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**CENTRAL ASIA AND SOUTH CAUCASUS AS AN AREA  
OF OPERATIONS: CHALLENGES AND CONSTRAINTS**

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**INTRODUCTION**

There is no question that the United States can get forces into the South Caucasus or Central Asia, as it has in support of U.S. operations in Afghanistan, known as Operation Enduring Freedom. To date, these operations have been limited to a few airfields in Central Asia from which military and humanitarian support operations have been conducted over Afghanistan. This operational experience has highlighted for U.S. military planners many of the difficulties inherent in deploying forces to and sustaining them in Central Asia, as well as the necessary tradeoffs between speed, cost, combat capability, and effectiveness.

U.S. relations with and security interests in the states of both Central Asia and the South Caucasus have changed dramatically since September 11 and as a result of the U.S. commitment to the international counterterrorist campaign.<sup>1</sup> The U.S. military has been much more proactive in the two subregions, recruiting states into the counterterrorist coalition and expanding its security cooperation and direct military assistance programs. In the long term, this increased military-to-military contact and Western exposure to the region's operational environment will improve the U.S. military's ability both to conduct combat operations in the target countries and to use these areas to project and sustain military forces in nearby countries or regions. The emphasis of this chapter is on the conduct of ground

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<sup>1</sup>See Chapter Two of this report.

support operations in CASC, but it also addresses briefly the use of the region as a power-projection platform.

To date, this post-September 11 growth in military activity with the regional states has focused first on supporting operations in Afghanistan and then on the broader antiterrorist campaign. In support of Operation Enduring Freedom, the emphasis has been more narrowly focused on gaining essential overflight and base access rights needed to support ongoing combat operations in Afghanistan.

To support a broader range of potential ground support missions in any of these states, military planners will need a more detailed understanding of the capabilities and limitations of the national infrastructure of potential target states than they have so far required. Successful joint military operations demand a precise comprehension of which local operational capabilities are in place and which are not. Often the available local infrastructure will not be able to support the planned deployment of U.S. forces and may in fact hamper the process, forcing alterations in the operation's deployment pattern. U.S. force deployments into Central Asia in support of Operation Enduring Freedom have indeed reinforced this assertion. Deploying forces have identified many problems and shortfalls that they have had to overcome or redress, often requiring the deployment of additional supplies, equipment, and/or personnel, which slows the process and inflates overall lift requirements. This experience is probably not unique, and future deployments will meet similar problems. Moreover, in many of these states U.S. troops are likely to face an uncertain and potentially hostile environment, whatever the type of mission or its requirements.

Regardless of the specifics of the mission, the mechanics of deploying U.S. forces to Central Asia and/or the South Caucasus and sustaining them once there present challenges that must not be underestimated. In the region, forces will find that many of the same factors that make the deployment difficult (and, probably, the same factors that made it necessary) will make their work even harder. Distances to and through the region are vast, the terrain is difficult and often unpredictable, poverty and pollution are prevalent, and political uncertainty is a facet of everyday life.

This analysis discusses some of the geographical and operational challenges presented by CASC as a potential environment for a future U.S. military deployment. It does not postulate the specifics of possible missions; rather, it considers the mechanics of the deployment process, the operational environment, and the capabilities of local forces to work with the United States, work with each other, and to fight their own fights, whether alongside U.S. forces or against them. Although operations in Afghanistan have unique characteristics, there are a number of operational lessons that have implications for any future operations or deployments the two subregions, especially Central Asia. The war in Afghanistan is not over, but a number of the first impressions from that conflict have application and will be discussed briefly in this chapter.

## DEPLOYMENT

Whatever the mission, the first step in implementing it will be to deliver forces and equipment into the area of operations. If that area of operations is Central Asia and/or South Caucasus, distances to and through the region make this a particular challenge. Airfields are few and far between, and many of them are in poor operational condition. Only Georgia has access to the open sea, making deployment by ship, especially into Central Asia, even less feasible. Finally, apart from the vast distances to travel, road and rail transit through the region are further hampered by the poor condition of the infrastructure and the difficult terrain across much of the region. While road and rail infrastructure is likely to improve in some parts of CASC as energy development proceeds, it will be largely limited to the energy-producing states (and, to a lesser extent, transit states like Georgia), and even there only to the main traffic arteries, rather than the region as a whole.<sup>2</sup>

Of course, the degree of challenge associated with any airlift mission varies, depending on how much (materiel, equipment, and person-

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<sup>2</sup>In addition to the traffic arteries, deployment planners must also be concerned about the availability of the right mix of railroad rolling stock necessary to move deploying formations. The rolling stock needed to transport the heavy, oversized equipment associated with a U.S. mechanized formation (battalion or brigade) is in short supply in the region, and this situation is unlikely to improve over the next five years or more.

nel) must be transported into the region; and this will depend on the specifics of the mission. For illustrative purposes, this analysis considers the difficulties inherent in moving a brigade combat team (BCT) into the region. The BCT is today considered the basic building block for Army forces and therefore provides a good starting point for thinking about a deployment.

There are three categories of BCTs (Heavy, Stryker, [Medium],<sup>3</sup> and Light), and Table 8.1 presents the number of troops assigned, the estimated weight of materiel to be moved, and the number of vehicles associated with each type of brigade. The table also outlines the amount of strategic air and sea lift required to transport each of these force packages.

**Table 8.1**  
**Key Brigade Combat Team Characteristics and Lift Requirements**

	Light	SBCT	Heavy
Passengers, each	2,393	3,494	3,655
Short tons	2,355	12,574	26,865
Square feet	71,896	217,098	315,861
Dismounted infantry, each	945	945	261
Wheels, each	347	930	780
Light tracks, each	0	0	390
Heavy tracks, each	0	0	160
C-17 sorties	53	280	597
LMSRs	1	1	2

<sup>3</sup>The Stryker Brigade Combat Team (SBCT) is the first step in the Army's effort to improve the deployability time of its mechanized combat formations. The SBCT is being built around a new series of combat vehicles that are smaller and lighter than their counterpart in the Army's standard mechanized battalions and brigades. The overall force structure of the SBCT is smaller and its total deployment requirements are much reduced. This medium-weight formation is more deployable than the heavy brigade, but it carries much more firepower and mobility than a light brigade. See John G. Roos, "Tools of Transformation: Army's Sights Focused Far Beyond the Interim Brigade Combat Teams and Future Combat Systems," *Armed Forces Journal International*, October 2001, pp. 56–61, and Daniel Goure, "The Army's Policy Nettle: Transformation: Will It Fix What Ails the Army?" *Armed Forces Journal International*, October 2001, pp. 44–54, for a good description of the Army's long-term transformation program.

The numbers of C-17<sup>4</sup> sorties or LMSRs (Large Medium-Speed Roll-on/Roll-off Ships) indicated are for the brigade combat teams alone and do not factor in additional logistics or other support capabilities that may be demanded by the specific mission and theater's security environment.

As Table 8.1 indicates, the more strategically mobile light brigade combat team requires only one-fifth as much strategic airlift to deploy as the Stryker BCT (SBCT). BCTs of this type are small and light enough to be readily moved exclusively by air into either South Caucasus or Central Asia. Formations of this size and smaller special forces or technical support units can be flown nonstop by C-17 from their CONUS home station<sup>5</sup> or staged through a USAF-managed base nearer the region and transferred to C-130 tactical airlifters for the entry leg of the deployment. For smaller unit deployments, the disadvantage of the smaller cargo space of the C-130<sup>6</sup> is outweighed by the aircraft's ability to effectively operate from almost any type of austere landing strip (see Table 8.2). Moreover, the C-130 places a smaller burden on the supporting host nation airfield. These are both important characteristics when the operational environment is unfamiliar, the airfields are less than optimal, and landing near the operational location is critical.

As Table 8.1 indicates, the light BCT has the same number of dismounted infantry as the SBCT, but less than one-third of the mobility

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<sup>4</sup>Although the C-17 is used as the standard airlift measure here, all of the combat systems organic to the Army's new medium-weight combat brigade or Interim Brigade Combat Team are C-130 transportable. The smaller cargo body of the C-130 will necessitate more airlift sorties (an estimated 390 versus the 280 for the C-17). This approximately 40 percent increase in the number of aircraft sorties will increase the necessary deployment time and place a greater strain on the host country's infrastructure.

<sup>5</sup>In support of a 1997 PfP-sponsored CENTRAZBAT-97 exercise in Central Asia, about a battalion of 82nd Airborne Division troops flew nearly 8,000 miles nonstop in C-17s from Fort Bragg, North Carolina, to the exercise location in Kazakhstan in about 20 hours and parachuted into the training zone. In addition to the 82nd, elements of the 10th Mountain Division have also participated in this exercise series and gained some operational familiarity with the region and the peacekeeping forces from Kazakhstan, Kyrgyzstan, and Uzbekistan it has worked with, as well as the facilities used.

<sup>6</sup>The C-130 has a cargo capacity of 21 short tons, less than half that of the C-17 (45 short tons). The outsized character of much of the equipment associated with this brigade means that many of the aircraft sorties are cubed out before they are weighted out, thus the less than 50 percent exchange rate of C-130s for C-17s.

assets. Clearly, the light brigade can be deployed more quickly and its deployment will place a much smaller demand on the host country's transportation infrastructure.<sup>7</sup> But it will not have the combat capability, armor protection, or ground mobility inherent in an SBCT and especially not that in a heavy brigade. There is not sufficient organic transportation to simultaneously move all unit personnel, which will constrain the brigade's ground mobility. The HMMWV (high mobility multipurpose wheeled vehicle) is the principal transportation asset organic to the light brigade.<sup>8</sup> The brigade has a number of variously configured models of the HMMWV, as the vehicles are mission configured and carry different weapons and communications packages. What is packaged onboard is constrained by the vehicle's limited space and load-bearing capabilities. The nature of the HMMWV also limits the number and types of C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) assets that can be self-deployed with the brigade, which could constrain the unit's ability to maintain detailed situational awareness across an expansive operational environment. The light brigade's firepower is limited to lightweight, short-range, towed 105mm howitzers and light mortar indirect artillery systems, and a range of direct-fire, anti-armor systems. The brigade's most effective anti-armor systems will be its direct-fire assets, meaning that enemy armor and artillery assets can with good probability close within range of the unit. The combat effectiveness and operational utility of the light brigade is significantly enhanced when supported by combined lift and attack helicopter units that can add needed mobility and firepower. There are a number of operational environments and mission requirements well suited for such light forces, as the U.S. Army's 10th Mountain Division has demonstrated in the rugged hills and mountains of Afghanistan.<sup>9</sup>

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<sup>7</sup>Estimates outlined in Table 8.3 suggest that the light brigade can be deployed almost anywhere in the Caspian region in less than four days.

<sup>8</sup>The HMMWV is generally not armored and provides little direct protection from weapons fire or flying debris. The vehicle has good offroad capability, but its truck-like wheel and drive-shaft design is vulnerable to the hazards of both terrain and enemy action.

<sup>9</sup>The missions best suited for this type of light formation include, but are not limited to, the following: seizure and security of airfields and other key facilities, rapid deployment (quickly getting U.S. ground combat forces on the ground), peacekeeping operations, military operations on urbanized terrain (MOUT), counterterrorist opera-

The Army's new medium-weight formation, the SBCT, has greater tactical mobility, armor protection, and firepower than the light BCT.<sup>10</sup> But the tradeoff is a significant increase in the size and weight of the deployment package (see Table 8.1) and in the time needed to deploy the brigade.<sup>11</sup> The SBCT includes about 3,500 troops, 12,600 short tons of cargo (equipment and supplies), and 930 vehicles, and although the SBCT requires less than half of the strategic lift needed to move a standard heavy brigade, it remains a significant lift challenge. The principal combat vehicles assigned to the SBCT will be variants of the Army's new interim armored vehicle (IAV): the wheeled light armored vehicle (LAV III).<sup>12</sup> The size and load-bearing capabilities of the LAV give the unit a more stable and versatile platform than the HMMWV on which to mount a broader suite of weapons, acquisition and systems management tools, C3 (command, control, and communication) assets, and other systems that will enhance situational awareness and the unit's ability to conduct all-weather, day-night operations to greater ranges across the battlefield. The SBCT's overall C4ISR capability is a significant improvement over light brigades. The unit's fire support assets have greater range, higher rates of fire, and a broader range of munitions capability, allowing it to engage enemy forces, including armor, outside of direct-fire range. These mobility, C4ISR, and firepower improvements will allow the SBCT to operate in a broader-range and more robust combat environment. Although the SBCT does not have the operational capability to challenge a heavy mechanized and ar-

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tions against similarly armed opposition forces, large-scale raids and reconnaissance, operations in rugged terrain (e.g., mountains), timely local security for combat search and rescue (CSAR) operations, and operations requiring shock action (e.g., ambushes).

<sup>10</sup>The SBCT is an evolving unit structure, and the first two teams are expected to be operational in the summer of 2003. See Roos, "Tools of Transformation: Army's Sights Focused Far Beyond Interim Brigade Combat Teams and Future Combat Systems."

<sup>11</sup>See Table 8.3 for a current estimate of the deployment time for an SBCT to key locations in the Caspian region.

<sup>12</sup>The various combat and support variants of the IAV are expected to weigh, on average, 20 tons each, which is significantly less than its counterpart in the heavy BCT. The LAV III is much lighter than the Bradley Infantry Fighting Vehicle, but it sacrifices both armor protection and firepower. It is, however, faster than the Bradley, consumes less fuel, requires fewer man-hours of repair, needs a smaller logistical support base, and is more flexible in complex terrain. Goure, "The Army's Policy Nettle," p. 48.

mored opposition force, it does have much more anti-armor capability than the light brigade and can be expected to operate against lightly armored formations, especially with airborne anti-armor fire support from either Air Force fighters or Army attack helicopters. The SBCT can be effectively used to support most of the same types of missions as the light brigade, but to do so in a security environment that demands greater firepower, personnel protection, situational awareness, and ground mobility. What it clearly cannot do is get there as quickly as the light brigade, but once there, it is better protected and has far better mobility.

The heavy brigade has significantly greater armor protection, firepower, and overall combat capability than either of the other types of brigades, but there are many operational environments where these capabilities are not needed and may, in fact, have only limited utility.<sup>13</sup> As noted in Table 8.1, these enhanced combat capabilities come at a cost in both the size and weight of the unit, as well as how the formation can be deployed, what demands it places on strategic lift, and how long it will take the unit to close in theater.

In the end, the type or mix of formations and capabilities best suited for a given deployment will be determined by a number of factors, including the nature of the mission requirements, the threat environment, local capabilities and limitations, and how soon combat forces need to be on the ground. The discussion that follows focuses on the deployment of pure force packages and is not definitive. It is not anticipated that either the deployment of a pure light or medium brigade will be the best option. Rather, these units are being used to give planners a feel for the range of deployment issues and timeliness possible. In the end, the deployed force package will be tailored to meet specific operational and mission requirements and could easily be a mix of light and medium formations (companies and battalions).

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<sup>13</sup>For example, heavy formations were a necessity in Desert Storm, but they had only marginal long-term utility in either Bosnia or Kosovo, where the heavy, tracked Bradley IFVs and Abrams tanks were essentially confined to the compounds and provided perimeter security.

## DEPLOYMENT BY AIR

As Operation Enduring Freedom so clearly demonstrated, in the absence of standing operations orders, assured access to regional deployment airfields, established air lanes, and the en route infrastructure necessary to support the process, it is difficult to rapidly deploy forces into such a distant theater. Like Central Asia, Afghanistan is landlocked and far removed from stationed U.S. military forces and their traditional deployment support infrastructure. Following the September 11 attacks on the United States, it took U.S. planners nearly three weeks to prepare for Operation Enduring Freedom. This time was used to forge the alliances, prepare the plans necessary to support operations against Taliban and Al Qaeda forces in Afghanistan, and put in place the overflight, basing, and special-access agreements essential for the air bridge linking the operational area to CONUS and the European theater.<sup>14</sup> This latter step was critical because almost all the materiel and equipment moved into the theater has been transported by air. The lack of access or use agreements for airfields with any of the regional states delayed and then constrained airlift operations, as well as combat operations by land-based tactical aircraft.<sup>15</sup> It would take time, but the United States and its allies successfully negotiated access agreements with several of the Central Asian states, which will be discussed in greater detail later.

