# NAVAL WAR COLLEGE Newport, R.I.

OPERATIONAL LOGISTICS: LESSONS FROM THE INCHON LANDING

by

Edward W. Sheehan, Jr.

Lieutenant Commander, Supply Corps, U.S. Navy

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature:

8 November 1996

Paper directed by Captain David Watson, USN Chairman, Department of Joint Military Operations

DIBITALISATION STATEMENT R

Approved for public release Distribunca Unimited

Faculty Advisor

Lieutenant Colonel Robert C. Claflin, USA

8 F.6 %

19960501 221

## REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority:			
3. Declassification/Downgrading Schedule:			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol:	С	7. Address: NAVAL WAR C 686 CUSHING NEWPORT, RI	
8. Title (Include Security Classification): OPERATIONAL LOGISTICS: LESSONS FROM THE INCHON LANDING (UNCLASSIFIED)			
9. Personal Authors: Sheehan, Edward W., LCDR, USN			
10.Type of Report: FINAL 11. Date of Report: 960212			212
12.Page Count: 24			
13.Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: OPERATIONAL LOGISTICS, OPERATION CHROMITE, INCHON, JOINT, KOREAN WAR, AMPHIBIOUS, CINCFE			
Although there has been criticism of logistical efforts during the early phase of the Korean war, there has been no distinction made between logistics at the strategic, operational, or tactical levels. An analysis of Operation Chromite, the amphibious landing at Inchon, reveals that logistical shortcomings were primarily at the strategic level, while successful efforts at the operational level helped overcome strategic deficiencies. An assessment of efforts to prepare the logistics battlefield, organize the logistics force, source the resources, create logistics flexibility, provide the commander's intent, and define the logistics focus of effort demonstrate that operational logistics was a key enabler in Operation Chromite. This analysis leads to several operational lessons learned that, as resources become more scarce, become even more critical. These lessons should be kept in the forefront by logisticians during the planning and execution of campaigns and operations.			
16.Distribution / Availability of Abstract:	Unclassified	Same As Rpt	DTIC Users
17.Abstract Security Classification: UNCLASSIFIED			
18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19.Telephone: 841- 6461		20.Office Symbol: C	

### Abstract of

OPERATIONAL LOGISTICS: LESSONS FROM THE INCHON LANDING

Although there has been criticism of logistical efforts during the early phase of the Korean war, there has been no distinction made between logistics at the strategic, operational or tactical levels. An analysis of Operation Chromite, the amphibious landing at Inchon, reveals that logistical shortcomings were primarily at the strategic level, while successful efforts at the operational level helped overcome strategic deficiencies. An assessment of efforts to prepare the logistics battlefield, organize the logistics force, source the resources, create logistics flexibility, provide the commander's intent, and define the logistics focus of effort demonstrate that operational logistics was a key enabler in Operation Chromite. This analysis leads to several operational lessons learned that, as resources become more scarce, become even more critical. These lessons should be kept in the forefront by logisticians during the planning and execution of campaigns and operations.

### INTRODUCTION

The North Korean Army invaded South Korea in the early morning hours of 25 June 1950. "Striking without warning in the predawn dusk, communist units gained complete . . . surprise as they burst across the 38th Parallel swiftly and in strength." The North Korean communists intended to reunite the Korean peninsula by force, perhaps believing that the United States would not respond. In outlining the U.S. strategy in the Far East in January 1950, Secretary of State Dean Acheson excluded Korea from the American defensive perimeter. His statement, in the view of many observers, was an invitation for the invasion of the Republic of Korea (ROK). However, after the invasion, President Truman quickly made the decision to defend South Korea and persuaded the United Nations (U.N.) to support the effort.

At the beginning of the first major conflict of the Cold War era, U.S. Armed Forces had been weakened by drastic cutbacks in defense spending, and were hard pressed to slow the advance of the North Korean People's Army (NKPA). The NKPA quickly drove the U.S. Eighth Army and ROK forces to the Pusan perimeter at the southeastern tip of the Korean peninsula. Conditions were deteriorating so quickly that "...it looked like the U.S. and ROK troops would be forced to evacuate the Pusan perimeter under fire, much as the British and French had done at Dunkirk in World War II."<sup>3</sup>

General Douglas MacArthur, the Commander in Chief, Far East (CINCFE) and United Nations Command (CINCUNC), developed a plan to reverse the dim prospects of saving South Korea from fall to

the communist forces of North Korea. This plan came to be known as Operation Chromite, an amphibious assault on Inchon.

