



# Nothing is Simple in Afghanistan

## The Principles of Sustainment and Logistics in Alexander's Shadow

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PHOTO: Soldiers of C/3-66 Armor, attached to Task Force 2-28, recover airdropped supplies, Paktika Province, Afghanistan, July 2011. (U.S. Army, CPT Bradley Vance)

**I**N 329 B.C., Alexander the Great led his Macedonian army east from Persia, along the Helmand River, through Herat, Kandahar, and Kabul before crossing the Hindu Kush mountain range with approximately 100,000 troops and followers.<sup>1</sup> After more than 2,300 years, the most modern militaries on earth struggle to sustain their forces in the same lands. Alexander's execution of his Bactrian Campaign in what is now Afghanistan exemplifies why modern military historians consider the Macedonian king both a great tactician and a genius in military logistics.<sup>2</sup>

This article examines why supply distribution in support of Operation Enduring Freedom (OEF) in Afghanistan is so difficult. U.S. Army Field Manual 4-0, *Sustainment*, contains the U.S. Army's sustainment principles for "maintaining combat power, enabling strategic and operational reach, and providing Army forces with endurance."<sup>3</sup> The principles are *integration, anticipation, responsiveness, simplicity, economy, survivability, continuity, and improvisation*. This article will consider the logistics distribution challenges posed to the International Security and Assistance Forces (ISAF) in Afghanistan through the lens of these principles. It will be beneficial to first consider how a distribution framework should look in a frictionless theater. The U.S. Army's doctrine for sustainment and its sustainment brigade will best serve this task.