For the United States to deploy forces effectively by air, it must not only have access to regional airfields, but these airfields must also meet fairly specific infrastructure requirements. As Table 8.2 indi-

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<sup>14</sup>Ramstein Air Base, Germany, served as the principal strategic hub for all airlift operations in support of Operation Enduring Freedom. Bulgaria, Turkey, Azerbaijan, Georgia, Turkmenistan, and Pakistan were all among those states that granted overflight privileges. Bulgaria also allowed the U.S. Air Force to operate KC-135 tankers from one of its Black Sea bases. See John G. Roos, "Turning Up The Heat," *Armed Forces Journal International*, February 2002, p. 37, and John A. Tirpak, "Enduring Freedom," *Air Force Magazine*, February 2002, p. 36.

<sup>15</sup>During the early weeks of Operation Enduring Freedom, U.S. and allied combat air operations were restricted to the use of long-range bombers and carrier-based aircraft, with U.S. Navy air generating about 90 percent of the combat sorties during these first weeks. Adam J. Herbert, "The Search for Asian Bases," *Air Force Magazine*, January 2002, pp. 51–52. A similar arrangement may be possible to support air operations over the Caucasus from the Black Sea, but most of Central Asia is outside the normal operating range of naval air, underscoring the need for access to regional airbases.

cates, the heavy lifters, especially the C-5 and the tankers, require long, well-reinforced runways and plenty of ramp space to allow for the safe parking and servicing of aircraft and cargo.<sup>16</sup> When fully loaded, the Air Force prefers to operate these larger aircraft from airfields with runways of 8,000 to 10,000 feet.

The preference will be a problem in the area of the Caspian, as it was in Afghanistan.<sup>17</sup> Many local airfields in that region were initially built by the Soviet air force as fighter or fighter-bomber bases, and thus to standard metrics, which included a 7,500-foot runway and an

**Table 8.2**  
**Infrastructure Requirements by Aircraft Type**

Aircraft Type	Minimum Runway Length for Landings (feet)	Maximum Runway Length for Takeoff at Maximum Weight (feet)	Minimum Runway Length for Takeoff at Minimum Load (feet)	Minimum Runway Width (feet)	Operational Planning Factor (feet)	Ramp Space Required (square feet)	Preferred LCN
C-5	5,000	12,200	7,200	150	8,000 × 150	64,524	48
C-17	3,000	7,500	3,500	90	4,500 × 90	47,500	48
C-130	3,000	6,250	2,600	60	4,000 × 80	15,519	37
C-141	5,000	9,000	5,920	98	6,000 × 100	31,362	50
KC-10/ KC-135	5,400	11,800	8,480	148	10,000 × 148	34,800	77
B-747	6,600	11,000	8,000	142	8,500 × 150	52,500	70

<sup>16</sup>The information comes from various sources, including *Jane's All the World's Aircraft 1999–2000*, Jane's Information Group Ltd., 1999, U.S. Air Force Pamphlet 10-1403, *Airlift Planning Factors*, 1996, and U.S. Air Force Pamphlet 76-2, *Military Airlift: Airlift Planning Factors*, May 29, 1987.

<sup>17</sup>During Operation Enduring Freedom, the Air Force has worked around the lack of access to airfields large enough to support its large tankers (KC-10 and KC-135) in several ways. The tankers flew racetrack orbits along the en-route flight paths, refueled the aircraft both inbound and outbound, and staged out of airfields in Turkey and Bulgaria to support the final leg of the flight. This is less than the optimum solution because of the increased daily sortie rate demand it placed on the tanker fleet. Richard J. Newman, "Tankers and Lifters for a Distant War," *Air Force Magazine*, January 2002, pp. 56–60.

LCN (load classification number) ranging from 40 to 45.<sup>18</sup> Only a few commercial airfields and former Soviet strategic military airbases in the area are sufficiently robust to approach the U.S. Air Force's preferences.<sup>19</sup> Moreover, many of the former military installations are not being utilized or, at least, well used and maintained by the local militaries. Also, the facilities are run down and many of their control and safety systems are in disrepair, as U.S. Air Force survey teams confirmed during the ramp up to Operation Enduring Freedom.<sup>20</sup> Because of runway constraints, any deployment to the Caspian by air would probably rely primarily on the C-17 and C-130, which can operate from smaller, more austere airfields than can the C-5, have a much better operational readiness rate than the C-5, and demand less local support.

About 20 airfields in the South Caucasus subregion have runways of at least 7,500 feet. Ten of them are in Georgia, including Babushara, a large commercial airfield not far from the seaport at P'ot'i and two smaller airfields near Bat'umi. The latter are former Soviet fighter bases and have shorter runways but should be able to support C-17 operations. Mureulli air base outside of Tbilisi (see Figure 8.1) is being refurbished to NATO standards with Turkish assistance, and

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<sup>18</sup>The LCN is a numerical value that represents how much weight a particular runway can hold without causing permanent damage. Each aircraft type has a specified LCN, which identifies how much stress it is expected to exert on the runway. Aircraft type, operational parameters, and gross weight all factor into LCN. Normally, the LCN of an aircraft should not exceed that of the runway, taxiway, or ramp on which it operates. See U.S. Air Force Pamphlet 76-2, *Military Airlift: Airlift Planning Factors*.

<sup>19</sup>The emphasis is on preference, but the Air Force is prepared to and has operated from airfields that fall far short of the preferred standard. The critical concerns are for the length, width, and condition of the runway and its associated ramp space, and for the security of the installation. The Air Force is prepared to overcome or work around most of the other types of shortfalls, bringing in fuel bladders to replace damaged tanks, mobile navigation and control systems, tents or other temporary structures for both operational requirements and life support, etc. Additionally, both the Air Force and the Army can use U.S. contractors to provide specific support utilizing local labor and materials. Air Force operations at both Tazar air base, Hungary, and Tuzla airfield, Bosnia, are good examples of how quickly and effectively these types of upgrades can be made in support of airlift operations. Granted, neither of these airfields had to sustain the operational tempo of airlift operations that would be needed to move and sustain Army units in the Caspian region, since they had access to more efficient rail and road lines of communication (LOCs).

<sup>20</sup>For additional details on the airfields available in these states, see William D. O'Malley, *Evaluating Possible Airfield Deployment Options: Middle East Contingencies*, Santa Monica, CA: RAND, MR-1353-AF, 2001, pp. 123–133.

the Turkish military has negotiated a long-term use agreement for access to this facility.<sup>21</sup> In Azerbaijan, the best deployment support airfield is located outside of Baku, near the Caspian Sea (see Figure 8.1).<sup>22</sup> The Turkish military has indicated that this base and one other in the country can be brought up to NATO standards. Additionally, Turkey has been negotiating base access rights for one of these facilities.<sup>23</sup> In Armenia, there are two airfields with runways greater than 10,000 feet in length and capable of supporting most NATO aircraft.<sup>24</sup>

The airfields in these three states are suboptimal for airlift operations, as they generally suffer from a shortage of adequate parking space, support structure, or equipment needed to handle more than a few large cargo aircraft on the ground simultaneously and would have great difficulty sustaining large-scale airlift operations.

There are 36 airfields with runways longer than 7,500 feet in the five Central Asian states: fifteen in Kazakhstan, two in Kyrgyzstan, six in Tajikistan, three in Turkmenistan, and ten in Uzbekistan. Twelve of these airfields have runways longer than 10,000 feet and seven have runways longer than 9,000 feet. The airfields with the longer runways are concentrated in Kazakhstan and Uzbekistan, with five of the 10,000-foot runways in Kazakhstan and four in Uzbekistan. At a minimum, each of the other countries has an airfield with a 10,000-foot runway servicing its capital. The airfield distribution across each of the countries is shown in Figure 8.2. As in South Caucasus, the larger commercial airfields are in the best shape; many of the smaller airfields have fallen into disrepair. Unless there is a major improvement in the economy such that these less-trafficked airfields become commercially important, it is unlikely that they will improve without direct outside assistance. As noted earlier, in preparation for

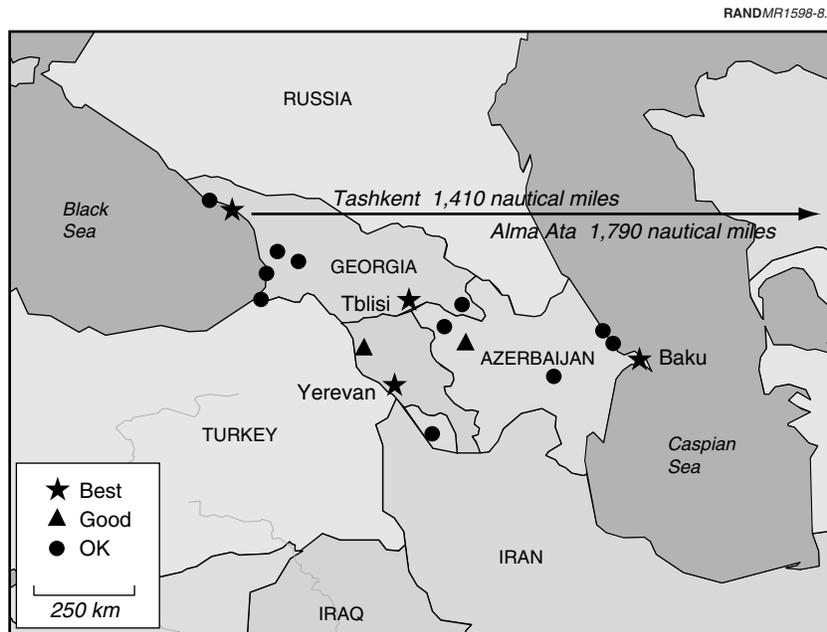
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<sup>21</sup>For more details see *Ibid.*, pp. 128–130.

<sup>22</sup>For more details see *Ibid.*, pp. 125–128.

<sup>23</sup>If the negotiations are successfully completed, it follows the recent Turkish agreement for the right to use an airbase in Georgia and extends Turkish military influence in the region. It also affords Turkey an opportunity to improve the facilities to NATO standards, ensure that they can accept and support a full range of NATO aircraft, and provide another possible NATO access option in the region.

<sup>24</sup>For more details, see O'Malley, pp. 123–125.



NOTE: This subjective evaluation (best, good, and ok) is based on the author's analysis of the following criteria: length and condition of the principal runway, the number of available square feet of ramp space, the condition of the airfield's command and control structure, support capability, proximity to key LOCs, and available life-support facilities.

Figure 8.1—Airfields in South Caucasus

the war in Afghanistan, USCENTCOM and the U.S. Air Force completed site surveys of many of the airfields in Central Asia, entered into access agreements with three of the countries, and negotiated limited use of airfields in the other two.<sup>25</sup> The airfields in Tajikistan and Turkmenistan appear to be in the worst condition of the subregion. With the possible exception of the larger airfields in Kazakhstan, Kyrgyzstan, and Uzbekistan, few of the Central Asian airfields have adequate space, support structure, or equipment to handle more than a few large cargo aircraft on the ground simultaneously. In their current state, few if any of these airfields could turn around

<sup>25</sup>Tamara Makarenko, "Central Asian States Set to Pay the Price of US Strikes," *Jane's Intelligence Review*, November 2001, pp. 34–37.

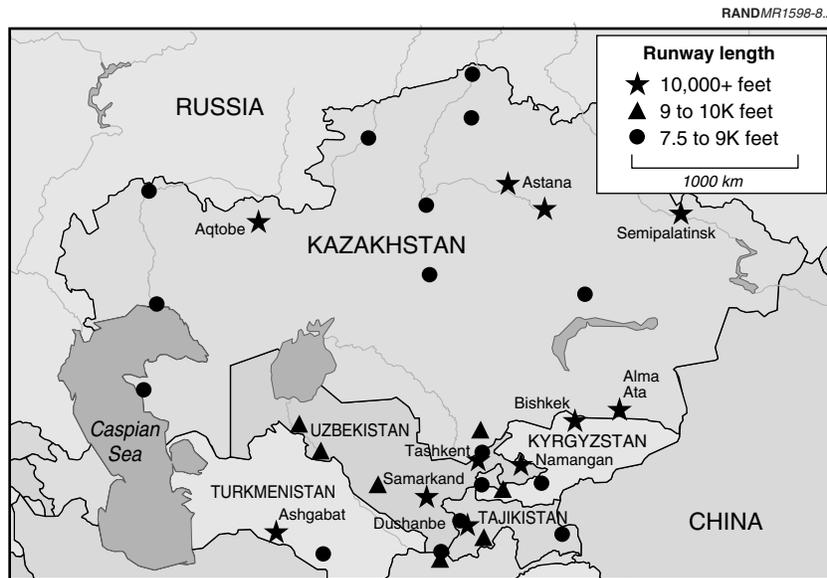


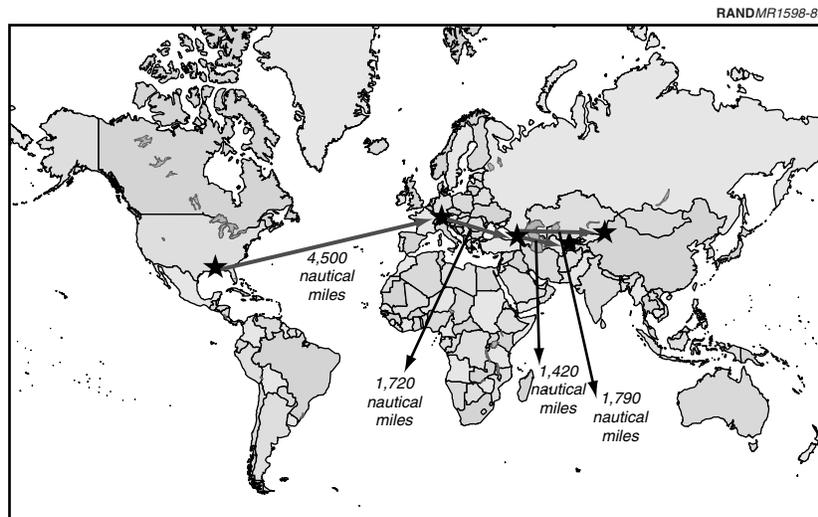
Figure 8.2—Airfields in Central Asia

the approximately 70 to 80 C-17s per day needed to rapidly deploy an SBCT and meet the Army's envisioned deployment timeline.

It is a minimum of 6,220 nautical miles from Fort Stewart, Georgia, into the South Caucasus by air<sup>26</sup> and more than 8,000 nautical miles into Central Asia, far beyond the unrefueled range of the Air Force's strategic airlifters (see Figure 8.3).<sup>27</sup> Therefore, a deployment to Central Asia by air requires a combination of en route staging bases and in-flight refueling. As shown by the U.S. Air Force experience in the initial days of Operation Enduring Freedom, setting up such an

<sup>26</sup>As Figure 8.3 shows, the deployment distance could be reduced by approximately 4,500 nautical miles if the unit(s) being moved were stationed or prepositioned in Europe and the transatlantic segment was eliminated. There are, however, no immediate plans to station or preposition an SBCT unit or equipment set in Europe.

<sup>27</sup>The distances portrayed in Figure 8.3 represent the air miles associated with possible legs of an airlift operation, with the aircraft originating near Fort Stewart, landing at the U.S. Air Force's main operating base at Ramstein, Germany, stopping in Georgia, and then staging into Central Asia from there. The distances in nautical miles are for each segment of the route.