The early days of the Korean war, when U.N. forces were facing tremendous logistical difficulties, will serve as the setting in which to examine operational logistics. There has been some criticism of logistical efforts during the early phase of the Korean war. However, there has been no distinction made between logistical efforts at the strategic, operational, or tactical levels. The logistical shortcomings at the beginning of the Korean war were primarily at the strategic level. An analysis of Chromite reveals that logistical efforts at the operational level were more successful, and helped U.N. forces overcome failures at the strategic level.

Much of the Korean war reference material is focused on strategic and tactical logistics, rather than operational logistics. What follows is an analysis, using a set of elements of operational logistics, which will bridge strategic and tactical level logistics in order to draw conclusions regarding the success of operational logistics during *Chromite*. The lessons to be learned from this analysis are enduring and equally important today.

#### THE PLAN

Soon after the war began MacArthur developed the concept for the Inchon landing. "On July 4 . . . General MacArthur called a conference in his viceregal headquarters, the Dai Ichi Building. The purpose of the General's conference . . . was to speak of an

amphibious counterstroke far behind the enemy flank on the west coast of Korea."<sup>4</sup> This plan, which would come to be known as *Chromite*, was scheduled to begin 22 July. On 10 July the operation was called off because of a shortage of troops and the inability of the Eighth Army to stop the southward advance of the NKPA.<sup>5</sup> But MacArthur would not be deterred, he had absolute faith in the concept, and planning for an amphibious assault continued.

It is important to note the strategic setting at the beginning of the Korean war in order to understand the difficulty MacArthur faced in gaining the forces and logistics necessary for his operational concept. In hearings before the House Armed Services Committee on unification and strategy in October 1949, the Chairman of the Joint Chiefs of Staff, General Omar Bradley, predicted that large scale amphibious operations would never occur again. The rapid drawdown and demobilization after World War II had gutted the Armed Forces, what remained was torn by strategic controversy and inter-Service rivalry.

With support from the White House, the newly installed Defense Secretary, Louis Johnson, targeted the Navy and Marine Corps for the worst of the budget cuts. As Secretary Johnson explained to an Admiral in December 1949:

Admiral, the Navy is on its way out . . . There's no reason for having a Navy and Marine Corps. General Bradley tells me that amphibious operations are a thing of the past. We'll never have any more amphibious operations. That does away with the Marine Corps. And the Air Force can do anything the Navy can nowadays, so that does away with the Navy.

The European theater was the primary theater, and was treated as such with respect to allocation of resources. MacArthur, in Japan, had four divisions, the Eighth Army, ". . . undermanned, undertrained, flabby and unmilitary." Naval forces were in even worse shape. The NKPA on the other hand ". . . was in 1950 a well-armed, strenuously trained force of 14 divisions, including one mechanized." From a strategic viewpoint, Korea was a secondary or economy of force theater.

MacArthur's confidence in *Chromite* was not shared by the Joint Chiefs of Staff. Given the primary focus on the European theater and the strategic shortages, the Joint Chiefs resisted MacArthur's requests for additional resources. Even members of MacArthur's own staff had doubts about the plan, including Rear Admiral James Doyle, the designated amphibious attack force commander. The approach to Inchon would be difficult to navigate, and the physical characteristics of the harbor were not well suited for an amphibious assault.

On 23 August 1950 a meeting was convened at MacArthur's headquarters in Tokyo. This was to be the decisive meeting in which MacArthur would convince the Joint Chiefs to channel more of the nation's limited resources to the Pacific to carry out Chromite. MacArthur listened to the concerns of all present. In response he gave a compelling 45 minute reply, of which Doyle recalled: "If MacArthur had gone on the stage, you never would have heard of John Barrymore." 10

MacArthur emphasized the vulnerability of the North Korean line of communications centered in Seoul. The NKPA was almost entirely committed against the Eighth Army in the south, with little protection or reserve in the north. The capture of Seoul would have a tremendous psychological impact on the enemy, who would be caught and destroyed between the landing forces in Seoul and the subsequent advance of the Eighth Army from the south. MacArthur also addressed the alternate proposal of landing at Kunsan, 100 miles south of Inchon, stressing that it would not be decisive in severing the North Korean supply lines, a prerequisite to destroying the NKPA. "Nothing in war . . . is more futile than short envelopments." 11 MacArthur acknowledged the difficulties the Navy would face landing at Inchon, but he concluded they were not insurmountable. MacArthur predicted a long bitter winter campaign as the alternative to Chromite, stressing that the difficulties of Inchon would cause the North Koreans to believe the landing impossible, and therefore, the landing would achieve total surprise.