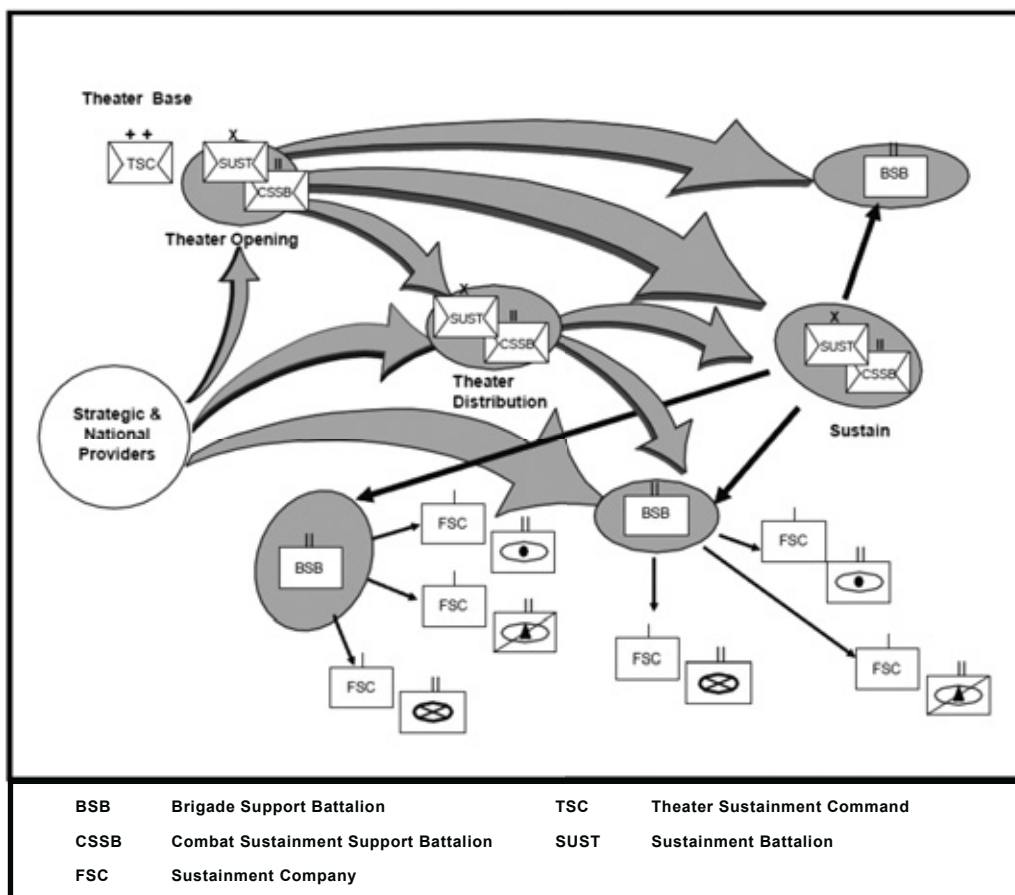


Figure 1

Since the Army’s reorganization for modularity in the early 2000s, the brigade serves as the base unit for both combat and sustainment. Sustainment brigades are modular units “built” with a variety of multifunctional and functional battalions based on the mission, enemy, terrain, troops, time available, and civil considerations. While other unit types factor into the overall sustainment framework, this article deals only with those related to distribution.

In a typical theater, one brigade serves as the theater opening brigade, responsible for operating rail, air, and seaports of debarkation. Theater opening tasks are critical for the efficient reception, staging, onward movement, and integration of materiel and personnel. The theater distribution brigade synchronizes joint distribution and manages the distribution network. Each division or task force retains a sustain brigade responsible for providing services and support through the operational to the tactical level (Figure 1).<sup>4</sup> The theater sustainment command, the

senior Army sustainment headquarters in a theater (commanded by a general officer), synchronizes the efforts of these brigades and other subordinate units in support of theater and combatant commanders.<sup>5</sup>

### Simplicity

Field Manual 4-0 defines the principle of simplicity as “clarity of tasks, standardized and interoperable procedures, and clearly defined command relationships.”<sup>6</sup> Afghanistan’s territorial borders, weather, and terrain prevent the simplicity sought through the Army’s modular concept, and the nature of joint and multinational operations hinder logisticians as they attempt to employ standardized procedures (Figure 2).<sup>7</sup>

The nearest deep-water port is 573 road miles from Kandahar, 1,257 road miles from Kabul, and across one international boundary, on the Arabian Sea in Karachi, Pakistan.<sup>8</sup> These distances approximate the distances from New York City to

Fayetteville, North Carolina, and Fort Lauderdale, Florida, respectively. Furthermore, Afghanistan shares boundaries with countries such as Iran that are not on the best diplomatic terms with the West. The extent to which these problems affect distribution will be discussed below.

Within its borders, Afghanistan experiences extremes in climate, weather, and terrain. The country's central highlands and mountainous northeast stand in dramatic contrast with its desert climate in the southwest. While the dry southwest may experience just two inches of precipitation annually, the northeast mountains average 39.06 inches, of which much of that is snowfall.<sup>9</sup> The Hindu Kush and its subsidiary mountain ranges render the majority of land unsuitable for cross-country movement, and its poor roads are characterized by restrictive alignments, steep grades, sharp curves, and switch-backs.<sup>10</sup> Furthermore, while most of the country lies between 2,000 and 10,000 feet in elevation, the

highest regions can reach 24,000 feet in elevation.<sup>11</sup>

The combination of the climate and the terrain in Afghanistan compels a reliance on air assets for movement and delivery of some material. However, the altitudes in the country stretch the capabilities of rotary wing assets. (The UH-60 Blackhawk and CH-47 Chinook have published service ceilings of 6,500 feet and 20,000 feet, respectively.)<sup>12</sup> Thus, ground forces must rely on U.S. Air Force fixed-wing assets on many occasions, even though, as the commander of the U.S. Transportation Command testified to Congress in 2010, it costs ten times as much per pound to transport something by air than by land or sea.<sup>13</sup>

Just as the terrain and weather force joint cooperation in less than ideal situations, the nature of the coalition demands multinational cooperation. Although each nation in an international coalition assumes responsibility for its supplies and distribution, multinational operations often force