**Figure 8.3—Air Distances Between Staging and Deployment Locations**  
(distances are in nautical miles and approximations)

air corridor takes time, the cooperation of many allies, and the dedication of many resources to open and then keep it operating.<sup>28</sup>

As already noted, deploying an SBCT to the region would require approximately 280 C-17 sorties (or 390 C-130 sorties), whereas deploying a light brigade would require only 30 percent of that amount. These sortie numbers, however, are for the brigade alone. It is anticipated that with any combat force deployment, it will be necessary to include a supplementary Army support package, increasing the scale of the deployment and the number of airlift sorties needed.<sup>29</sup> For example, in every major contingency deployment over the last decade, the Army has included aviation assets in its deployment

<sup>28</sup>Roos, "Turning Up The Heat."

<sup>29</sup>A composite helicopter battalion with 12 transport helicopters, 2 reconnaissance and command and control helicopters, and 12 attack helicopters would add approximately 450 personnel and 2,000 short tons of cargo to the deployment package. Such an addition would add about 45 sorties and two days to the deployment. Helicopter operations in a number of the regions may be constrained because of high altitudes or rain, snow, ice, fog, or blowing sand and dust.

package. The operational environments in this region strongly suggest the need for the tactical mobility, operational flexibility, and responsive firepower provided by a combined lift and attack helicopter unit. As a frame of reference, it is useful to note that 269 C-17 sorties and more than 20 days were needed for the Army to close all elements of Task Force Hawk into the austere operational environment of Albania in 1999.<sup>30</sup>

In addition to the Army's airlift requirements, the Air Force would likely require another 20 to 25 sorties to deploy its own initial airfield opening package.<sup>31</sup> Once operations begin, daily flights into the region carrying key consumables such as fuel, water, spare parts, and ammunition will also be needed. If the Air Force is also deploying units into the region, the number of airlift sorties supporting their movement and sustainment requirements will increase the total still further, placing greater pressure on the host country's facilities and support capabilities, as well as on the limited number of strategic airlift assets available.<sup>32</sup>

Table 8.3 presents the estimated number of days necessary to close various types of brigade combat teams into the region by air, with the closure time calculated starting with the loading of the first aircraft and ending with the unloading of the last aircraft.<sup>33</sup> In addition to flight time, the estimates include the time needed to move the unit(s) from the installation to the embarkation airfield (APOE), stage and load the unit equipment and cargo onto the aircraft, land and unload

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<sup>30</sup>Task Force Hawk was a brigade-sized task force with a composite attack helicopter unit, force protection, and a support package.

<sup>31</sup>This Air Force mobility package provides the personnel and equipment needed to open and operate airlift operations from an unprepared airfield and to secure it. The size of the package can be tailored to the specific needs of a given airfield, but it could include 700 to 900 personnel and between 600 and 800 short tons of cargo. The status of the airfield, availability of needed support equipment and service personnel, security, and the status of on-site life-support facilities will be key determiners of what resources are needed and how soon in the deployment process they must be delivered.

<sup>32</sup>Given the most recent experience of Afghanistan, it seems inconceivable that Air Force tactical combat air, reconnaissance, refueling, search and rescue, and special operations assets would not be deployed into theater. These military capabilities are in short supply among the local militaries.

<sup>33</sup>The calculations assume that a minimum of 40 C-17s will be dedicated to the deployment of Army forces to the theater.

**Table 8.3**  
**Estimated Days to Close by Air**

Days to Close	Light	SBCT	Heavy
Fort Stewart to Georgia	2.5	10.5	22
Fort Stewart to Tashkent	3.1	12.5	26.5
Fort Stewart to Alma Ata	3.2	13	28

the unit at the airfield of debarkation (APOD), recycle the aircraft, and reconstitute the units and move them into their operational sector. For this estimate, the distance of the first leg of the operation was about 4,500 nautical miles from Fort Stewart Air Base, Georgia, to Ramstein Air Base, Germany, which is substantially greater than the typical 3,200-nautical mile leg used in standard Air Force planning factors. This was done to simplify the process and provide the reader with a quick estimate of the nature of the deployment time required. Otherwise the analysis used the Center for Army Analysis' deployment methodology and planning assumptions, including the average airspeed for the airlifters, planning load, distances from APOE to APOD airfields where provided (otherwise estimated), the aircraft use rate (hours/day), and the capabilities of the APOE and APOD airfields.<sup>34</sup> Because of the austere nature of the operational environment in both South Caucasus and Central Asia, this estimate employs only the C-17 aircraft.<sup>35</sup> Although the C-130 does not have the range or the lift capacity of the C-17, its ability to operate from almost any type of airfield makes it another good option, if the operational circumstances are right.<sup>36</sup> If the C-130 is used as the principal aircraft, there will be a longer deployment timeline because of the approximately

<sup>34</sup>These estimates build on original work presented in a Center for Army Analysis briefing, *Interim Brigade Combat Team Deployment Analysis*, November 9, 2000.

<sup>35</sup>As noted earlier, the C-17's operational characteristics and ability to operate from more austere airfields make it the likely choice for such operations, especially 10 years from now when it will probably be the principal airlift aircraft in the Air Force's fleet. During Operation Enduring Freedom, the C-17 has been the principal airlifter because of the distances involved and the declining operational readiness rate of the aging C-5 fleet. Newman, "Tankers and Lifters for a Distant War," and Bill Sweetman, "Airlift for the 21st Century," *Jane's International Defense Review*, December 2001, pp. 48–52.

<sup>36</sup>The C-17 can readily be used as either a strategic or a tactical deployment support aircraft, because of its range and lift capacity. By contrast, the C-130 is only a theater asset, given the limits on its operational range and lift capacity.

40 percent increase in the number of aircraft sorties required for moving an SBCT.

Note also that these are best-case estimates of the fastest possible closing time for deployment by air. They do not factor in any number of factors that could slow down the process, such as APOD throughput limitations, shortages of airlifters (i.e., higher-priority missions), the nonavailability of needed tankers, overflight restrictions, etc. They also do not factor in the use of a regional ISB,<sup>37</sup> which could change the timeline considerably.

### **BY SEA**

Like airlift, sealift deployment to South Caucasus or Central Asia presents challenges of distance and fairly demanding infrastructure requirements. As noted above, moving an SBCT involves moving at least 12,600 short tons of cargo and 930 vehicles. This means that one SBCT can be deployed in one LMSR and a heavy brigade in two. The steaming distance from Fort Stewart to a Georgian port is approximately 8,300 nautical miles. With current sealift assets traveling at 24 knots, about 14 days would be necessary to complete the sealift portion of the deployment. This number may be reduced over the next decade if new, faster ships, such as the proposed 40-knot ships, enter the sealift fleet. If this happens, total sailing time could be reduced by 35 percent, to about 8.7 days.

This does not, however, mean that even with the faster ships the entire deployment could be complete in nine days. Additional time will be needed to move the unit(s) from the installation to the port, to stage and load equipment and cargo onto the ships, to dock and unload the unit at the port of debarkation, and then to reconstitute the units, move them into their operational sector, and integrate them into the operational task force.

How long this latter phase of the deployment will take depends in part on the condition of the transportation infrastructure and the

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<sup>37</sup>Intermediate Staging Base(s) are operational bases closer to but outside of the target theater that are used to consolidate, organize, and transship personnel, materiel, and equipment into the appropriate countries. ISBs also frequently serve as the logistical support hub for all forces deployed to and operating in theater.

overall support capabilities of both the receiving port and the host nation. The deploying U.S. forces cannot control these factors, but they will need to plan for them. If support capabilities are deemed lacking at a given seaport of debarkation (SPOD), U.S. planners will have to decide whether it is worthwhile to attempt to improve local facilities. Other possible options are to deploy the necessary support assets to the SPOD to supplement its organic capabilities or to look for a more capable seaport.

In general, the U.S. military's strategic lift assets have not been designed to operate into austere or even mid-level commercial seaports. This is especially true of the U.S. Navy's current generation of strategic sealift ships. These large ships require deep-draft ports with plenty of maneuver room; long, deep, and well-serviced piers; and room in which to offload, store, and stage the deploying unit's equipment and cargo. As shown in Table 8.4, the LMSR has a draft of 35 to 37 feet and is more than 950 feet long. It is estimated that only about 25 to 30 percent of the world's ports are capable of handling ships this size. If the ships are restricted to less than a full load, they can operate in channels and at portsides with a draft of as little as 31 to 35 feet, increasing the number of possible deployment ports. Another option would be to use smaller commercial freighters, but this could significantly complicate the loading and unloading process. Either of these options would increase the number of ships needed to transport U.S. forces and equipment to the theater and extend the deployment timeline.

Finally, note that of all the CASC states, only Georgia has open seaports. To reach Georgia, U.S. ships would have to transit the congested and narrow Bosphorus Strait. While a relatively small deploy-

**Table 8.4**  
**Strategic Sealift Ship Characteristics**

Ship Name	Class	Length	Draft	Deadweight	Knots	Thousands of Square Feet
<i>Pollux</i>	FSS	946	37	27,300	27	173
<i>Gordon</i>	LMSR	956	37	22,150	24	321
<i>Bob Hope</i>	LMSR	949	35	26,600	24	388
<i>Watkin</i>	LMSR	950	35	33,600	24	392

ment is unlikely to strain the waterway to the point of interfering with commercial traffic, it is certain that Turkey's agreement to provide access and willingness to support the mission will be necessary for this transit to occur. A larger deployment and regular deliveries of supplies once the mission is under way may put some strain on the Bosphorus. Moreover, Central Asia is entirely landlocked. Unless the crisis is in Georgia and near the coast, cargo shipped through Georgia's ports would still have to be moved by road, rail, water, air, or some combination of these into the crisis zone: this could mean, for example, an additional 600 miles to Baku or 1,400 to 2,400 miles to various locations in Central Asia. There are other ports around the periphery of the region that could support the transshipment of the SBCT and its follow-on sustainment package, but they all include extended transportation requirements from the SPOD to the operational region. A few of these options are reviewed later on in the chapter.

Our analysis suggests that sealift will not on its own be sufficient for most contingencies in the region and that air will probably be the more effective means to move equipment and supplies into and across the region.

#### **INFRASTRUCTURE: TRANSITING THE CENTRAL ASIA AND SOUTH CAUCASUS REGION**

Whether forces arrive by air or sea, it is likely that some additional movement will be needed to get them to their final destinations and to distribute additional supplies and support to the force once it is in place. If the force arrives directly in the region by sea, it will do so at one of three commercial ports on Georgia's Black Sea coast: Sokhumi, P'ot'i, and Bat'umi. However, Sokhumi is principally a ferry and light passenger ship port and therefore probably not appropriate. While Bat'umi and P'ot'i are commercial terminals, the channel and pierside draft and size of their various piers are below that preferred by the U.S. military's principal deployment ships, LMSR and FSS (Fast Sealift Ship). U.S. forces could use these ports if the ships carry only a partial load, reducing their draft and improving their ability to maneuver in these harbors. If they go this route, they will probably choose to stage into P'ot'i, currently the more capable port and likely to remain so for the next 10–15 years. Moreover, from

P'ot'i there are direct links to the road and rail network serving the region and the excellent commercial airfield at Babushara (indicated in Figure 8.1 by the star on Georgia's Black Sea coast). Note also that Russian forces stationed in Georgia have facilities in Bat'umi and are using the local airfield and port facilities. While this could present a deployment problem in the near term (depending, of course, on mission), it is anticipated that most of these forces will withdraw within the next decade.

From a Georgian port, deploying forces can move to a crisis zone elsewhere in South Caucasus or in Central Asia by rail, road, water, air, or some combination. Which transportation mode is preferred will depend on the crisis location and the state, dependability, and capacity of the transportation network, which would be called upon to handle high traffic volume and outsized cargo.

## **RAIL**

There are fair rail links between Georgia's Black Sea coast and its two neighboring states, making rail a good choice for transit through the South Caucasus. Rail has traditionally been the preferred and most efficient means for U.S. forces and their allies to transport high volumes of military equipment and cargo from the ports to the crisis zone. The availability of the types and numbers of rolling stock needed to move an SBCT would probably be a problem, however. It is estimated that a minimum of eight trains with 50 flatcars each would be required to transport the 930 vehicles assigned. Multiple trainloads would be needed to move an SBCT, not to mention the other equipment, cargo, and passengers deploying with the SBCT and its support package. It is anticipated that the rail lines linking Georgia's ports to the rest of the South Caucasus will be up to the task in the next 10 to 15 years. But it is unlikely that there will be sufficient heavy-duty rolling stock to support continuous operations. In Central Asia, this option would require the offloading and shipment of the cargo over the Caspian Sea, or using access routes through Russia or Iran. Once in Central Asia, the rail lines across most of the region have deteriorated greatly as a result of years of neglect. Additionally, safety concerns and the uncertain availability of necessary rolling stock would exacerbate the problem.

## ROAD

For short hauls, the principal road network, although in need of repair, should be able to support the onward movement of an SBCT.<sup>38</sup> But an onward move of beyond 300 to 400 miles would be much more difficult.<sup>39</sup> Road conditions in Georgia are suboptimal and likely to remain so, and the 600-mile trip to Baku would probably take the better part of two days to complete. Travel by road to Central Asia would be long and arduous, requiring transit of Russia or Iran.

## WATER

If road or rail is deemed sufficient to deliver the unit equipment sets and cargo to Baku, the units could then move by water across the Caspian to ports in either Kazakhstan or Turkmenistan. Local Caspian cargo ships could be contracted or the railroad ferry between Baku and Ultra, Turkmenistan, could be used to accomplish this. Once in Central Asia, onward movement could continue by rail or road. Because this option depends on the availability of local shipping that can manage the load, it will probably be much more viable in a decade, as the volume of commercial traffic on the Caspian increases.

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<sup>38</sup>There are several major structural concerns about moving the heavy, oversized loads associated with the SBCT and heavy divisions on the road network throughout the Caspian region: the state of repair of the roads and whether they can sustain the movement of military convoys and combat movements; the impact of weather on road conditions; and whether the bridges along key LOCs and operational routes can carry the weight of the heavy combat and cargo-laden transportation vehicles.

<sup>39</sup>Outside urban areas throughout these regions, the local communities and rural regions will be able to provide little direct support to military convoys. Force protection and logistics support for the equipment, cargo, and personnel will be an important issue, requiring the establishment of support points along the route. It is estimated that the total number of vehicles needed to move an SBCT alone will be over 1,000; if these are packaged into 20-vehicle convoys, more than 50 convoys would be required. Using a 12-hour travel day, a convoy would be released every 30 minutes over a two-day period, and a minimum of four days would be required to close the SBCT from a Black Sea port to Baku.

### **AIR: POSSIBLE STAGING LOCATIONS FOR U.S. FORCES OPERATING WITHIN OR OUTSIDE THE REGION**

Ongoing global counterterrorist operations and the war in Afghanistan remind us of the difficulties associated with the deployment, staging, conduct of operations, and sustainment of U.S. forces at such distances from their traditional garrisons and support bases. For Afghanistan and Central Asia, the challenge is compounded because they are landlocked and the United States has no operating bases or strong allies guaranteeing access rights nearby. The United States does not have a network of support in South Caucasus, Central Asia, or along much of the strategic air route into these areas. In addition, the in-place airlift support network of transportation hubs and refueling stations linking CONUS to Europe and on to the Middle East is not ideally suited for supporting such an air route. Recent experience in Bosnia and Kosovo suggests that the most efficient and effective way to support operations at such a distance is to establish at least one regional staging base. This proximity to the crisis zone will allow U.S. planners to insert combat resources and supplies more quickly in response to the operational commander's needs.