MacArthur seemed to have gained at least tacit support for the operation until the Joint Chiefs sent another message on 7 September requesting reconsideration of the chances for success. MacArthur sent a response the next day saying, in part:

The seizure of the heart of the enemy distributing system in the Seoul area will completely dislocate the logistical supply of his forces now operating in South Korea and therefore will ultimately result in their disintegration. This, indeed, is the primary purpose of the movement. Caught between our northern and southern forces, both of which are completely self-sustaining because of our absolute air and naval

The next day, the Joint Chiefs approved MacArthur's plan. After first seizing the outer harbor island of Wolmi-do in the early morning hours of 15 September 1950, X Corps forces quickly secured Inchon, and had taken Kimpo air base by 18 September, all with few casualties. The X Corps advanced to Seoul as the Eighth Army broke through the Pusan perimeter. By 25 September, the commander of the X Corps declared Seoul liberated.

Of the 70,000 North Korean soldiers engaged at Pusan, much less than half escaped death or capture. Only 30,000 men, with virtually no heavy weapons, recrossed the 38th parallel into North Korea . . . Of paramount importance, the UN forces that stormed ashore at Inchon had achieved their primary purpose--the liberation of the Republic of Korea. 13

Operation Chromite was a resounding success.

## LOGISTICAL ANALYSIS

Although Korean war logistics at the operational level is not well documented, and the terminology of today may be different, it is possible, in looking at the Inchon landing, which took place more than 45 years ago, to see that operational logistics was an important function in its success.

In Operational Logistics: Defining the Art of the Possible, Major General James A. Brabham, USMC, who was the Commanding General, 1st Force Service Support Group in Desert Shield/Desert Storm, defined a set of elements of operational logistics to guide logistics planners. Those elements will be considered in relation to Operation Chromite in order to draw conclusions

regarding how well the function was performed. The elements include:

- Preparing the logistics battlefield
- Organizing the logistics force
- Sourcing the resources
- Creating logistics flexibility
- Providing the commander's intent; and
- Defining the logistics focus of effort. 15

### Preparing the Logistics Battlefield

In preparing the logistics battlefield, careful analysis and planning for utilization of the logistics infrastructure and the lay down of logistics are the cornerstones of logistics flexibility and success. Planners must look beyond the initial stages of a campaign since short term logistics solutions can lead to long term combat problems. A key consideration is that 85-95 percent of all materiel, in terms of tonnage, will arrive in theater by sea. The ability to move cargo across a beach or through a port network drives infrastructure concerns. Personnel and critical combat cargo will often by necessity arrive by airlift, therefore, air facilities and their relation to ports are other key considerations. The necessary road networks are the final piece of the critical port/air facility/line of communications triad. 16

In assessing efforts to prepare the logistics battlefield in Chromite, an obvious factor was the brevity of the operation.

The time required from landing to the liberation of Seoul was approximately two weeks. The goal of freeing all of South Korea was achieved in an incredibly short time, as MacArthur had planned. Before the operation was executed, U.N. forces and the

NKPA were concentrated at the southeastern tip of the Korean peninsula, at Pusan. Everything north of Pusan was in enemy Striking the enemy deep in the rear, as opposed to a hands. frontal attack into the enemy's strength in Pusan, meant that the forces and logistics would be brought by sea. The close proximity of Inchon to Seoul, about 18 miles, and the planned shortness of the operation, meant there would not be much beyond the initial stages of the campaign to plan for. By choosing Inchon as the landing site, many of the ingredients for preparing the logistics battlefield were made easier. Inchon was the closest port to Seoul. As such, it required the least logistics infrastructure preparation. The statistics of the landing tell the story. "All first echelon shipping had been emptied by D plus 4. Three days later 53,882 persons and 6,629 vehicles were ashore, and the 25,512 tons of cargo unloaded more than doubled the X Corps target figure for that date."17

The critical proximity between Inchon and Seoul clearly demonstrates an understanding of the historical importance of logistics transportation by sea. Another closely related concept in preparing the logistics battlefield mentioned earlier is the consideration of air facilities and their relation to ports. Consideration of this concept is evident with the capture of Kimpo air base shortly after landing at Inchon. "The capture on the fourth day of the 6,000-foot-long, 150-foot-wide, hard surfaced Kimpo runway, with a weight capacity of 120,000 pounds, gave the U.N. Command one of its major objectives." Kimpo,

located between Inchon and Seoul, became one of the busiest air fields in Korea, and provided a critical capacity for the logistical support of the operation.

