Chapter One

# Introduction

## The Vulnerability of U.S. Rapid-Reaction Capability

WHEN KUWAIT FELL TO INVADING IRAQI TROOPS on August 2, 1990, and Iraqi forces made several incursions into Saudi territory, military logic dictated that the Iraqis would continue their successful offensive and seize Saudi Arabian airfields, ports, and oil fields. To counter the expected offensive, the United States sent the 2nd Brigade, 82nd Airborne Division—the Army's Division Ready Brigade (DRB)—to defend the port at Al Jubayl to prepare for the arrival of U.S. Marines.

But the Iraqi offensive never happened, and the brigade accomplished its mission by default. Taking nothing away from the light forces deployed, the situation in Southwest Asia in 1990 was clearly nowhere near as "stressing" as it might have been, because Hussein's heavier forces did not behave as one would expect and did not take advantage of their apparent overmatch. Had they advanced into Saudi Arabia, would the light forces in place have been able to delay their advance without suffering massive casualties? Moreover, if Hussein's heavier forces had themselves been more capable, would the brigade's much smaller and lighter forces have been lethal and survivable enough to have had a decisive impact on the battle?

The experience in Southwest Asia raised the issue of the vulnerability of U.S. light forces in such rapid-reaction situations—an issue that is growing in response to changes in both the nature and uncertainties of conflict. In terms of the nature of conflict, the spectrum of operations has become much more varied and extensive, and light forces are playing new roles in humanitarian operations (like Somalia) and in major theater wars (MTWs) (like the Gulf War), in addition to their traditional roles in counterinsurgency and terrorist operations. Beyond such changes in the nature of conflict, there is more uncertainty about where such conflicts can occur. Now, the potential for conflict is global in nature, which means that it is much more difficult for military planners to rely on traditional prepositioned forces as a hedge against conflict breaking out. As a result, rapid-reaction capabilities have become more critical.

Under the circumstances described here, the prospect of using light forces, particularly airborne forces—which are intended to be deployed rapidly to trouble spots—against larger and heavier forces in the early phase of conflict has become an accepted reality. If light forces are to be used in this role, they will need to have much greater survivability and lethality. Numerous studies since the Gulf War have raised the issue of "the shortfall in rapid-reaction

capability"; unfortunately, ten years later, the shortfall still exists, as the recent Kosovo crisis reveals. Although the delay in bringing ground forces into Kosovo could be directly attributed to political indecision, it is probable that the indecision was linked to the risk of bringing current forces into the theater.

## Options for Resolving the Shortfall in Rapid-Reaction Forces

Although the shortfall in rapid-reaction capability is generally well recognized, the solution for responding to it can take a range of forms, including not only changes in operational concept and equipment (new technologies) but also changes in force organization and design. This executive summary describes how RAND analysts, drawing on research conducted over the past few years, have examined three different paths for improving rapid-reaction capability. The paths are illustrated conceptually in Figure 1.1. Each path—presented in terms of the burden required to deploy it—represents a very different means to get to a similar end: a force that offers more overall capability than the current light airborne forces but is still very quickly deployable.

### The First (Middle) Path: Enhancing Current Light Forces

This path examines what might be considered an evolutionary change from current rapidly deployable forces, such as the DRB of the 82nd Airborne. Here, the force remains as a small, mostly self-contained unit with a force structure similar to the DRB, but it is given the capability to fight and survive in a mission that might otherwise require a larger, heavier force. This could be accomplished by introducing a modified operational concept (or concepts) and by incorporating many underlying, enabling technologies, which include advanced

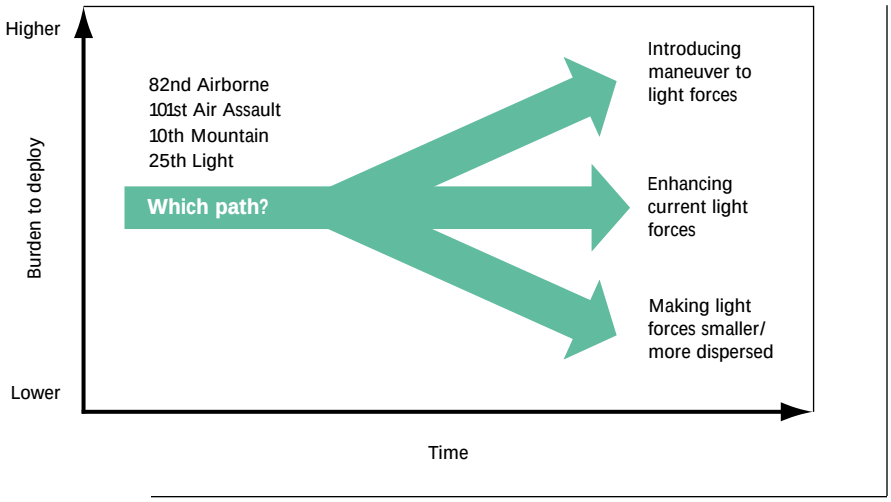


*Figure 11—Three Different Paths to Developing a More Effective Rapid-Reaction Capability*