As noted earlier, Georgia is unique because it is the only country in the CASC region that is not landlocked. Its Black Sea ports and the transportation network that feeds from them could provide an important avenue for both the deployment and sustainment of any U.S. forces deployed in South Caucasus or deeper into Central Asia. In addition to Georgia's role as a transportation transition point for sealift, there are a few airfields in each of three countries in South Caucasus that could serve as transportation/logistics hubs for airlift operations and staging bases for tankers supporting deployments deep into Central or even South Asia.<sup>40</sup>

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<sup>40</sup>During Operation Enduring Freedom, the Air Force staged about 12 KC-10/135 tankers out of Burgas air base, Bulgaria, to refuel airlifters over the Black Sea. Radu Tudor, "Temporary US Airbase Opens in Bulgaria," *Jane's Defence Weekly*, December 5, 2001, p. 4. If the airfields in Azerbaijan are adequately improved and the fuel supplies are available, these airfields (or for that matter other regional airfields) could similarly be used to support the refueling of airlifters over the Caspian Sea.

Georgia's location on the Black Sea and proximity to the Middle East (only 500 to 600 nautical miles from Baghdad) also means that its airfields provide a good platform from which to conduct operations into the northern Persian Gulf region, such states as Iraq, Iran, or Turkey. Although Georgia's airfields are not a viable replacement for Turkish airbases, they do provide a limited alternative or supplement if access is denied to or operations restricted from airfields in Turkey. For example, several of Georgia's airfields are no further from Iraq than the U.S. Air Force's main regional operating base at Incirlik, Turkey.<sup>41</sup> Although they are not as good an option as the Georgian airfields, there are also capable airfields in Azerbaijan and possibly Armenia that are similarly well located to support any range of possible operations into the northern Persian Gulf region.<sup>42</sup>

In South Caucasus, the assessment is based on speculation. For Central Asia, the assessment is built on the U.S. military's ongoing deployment experience in support of Operation Enduring Freedom.

In Central Asia, Uzbekistan has the best support infrastructure and LOCs and (from a capabilities perspective) can most readily support major airlift operations. Furthermore, although force protection remains a concern in Uzbekistan, it should be less challenging than in most other states of the region. If the contingency is within Central Asia, Uzbekistan could serve as a regional ISB or Forward Operating Location (FOL),<sup>43</sup> relieving some of the burden from the host country and keeping most of the key logistics infrastructure (footprint) out of the conflict zone. Uzbekistan's strategic location and its well-placed and reliable LOCs and transportation hubs suggest that its facilities can support U.S. power projection operations in the Uzbek-Tajik-Afghan border region, across Central Asia, into Afghanistan, or even elsewhere in south Asia. For these reasons, immediately after the

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<sup>41</sup>For more details, see O'Malley, *Evaluating Possible Airfield Deployment Options: Middle East Contingencies*, pp. 128–131.

<sup>42</sup>*Ibid.*, pp. 123–128.

<sup>43</sup>FOLs are designated regional airfields from which the Air Force expects to be able to operate (access assured). The Air Force supports the development and maintenance of these airfields to certain operational standards. Equipment, munitions, fuel, or other assets may be prepositioned in order to ensure the rapid ramp up of these facilities to support an operational deployment. For details, see Paul S. Killingsworth et al., *Flexbasing: Achieving Global Presence for Expeditionary Aerospace Forces*, Santa Monica, CA: RAND, MR-1113-AF, 2000.

decision was made to attack the Taliban and Afghanistan, U.S. military planners began to pursue access to former Soviet military airfields in Uzbekistan.

Uzbekistan was the first country to offer access rights to U.S. military forces for operations in Afghanistan. Several C-17 capable airfields in Uzbekistan were considered, including three in Uzbekistan's part of the Ferghana Valley and its border region (see Figure 8.2). Although concerns were raised early in the Operation Enduring Freedom planning process about the current status and utility of these airfields, military planners were unwilling to dismiss the option without first conducting an onsite assessment to determine the overall condition of each of these facilities.<sup>44</sup>

The Air Force airfield survey teams' key concerns focused on the operational condition of the runway (length, width, and status), proximity to the crisis zone, and the security of the base. The deterioration of the other elements of the base infrastructure may be an inconvenience and slow down the process of opening the field to full-scale operations, but it is likely that the Air Force can work around, quickly repair, or upgrade most of these types of infrastructure problems.<sup>45</sup> Their report plays a key part in the planner's initial assessment of what additional operational and troop support personnel, equipment, and materiel will be needed to bring the facility up to at least minimal operational standards. This type of survey was done prior to the deployment to airfields in Central Asia; the teams found that many of the "bare bones" installations had little habitable infrastructure, poor sanitation conditions, and no potable

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<sup>44</sup>According to Mikhail Khodaryonok, a Russian military analyst quoted in Moscow's *Nezavisimaya Gazeta*, "Most aerodromes in Central Asia have a limited operational capacity and the infrastructure they inherited from the Soviet Union is in poor conditions. . . . Even if the aerodromes' technical facilities are still in working order, they would be unlikely to meet US standards. . . . Moreover the aerodromes lack even minimal living conditions for pilots and technical personnel." See "Central Asian Air Bases 'Obsolete, Run-Down': Russian Expert," *Agence France-Presse*, September 29, 2001.

<sup>45</sup>For example, the fuel storage tanks can be supplemented or replaced by fuel bladders, the troop support facilities can be replaced by tent cities, the airfield's command and control systems can be replaced by mobile systems, tents and other temporary structures can stand in for deteriorating housing and other buildings, and so on.

water, to mention but a few of the problems encountered.<sup>46</sup> In a scene that was repeated at all of the airfields used, the Air Force deployed into the site, as soon as possible, Tanker Airlift Control Elements (TALCE) personnel and equipment to set up or upgrade existing command and control, navigation, maintenance, and logistics support operations. For each of these installations, the size of the team and amount of equipment deployed was outside the norm—just about everything was needed.<sup>47</sup> Air Force civil engineer units (Red Horse) deployed in early, like the TALCE, and were responsible for all engineer and construction work needed to improve airfield operations and provide life-support facilities for troops on the ground.<sup>48</sup>

Based on the estimated status of the runways and overall facilities, two of the Uzbek bases, Kakaidi and Karchi-Khanabad,<sup>49</sup> were assessed to have the best potential for handling heavy, outsized aircraft and large cargo flows.<sup>50</sup> These airfields can support the deployment of forces, the staging of forces, offensive air or intelligence-gathering operations, or the provision of humanitarian assistance.<sup>51</sup> These

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<sup>46</sup>These problems were reported for the airfields surveyed in Uzbekistan. Richard J. Newman, "Tankers and Lifters for a Distant War," p. 58.

<sup>47</sup>Ibid.

<sup>48</sup>The Air Force has prepackaged, transportable bare base kits that contain everything from tents to latrines to support a thousand troops. The Red Horse units use these equipment sets, local materials and labor, and heavy equipment flown in to establish both the operational base and those troop encampments needed to support deploying Air Force and Army units. "CE Sets Up Bare Base Camps," *Air Force Magazine*, February 2002, p. 27.

<sup>49</sup>Khanabad is the largest and best maintained of Uzbekistan's military air bases and was used to support Soviet fighter operations during Moscow's occupation of Afghanistan. The Uzbek air force's Su-24 Frogfoot ground attack aircraft are currently stationed there. Kakaidi is the home station for a fighter unit.

<sup>50</sup>These two airfields were used extensively by the Soviets during their invasion and long occupation of Afghanistan to support both combat and logistics operations.

<sup>51</sup>In the future, these facilities could serve as a forward support location for U.S. forces operating in the region. Forward support locations are regional support facilities outside CONUS, located at sites with high assurance of access. They will be upgraded and stocked to support the rapid deployment of forces into the region, but can be maintained with only a nominal or periodic U.S. presence. For details on this concept, see Killingsworth et al., *Flexbasing: Achieving Global Presence for Expeditionary Aerospace Forces*.

fields also lay astride a good LOC and any number of goat-trail infiltration routes leading into Afghanistan.<sup>52</sup>

Khanabad was chosen as the staging base for U.S. Special Operations units and elements of the 10th Mountain Division. From Khanabad, these forces were deployed into Afghanistan and resupplied. Uzbekistan authorized the use of Khanabad for all but offensive combat operations, restricting the staging of combat aircraft. Uzbekistan did not place a time limit on the U.S. use of this facility.<sup>53</sup> We anticipate that U.S. forces will remain deployed there during the course of operations in Afghanistan, but do not anticipate that a significant presence will remain. Given the improvements being put into the facility, the United States may try to retain a string on it in the event of a future regional deployment.

Tajikistan, with its 800-mile border, also proved to be extremely important for the movement of personnel, equipment, supplies, and materiel into Afghanistan. Like Uzbekistan, it has a number of ground routes leading into Afghanistan, including direct access to the regions that were controlled by the Northern Alliance. The operational environment in Tajikistan (noted earlier<sup>54</sup>) complicates any deployments and compounds force protection concerns. Internal strife from the 1992–1997 civil war is still present, and Tajikistan still depends on about 8,000 troops from Russia's 201st motorized rifle division and an additional 8,000 or so border guards (also Russian commanded and predominantly Russian in makeup) for its defense/security.<sup>55</sup> The central government does not control all

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<sup>52</sup>The strategic bridge crossing the Amu Darya River into Afghanistan is located at Termez, Uzbekistan. This bridge, which had been closed since the Taliban occupied the region across the bridge, links Uzbekistan to the key LOC linking the north with Kabul.

<sup>53</sup>Tamara Makarenko, "The Changing Dynamics of Central Asian Terrorism," *Jane's Intelligence Review*, February 2002, p. 39.

<sup>54</sup>See also Chapters Two and Four of this report.

<sup>55</sup>Kazakhstan also has a small number of forces deployed to Tajikistan, and some of Tajikistan's own troops serve under Russian command in the border units. Estimates of Russian/CIS force size vary from a low of about 14,000 to a high of 25,000. *The Military Balance: 2000–2001*, London: The International Institute of Strategic Studies, 2000, pp. 175–176; Anthony Davis, "Interview with Brigadier General John Hvidegaard, Chief Military Observer for the United Nations Mission of Observers in Tajikistan," *Jane's Defence Weekly*, July 21, 1999, [www.janes.com/regional\\_news/europe/interviews/dw990721\\_i.shtml](http://www.janes.com/regional_news/europe/interviews/dw990721_i.shtml); and the Periscope Database.

elements of the state bureaucracy any more than it controls all of its territory. Moreover, the country remains a principal transit route for drugs, other contraband, and terrorists crossing into Central Asia. There is a strong possibility that personnel collaborating with local warlords, criminal elements, or even terrorist cells have infiltrated government bureaucracies, including the civil defense and emergency preparedness directorates.<sup>56</sup> The airfield at Dushanbe is probably the most secure location within the country for any air operations, but there are also two southern airbases much closer to the Afghan border, Kulyab and Kurgan-Tyube. Like the airfields in Uzbekistan, these can support the deployment of forces, the staging of forces, offensive air or intelligence gathering operations, the transiting of assistance and supplies into northern Afghanistan, or a broader humanitarian assistance effort. In early 2002, U.S. forces deployed to Kulyab air base, from which they conducted a range of logistics support, search and rescue, troop deployment, and air operations. Allied (French and Italian) air and ground forces also deployed through and operated from this base. Location is the value added by the airfield at Kulyab, and once the mission is completed in Afghanistan, there appears to be little attracting the United States to extend its stay.

In December 2001, the United States signed a one-year lease/access agreement with Kyrgyzstan for use of Manas International Airport, near the capital of Bishkek. The U.S. military is building a 37-acre base extension to the airport with an administrative headquarters, housing, warehouses, munitions bunkers, fuel tanks, etc. In addition, the United States and its allies are making significant improvements to the airfield, and current expectations are that there will eventually be up to 3,000 international troops (ground and air forces) stationed there.<sup>57</sup> According to Brigadier General Christopher A. Kelly, commander of the 376th Air Expeditionary Wing, "we're establishing a mini-air force base from which we can fly a variety of military missions, mainly airlift, aerial refueling and tactical air."<sup>58</sup>

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<sup>56</sup>See Chapters Two and Four of this report.

<sup>57</sup>Daan van der Schriek, "US Military Forces Build Up Strength in Kyrgyzstan," *Eurasia Insight*, January 23, 2002.

<sup>58</sup>A telephone interview from Kyrgyzstan reported in Schmitt and Dao, "U.S. Is Building Its Military Bases in Afghan Region," January 9, 2002.

Unlike the agreements made with the other regional allies, the one-year agreement signed with the Kyrgyz government does not limit the type of aircraft or missions that allied air forces can fly from Manas. Given the investment being put into airfield upgrades, the United States may try to retain a presence, though the nature of that presence may vary greatly, including simply a marginal caretaker arrangement that will allow for the base's responsive availability to any future power projection requirement in the region.

Kazakhstan and Turkmenistan both provided critical overflight rights and provided limited access to their airfields. The Kazakh government indicated a greater willingness to support the allied effort in Afghanistan, but it has not been officially called on to provide more. Turkmenistan's professed neutral status will likely constrain its willingness to provide anything more than assistance to the humanitarian support efforts.

Overall, the United States has made its first force deployments into the region, gained exposure to the power projection platforms available in the region, made significant upgrades to several facilities that will facilitate their future use and increase the aircraft throughput, and opened the door to future access, if needed. Increases in U.S. military assistance programs to and operations and training with the region's armed forces will help in this respect. It can not be overemphasized that these countries provided critical staging bases on the perimeter of Afghanistan that allowed the United States to more effectively and efficiently move assets into the combat zone.

## **INTERMEDIATE SUPPORT BASE POSSIBILITIES**

Distances and poor local infrastructure argue for the establishment of an intermediate support base (ISB) for operations in Central Asia or South Caucasus. The distance from Ramstein Air Base to Alma Ata, for instance, is more than 3,500 nautical miles. The unrefueled range of the C-17 is approximately 2,600 nautical miles, so if U.S. forces were to stage from Ramstein, they would require refueling while en route, full-service support at the APOD, or both.<sup>59</sup> An ISB

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<sup>59</sup>As noted earlier, the Air Force was doing this with KC-10/135 tankers operating out of Burgas air base, Bulgaria.

would also place U.S. forces closer to the problem and make it easier for them to respond to changing in-country needs and to reduce the in-country logistics footprint.

Known facilities with the necessary support infrastructure and capabilities already in place are preferable. Turkey, which is 1,700 nautical miles closer to Central Asia than Ramstein, has obvious advantages. Both Incirlik and Antalya are NATO support bases that frequently support NATO operational requirements, deployments, and exercises. Both have excellent runways of 10,000+ feet and plenty of apron space to support airlift operations. Moreover, Incirlik is USAFE's<sup>60</sup> only MOB (Main Operating Base) in the region. Both installations are close to major Turkish seaports, allowing for seaborne resupply (see Figure 8.4).