Although there is not much mention of road networks in relation to *Chromite*, in general, the roads in South Korea were limited and in poor condition. It has been said that:

Land transportation in Korea probably was the key to the entire logistical effort in support of operations there. This meant dependence on the Korean railways for major supply shipments, supplemented to some extent by highway transportation.<sup>19</sup>

By the fourth day of the Inchon landing, 19 September, Army engineers and Navy Seabees already had trains operating almost eight miles inland. On balance, the results of Operation Chromite show that the planners understood the considerations for preparing the logistics battlefield.

#### Organizing the Logistics Force

The logistics organization provides the bridge between materiel sources and combat forces. Efforts of joint, combined, and host nation support must be integrated to support the operational commander. Several factors must be addressed from the larger context when looking at efforts to organize the logistics force for *Chromite*. There has been a tremendous leap forward in understanding and appreciation of joint and combined operations just since 1986. At the time of *Chromite*, the Joint Chiefs of Staff was a new organization, and the U.N. was a young organization. During this period there was a great deal of infighting between the Services, yet MacArthur seemed to have a

greater appreciation of the advantages of utilizing each Service's strengths than his peers. He did indeed draw on each Service's strength, with the Navy landing the forces, the 1st Marine Division conducting the initial assault, followed by the 7th Infantry Division since "(t)he real essence of the Inchon landing was not merely to land and form a beachhead but to drive across difficult terrain 18 miles and capture a large city and thereafter properly outpost and protect the city." Tactical air support was provided by the Navy and Marine Corps initially, until Kimpo air base was established for the Air Force. All this is to say that the theater commander was ahead of his time in integrating the efforts of the Services.

Consistent with today's logistical responsibilities, each Service provided support for its own forces. For Chromite the organization of the logistics force, due to the nature of the operation, necessarily placed primary emphasis on the Navy. But the results of the operation reflect integration of other Service and host nation strengths as well.

Although there was a shortage of Naval forces in the Pacific at the outbreak of the war, by the time of the landing, MacArthur and his planners had assembled an impressive logistics force by integrating host nation and allied logistical efforts. By the day of the landing, CINCFE had assembled some 230 ships. "That so sizable an amphibious lift could be so rapidly assembled was remarkable, the more so in view of the preexisting policies of economy and of down-grading the amphibious function." Less

than one-half of the 120 or so units assigned to lift the X Corps were commissioned vessels of the U.S. Navy. Thirty of the LSTs were Shipping and Control Administration, Japan (SCAJAP) ships manned by Japanese personnel. CINCFE also chartered Japanese merchant vessels.<sup>24</sup> The ships ". . . were available because of the foresight of MacArthur's FECOM planners."<sup>25</sup>

The senior planners for the operation included officers from each of the Services, including the commanders of the Joint Task Force, X Corps, attack force, and the landing force. The invasion force lifted, landed and supported the 1st Marine Division, the 7th Infantry Division, the bulk of an air wing, and special and supporting troops--71,339 troops from the Marine Corps, Navy, Army, and Korean Marines. In addition to the U.S. Navy and Japanese vessels addressed earlier, the Royal Navy, Royal Canadian, Australian, New Zealand, ROK and French Navies all contributed to the 230 ship armada.<sup>26</sup>

An overall assessment of the Korean war, including Chromite, stressed that the joint planning for amphibious operations and logistic cross-servicing was effective, with engineering talent from the Air Force provided to Marine aviation, deficiencies in Marine transport made up by the Army, and aviation material traded back and forth between the Air Force and Navy.<sup>27</sup>