reconnaissance, surveillance, and target acquisition (RSTA), command and control (C2), and weapon systems. These modified operational concepts involve substantially greater indirect-fire capability than what currently exists in a light force. More specifically, by linking precision munitions to a range of advanced indirect-fire weapons to an integrated sensor and C2 network, substantially more firepower can be brought to bear on an attacking enemy, essentially providing much greater indirect firepower and, thus, lethality at substantially longer ranges.

#### *The Second (Lower) Path: Making Light Forces Smaller and More Dispersed*

Another method for improving light forces involves altering the notion of area control by massed ground forces. Here, a very small, highly dispersed force would be deployed in a threatened region. These virtually independent dismounted teams would be equipped with advanced sensor systems for establishing on-site intelligence and would have advanced C2 to give them the capability to call in remotely located long-range fires. A very small and dispersed deploying force, it has been argued, would be difficult for the enemy to engage (e.g., presenting a spread-out target with no obvious center of mass); this force would thus be much more survivable than a typical rapid-reaction force. It was noted early on that such a force may not be capable of holding terrain, but might be sufficient for denying the enemy full use of it.

#### *The Third (Upper) Path: Introducing Maneuver to Light Forces*

Another method for responding to the limitations of current rapid-reaction capability is to make a major adjustment to the nature of the force itself. More specifically, new ideas and technologies are emerging that can enable some level of operational and tactical maneuver combined with rapid deployment. Vertical envelopment concepts being explored by the U.S. Army Training and Doctrine Command (TRADOC) are one example of such a major shift. Most of the rapid-reaction capability envisioned in these concepts are closer to heavy forces than to current-day light forces. That is, rather than emphasizing dismounted infantry, these concepts involve infantry mounted in lightweight but highly capable vehicles that could be airlifted close to battle positions by large inter/intratheater lifters or, possibly, by large rotary-wing, tilt-rotor, or tilt-wing aircraft.

### *Which Path to Choose? The Need for Sound Analysis*

Ultimately, efforts to improve light forces to give them greater rapid-reaction capability, making them more lethal and survivable and more germane to future conflicts, require policymakers to make decisions now that will affect

military capabilities down the road. These decisions—whether about organizational structure, force designs, new operational concepts, or enabling technologies—can lead to irrevocable consequences. Unfortunately, ideas that look good on paper do not always meet expectations when they are implemented. Thus, the answer to the question of what path or combination of paths to follow must be based on a sound analytic foundation that gives policymakers confidence in the choices they make.

The analyses summarized here are all driven by an extensive and broad-based simulation environment, which has evolved over many years of development at RAND. In an evolutionary manner, new concepts and technologies have been added into the simulation environment as needed to meet the objectives of the research. The process of developing the simulation environment has been an interactive one. In essence, building the environment (which included developing the scenarios used with it) involved importing and applying a wide range of analytic and simulation tools, refining the tools to represent new systems and technologies, and determining the appropriate level of model resolution. This resulted in the development of specialty models, such as acoustic models and smart-munition representations.

Using this simulation environment, RAND analysts evaluated each of the paths, starting first by laying out a base case against which to measure the paths—how the current light forces would have fared against a heavy force more competent than the one they faced in the Gulf War—and following the path analyses with an evaluation of some of the special challenges that go along with reshaping rapid-reaction forces for the future. Based on that evaluation, we find the following:

- In the base case, current-generation light forces do not fare well against a powerful, armored opponent.
- Making enhancements to the current-generation light forces (Path 1) strongly improves overall force effectiveness.
- Making light forces smaller/more dispersed (Path 2) has benefits but makes them more vulnerable and less capable.
- Introducing maneuver (Path 3) adds significant benefits, but the viability of creating such a force is unresolved.

Each of these findings is analyzed in more detail in the next four chapters. The final chapter raises some issues for policymakers in thinking about and implementing the paths.