Turkey is not the only option, however, and several locations along the Black Sea coast would also provide viable facilities. For example, although southern Russia's transportation infrastructure has suffered from the economic downturn, it remains superior to what

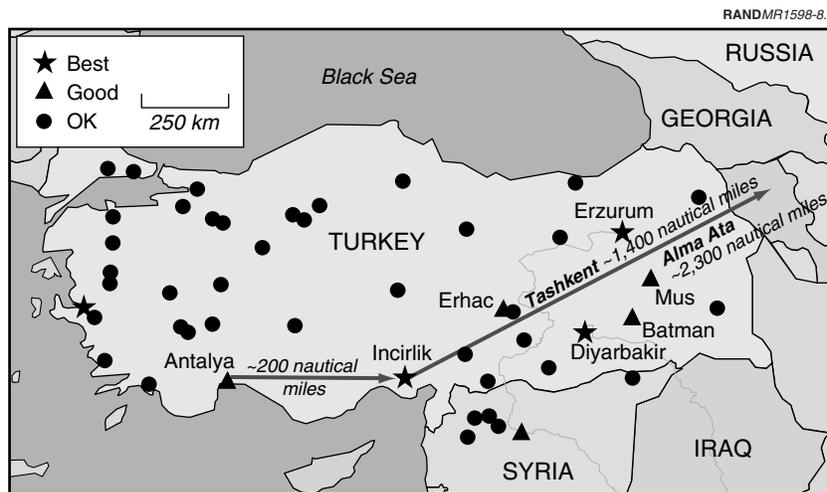
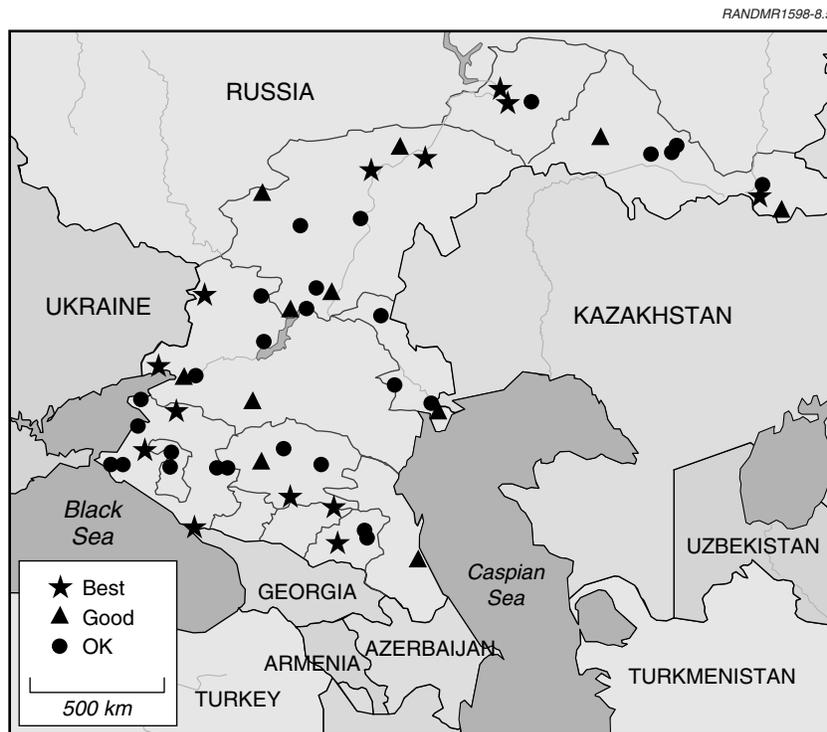


Figure 8.4—Airfields in Turkey

<sup>60</sup>U.S. Air Force, Europe, the Air Force's component command within U.S. European Command. This command is headquartered at Ramstein Air Base in Germany.

exists in either the South Caucasus or Central Asia. Assuming Russian cooperation, U.S. forces could easily be accommodated at a number of sea or airports.

Southern Russia has a large constellation of C-17 capable airfields and several with runways longer than 10,000 feet (indicated by stars in Figure 8.5) in locations convenient to CASC. Excellent international commercial ports along the Russian coast could support LMSR-size ships. Although road networks to South Caucasus or Central Asia present some concerns, the rail network into either sub-region is still in fairly good operating order, and no transloading



NOTE: This subjective evaluation (best, good, and ok) is based on the author's analysis of the following criteria: length and condition of the principal runway, the number of available square feet of ramp space, the condition of the airfield's command and control structure, support capability, proximity to key LOCs, and available life-support facilities.

Figure 8.5—Airfields in Southern Russia

would be required along the route because the same rail gauge is in use throughout the former Soviet Union. Moreover, access to needed rail stock may take time, but should be possible. As noted earlier, rail across South Caucasus and Central Asia remains questionable and in major need of repair. Unlike with Turkey, however, U.S. forces would be unfamiliar with Russian facilities, equipment, and terrain, and Russian cooperation would, of course, be required. Acclimatization to Russian infrastructure and geography would add approximately 7–10 days of preparation time to the mission. Finally, in Russia, as elsewhere, security could also pose significant concerns.

As with the use of facilities in southern Russia, the current political environment makes Iran an unlikely option now, but this may change over the next 10 to 15 years.

From an operational perspective, access through Iran has many benefits. Excellent airfields (indicated by stars and triangles in Figure 8.6) include several with 10,000-foot runways, and many are well placed near the southern borders of CASC. They could support U.S. forces as ISBs, tanker support bases, sustainment bases, etc.<sup>61</sup>

Iran also has a number of excellent international commercial seaports that could service LMSR-size ships and link the cargo to a rail network that runs into both South Caucasus and Central Asia. It is anticipated that this network will continue to grow over the next decade as trade links strengthen. Plans to extend and expand both the road and rail links from Iran into CASC to support an expanded trade relationship are under consideration. On the other hand, it is possible that the required type of heavy-duty rolling stock will be unavailable. Moreover, due to differences in rail gauge, transloading would be required at the Iranian border.

## OPERATIONAL ENVIRONMENT

The operational environment in CASC—the geography, local infrastructure, the nature and scale of the security threat, local force capabilities, political and economic situations, U.S./Western security

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<sup>61</sup>For a general description of the capabilities of Iran's airfields and the feasibility of using these assets, see O'Malley, *Evaluating Possible Airfield Deployment Options: Middle East Contingencies*, pp. 102–104.

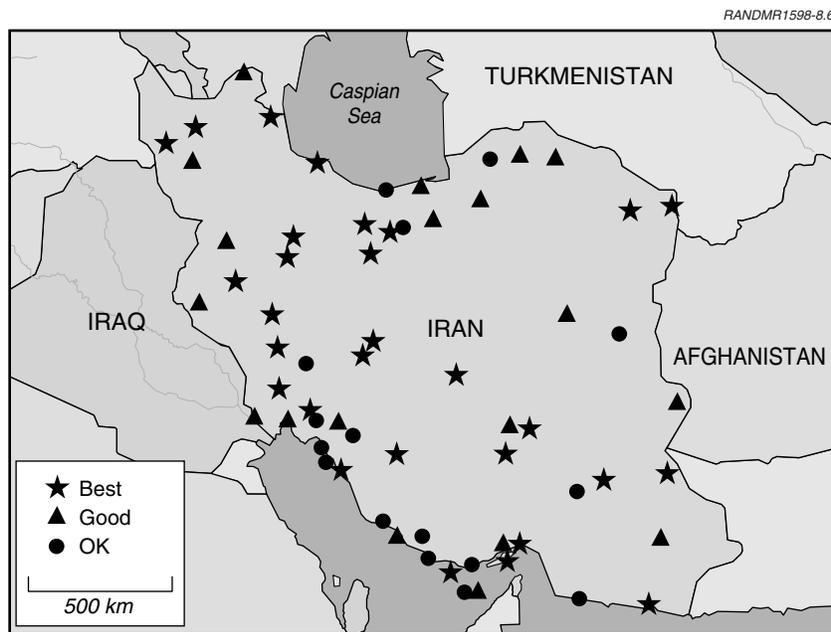


Figure 8.6—Airfields in Iran

relations with each of the regional states, and so forth—will have significant implications for the nature of the operational environment and, in turn, what sort of force package needs to be deployed, how the forces will operate, what support will be necessary, and how much of it needs to be forward deployed. While the operational environment in CASC will continue to evolve, it is still possible to identify the areas where more or less change is likely, and to assess how current trends in, for instance, local military reform and development are likely to progress over the next one to two decades.

That said, the operational environment of CASC is a set of complex, interdependent, and interlocking environments that can be looked at from both the macro and micro level. Depending on the mission, U.S. forces may have to operate in one or more countries, and conditions can change significantly as forces cross borders. Even if actual activities are limited to a single country, as the above discus-

sion illustrated, reaching the area where U.S. forces are needed may well require transit of other countries.

To a large extent, this is a geographical phenomenon. The fact that Georgia is the only country of those under discussion with an outlet to the open sea, the mountainous and inhospitable terrain in much of the region, the lack of potable water, and the widely varying (by time as well as location) climate will all drive where and how forces move, and what supplies they will have to bring with them. The fact that the road and rail infrastructure of the region varies from primitive to acceptable creates other implications and requirements. That said, expectations for energy resource exploitation and energy trade development over the next few years are likely to have beneficial effects on the transportation infrastructure, as well as the economy, making travel easier across at least parts of the region.

But improvements will come first, and possibly only, to main transportation routes, and then only to energy-producing states or transit countries. Roads in Armenia, Tajikistan, and Kyrgyzstan will therefore almost certainly remain poor, as will secondary and tertiary routes throughout the region. These tend to be hardpacked dirt roads, at times covered by gravel. During the rainy season they can be treacherous or completely impassable, especially for heavy or oversized vehicles. Especially in Central Asia, the road infrastructure is marked by great distances between possible entry points, few hard-surfaced roads outside or between major urban centers, and little support infrastructure along even the major routes. The rugged, winding, climbing roads linking Georgia's coastal plain with Armenia and Azerbaijan also have little support infrastructure for those traveling them. Moreover, few of the existing maps of South Caucasus or Central Asia are sufficiently detailed to include much of the secondary road network. Especially in the mountains of Central Asia, only locals know many key transit routes.

Absent complete political stabilization in the region, highly unlikely in the next 10 to 20 years, there will continue to be threats of bandit and paramilitary activity, particularly in but not limited to South Caucasus, where these types of groups take advantage of the isolation of mountain roads to rob and kidnap travelers. Furthermore,

many countries suffer from limits to central control—not only along isolated mountain paths, but also in places like Georgia and Tajikistan, outside the capital cities. The lack of effective law and order in much of this region also extends to a certain independence of local bureaucracy, which may necessitate the paying of bribes and customs duties as U.S. forces seek to deploy and ensure that supplies can reach forward-deployed forces effectively.

Rail line improvements will probably also focus on the energy-producing states, and on transit states like Georgia, although limits on the number and types of available rolling stock will probably remain. The Soviet rail network provides a good backbone, and it is likely that in those countries rail will become a dependable means of transport, although even with improvements, capacity will probably remain somewhat limited.

Widespread poverty and high levels of environmental contamination mean that few supplies will be readily available in the region, and that food and water may be unsafe to use even if they are available. Forces will have to bring in supplies, purification equipment, and so forth if they are to be in the region for any significant period. This will increase the logistics tail of the operation, which will, as already noted, probably be further hampered by local corruption as well as by distances and terrain.

Finally, the state of U.S./Western security relations with the regional states is the least stable and among the most diverse of the factors under discussion. This relationship has changed dramatically during the months following the September 11 attacks on the United States, and it will undoubtedly continue to evolve. As noted earlier, the United States is taking a much more proactive role in the region's security environment, seeking to expand its security cooperation and military assistance programs with many of the states, enlisting their support in the war in Afghanistan and the broader counterterrorist campaign, and pursuing access and use rights to facilities needed to support Operation Enduring Freedom. Many of the regional states are looking quite favorably on the U.S. efforts to change the nature and depth of its security relations with them. There are costs and benefits associated with these developments for the United States,

each of the regional actors, and for each of the other external international actors, i.e., Russia and China.<sup>62</sup>

While the above generally hold true throughout CASC, there are nuances specific to individual countries that should be considered in more detail. As noted, climate, terrain, infrastructure, and the degree of government control all vary from country to country.

## **SOUTH CAUCASUS**

### **Armenia**

Armenia today has probably the best-maintained transportation infrastructure in the South Caucasus; unfortunately, it is largely limited to the country's major cities. The country's continued political and economic problems have translated into poverty and frequent shortages, including energy supplies. Armenia is not an energy producer in its own right, and poor relations with Caspian energy producer and neighbor Azerbaijan limit Armenia's options for energy supplies. It is therefore unlikely that Armenia could support the fuel, food, and water requirements of deployed U.S. forces. Some proportion of support infrastructure would also have to be brought in.

While Armenia has little internal discord, its dispute with Azerbaijan over Nagorno-Karabakh (with implications for Nakhichevan) remains volatile, with occasional clashes. Armenia has a security assistance treaty with Russia. It receives military equipment, spare parts, supplies, and training from the Russian armed forces, and Russian units are stationed in Armenia. Armenia's security reliance on Russia will probably continue at least as long as the Nagorno-Karabakh dispute does. By contrast, the United States provides modest military assistance to Armenia, but this has kept the door open for U.S. military interaction with Armenia's ministry of defense and maintains direct military-to-military contacts. After September 11, in exchange for Armenia's support of the counterterrorist campaign, the United States has increased its security cooperation

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<sup>62</sup>See Chapter Two of this report for further discussion of this issue. This chapter will focus on the implications of these developments for U.S. military operations.



Figure 8.7—South Caucasus

efforts.<sup>63</sup> Armenia is also an active participant in NATO’s Partnership for Peace program, which opens the military to Western military procedures, training, and operational concepts.

### Azerbaijan

The Nagorno-Karabakh conflict affects Azerbaijan in some ways even more than Armenia, since the disputed territory is within Azerbaijan and about 750,000 refugees displaced by the conflict remain in Azerbaijan today. The country is less developed industrially than

<sup>63</sup>The United States has reportedly allocated \$4.3 million in military assistance for Armenia in 2002, which is far less than reported for Georgia and Azerbaijan for the same period. It does, however, represent a significant expansion in military assistance over previous years. “U.S. Military Team Arrives in Armenia,” *Eurasiaweek*, March 1, 2002, electronic version, [thiweek@eurasianet.org](mailto:thiweek@eurasianet.org).

either Armenia or Georgia and also differs from them in its majority Muslim population. High structural unemployment and low standards of living are more typical of the post-Soviet space as a whole. Pollution of the air, water, and soil are significant problems, particularly on the Apsheron Peninsula (Baku and Sumqayit) and near the Caspian Sea.

The economic and structural situation may begin to change as Azerbaijan's oil and gas resources are developed. However, it is far more likely that instead of widespread economic growth, energy development will simply widen the gap between the rich and the poor, with poor living conditions remaining the norm in much of the country. The transportation infrastructure, however, is likely to benefit significantly from oil and gas development and trade.

The country's growing energy exploration, extraction, production, storage, refineries, and distribution pipelines also represent lucrative targets for terrorist activity. The extended pipelines linking Azerbaijan's energy production centers to its markets are critical and highly vulnerable targets. Armed bands from the north Caucasus (e.g., Chechnya) have sought sanctuary in Azerbaijan, aggravating relations with Russia and creating security problems for the Azeris. This is a factor of continued conflict in the northern Caucasus and will likely remain a problem for Azerbaijan for the foreseeable future. Borders with all of Azerbaijan's neighbors are generally porous and difficult to patrol, a factor that may have an impact for possible U.S. force deployments.

Azerbaijan has avoided Russian efforts to build closer defense ties and has turned instead to Turkey for significant military assistance. In the shadow of the U.S. counterterrorist campaign in Afghanistan, Georgia, Azerbaijan, and Turkey have finalized a tripartite agreement on regional security that solidifies Turkey's growing military relations with the two states.<sup>64</sup> Turkey's military assistance programs with

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<sup>64</sup>According to a Turkish diplomat, "The agreement between Turkey, Azerbaijan and Georgia on cooperation in the military field envisages a number of measures relating to the carrying out of [a] joint struggle against smuggling, terrorism, as well as the protection of the main export pipeline, . . . [The] new concept envisages, among other things, an upgrading of the Turkish-Azerbaijani military cooperation to a 'qualitatively new level.'" Igor Torbakov, "A New Security Arrangement Takes Shape in the South

both Azerbaijan and Georgia continue to grow, with an increased Turkish military presence in both states.<sup>65</sup> Azerbaijan is also active in NATO's Partnership for Peace and in the GUUAM grouping with Georgia, Ukraine, Uzbekistan, and Moldova.<sup>66</sup> Although relations with the United States have been friendly overall, the military component has been constrained by U.S. laws that limit the types of military assistance that can be provided.<sup>67</sup> U.S. officials have linked the removal of this constraint to Azerbaijan's support for the counter-terrorist campaign. In March 2002, the United States lifted the arms sales restrictions on Azerbaijan.