#### Sourcing the Resources

Sourcing the tremendous volume of materiel that the force will require is another important consideration for the

operational logistics planner. The "big three" commodities, water, fuel, and ammunition are always major considerations. 28 In Chromite, most of the supplies were brought in by sea, and with the tidal problems of Inchon, they had to be moved quickly. The most difficult period would be during the initial stages of the assault, when the enemy would be close by. And of course, replenishment would be necessary to sustain the forward movement to Seoul. "An estimated six LST loads of ammunition, water, rations, vehicles, and fuel were needed; eight had been provided in the hope that six would survive . . . . But all eight made it, and four more were put up on Green Beach at Wolmi after the DUKWs had landed the artillery and withdrawn."29 By the end of the 16th, heavy cranes were landed and 15 more LSTs had been brought in. All was not perfect, there was crowding at the anchorage, tides and currents made alongside loading of ammunition risky, and a shortage of lighters made transfer by boat slower, but everything necessary was accomplished and nobody went short. With the seizure of Kimpo on the evening of D + 2, the Far East Air Force's Combat Cargo Command began bringing in aviation gasoline and ammunition. 30 These tactical level successes indicate that operational logistics planners effectively sourced the resources.

# Creating Logistics Flexibility

Creating logistics flexibility means not restricting the operational commander's options. The primary job of the logistics commander is to help the operational commander win.

Consideration of the impact on future options should shape major logistics decisions. Flexibility can be created by forward positioning of materiel. Creative use of available resources is another element of creating logistics flexibility. A combination of unintentional forward positioning of materiel and creative use of available resources served as the backbone of success for Operation Chromite.

At the end of World War II, Americans were eager to bring the troops home quickly. In so doing, a great deal of equipment of every sort was abandoned in the Pacific. This equipment was critical to the Inchon landing, considering the strategic logistical shortages in the early phase of the war. In order to use the equipment, it had to be refurbished. CINCFE planners showed their creativity in gathering the leftover World War II equipment and utilizing the Japanese industrial capability to repair and refurbish the equipment.

The logistical importance of Japan in this entire picture hardly could be exaggerated. The depots and other facilities for backing up supply activities in Korea were located there. The essential rebuild program depended on Japanese industrial facilities and labor--resources which also provided vital services in the transportation and handling of supplies and the movement, housing, and hospitalization of troops. 32

Renovation plants in Japan were operating 24 hours a day, reconditioning critical equipment from tanks to signal devices, repairing over 8,000 vehicles in July and August alone. The creative use of leftover equipment and the Japanese industrial capability was not enough alone to support the operation, but it provided the added flexibility to enable the option, and ultimate

success, of the Inchon landing. "That equipment and ordnance supplies were available to the United States forces in Korea in the first months of the war was largely due to the 'roll-up' plan of the Far East Command." 34

# Providing the Commander's Intent

A complete understanding of the operational commander's intent is critical. The nature of the logistics mission often means that personnel and equipment will be dispersed in small groups throughout the theater of operations. Logistics organizations are high value targets, but if the commander is to win, the logistics must continue to flow. It is therefore critical that all members of the logistics force know and understand what the commander is trying to accomplish and work towards that end.<sup>35</sup>

In reconstructing events of *Chromite*, two observations regarding the commander's intent must be made. The first and more important is that the commander's intent must have been well understood by all. There are several factors that contribute to this observation. The very simplicity of the operation, landing in the enemy's rear, advancing 18 miles to Seoul, unopposed in the air or at sea, surely made the objectives clear and understandable. The controversy surrounding the operational plan, and the involvement of all of the subordinate commanders in the planning process, also indicate that the commander's intent was well known, as does the success of the operation.

The second observation is that the logistics forces were heavily concentrated, rather than dispersed, while landing at Inchon. The LSTs were brought in at high tide and grounded as the tide went out. This was a central factor in the controversy surrounding MacArthur's plan, and it could be argued that this made the plan too risky. But the intelligence estimates reported the enemy's ability to reinforce Inchon as inconsequential, with only small rear area garrisons, line of communications units; and newly formed and poorly trained groups scattered back of the combat zone in Pusan. Additionally, North Korean air and naval elements were incapable of interfering with the landing. MacArthur based his plan on enemy capabilities rather than intentions. And his assessment proved to be correct, Inchon was lightly defended. The commander's intent was well understood.

## Defining the Logistics Focus of Effort

The commander will be faced with prioritization issues at all levels. The commander cannot make all of the decisions, but instead must provide the logistics focus of effort. This element of operational logistics is closely related to providing the commander's intent. The commander's intent should guide the logistics focus of effort.

