up 45 percent in real terms over the last decade. So it's getting soldiers, even soldiers that according to the Army's own metrics are of lower quality, that cost has gone up substantially.

The costs on an annual basis for the 92,000 soldier- marine plus-up is estimated at somewhere around 13 to \$15 billion. That's 13 to \$15 billion every year. That's on a defense budget that is already, according to CBO estimates, short an average of 25 to \$50 billion a year as far as the eye can see. Adding another 200,000 soldiers to the Army, 200,000 plus, just doing a linear extrapolation, is going to cost you about \$30 billion on top of the 14 or \$15 billion we're already paying.

So that's \$45 billion a year every year. Now, would I like to have a larger, high quality Army? Yes. But I think we've all had a wake-up call in recent months of just how difficult our financial situation is. Once we get done spending however many trillion dollars we're going to spend, we're going to be working like the devil, according to rosy estimates, to get deficits down to what only a year or 2 ago, \$500 billion, 600, we considered entirely intolerable.

My thinking is that this is not a realistic option, however desirable it might be. Again, even if you could create that Army, there are contingencies that can happen before we go home this evening, if Pakistan unravels. Well, Pakistan, the population is about 180 million. The population of Iraq is about 27 million. The equivalent number of brigades we would have to send in to try and begin to stabilize Pakistan is well over 100. You can't build an Army big enough to deal with some of these contingencies, and that's why I keep going back to the path to salvation, if you will, is using our strengths—training, advising, equipping indigenous forces, allied forces. We do have allies. They do realize they live in tough neighborhoods.

That's why I think Pete's point, Dr. Mansoor's point

—I would gladly give back a good portion of that 65,000 increase if I could thicken up the officer and NCO corps, because I want those people to be available to do that training and advising while I keep my current brigade force as sort of a surge emergency force, and again not orient more of the active brigades on being able to do that well, as opposed to being deployed and having to kind of play Mister Potatohead, you know, pulling all this off and plugging

all that in to see if we can get a unit that can operate at a fairly high level of effectiveness in that environment.

Senator LIEBERMAN. Would you give us a number? I presume—would you go up some if you could from the 547?

Dr. Krepinevich: If it was a no-cost option, I suspect I would go up. My emphasis wouldn't be on adding six additional brigade combat teams. It would be on thickening up the institutional Army with officers and NCOs and creating the kinds of support elements that Dr. Mansoor was talking about in terms of engineers, in terms of intelligence elements and so on, to make those brigade combat teams much more effective in an irregular warfare environment.

Senator LIEBERMAN. Dr. Mansoor, I'm way over my time and I want to give Senator Thune the opportunity. Can you give me a quick answer to the question, or do you want to wait until the next round?

Dr. Mansoor: I can do it real quick, Mr. Chairman. In my testimony I called for restructuring our brigade combat teams to make them more capable in both a counterinsurgency and in a conventional warfare environment, which would include additional infantry, engineers, staff elements. That would cost I think about 45,000 troops.

We also need to thicken, increase our officer corps to provide the kind of advisory capability that is really, really crucial to our National security, and we need to create an institutional home for this advisory effort as well.

I think when you add all that to the current Army end strength you get somewhere around 600,000.

Senator LIEBERMAN. Great. Thank you.

Senator Thune.

Senator THUNE. Thank you, Mr. Chairman.

Gentlemen, the Army maintains sets of prepositioned stocks of combat support vehicles for contingency use. My question is, given the threats that we face in the 21st century, are these stocks still important? And if so, should the DOD ensure that these stocks are maintained at high levels and expand the program?

Mr. Donnelly: Anybody in particular?

Senator THUNE. Nobody in particular. Fire away.

Mr. Donnelly: Again, I'll always volunteer.

I think they are less—the environment has changed. Again, I think those were hedges made against uncertainty and particularly uncertainty in the Persian Gulf and the Middle East when you come to land force sets. Again, my view would be that we pretty clearly see, at least for planning purposes, the road ahead in the Middle East. That doesn't mean that I don't think that land force equipment sets don't need to be flushed out. I just don't think that they need to be sort of in prepo sets sitting in Diego Garcia or in warehouses in Kuwait.

Andy has suggested that one of our strengths could be equipping new allies like the Iraqi army or the Afghan National Army, for example, just to pick the most obvious two. So there would be needs to again build up equipment stocks to do that, and also to replenish our own equipment stocks.

But as to the narrow question of the prepo sets of the kind that we used to have, I would certainly, if you gave me more vehicles and more stuff, I'd use them for other things first.

Dr. Mansoor: Senator, I think that's a very good question. One of the things I think that our experience in the 1990s led us to believe is that we don't suffer any attrition in combat. We lost very little in the Gulf War, very little in the contingencies in the Balkans, Somalia, other places. And yet the Army has really been confronted with a lot of attrition of its equipment in these wars in Afghanistan and in Iraq, to the point where we have brigades coming back to the United States that essentially have to leave a lot of their equipment overseas, and they remain generally under-equipped as they begin to train up for the next deployment.

So I would say, whether you want to call them war Reserve stocks or something along those lines, we need to build up that kind of an inventory because our industrial base can't surge, for example, the way it did during World War Two, cranking out enormous quantities of equipment.