### Georgia

Heavily mountainous Georgia presents particularly inhospitable terrain. It has one of the worst transportation networks in the region, due in part to the activities of bandits and other criminal groups who prey on travelers using the badly maintained roads. Moreover, fuel shortages are a persistent problem, and economic conditions are dismal throughout the country. A general lack of central control outside of the capital makes travel in Georgia particularly challenging and dangerous. Largely local authorities administer both the South Ossetian and Abkhazian regions. While conflict with the regions has ended, there is always a possibility that it will resume.

While Georgia is not and will not itself be a major oil or natural gas producer, it is an important transit route for Azerbaijan's energy resources. As these are developed, Georgia's main (road and rail) traffic arteries are likely to enjoy significant refurbishment. The extent to which this also improves conditions elsewhere in the country

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Caucasus," *Eurasia Insight*, electronic version, [www.eurasianet.org/departments/insight/articles/leav012402.shtml](http://www.eurasianet.org/departments/insight/articles/leav012402.shtml), January 24, 2002.

<sup>65</sup>There are large numbers of Turkish military trainers working with the local military, while officers and troops from local militaries are being trained at military academies in Turkey.

<sup>66</sup>GUUAM was formally founded in 1997 as a political, economic, and strategic alliance designed to strengthen the independence and sovereignty of these former Soviet Union republics. Uzbekistan joined the group at the GUUAM summit, which was held during the NATO/EAPC summit in Washington, D.C. on April 23–25, 1999.

<sup>67</sup>Section 907 of the Freedom Support Act bars direct U.S. government aid, especially military, to Azerbaijan until such time as the Nagorno-Karabakh conflict is resolved (or the laws changed).

depends on the government's ability to re-establish control beyond the capital.

Borders with Russia remain porous, and Georgia hosts a large number of refugees from the Chechen conflict. Russian spokesmen have accused Georgia of harboring Chechen rebels, particularly in the refugee camps and settlements in the Pankisi Gorge region. However, Georgian government complicity in any Chechen rebel presence in the Pankisi Gorge is not a given. The situation exacerbates relations with Russia, which has overflowed and reportedly dropped munitions on Georgian soil in its efforts to attack fleeing Chechen rebels and control the border. Georgia has rejected Moscow's proposals for joint military actions in the Pankisi region. There are good reasons to believe that the Russian government supported uprisings in Georgian separatist regions of Abkhazia and South Ossetia.<sup>68</sup> Russian troops remain present at two bases in Georgia, having pulled out of two others. There is a general commitment to the eventual withdrawal of Russian combat troops, but it is proceeding slowly.

In an effort to improve regional cooperation and security, Georgia is a member of the GUUAM grouping. Georgia has developed close ties through NATO's Partnership for Peace program, most notably with Turkey and the United States. It receives defense assistance of various sorts from both countries.<sup>69</sup> As noted earlier, Georgia, Azerbaijan, and Turkey have finalized a tripartite agreement on regional security and military cooperation that will solidify Turkey's growing military assistance efforts with the two states.<sup>70</sup> As with Azerbaijan, the Turkish military presence in Georgia is increasing,

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<sup>68</sup>Ariel Cohen, "Paving the Silk Road: US Interests in Central Asia and the Caucasus," *Harvard International Review*, Winter/Spring 2000, electronic version.

<sup>69</sup>The United States has over the years supported a full range of training for the officers and staffs of the Georgian ministry of defense, including counterterrorist training, and has provided military equipment to assist the restructuring of the Georgian armed forces and improve their combat capability. The most notable equipment transfer was 10 Huey helicopters late in 2001.

<sup>70</sup>According to a Turkish diplomat, "The agreement between Turkey, Azerbaijan and Georgia on cooperation in the military field envisages a number of measures relating to the carrying out of joint struggle against smuggling, terrorism, as well as the protection of the main export pipeline . . ." Igor Torbakov, "A New Security Arrangement Takes Shape in the South Caucasus," *Eurasia Insight*, January 24, 2002.

with military advisors and trainers working with the armed forces, both in-country and at military schools and academies in Turkey. In 2001, Turkey also completed a lease agreement for use of a Georgian air base and maintains a permanent military presence there.

After September 11, the U.S. Defense Department proposed to increase its security cooperation and direct military assistance support to Georgia, as part of the counterterrorism campaign. The effort was further fueled by growing concerns over the Georgian security forces' inability to control the border with Russia's Chechen Republic and the destabilizing affects of ongoing terrorist/criminal activity in the Pankisi Gorge region of the country. The \$64 million program reportedly includes the deployment of approximately 200 military advisors in spring 2002 to train about 1,000 Georgian troops (four 300-man battalions) and "equip these units with light weapons, vehicles, and communications."

## **CENTRAL ASIA**

### **Kazakhstan**

Vast in size yet lightly populated, Kazakhstan has fairly diverse terrain, with temperature extremes in the desert, the high steppe, and the mountains. Kazakhstan's porous borders present the possibility of IMU-type (Islamic Movement of Uzbekistan) insurgencies and potential spillover of terrorist activity from China's western provinces, although such problems have not manifested themselves as yet. A more immediate concern is Kazakhstan's growing role in smuggling, the drug trade, and other criminal activity. High levels of environmental contamination and soil and water toxicity make Kazakhstan yet another place to which most consumables would need to be brought.

Kazakhstan's energy exploration, production, storage, and distribution industries are rapidly expanding. This can both spur infrastructure development and present new targets in the event of conflict. Protecting Kazakhstan's energy industry could be challenging given the many lengthy pipelines and the sparsely situated oil and gas fields that are frequently located in relatively underpopulated areas.



**Figure 8.8—Central Asia**

Kazakhstan has maintained close ties, including military ties, with Russia, although it is also a participant in NATO's Partnership for Peace and has implemented bilateral and multilateral activities with U.S. and other NATO forces. But it continues to cautiously balance its relationships with both Russia and the West/United States. It has also received significant military and related assistance from the United States, in large part through the Cooperative Threat Reduction (CTR) program of assistance to eliminate weapons of mass destruction and related infrastructure. After September 11, the United States enlisted Kazakhstan's support in the war in Afghanistan, but its response has been tempered, endorsing the counterterrorist campaign and U.S. actions in Afghanistan and providing overflight rights. Kazakhstan also reportedly agreed to limited U.S. use of facilities, but no major presence.<sup>71</sup>

<sup>71</sup>To date, no Kazakh facilities have been used repeatedly. This may be a function of proximity to the target area and the availability of adequate alternative bases.

Turkey is also an active provider of military assistance and equipment, including patrol boats, and in August 2001 it opened a military representation office in Astana to coordinate bilateral military cooperation. Locally, Kazakhstan took part in the CIS peacekeeping operation in Tajikistan, established a joint peacekeeping battalion with Kyrgyz and Uzbek forces, and developed a regional joint counterterrorist “Central Asian Collective Rapid Deployment Force” along with the militaries of Russia, Tajikistan, and Kyrgyzstan.<sup>72</sup> To date, this latter organization remains only a notional headquarters and a vehicle for some joint training.

### **Kyrgyzstan**

More than 50 percent of Kyrgyzstan is at altitudes of 9,800 feet or higher, and 75 percent of that land is permanently frozen. Although adequate roads exist in the valleys, roads into the foothills and mountains are predominantly narrow and in poor repair. Extremes in weather create operational concerns, and most local roads are dirt trails that are easily affected by rain, snow, and ice. There is no reliable overland connection between the country’s north and south. It is highly unlikely that this situation will change in the foreseeable future.

Worries that the growing Uighur separatist movement in China may spill over into Kyrgyzstan are overshadowed by other more immediate security threats. Drugs and other contraband reach Kyrgyzstan from Tajikistan, which also serves as a haven for criminal and terrorist groups that threaten Bishkek’s rule, including the Islamic Movement of Uzbekistan, which has staged incursions into Kyrgyz territory. IMU activity is particularly a problem near the Uzbek-Kyrgyz border and in northern Kyrgyzstan and the Ferghana Valley. The valley is divided with convoluted and porous borders between Kyrgyzstan, Tajikistan, and Uzbekistan, all of which contest some aspects of the current border arrangements (see Figure 8.8).

Kyrgyzstan’s poverty and lack of natural resources make it highly unlikely that its present problems will be resolved in the next 10 to 15

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<sup>72</sup>Frederick Starr, *Central Asia’s Security Needs and Emerging Structures for Addressing Them*, URL [www.sais-jhu.edu/caci/Publications/Security%20needs.htm](http://www.sais-jhu.edu/caci/Publications/Security%20needs.htm), undated.

years. It is, in fact, possible that economic and political deterioration will eventually lead to government collapse, perhaps following a succession crisis.<sup>73</sup>

As Kyrgyzstan has become more uncertain of its security, it has looked to Russia and regional security structures to help address its security concerns. It participates in the CIS collective defense agreement and took part in its peacekeeping mission in Tajikistan. Regionally, Kyrgyzstan is a member of the Central Asian peacekeeping battalion (along with Kazakhstan and Uzbekistan) and helped establish the joint counterterrorist “Central Asian Collective Rapid Deployment Force,” along with the militaries of Russia, Tajikistan, and Kazakhstan. This latter organization is headquartered in Bishkek and looks to coordinate and improve both the national and collective capabilities of the member states to confront terrorism. As noted earlier, this organization is not yet a viable joint security command. Keeping its options open, Kyrgyzstan was an early member of NATO’s Partnership for Peace program and has security ties with the United States, which provides assistance and training;<sup>74</sup> Turkey, which has begun doing the same; and China, which recently provided some equipment and agreed to plans for joint training efforts. Kyrgyzstan’s security relationship with the United States and the West has changed greatly after September 11. It signed a one-year access (lease) agreement for Manas International Airport—just outside of the capital—in December 2001.<sup>75</sup> The lease agreement reportedly does not restrict the nature of the operations staged from the base (humanitarian, combat support, or combat), and access has been extended to a number of allied air forces (including the British, Canadian, French, Danish, German, Spanish, and South Korean).

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<sup>73</sup>See Chapters Two and Four of this report.

<sup>74</sup>Since 1999, CENTCOM’s Special Operations Command has been the lead provider of U.S. training to the Kyrgyz, Kazakh, Uzbek, and Tajik militaries. The training focused on counterinsurgency operations, with Special Forces (SF) A-Teams spending about a month each quarter in each country working with their elite SF counterparts. This training established strong military-to-military contacts and relations that helped encourage other security cooperation and assistance programs. Glenn W. Goodman, Jr., “Central Asian Partners: Low-Key Spadework By Green Berets Reaps Valuable Benefits for War in Afghanistan,” *Armed Forces Journal International*, January 2002, p. 60.

<sup>75</sup>Although the lease is only for a year, it is reportedly automatically renewed unless either country opts out.

The population of military personnel from the United States and its allies is expected to grow to about 2,000 by summer 2002, with temporary facilities under construction. The United States is carving out a 37-acre military support base as an adjunct part of Manas International Airport. This former Soviet bomber base has the longest runway in the region and can support the deployment of all types of U.S. and NATO aircraft, including the U.S. Air Force's heavy, wide-body aircraft—C-5 and C-17 airlifters, and KC-135 tankers—as well as an array of tactical combat aircraft. This facility is a strategic logistics, refueling, and operational hub for air forces supporting operations over Afghanistan. The facility is already being used to move troops and cargo to bases in the Afghan cities of Kandahar, Bagram, and Mazar-i-Sharif; stage tactical fighter operations over Afghanistan; support refueling tanker operations over Central Asia and Afghanistan; and launch unmanned aerial vehicle (UAV) reconnaissance missions. Manas is clearly the best operational base that U.S. forces have direct access to in the region.<sup>76</sup> The nature and scale of the ongoing upgrade program suggests that the United States hopes to retain long-term access to this facility.

Payment for use of the airfield reportedly includes an economic compensation package totaling an estimated \$40 million a year, upgrading of the airfield to meet NATO standards, and increased military assistance through training and joint exercises.<sup>77</sup> Kyrgyzstan is apparently hoping that the U.S. military presence will provide a number of benefits, including stimulation to a stagnant economy, assistance that will help the country rebuild its small military and improve its combat capability, and improvements in the security/stability situation both within the country and on its immediate borders. Whether or not U.S. forces are stationed perma-

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<sup>76</sup>Like so many Soviet-built airfields, Manas does not have much hard-surface ramp space on which to park heavy aircraft. Reportedly there is currently only room along the taxiway for four C-5 type aircraft, which discourages the permanent stationing or even overnight stay of large numbers of such aircraft.

<sup>77</sup>Bruce Pannier, "Tajikistan, Kyrgyzstan Balancing Relations with West, Russia," *Eurasia Insight*, December 8, 2001. In part, the lease agreement's terms reportedly include the payment of \$7,000 every time a plane lands or takes off from the airport, and \$1,000 and \$500 for every truck and car entering the airport. In addition, the United States promised Kyrgyzstan \$3.5 million to be used toward the repair of its combat equipment and the provision of spare parts. Makarenko, "The Changing Dynamics of Central Asian Terrorism," p. 37.

nently at Manas, the upgrading of the base by the U.S. Air Force is an investment in the future in terms of base availability for future contingencies.

## Tajikistan

Over 93 percent of Tajikistan is mountainous, and half is above 9,500 feet. The terrain and problems it creates are similar to those discussed for Kyrgyzstan, but even more rugged. Economic development is minimal and poverty and crime are widespread.<sup>78</sup> There is little chance of local purchase of needed consumables, and the availability of potable water also is a problem. Any deploying formations must plan to deploy all consumables. The successful management of a logistics support hub in-country will be crucial.

Although a cease-fire remains in place, the central government currently controls little of Tajikistan outside of the capital. Paramilitary groups and regional warlords control much of the country. The population is concentrated in the Ferghana Valley in the north, and the Kofarnihon and Vakhsh Valleys in the southwest. The country has evolved into the principal transshipment route for Afghanistan's illegal drug production, and Uzbekistan and Kyrgyzstan believe that IMU insurgents have been attacking their countries from bases within Tajikistan. While the situation may improve over the next 10 to 15 years, it is equally probable that it will instead deteriorate further or at best improve only moderately.

Russian military and border guard troops have been stationed in Tajikistan since the collapse of the Soviet Union. Russian security forces play a critical role in maintaining what order there is. They patrol Tajikistan's borders, especially its 1,200-kilometer border with Afghanistan. Many of the better roads entering Afghanistan from Central Asia cross through this border region. The high, rugged terrain, few villages, poor roads and trails, and harsh climate make operations along this border difficult. Many of the mountain trails and passes are not on maps, ensuring the advantage to those with local knowledge of the terrain. In December 2001, Tajikistan, like its neighbor Kyrgyzstan, offered the United States the use of former

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<sup>78</sup>See Chapters Two and Five of this report for more details.

Soviet air bases to support its counterterrorism campaign. The United States identified one of these as suitable for the staging of fighter-bombers, search and rescue aircraft, helicopters, and a transportation/logistics hub for supplies, equipment, and personnel moving into Afghanistan. Although genuinely concerned about the outcome of the war in Afghanistan and its implications for refugee flow and stability on its southern border, the government in Dushanbe also saw potential economic, military, and security benefits that could accrue. In exchange, the United States is increasing its military assistance and security cooperation programs, as well as its economic assistance efforts.<sup>79</sup>

### **Turkmenistan**

Most of Turkmenistan is desert, with high temperatures and low rainfall. In this, it more closely resembles parts of the Middle East, such as Saudi Arabia and Kuwait, than the rest of Central Asia. A mountainous border with Afghanistan was for many years patrolled with the assistance of Russian border troops, but the Russian security presence was withdrawn more than a year ago. This 450-mile border has been porous to illegal traffic over the years, with smuggling and drug traffic from Afghanistan posing significant problems. The porous nature of the border presents many security concerns; among them is potential refugee traffic fleeing fighting or poverty in Afghanistan.