During the preparation phase of *Chromite*, activity within Korea was centered in Pusan. The Eighth Army was having difficulty holding the Pusan perimeter, and the odds of success were not certain. In accordance with MacArthur's plan, the logistics focus of effort was shifted to providing the logistics

and forces for the Inchon landing. From August onward, CINCFE allotted all infantry replacements coming into the theater to the 7th Infantry Division. "General MacArthur obtained service units for the X Corps in the same way--by diverting them from scheduled assignments for Eighth Army. The Far East Command justified this on the ground that, while Eighth Army needed them badly, X Corps' need was imperative." 38

The success of *Chromite* would relieve the pressure on the Eighth Army and enable them to break-out from Pusan. Although the Eighth Army commander protested, he was able to hold the line until the pressure was relieved by the Inchon landing. By defining the logistics focus of effort, success was achieved sooner than the logistics planners thought possible. "The logistical build-up made this amphibious envelopment possible more than three months ahead of the schedule assumed in G-4 planning."<sup>39</sup>

#### CONCLUSION

Given the overriding importance of the destruction of the NKPA center of communications in *Chromite*, and MacArthur's understanding of the results that would be achieved, it has to be concluded that he appreciated the importance of operational logistics.

The strategic logistical capabilities in place at the beginning of the Korean war limited the options available to MacArthur, however, the success of operational logistics efforts helped overcome strategic shortages during Operation Chromite.

An assessment of efforts to prepare the logistics battlefield, organize the logistics force, source the resources, create logistics flexibility, provide the commander's intent, and define the logistics focus of effort demonstrate that operational logistics was a key enabler in Operation Chromite.

The NKPA hub of communications was lightly guarded and heavily concentrated in Seoul. This high value target proved to be the enemy critical vulnerability through which U.N. forces indirectly attacked the enemy center of gravity, the NKPA forces. The NKPA failure to protect or disperse the center of communications resulted in the libération of South Korea within weeks of the landing at Inchon.

### OPERATIONAL LESSONS LEARNED

There are several operational lessons to be learned from Operation Chromite that are valid and useful today. The first is that operational logistics is an enabling function for the success of campaigns and major operations. It is a force multiplier which, even with a small relative advantage, can prove to be a decisive factor.

Operational logistics should be planned to support the objective. Planning backwards from the objective will enable logistics planners to define the logistics focus of effort in order to overcome deficiencies. In this manner, logistics shortages at the strategic level can be overcome at the operational level.

Simplicity in the plan enables effectiveness in execution. Simplicity means fewer "moving parts" that can break down in execution. A simple concept provides for greater understanding of the commander's intent, particularly with dispersed logistics forces, and ensures that the logistical focus of effort is correctly defined. In this manner, logistical forces can work towards the same ends, increasing the likelihood of success.

Logistical plans and decisions should be made based on enemy capabilities rather than intentions. The enemy's capabilities convey the limits of his options, but intentions do not. In utilizing enemy capabilities, logistical plans and decisions can be made with the knowledge that own-forces are operating outside of the enemy's range of options, or at least with the knowledge that they are not.

And finally, logistics forces, as high value targets, should be dispersed and protected. Failure to do so can make them a critical vulnerability.

These operational lessons are valid today. They are derived from an operation that took place when, from a strategic viewpoint, the nation was ill-prepared for war. As resources become more scarce in the current budget climate, these lessons become even more critical. These lessons should be kept in the forefront by logisticians during the planning and execution phases of campaigns and operations. Failure to do so could lead to a repeat of past mistakes.

#### NOTES

- 1. James F. Schnable, <u>Policy and Direction: The First Year</u> (Washington: Office of the Chief of Military History, U.S. Army, 1972), p. 61.
  - 2. Ibid., pp. 51-52.
- 3. Curtis A. Utz, <u>Assault from the Sea: The Amphibious</u> <u>Landing at Inchon</u> (Washington: Naval Historical Center, Department of the Navy, 1994), p. 1.
- 4. Robert D. Heinl, <u>Victory at High Tide</u> (Philadelphia: Lippincott, 1968), p. 16.
  - 5. Schnable, p. 140.
  - 6. Heinl, pp. 3-4.
  - 7. Ibid., pp. 6-7.
  - 8. Ibid., p. 9.
  - 9. Ibid., p. 12.
  - 10. Ibid., p. 41.
  - 11. Ibid.
- 12. Roy E. Appleman, <u>South to the Naktong</u>, <u>North to the Yalu</u> (Washington: Office of the Chief of Military History, Department of the Army, 1961), p. 495.
  - 13. Utz, p. 47.
- 14. James A. Brabham, "Operational Logistics: Defining the Art of the Possible," <u>Marine Corps Gazette</u>, April 1994, pp. 26-31.
  - 15. Ibid., pp. 26-27.
  - 16. Ibid., p. 27.
- 17. James A. Field, <u>History of United States Naval</u>
  Operations, Korea (Washington: U.S. Government Printing Office, 1962), p. 205.
  - 18. Appleman, p. 511.
- 19. James A. Huston, "Korea and Logistics," <u>Military</u> Review, February 1957, p. 20.