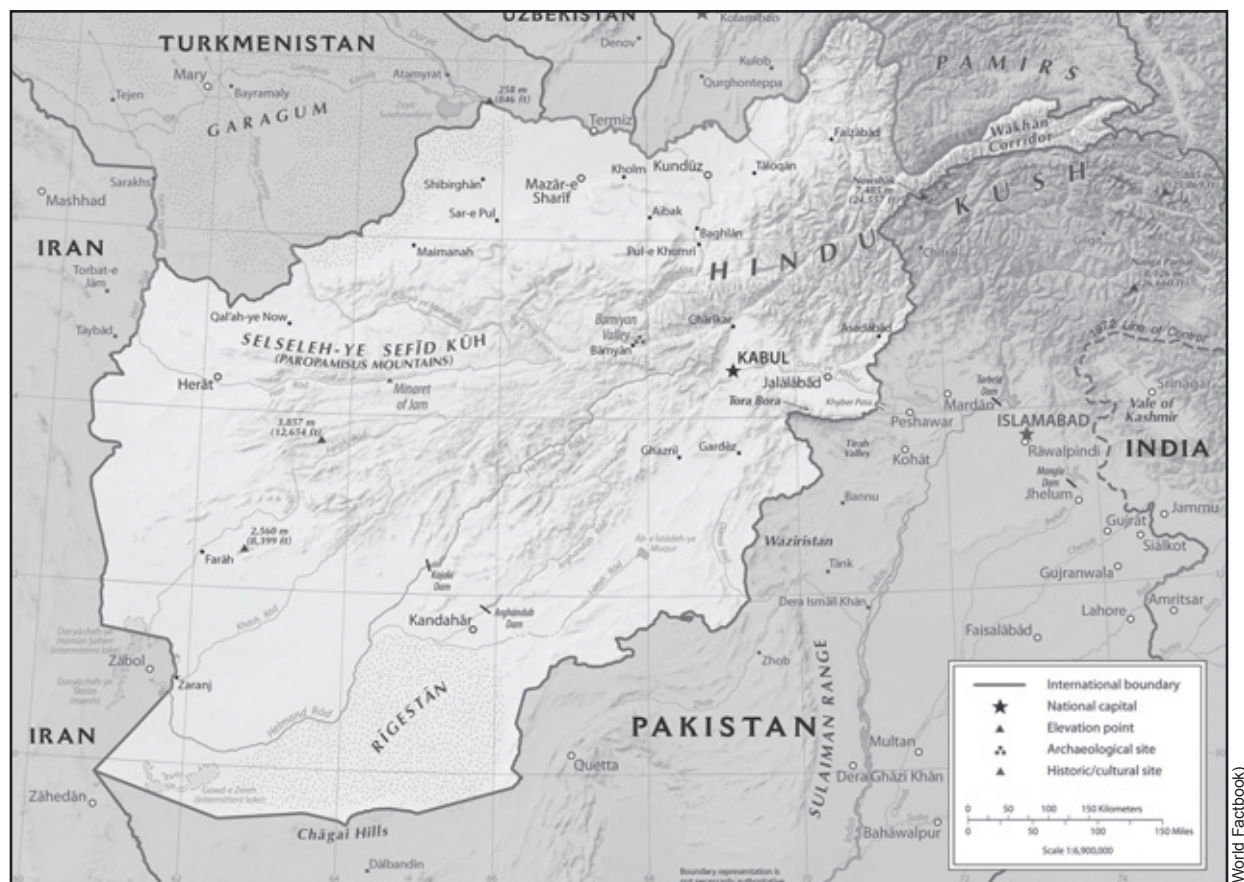


Figure 2



international logistics cooperation. As of December 2011, 48 countries contributed to NATO's mission in Afghanistan, and four—Italy, Germany, Turkey, and the United States—served as lead countries in six regional commands. The variety of platforms and the types of fuel the platforms consume complicate receiving, transporting, and distributing petroleum. While the U.S. and British militaries rely almost exclusively on JP-8, other nations in ISAF require mostly diesel fuel, and the Afghan National Army uses both diesel and unleaded gasoline.<sup>14</sup> As these nations work toward a common objective, the progressive levels of the conflict present increasingly complex challenges to logisticians.