Energy exploration, production, storage, and distribution industries continue to develop for Turkmenistani gas, but most of the population receives little benefit. Although a handful of hard-surfaced roads link the few population centers, much of the country is not tied to the transportation network in any real way, and there is little support infrastructure. As elsewhere in the region, toxic agricultural chemicals and pesticides have contaminated the soil and groundwater; and there are many contaminants in the Caspian Sea. All

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<sup>79</sup>On January 9, 2002, U.S. State Department spokesman Richard Boucher stated that restrictions imposed in 1993 on the transfer of military equipment to Tajikistan have been lifted due to that country's close cooperation with the international counterterrorist coalition.

deployed forces would have to have good cross-country mobility and be self-sufficient.

Turkmenistan has declared itself a nonaligned state, even though it participates in NATO's Partnership for Peace and generally maintains good relations with Iran. Security cooperation with the United States has been minimal, but the country did authorize overflight of its territory in support of operations in Afghanistan and the limited use of an airfield in its southern border region to support humanitarian relief flights into Afghanistan.

### **Uzbekistan**

Uzbekistan's terrain includes areas of desert, river valleys, and mountains. The country's advantages include the best transportation infrastructure in Central Asia. Moreover, the government has established long-term programs for the refurbishment of existing and the construction of additional road and rail. The principal international airport in Tashkent has been upgraded (with foreign assistance), as have several major regional airfields. More improvements are planned. Pollution remains a significant problem, and visitors must be aware of contaminated areas, avoid use of the local water, and take care when purchasing local foodstuffs.

Disputes with Kyrgyzstan and Tajikistan over the Ferghana Valley, domestic political and economic tension, drug trafficking from Afghanistan, crime, and the growth of the insurgent Islamic Movement of Uzbekistan all create security concerns for Uzbekistan. One aspect of its response has been increasing authoritarianism.<sup>80</sup> Uzbekistan's short 90-mile border with Afghanistan is a security concern and has been a principal route for contraband moving north; it is a likely route for refugees as well.<sup>81</sup>

Uzbekistan has been consistent in refusing Russian offers of military assistance, although it has periodically shown signs of being willing to improve relations with Moscow. It is a member of the GUUAM

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<sup>80</sup>See Chapter Two of this report.

<sup>81</sup>During the Soviet occupation of Afghanistan, roads and highways from Uzbekistan and Tajikistan were the principal military deployment and resupply routes.

grouping but tends to view it as a means of attaining economic, rather than security, goals. It is an active participant in NATO's PfP program and receives security assistance from the United States and, recently, Turkey. Uzbekistan was the first Central Asian republic to offer assistance to the United States in support of operations in Afghanistan. It authorized U.S. access to the Khanabad air base, which is about 120 miles north of the border with Afghanistan, for all but offensive combat operation. As early as September 22, 2001, U.S. military transport aircraft began arriving at Khanabad, and the population of U.S. airmen and soldiers, as well as allied troops, swelled to several thousand. Because of the constraint on the conduct of combat operations from the base, Khanabad has been used essentially as an ISB and logistics hub to support the movement and sustainment of ground forces into Afghanistan,<sup>82</sup> search and rescue operations, and the launch and recovery of UAV reconnaissance vehicles.

On March 12, 2002, U.S. Secretary of State Colin L. Powell and Uzbekistan Foreign Minister Adulaziz Kamilov signed a broad-based bilateral agreement that outlines a framework for future cooperation. The agreement provides for economic, political, legal, and humanitarian cooperation, as well as an enhanced security arrangement.<sup>83</sup> In exchange for Uzbekistan's commitment to the war against terrorism, the United States will "regard with grave concern any external threat to Uzbekistan" and denounce the IMU as an international terrorist group.<sup>84</sup> This latest agreement ties the United States to the security of the Uzbek state, underwrites future U.S. security cooperation and military assistance programs, and suggests long-term security ties between the two states and a U.S. commitment to Uzbekistan's national security.

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<sup>82</sup>U.S. Special Forces and 10th Mountain Division units were among the ground force formations that staged through this facility.

<sup>83</sup>The United States also promises to triple the foreign aid for Uzbekistan to \$160 million and guaranteed another \$55 million in credit from the U.S. Export-Import Bank. The Uzbek government has committed itself to the "democratic transformation of its society."

<sup>84</sup>"United States-Uzbekistan Declaration on the Strategic Partnership and Cooperation Framework," U.S. State Department Fact Sheet, March 12, 2002.

## OPERATIONAL ENVIRONMENT: IMPLICATIONS

Poverty and shortages of everything from food to services to energy will make it difficult for countries in CASC to provide any significant logistics or maintenance support for a U.S. force deploying to the region. Exceptions are Uzbekistan, where if anticipated improvements proceed over the next decade, the country should be able to efficiently support a high-speed aerial deployment of U.S. forces into the region and serve as a regional logistics hub for operations elsewhere, and Kazakhstan, which may also be able to provide a certain level of host-nation support. Elsewhere, logistical support will have to be brought into country in advance of the force and then be capable of moving with it.

Consumables—food, water, fuel, etc.—will also have to be brought in and distributed given shortages, contamination, and poor water quality throughout the region. Although the development of energy resources may well improve the economic situation in oil-producing states like Azerbaijan and Kazakhstan over the next one to two decades, gas producers Turkmenistan and Uzbekistan will see less growth, transit state Georgia will lag behind, and Armenia, Kyrgyzstan, and Tajikistan are unlikely to benefit particularly from energy development.

Energy trade will also spur important infrastructure improvements in the oil-producing states, pipeline transit states, and to a lesser extent the gas-producing states. While this should make travel and transport easier, it should be noted that pipelines and related infrastructure might also prove an inviting target for terrorists or enemy forces in a conflict.<sup>85</sup> Planners should also be aware of the dangers posed by criminal groups and possibly terrorists in much of this region, particularly in (but not limited to) countries where central control is limited (e.g., Georgia and Tajikistan today).

Caucasian and Central Asian terrain favors small-unit operations. Local military and paramilitary formations (state and nonstate) have little high-speed mobility and very little long-range engagement capability. In part, this is a result of the terrain and poor state of the transportation network and would therefore similarly affect outside

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<sup>85</sup>See Chapter Five of this report.

forces. In Central Asia, extreme distances and wide variations in terrain and climate will impose additional challenges. Throughout all these states, there are few major hard-surfaced roads outside the towns and cities. While energy development may improve the main traffic arteries, most roadways will remain primitive. If combat is centered in the hills and mountains on dirt roads and paths or offroad (as much of it was in Afghanistan), this will present problems, requiring the use of troops that are well trained and equipped for this type of environment. The U.S. 10th Mountain Division units in Afghanistan were effectively used in this capacity, e.g., Operation Anaconda near Gardez in March 2002. Obviously, if activities are in or around the major regional cities, MOUT-type combat will impose an entirely different set of requirements.

Because hostile forces will most likely be based on small units, they will be able to take advantage of the terrain to confound efforts to identify their locations in near-real time. Tactical reconnaissance and intelligence will be needed to detect and target adversary formations.<sup>86</sup> Maps will be essential, but planners must recognize that much of the terrain in CASC has never been adequately mapped, giving a clear operational advantage to the local units. Rapid-reaction forces and firepower that can be quickly moved to crisis areas will be important, as will air mobility, particularly to cover the distances of Central Asia.<sup>87</sup> Lightly armored, highly mobile ground formations, supported by good airborne reconnaissance and fire support, will have the advantage in most of this region. In areas where terrain is especially mountainous, such as Kyrgyzstan and Tajikistan, there may be a need for special equipment and personnel

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<sup>86</sup>U.S. forces effectively used unmanned aerial vehicles (UAVs) for this tactical reconnaissance and targeting role in Afghanistan.

<sup>87</sup>U.S. ground force operations in Afghanistan faced similar operational challenges. They effectively used helicopters to provide the high-speed mobility, and responsive and precise airborne fire support (bombers, fighters, and attack helicopters) to provide the long-range engagement capability as well as close air support for both local and alliance ground forces. The combination of precision-guided munitions and good target designation/identification from the ground proved to be a deadly combination that made it possible to effectively use high-flying bombers for close support missions.

prepared for high-altitude operations.<sup>88</sup> At the other extreme are the stretches of hot, dry desert in Turkmenistan.

### **LOCAL MILITARY CAPABILITIES: CAPACITY AND INTEROPERABILITY DIRECTIONS OF MILITARY REFORM IN CENTRAL ASIA AND SOUTH CAUCASUS**

The military forces that the CASC states inherited from the Soviet Union were structured, equipped, and trained to fight the Soviet Union's wars. Such forces were inappropriate for the new states' actual security needs. However, resource constraints and changing priorities over the last decade have precluded significant attention to military reform, not only in CASC, but throughout the post-Soviet space. This has led to oversized, undertrained, and often unpaid military forces fielding equipment that is rapidly aging and falling into disrepair, in part due to the absence of spare parts. In the CASC region, where the equipment deployed in Soviet times was older and less capable than that maintained in Europe and elsewhere, this process has been accelerated.

CASC state militaries also inherited Soviet military doctrine, tactics, procedures, and training regimens. Most senior military officers in these states came up through the Soviet Union's ranks, and this is the education and philosophy in which they were prepared and which, in many cases, they continue to hold and propagate. Of course, these are no more appropriate to post-Cold War needs than the force structures these states inherited. Soviet-style thinking as well as the conservatism of these older senior officers has often hampered what efforts toward reform have been attempted.

To a certain extent, Uzbekistan has been the exception. With a military leadership somewhat more open to change and dedicated to casting off its Soviet legacy, along with resources devoted to the

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<sup>88</sup>Toward this end, U.S. Special Operations Forces have been engaged in training their Uzbek and Kyrgyz counterparts for counterterrorist operations in the mountains since 1999. These small elite formations are rated as highly capable. In similar environs in Afghanistan, U.S. planners made effective use of small Special Forces teams to support local formations and conduct small-scale special missions reconnaissance, and targeting for air. For larger operations, elements of the 10th Mountain Division or the 101st Airmobile Division were employed.

effort, they have recently been able to adopt a new national security strategy and national military strategy and establish relevant mission requirements. They have also downsized and restationed forces and taken steps toward professionalizing their military. But even in Uzbekistan, these changes are concentrated in a few elite, higher-readiness formations rather than uniformly applied to the entire force.<sup>89</sup>

The transition process is proceeding even more slowly elsewhere. It is only within the last year or two that some Caspian states have begun to adopt national security strategies that more realistically reflect their security environments. Most states have made selective progress, seeking to change the focus and improve the quality of military training, to downsize the legacy forces and restructure them to better meet real operational requirements, and to improve operational readiness in at least some components. As a result, a few elite formations in a few states are combat-capable, but they are the exception, with most forces in extremely poor condition.

Participation in the Partnership for Peace has provided exposure to NATO tactics, techniques, and procedures, although this exposure, too, is still limited in most countries to only a few units and personnel. Turkey has been particularly involved in assisting Azerbaijan and Georgia, signing a formal tripartite agreement on military assistance and security cooperation with the two. It has also recently expanded its military assistance programs with both Uzbekistan and Kyrgyzstan. Cooperation with Kazakhstan has been fitful but has recently enjoyed a resurgence with the August 2001 opening of a Turkish military mission in Astana to coordinate bilateral military ties, which will include assistance with military reform, equipment transfers, and the continuation of ongoing programs through which Kazakh military personnel are trained in Turkey. Russia continues to provide training for many Central Asian militaries, as well as to provide training and assistance to Armenia. Kyrgyzstan has received some assistance from China.

The United States is active in PfP activities and provides bilateral assistance as well, with particular beneficiaries being Georgia,

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<sup>89</sup>This assessment is based on in-country interviews with members of the Uzbekistan ministry of defense staff and NATO defense attachés in Tashkent.

Azerbaijan, Uzbekistan, and Kyrgyzstan. Relations with Kazakhstan have somewhat cooled in recent years. U.S. military relations with the states of Central Asia may evolve significantly in the next few years, as the United States responds to the September 11 terrorist attacks and as a global coalition determines its approach to the terrorist threat. It is too early to predict the long-term implications of this evolution, as much will depend on the actions of the Central Asian states, the United States, Russia, and others.

Over time, more states in the region will seek to restructure their legacy forces into smaller, more mobile formations that can conduct a broader range of missions. Plans also call for professionalized militaries and some limited equipment acquisition. But if the military transformation processes in CASC are to be truly effective and successful, such that small to mid-size modern military establishments can become the norm, these countries must reach a level of economic development that has to date eluded them. Even given economic growth, the political will required for an extended, phased military transformation program is likely to be difficult to sustain. Finally, it is unlikely that effective military reform will be possible without significant outside assistance to provide the necessary guidance, training, and probably equipment and technology to fuel this process. The post-September 11 U.S. effort to enhance its security cooperation programs with and direct military assistance to many of these countries may help stimulate this effort, but the effect will probably be mixed across the region. To date, U.S. political and military activity seems to be focused in order on the states of Uzbekistan, Kyrgyzstan, and Kazakhstan in Central Asia, and Georgia and to a lesser degree Azerbaijan in South Caucasus. These efforts appear to be directed toward establishing assured access to the region and thereby stabilize the operational planning process and speed up any future deployments.

Given all these difficult requirements, there can be no expectation that most of these states will successfully reform their militaries in the next ten to twenty years. While some progress can be expected by the wealthier states, real improvements in readiness and combat capability will most likely be limited to elite "rapid-reaction force" formations, while poorer states (such as Tajikistan) will probably deteriorate further. Professionalization will continue to present challenges throughout the region for as long as the resources neces-

sary to make the military an appealing career are not available to the armed forces. Even in the wealthiest states, the acquisition of the C4ISR elements critical to high-speed, highly integrated, U.S.-type conventional operations are outside the realm of the possible in the next decade, and quite probably beyond.

That said, PfP membership, exercise participation, and collective and individual training with and by NATO member states is exposing Central Asian and Caspian militaries to Western tactics, techniques, and procedures (TTP), as well as Western training methods. The more progressive states have already begun to change their Soviet-based system to reflect NATO TTP. They are moving away from the highly structured, centrally planned, set-piece operations that were the norm under the Soviet system to small-scale, independent maneuver operations that are more common in the West and more appropriate to their security needs.

Within the next decade, Uzbekistan, Kazakhstan, and Armenia are most likely to develop this sort of capability with higher-readiness, rapid-reaction formations. If Azerbaijan devotes the economic resources and political will to the program of development it has outlined, it too could get close to this standard within the next decade. The current defense ministry leaderships of both Georgia and Kyrgyzstan are dedicated to making a similar transition, but it is unlikely that their economies will be strong enough to support the resource requirements. These two states are both hoping that U.S. post-September 11 commitments will help them take a major step forward in the development of a reasonable military capability.<sup>90</sup> Tajikistan and Turkmenistan lag far behind their neighbors and are expected to continue to do so for the foreseeable future.

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<sup>90</sup>For example, the United States is providing Kyrgyzstan military assistance and economic rewards as an incentive to lease its airfield and allow the United States to build a semipermanent presence. The intent appears to be to upgrade Manas International Airport in Kyrgyzstan and Khanabad air base in Uzbekistan to nearly full-service U.S. Air Force operating bases that can be activated in the event of a future deployment. It is likely that the United States will retain a presence there as long as the current crisis exists, but it is also likely that this presence will be reduced to a mere caretaker status in the future, living up to General Franks's assurances that the United States was seeking no permanent bases in the region.