I would also say that we also need to think about how would we equip indigenous forces, because I agree with Senator Inhofe, while we might take the approach of wanting the best for our young soldiers and marines, limits on resources and just other hard factors may say, look, we don't have to give the best of everything to indigenous forces, to our allies. We can give them equipment that is good enough because we do have resource constraints.

I would like to see some consideration—and actually I've spoken to a few Army generals who privately admit that this makes a lot of sense if you're going to have a strategy that says the sooner we equip the Afghan National Army, the sooner we can train them, the sooner we can get them in the field, the sooner we can begin to draw down our commitment there and release our forces for other commitments.

So I think the issue of war Reserve stocks makes a lot of sense, both in terms of our own forces suffering attrition, but also in terms of rapidly being able to equip indigenous and allied forces.

Dr. Krepinevich: Senator, the prepositioned stocks tend to be heavy brigade combat team sets. The issue with the Army is it's got so much different types of equipment that it's almost impossible to find a unit that can fall into that set of specific equipment and use it off the shelf. In addition, the sets being arrayed in the Middle East and Korea and elsewhere are very vulnerable to first strikes.

So if I had to make a choice I would save the money by getting rid of the stocks and putting more money into fast sealift.

Senator THUNE. Let me ask you a little bit about the Army—it maintains that by organizing around brigade combat teams and supporting brigades it'll be better able to meet the challenges of the 21st century security environment, specifically to jointly fight and to win the war on global—the global war on terrorism. How do each of you think that modularity is progressing and what changes, if any, would you recommend?

Mr. Donnelly: My view would be that I think modularity has gone too far. As Dr. Mansoor suggested, we redesigned a brigade that's a heck of a lot smaller and took the manpower savings from

the FCS being able to perfectly see the battlefield before we had the technological capabilities to do so. It's not surprising that every time a brigade combat team deploys to a theater of operations now they get plussed up a lot with a lot of the same things, although some very different things that we took away, such as military intelligence, engineers, military police, etcetera, etcetera.

So the brigade organization that we have currently got is a very fragile organization, and in a long war environment you have to ask yourself, at least above the brigade echelon, whether we are well configured for long-term sustainment operations. In Afghanistan, for example, we're going to require a lot more support forces just because of the nature of the dispersed and immature nature and undeveloped nature of the country.

So we have designed a perfect little brigade that's a big risk.

Senator THUNE. Anybody else?

Dr. Krepinevich: Just two quick observations. One, I think the idea of having brigades that are independently deployable certainly has been a benefit to us and allowed us a certain amount of flexibility.

Second, the Army has, as I mentioned, they're planning to have 19 heavy brigade combat teams, zero brigades that are oriented on irregular warfare. There was some discussion in the Army G-8 staff element about security cooperation brigade combat teams, and I thought, while the Army hasn't followed through on that, I thought some of the ideas in there—and again, I think they fall along the lines that Dr. Mansoor was talking about. I would like to see about 15 brigades in the active force, 15 brigades in the Guard, that are oriented on those kinds of missions. The fact that they would be independently deployable I think would enable them not necessarily even to have to deploy as a brigade—they might be able to send a battalion to the Philippines for a specific—to deal with a specific request, a company to Kenya, and so on, to have brigades that in a sense can help keep the lid on things, build partner capacity, as opposed to letting things get out of control, us having to do it ourselves and deal with a much more threatening environment.

Dr. Mansoor: Senator, I would have to agree with my colleagues here at the table. The modular brigades as currently organized and equipped have insufficient staff for the missions they're being called upon to execute. They lack engineers and military police. Most importantly from both conventional and irregular warfare standpoint, they don't have enough troops. They lack a third maneuver unit, which almost every historical study would indicate is needed both in conventional warfare and would add additional infantry as well for counterinsurgency warfare.

So I think the Army made a good decision going to modular brigades and then designed them incorrectly.

Senator THUNE. Thank you, Mr. Chairman.

Thank you all very much. I appreciated very much your testimony and your very candid observations.

Senator LIEBERMAN. Thanks, Senator Thune. I agree, it's been a very productive afternoon. As we mentioned earlier, we have to go over to a briefing with Ambassador Holbrooke on Afghanistan and Pakistan. But I want to thank you.

We have some big decisions to make. It may be that we will ultimately not make a big decision about the size of the Army, although I think we should. Maybe we'll be forced to do that by amendment on the floor. But there's no question that the administration's budget will confront us with some big decisions about how to equip the Army. I could be mistaken, but I don't think I am. I think there's going to be some recommendations for change.

Really, what you've said today and what you've written in your very thoughtful prepared statements, which I know took you some time, was very helpful to us. As a matter of fact, I'm going to give you a request right now, that when the President's budget does come in in detail I really invite each of you to respond, particularly obviously on what it does about equipment, systems, and offer us some alternatives if you think there are some better ones beyond what we've talked about today.

But thank you very much. You've done a real service to the committee and we hope I turn to the country.

The hearing is adjourned.

[Whereupon, at 4:05 p.m., the subcommittee adjourned.]