### **Survivability and Responsiveness**

The challenges of achieving survivability and responsiveness demonstrate why tactical distribution is so difficult in the region. The principles can be mutually defeating in this environment.

The term survivability refers to the ability to protect personnel, information, infrastructure, and assets from destruction or degradation. Unlike pre-Cold War conflicts, for the last six decades warfare has been typified by the lack of a safe rear area for receiving, staging, and distributing supplies and equipment. Almost every stretch of road and block of airspace in Afghanistan is vulnerable to enemy attack. The few narrow roads cut out of the sides of the cliffs of the Hindu Kush canalize distribution elements and enable the enemy to use improvised explosive devices (IEDs) effectively. The mujahedeen perfected their targeted ambushes on Soviet convoys over many years in the 1980s by setting mines or IEDs on or beside roads throughout the country. Due to the unforgiving terrain, they could trap forces by destroying multiple vehicles throughout the column and inflict significant damage on them before the benefits of superior technology could take effect.<sup>15</sup> Today, the Taliban and Al-Qaeda continue to employ these tactics even as the endurance of the ISAF has surpassed that of the Soviet forces.

To increase ISAF distribution element survivability, the coalition has turned largely to air resupply. The conflict has seen airdrop design innovations such as the refined use of the Joint Precision Airdrop System, which steers cargo as it descends by parachute.

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Seeking to achieve survivability, however, translates to limited responsiveness. An Army company commander on the Afghanistan-Pakistan border stated that his two biggest support challenges are unpredictable weather conditions that prevent flights of resupply aircraft, and having to fly to many small, remote outposts, which reduces the availability of delivery assets.<sup>16</sup> These problems are also seasonal. The requirement for aerial resupply in the region doubles in the winter months because of road closures, and the spring thaw commonly washes out bridges and roads.<sup>17</sup>

The examples above portray how survivability and responsiveness can be mutually negating because of the tactical logistics in Afghanistan. Logisticians work tirelessly to fulfill requirements so combat elements can translate their tactical successes to operational victories. However, more challenges exist in the bigger picture of operations.

### **Economy and Anticipation**

Factors associated with the economy and anticipation sustainment principles help explain why distribution is so difficult for operations in Afghanistan. The lack of a deepwater port, the enemy's strategy of asymmetric warfare, and the changing level of U.S. commitment to the campaign embody these problems.

Field Manual 4-0 defines the principle of economy as "providing sustainment resources in an efficient manner to enable the commander to employ all assets to generate the greatest effect possible." It further emphasizes, "Staffs also achieve economy by contracting for support or using HN [host nation] resources that reduce or eliminate the use of limited military resources." Sustainment commanders embrace this principle by using host nation contractors to drive cargo trucks into and within Afghanistan.<sup>18</sup>

However, using contractors for the majority of ground support presents problems with accountability and situational awareness, critical in effective distribution. The modern DOD distribution system relies on the ability to track the identity, status, and location of vehicles, containers, and equipment in the distribution pipeline and on the battlefield. This concept is called in-transit visibility.<sup>19</sup> The 101st Sustainment Brigade observed that the lack of in-transit visibility of host nation convoys “jeopardized mission accomplishment for the [sustainment brigade].”<sup>20</sup> Without such visibility, supply personnel, sometimes at the behest of their commanders, may well duplicate orders for classes of supply, further clogging the logistics pipeline. Excesses in either the pipeline or at logistics support activities can quickly evolve into accountability nightmares.

Moreover, the limited visibility and lack of accountability of cargo transported by host nation contractors contributes to pilferage. For instance, during Operation Mountain Thrust, up to half of the fuel meant for British forces was stolen en route.<sup>21</sup> Theft of supplies, particularly fuel, has been the topic of multiple investigations by numerous organizations, including the Office of Inspector General and the Government Accountability Office.<sup>22</sup> These issues illustrate how measures to achieve the principle of economy can actually generate problems for operational commanders, and even policy makers.

The way the campaign has developed has produced well-known challenges for the logistics community. The reemergence of a significant threat in the Helmand Province in 2006 demanded inter-service and international coordination to shift supplies to help react to this threat.