Overall, it is reasonable to conclude that despite these improvements, military forces in the region will remain, for the most part, low-tech and based on light formations. Training and readiness will remain problems in all but a few states, and even there, in all but a few elite units. For the foreseeable future, all the Caspian states will have low combat potential if faced with a well-trained, advanced, and technologically sophisticated military force. But the low proficiency of the Caspian militaries in conventional engagements does not necessarily hold across the full spectrum of operations. Depending on the circumstances, an asymmetric strategy of irregular warfare against a technologically superior and better-trained adversary could enable even a low-proficiency force to inflict substantial casualties on the stronger opponent. This could be particularly effective if the stronger force was on unfamiliar territory, while the conventionally less capable force was on home soil.

The most probable threat to security across the CASC region remains organized crime and isolated terrorism. Like the regional militaries, the paramilitary and terrorist organizations involved in these types of activities are low tech and prefer to operate in small, mobile bands (units) that are difficult to track and attack. Hit-and-run guerrilla-type operations by generally lightly armed units will be more common, and these do not require the higher-tech response discussed above. Moreover, the light formations will be most effective if they are complemented by the tactical intelligence needed to find and fix opposition troops and the mobility and firepower needed to quickly attack such fleeting targets.<sup>91</sup>

### **IMPLICATIONS FOR U.S. FORCES: INTEROPERABILITY AND REQUIREMENTS**

If U.S. forces deploy to the CASC region, they cannot expect local militaries to fulfill the role that a NATO coalition partner might be able to do. Neither will the local militaries be able to conduct similar combined arms operations anytime soon. To operate within the capabilities of these militaries, U.S. forces can plan for and fight a

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<sup>91</sup>Although Afghanistan is a much different operational environment than most of the Caucasus and Central Asia, the guerrillas' use of the hilly and mountainous terrain and primitive road and trail networks to mask their movement are not.

multispeed campaign, with responsibilities and missions assigned to local forces commensurate with their capabilities, or settle on different, i.e., more modest, campaign objectives. A more appropriate model appears to be Operation Desert Storm, in which non-NATO and non-Western military units were integrated into a multinational combat force. If U.S. forces are to fight alongside CASC militaries, similar nontraditional approaches will be called for to overcome operational concerns and interoperability problems, and to ensure that all allied commanders have equal access to the airborne fire support and reconnaissance that U.S. forces bring to the battle. Of course, approaches will have to be tailored to the specific challenges posed by this region and its militaries. Communications, command and control, TTP, mobility, maneuver, firepower, logistics support, medical assistance, and national civil and military infrastructure are all factors for which differences between U.S. and local procedures, systems, and capabilities have the potential to create real problems. Language barriers also cannot be ignored. Moreover, if conscript armies are retained in the region, training and experience shortfalls will present additional difficulties and operational concerns. In many cases, U.S. forces must be concerned that local units may not be able to complete mission requirements and protect coalition units on their flanks.

The above notwithstanding, if local forces successfully create the small, light capable formations that many of them are trying to build, it may be possible to overcome some of the interoperability problems and to work around others. While the litany of challenges certainly precludes combined arms maneuver with local states, it should be possible to attain interoperability at the small-unit level if local forces attain sufficient capability to be reliable partners. If this happens, the Gulf War model becomes applicable, although the United States will probably seek a strong command and control role, with U.S. military liaison personnel integrated into the operational staff of the local formations. This model was revisited during Operation Enduring Freedom, as the United States detailed Special Forces teams to commanders of regional formations as liaisons and operational assistants and to provide an interface with U.S. Air Force and intelligence assets. One of the successes of U.S. operations in Afghanistan was how effectively they supported the local ground operations with U.S. strategic and tactical airpower. Such an

approach might prove useful to a mission in Central Asia or South Caucasus as well.<sup>92</sup>

The other main workaround will simply be to bring along whatever is lacking in the region. U.S. forces train for and expect to operate in an information-rich operational environment, with the information management capability to observe and influence activity on the total battlefield. This applies to U.S. expectations of a long-range secure communications package; a tactical intelligence-collection, analysis, and dissemination capability; battlefield surveillance and target acquisition; and a tailored logistics support package. The militaries in the CASC states are far below this level and cannot be expected to have in their operational inventory many of the capabilities standard in or available to U.S. formations. Thus, if these or other capabilities—such as composite transportation and attack helicopter units, additional medical personnel, dedicated transportation assets to support logistics tail, etc.—are deemed necessary to U.S. operational or mission requirements, they will have to be deployed into the region, which will increase the strategic lift requirement, extend the deployment timeline, and increase the U.S. force presence (footprint) in-country. Hiring a U.S. contractor to provide and manage specific support functions utilizing local labor and materials can reduce some of this additional footprint.<sup>93</sup> The services have used this method during most of their recent contingencies in the areas of troop support, transportation, supply operations, and construction, reducing the deployment requirement for logistics support troops, equipment, and materiel.<sup>94</sup>

Finally, there is the issue of local militaries' abilities to work with each other. If the operation is multilateral in nature, local capacity to combine forces can lessen the burden on the United States. On the

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<sup>92</sup>Bryan Bender, Kim Burger, and Andrew Koch, "Afghanistan: First Lessons," *Jane's Defense Weekly*, December 19, 2001, pp. 18–21.

<sup>93</sup>The role of Brown and Root in providing a broad range of support in several recent contingencies is a good example of how this tool can be used and what types of services and functions contractors can effectively perform.

<sup>94</sup>In the absence of standing local contracts, it will take time to get this type of support in place and operating efficiently. The early-deploying units must be prepared to provide most, if not all, of their own logistics support. It will be important to identify early on what services can and cannot be provided through local contract, so that deployment and sustainment plans can be adjusted accordingly.

other hand, if these militaries are more compatible with the United States than with each other, it will fall on U.S. forces to facilitate their interactions, increasing the burden.

Current trends are mixed. While the forces of the region inherited compatible equipment (although they are now drifting apart in capability, structures, and procedures), and language barriers can be overcome (if sometimes by speaking Russian), successful interoperability requires significant preparation, experience, and practice. To date, this has been limited, partly because of a history of distrust among many of the states of CASC. Georgia and Azerbaijan have been making some progress, such as through the effort to establish a GUUAM peacekeeping battalion, operations under Turkish command in KFOR, and the most recent tripartite security cooperation agreement that ties them to common Turkish military assistance and training. PfP and NATO have also provided a common forum for military-to-military contacts between representatives of Central Asia's militaries, as well as common training, exercises, and planning activities, such as those found in the Central Asia peacekeeping battalion. In addition, growing regional security concerns are forcing a level of cooperation, including intelligence sharing and coordinated operations against terrorist and criminal groups such as the IMU. Similar security concerns have spawned a number of regional security cooperation organizations and joint military formations, such as the counterterrorist Central Asian Rapid-Reaction Force, that may foster a better environment for combined operations in the future, if it indeed becomes a viable operational command.

## CONCLUSIONS

Central Asia and South Caucasus present a myriad of challenges for deploying and sustaining U.S. troops, among them the distances, the lack of established facilities with which U.S. forces are familiar, and a political environment marked by uncertainty, crime and corruption, and, in many areas, weak central control.

Distances alone will introduce friction and vulnerabilities, as well as add challenges to the operations planning and execution process. Any U.S. deployment will be asset-intensive and time-consuming, and will place extreme demands on host country resources.

Currently, the only way to responsively get U.S. military assets into Central Asia and much of South Caucasus is by air. The extreme distances from traditional home bases for Army and Air Force units to possible deployment locations in the region are only the first problem. The real challenge will be to get access to airfields in the region that can effectively support the deployment and then to complete the upgrades/improvements necessary to accommodate the types of aircraft, troop population, and operational tempo anticipated. When one is looking to operate in a little-known environment and use facilities that are unfamiliar, the negotiation for access and the planning and execution stages of the deployment process may well take some time. The ramp up to U.S. operations in Afghanistan underscore these problems and their effects on the deployment timeline and how quickly units can be operationally readied. The United States was able to deploy forces into staging bases in Central Asia—Kyrgyzstan, Uzbekistan, and Tajikistan—but not quickly.

As U.S. planners recently found, in Central Asia austere reception facilities and limited host nation support must be expected in all but one or two countries. Moreover, a high percentage of the first several weeks' sorties into these facilities carried the airfield support personnel, equipment, and materiel to bring the facility up to acceptable standards and establish an adequate life-support condition for deployed troops. There is a high probability that all of this support activity slowed down the deployed unit's ability to establish full operational readiness.

After establishing presence in these countries, the United States negotiated its initial access/lease agreements that allowed it to upgrade these facilities. Although the United States is unlikely to maintain a long-term presence in any of these countries, a major step has been taken toward improving the Air Force's ability to responsively transport troops and equipment into them. These airfields are no longer an unknown quantity, the logistics and transportation networks linking them to CONUS and Europe have been tested, and the airfields have been improved. The United States is

continuing ongoing efforts to gain “assured access” to deployment bases in the region.<sup>95</sup>

A lack of alternative deployment options will add predictability and possible vulnerability. U.S. forces are most vulnerable while in transit and during staging into the host country. Opposition forces may take the opportunity to attempt to discourage, disrupt, or prevent deployment and sustainment operations.

Much depends on the initial decision on how forces will be transported to and through the theater. The most direct approach may not provide the most efficient follow-on force projection and sustainment. Sustainment will be another potential vulnerability and place additional intensive demands on U.S. strategic lift resources. For one thing, the extended distances involved and the limited possibility of local purchase will create strain. An ISB outside the deployment zone could be considered one way to provide a necessary management, transportation, and logistics hub while reducing the in-country footprint and demand on host nation support, although these cannot be eliminated entirely.

Due to the relatively low projected capabilities of the local militaries and their limited capacity to offer host nation support, the deploying brigade’s organic support assets will probably be inadequate for mission requirements. An additional support package will be necessary to ensure the availability of the logistics, transportation, C4ISR, secure communications, force projection (including tactical helicopter and fixed-wing lift), and force protection assets that are demanded by the security environment and mission requirements.

Deployment planners must also be concerned with the stability of the country that will be receiving their forces and the types of social problems that may arise. Table 8.5 outlines the relative character of the domestic measures across these eight states, summarizing the

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<sup>95</sup>The United States has signed lease/access agreements for airfields in both Kyrgyzstan and Uzbekistan. Turkey has negotiated similar agreements with both Azerbaijan and Georgia and is upgrading these airfields to NATO standards. Although future access may not be guaranteed by these agreements, the process of renegotiation or reinstatement should be much simpler, which should improve the timelines and throughput significantly. It is likely that Turkey would support U.S. or alliance access to its leased facilities in Azerbaijan and Georgia.

**Table 8.5**  
**Relative Measures of Domestic Stability**

	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Poverty	W	W	W	L	W	W	W	L
Urban	L	L	L	I	L	W	W	I
Rural	W	W	W	W	W	W	W	L
Crime	L	W	W	L	L	W	L	I
Terrorist activity	N	L	L	I	L	W	I	I
Pollution	I	L	L	L	L	L	L	L

W = widespread; L = localized; I = isolated; N = not a concern.

NOTE: Although these measures are subjective, they represent key areas of environmental concern that must be factored into the planning for and execution of any operations in these countries. The list does not represent a definitive checklist of what should be considered, but rather is meant to provide a quick snapshot of some of the expected planning concerns. Assessment of these factors is also subject to change and should be re-evaluated frequently.

concerns briefly discussed earlier for each country. These measures are subject to dramatic change, especially the first three factors, if the economies improve substantially. The last factor is included to highlight that all forces deploying into this region must be concerned with pollution. All these problems and concerns have broader implications for the security of any deploying troops, their sustainment, and ultimately the conduct of operations. The nature and level of criminal and/or terrorist activity may well affect the stability of local, regional, and national governments and magnify security problems.

The local operational environment also has implications for the types of units and equipment needed. Terrain and operational environments vary from country to country, but there are some common challenging features such as the inadequate road and rail networks, likely shortages of needed supplies, and limited support infrastructure. Table 8.6 provides a relative comparison of the nature of the existing transportation infrastructure and the availability of food, water, and fuel in the needed quantities and qualities to support deploying forces. A detailed appraisal of each of these factors will contribute to the planner's assessment of what needs to be deployed, when in the process (airfield and troop support versus combat assets) this must happen, and what the anticipated throughput of the

Table 8.6

**Transportation Infrastructure and Support Capabilities Vary Dramatically  
Across South Caucasus and Central Asia**

	Armenia	Azer- baijan	Georgia	Kazakh- stan	Kyrgyz- stan	Tajikistan	Turkmen- istan	Uzbek- istan
Transportation								
Road—rural	G	F	B	F	F	B	B	G
Rail	B	F	F	F	P	P	P	G
Air	F	F	F	F	F	B	B	G
Available support								
Food	F	B	B	F	B	P	P	F
Water	F	B	B	F	F	P	P	F
Fuel	B	F	P	F	P	P	P	F

E = excellent; G = good; F = fair; B = bad; P = poor.

facility will be. It also has broader implications for the reception, onward movement, and sustainment phases of any ground component deployments.

While the operational environment may improve over the next 10 to 15 years, it is unlikely that improvements will be sufficient to significantly mitigate concerns. Moreover, the sheer distances that operations in Central Asia would involve magnify the problem and create requirements for light and highly mobile ground forces and tactical air.

Military reform in CASC states will have an impact on local capabilities. All the militaries in this part of the world are in transition, but not all are equally far along. The forces these states inherited from the Soviet Union remain incompatible with their security environments. The legacy equipment, infrastructure, human capital, and operational concepts are all dated. Repair and conversion are proving difficult and painful.

While CASC states have for the most part recognized the need to adapt their armed forces to their real security environments, only a few states have yet committed needed resources to the process. Uzbekistan began early, is furthest along, and has the most professional and capable military in the region. Kazakhstan is just now

**Table 8.7**  
**Snapshot of the Relative Capabilities of the Militaries of Each Country**

	Armenia	Azerbaijan	Georgia	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Military								
Readiness	F	P	P	F	B	P	P	G
Equipment	F	B	B	F	B	P	P	G
Capability	F	B	B	F	B	P	P	G
Compatibility w/NATO	B	B	B	F	F	P	P	G
Contact w/Western militaries								
PfP	B	F+	F+	F	F+	P	P	G
Bilateral tng	F	F+	F+	F	F	P	P	F+
Military ast	F	F	F+	F	F	B	P	F

E = excellent; G = good; F = fair; B = bad; P = poor.

seriously beginning a reform and restructuring process, but it is at least five years behind Uzbekistan and is unlikely to catch up in the next decade. See Table 8.7.

Development of modern, capable, and professional militaries from post-Soviet legacy forces will require major commitments of time and resources. The nascent military reform processes in these countries can be sustained only if economies improve and the commitment is firm. It seems likely that Uzbekistan will continue on its positive path. A few other states, namely Kazakhstan and potentially Azerbaijan, Kyrgyzstan, and Georgia (less likely, but there is a renewed U.S. effort to provide direct military assistance, training, and equipment) will also probably move forward over the next decade, but real improvements will be limited to a few elite, combat-ready formations in each country's rapid-reaction force. Low-tech, poorly trained units will likely remain the norm for the armed forces of all the CASC states, with the possible exceptions of those few states that benefit from improving economies and energy wealth.

Even with improvements, it seems likely that a decade into the future, these militaries will still be hampered. Limits on their mobility and on their capacity to conduct reconnaissance and tactical

intelligence, as well as secure long-range or tactical communications, will all constrain capabilities. With the possible exception of Uzbekistan, any joint operations with the United States would be restricted to the small-unit level (most likely company but possibly battalion). Given the current security environment in most of these states, the most likely conflict will be low-level, small-unit operations against an unsophisticated military and paramilitary force. U.S. forces should expect that in a cooperative mission in this region, they will have to provide almost everything both (or all) forces will need. They will also have to prepare for difficulties with interoperability. Carefully designed planning and management arrangements and circumscribed roles and responsibilities for the local militaries can ease the difficulties but will not be able to eliminate them entirely.