- 20. Utz, p. 40.
- 21. Brabham, p. 28.
- 22. Heinl, p. 54.
- 23. Field, p. 181.
- 24. Ibid.
- 25. Heinl, p. 48.
- 26. Ibid., p. 52.
- 27. Field, p. 385.
- 28. Brabham, pp. 29-30.
- 29. Field, p. 204.
- 30. Ibid., pp. 204-208
- 31. Brabham, p. 30.
- 32. Huston, p.19.
- 33. Kenneth W. Carroll, "Crisis Support of the Korean War," <a href="https://www.arguneuron.com/Army\_Logistician">Army\_Logistician</a>, May-June 1994, p. 33.
  - 34. Appleman, p. 114.
  - 35. Brabham, p. 30.
  - 36. Appleman, p. 500.
  - 37. Brabham, p. 30.
  - 38. Appleman, p. 492.
- 39. James A. Huston, <u>The Sinews of War: Army Logistics</u>, <u>1775-1953</u> (Washington: Office of the Chief of Military History, U.S. Army, 1966), p. 620.

#### **BIBLIOGRAPHY**

- Appleman, Roy E. <u>South to the Naktong, North to the Yalu</u>. Washington: Office of the Chief of Military History, Department of the Army, 1961.
- Brabham, James A. "Operational Logistics: Defining the Art of the Possible." Marine Corps Gazette, April 1994, pp. 26-31.
- Carroll, Kenneth W. "Crisis Support of the Korean War." Army Logistician, May-June 1994, pp. 32-34.
- Department of Defense. Joint Pub 4-0. <u>Doctrine for Logistic Support of Joint Operations</u>. 27 January 1995.
- Department of the Army. FM 100-5. Operations. June 1993.
- Eccles, Henry E. <u>Operational Naval Logistics</u>. Washington: Bureau of Naval Personnel, 1950.
- Field, James A. <u>History of United States Naval Operations, Korea</u>. Washington: U.S. Government Printing Office, 1962.
- Gough, Terrence J. <u>U.S. Army Mobilization and Logistics in the Korean War: A Research Approach</u>. Washington: Center of Military History, U.S. Army, 1987.
- Heinl, Robert D. <u>Victory at High Tide</u>. Philadelphia: Lippincott, 1968.
- Huston, James A. <u>Guns and Butter, Powder and Rice: U.S. Army</u>
  <u>Logistics in the Korean War</u>. London: Associated University
  Press, 1989.
- \_\_\_\_\_. "Korea and Logistics." <u>Military Review</u>, February 1957, pp. 18-32.
- . The Sinews of War: Army Logistics, 1775-1953.

  Washington: Office of the Chief of Military History, U.S. Army, 1966.
- King, Jack E. "History of U.S. Military Logistics--Korean War."

  <u>Air Force Journal of Logistics</u>, Spring 1992, pp. 34-37.
- Oberthaler, David P. "An Introduction to Operational Logistics and Sustainment." Unpublished Paper, U.S. Naval War College, Newport, RI: July 1994.
- Pagonis, William G. and Michael D. Krause. "Observations on Gulf War Logistics." <u>Army Logistician</u>, September-October 1992, pp. 5-11.

- . <u>Operational Logistics and the Gulf War</u>. Arlington, VA:
  The Institute of Land Warfare, Association of the United
  States Army, 1992.
- Rees, David. Korea: The Limited War. New York: St. Martin's Press, 1964.
- Ridgway, Matthew B. The Korean War. Garden City, NY: Doubleday, 1967.
- Schnabel, James F. <u>Policy and Direction: The First Year</u>.

  Washington: Office of the Chief of Military History, U.S.

  Army, 1972.
- Utz, Curtis A. <u>Assault from the Sea: The Amphibious Landing at Inchon</u>. Washington: Naval Historical Center, Department of the Navy, 1994.
- Vego, M. N. "Operational Functions." Unpublished Paper, U.S. Naval War College, Newport, RI: August 1995.