After 2002, the initial successes of Operation Enduring Freedom drove the Taliban into hiding or across the border into Pakistan’s Federally Administered Tribal Area. From 2002 until 2006, ISAF units in support of OEF faced countrywide asymmetric threats, but the epicenter of major combat remained on the border with Pakistan. During these years, a reorganized Taliban infiltrated in large numbers and gained significant influence in several regions throughout the country, including Helmand Province. The beginning of 2006 marked a transition to the offensive phase of the Taliban’s strategy, much like Maoist insurgency theory. In response, ISAF

launched a major counteroffensive in the Helmand Province.<sup>23</sup>

The shift in the geographical focus beleaguered the existing distribution framework, which was based on the standard that logistical support is a national responsibility. The unanticipated reemergence of the threat in Helmand Province demanded ad hoc organizations that could coordinate among coalition nations to build a concept of support in new, unknown terrain. The Combined Joint Distribution Cell in Regional Command-South, for instance, had to coordinate among the Afghan National Army and National Police; the Combined/Joint Special Operations Task Force; the Canadian, British, and Dutch Armies and Air Forces; the U.S. and Australian Army aviation units; and the U.S. Air Force Air Terminal Operations Center and Air Expeditionary Group.<sup>24</sup>

A new national commitment to OEF further affected operational logistics. After the apparent success of the 2007 surge into Iraq, President Barack Obama’s new administration placed more attention to the Afghan theater in the War on Terrorism. The resulting surge in Afghanistan included reorganizing regional commands, changing command relationships, and responding to increased operational distribution demands.

The 45th Sustainment Brigade, the headquarters for the Combined Joint Operations Area in 2009-2010, faced the challenges of this influx of materiel and personnel. To address the increased demand, the brigade grew by 1,900 personnel, including the addition of two combat sustainment support battalions.<sup>25</sup> The dynamics at the tactical and operational levels also led to additional problem sets at the geopolitical level.

## **Continuity and Improvisation— Geopolitics and International Relations**

The lack of a deepwater port in Afghanistan puts ISAF at the mercy of neighboring countries to transport supplies. This geopolitical situation jeopardizes continuity in the distribution of cargo when countries decide to halt supply convoys or close services to ISAF contractors. Furthermore, when issues like these play out on an international scale, attempts at improvisation are inevitably massive.

The limitations of the Pakistan ground line of communication (PAKGLOC) and the scale of the improvised response with the “northern distribution network” complete the description of why distribution in Afghanistan is so difficult.

Sustainment doctrine defines the principle of continuity as “the uninterrupted provision of sustainment across all levels of war,” and emphasizes its role in allowing combat commanders freedom of action, operational reach, and endurance. The PAKGLOC has been the primary source of ground supplies moving into Afghanistan since the onset of operations in 2001. It takes approximately two months for an item to travel by ocean transport via the PAKGLOC distribution pipeline.<sup>26</sup> Cargo arrives at the Port of Karachi and must be driven across the country to one of two passageways into Afghanistan—Chaman, nearest Kandahar, and Torkham, nearest Kabul (Figure 3).<sup>27</sup>

In November 2011, a firefight on the border of Afghanistan and Pakistan resulted in what NATO Secretary General Anders Rasmussen called a

“tragic unintended accident” when an air-strike killed 24 Pakistani soldiers in a pair of remote outposts in Pakistan.<sup>28</sup> A tit-for-tat diplomatic exchange followed, beginning with the Pakistan government announcing that all supply convoys en route to Afghanistan were halted. After the United States responded that it would curtail some of the significant amount of aid money it gives to Pakistan, Pakistan announced it would impose a tax on any supplies traveling through the country if the routes reopened. The diplomatic exchange continued until July 2012 when Pakistan reopened the PAKGLOC without an additional tax after Secretary of State Hillary Clinton issued a carefully worded apology for the border incident.

Efforts to improvise methods of distribution did not begin in 2011. Pakistan reacted in much the same way in September 2010 when it shut down the route for 11 days after two Pakistani soldiers were killed in a similar event. In mid-2008, though, the vulnerability of the PAKGLOC and a forecasted increase of supplies necessary to support surging

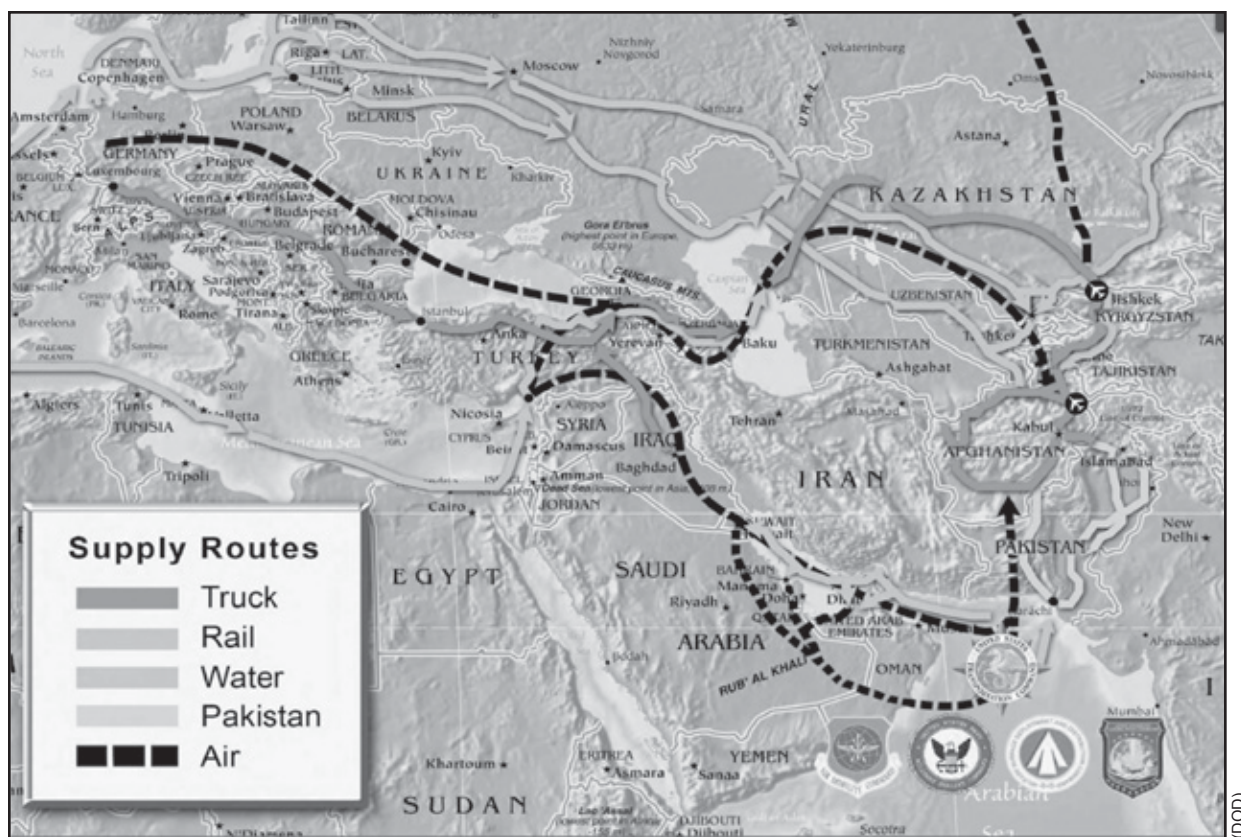


Figure 3



troop levels in 2009 led planners to develop the northern distribution network as an alternate distribution pipeline into Afghanistan.<sup>29</sup> After almost two years of negotiation and development, in March 2010, the commander of U.S. Transportation Command reported to Congress that while the PAKGLOC remained the primary route (50 percent), 30 percent of supplies transported into theater were traveling the northern distribution network, with the remaining 20 percent arriving by air.<sup>30</sup>

The magnitude of the improvisation required explains why distribution is so difficult in Afghanistan. The northern distribution network is a sizable shift of the distribution pipeline to an entirely new geopolitical sphere of influence. It offers a variety of transportation options, including air, sea, road, and rail, to transport nonlethal supplies. The three basic routes consist of passage through Latvia, Russia, Georgia, Azerbaijan, Kazakhstan, and Kyrgyzstan (Figure 3).<sup>31</sup> They cross into Afghanistan from Tajikistan, or at the “friendship bridge” in Termez, Uzbekistan.<sup>32</sup> No branches of the distribution network or flight paths may pass through Turkmenistan except for humanitarian purposes.

The western spur of the network demonstrates how this improvisation still does not avoid geopolitical circumstances affecting distribution in theater. It begins at the port in Poti, Georgia, where supplies can move by truck or rail to Baku, Azerbaijan. The supplies are then ferried across the Caspian Sea and reloaded on trucks at the Aqtau port in Kazakhstan. The route then links into the standard network through Uzbekistan. This route provides the critical option to bypass Russian territory.<sup>33</sup>

While trying to escape one geopolitical game, the northern distribution network fans the embers of an older, greater game. Since the beginning of the War on Terrorism, Russia has been uncomfortable with the large NATO force deployed in its backyard.<sup>34</sup> While Russia has extended measures of cooperation, such as the agreement for the distribution network to traverse its territory, relations have cooled in light of other global events. Suspicions of geopolitical maneuvering increased in 2005 when the Uzbek government unexpectedly demanded that the U.S. Air Force abandon the Karshi-Khanabad air base (also known as K2). After the United States responded negatively to the government’s handling of a civilian uprising in the country, the Uzbek

government rescinded its invitation to use the base. After the United States closed the base, Russia and Uzbekistan signed an alliance treaty and hailed the closure as a Russian diplomatic victory.<sup>35</sup> Russia’s continued influence in the Commonwealth of Independent States remains a major vulnerability in this improvised solution to the PAKGLOC problem. The United States and NATO must continue to consider how geopolitics will contribute to the difficulties in Afghanistan until the campaign ends.

## A Hopeful Conclusion

The discussion above has only scratched the surface of the challenges that logisticians face in distributing classes of supply in support of Operation Enduring Freedom. However, the toils of the last decade may bear fruits that we could not have expected at the beginning of the campaign in terms of lessons learned and the way forward for Afghan military forces and the nation.

While Operation Enduring Freedom has mainly consisted of wide-area security operations, the challenges discussed above have contributed to reforming logistics systems within the military over the last decade. The U.S. Army should find beneficial lessons regarding the structure and procedures for lower-echelon support battalions, as brigades consider that their sustainers lack sufficient protection or firepower to negotiate some battlefields. In addition, the interruptions in the principles of continuity and anticipation may challenge the tenets of distribution-based logistics in uncertain environments.

While the lessons of the campaign will benefit U.S. and NATO forces, the immediate effect will contribute to the establishment of the Afghan military’s logistics architecture. Building a logistics framework from scratch is no small task, especially as the trainees are sometimes illiterate and the task is subordinate to fielding and training combat units.<sup>36</sup> Any value added will be critical for units that will distribute military supplies after the ISAF are gone.

Finally, the heart of the challenges facing ISAF logisticians may prove to be a major asset for the future of Afghanistan, the country. The northern distribution network, an improvised solution to the PAKGLOC, is a potential Afghanistan national asset and could help Afghanistan develop with a

role in the Eurasian transit and trading network once the NATO mission ends.

Integration, the most critical principle of sustainment, assures unity of purpose and effort. The challenges faced at the tactical, operational, and geopolitical levels of Operation Enduring Freedom explain why logistics distribution is flat-out hard in Afghanistan. The scope of the logistics problem reaches from the company commander

who hopes that the weather does not interdict his supply drop to the president of the United States and secretary general of NATO, who wonder how an accident on the border of Afghanistan and Pakistan will jeopardize transcontinental supply routes and international relations. With luck, the labors of logisticians will lead to a brighter, integrated Afghanistan, not a shameful retreat back to Babylon. **MR**

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NOTES

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