Force Sizing For Stability Operations

Dr. Royce Kneece

The purpose of stability operations is "to maintain or re-establish a safe and secure environment, provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief."[1] The force size necessary to conduct effective stability operations has been a matter of contention for years. In light of a 2008 DoD directive identifying irregular warfare "as strategically important as traditional warfare" and calling stability operations "a core U.S. military mission," that debate will remain both relevant and contentious.[2]

Background

In support of the 2010 Quadrennial Defense Review (QDR), DoD asked IDA to improve analytical techniques for evaluating the adequacy of programmed forces to conduct stability operations in various countries. While mindful of DoD policy stressing that stability operations require a whole-of-government approach, IDA's study addressed only the size of military forces required for stability operations. IDA's approach was to seek insights from historical data, further informed by recent and ongoing operations in Iraq and Afghanistan.

The term "stability operation" encompasses a wide range of military activities, However, operations that involve large-scale counterinsurgency (COIN) operations are, historically, the most demanding for force-sizing purposes and were the focus of the study. Background for the current study is found in work IDA performed in late 2005 supporting the 2006 QDR. Although in 2005 there was a paucity of data on historical stability operations, more recently, considerable additional research and data collection have been conducted. Specifically, IDA obtained a database recently compiled by the Center for Army Analysis, and the study team extracted 41 conflict cases involving COIN operations for its analysis (Figure 1).

In 2006 the U.S. Army and Marine Corps developed a joint doctrinal field manual, FM 3-24, *Counterinsurgency*, that provides important guidance on force sizing for COIN operations. The manual suggests figures for "force densities" (troops per thousand inhabitants in the area of operations) required for effective operations--for example, 20 troops per thousand is cited as a minimum requirement. That figure has become a widely-referenced rule of thumb. The IDA study shed light on the evidence supporting that guidance, confirming the 20 troops per thousand figure as a minimum. However, the field manual also implicitly suggests 25 troops per thousand as the upper end of a range—a figure *not* supported by the IDA study, which found that force densities of 40-50 troops per thousand may be required for reasonably high confidence of success.

The IDA analysis reinforced the findings cited above by employing statistical analyses (logistic regression) on the selected historical data seen in Figure 1, finding a statistically significant relationship between force density and conflict outcomes for COIN operations. Since these findings are at odds with the findings of other research organizations, the reasons for the differences in results were also investigated by the study team. The causes were three-fold: (1) IDA computed force densities using the populations in the *actual area of military operations*, whereas most other studies used populations for the entire country; (2) the IDA team categorized an operation as a "success" if the counterinsurgency force was not defeated militarily (other researchers used broader criteria including political outcomes), and (3) IDA scored certain conflicts as "indecisive" (and thus a "success" militarily) that others scored as "loss." Under these conditions, we found that the logistic regression provided a coefficient for the force density independent variable with a p-value of about two percent (p-values of five percent or less indicate a statistically significant relationship). The resulting regression equation (see Figure 2) provides an estimated probability of success of 50 percent for a force density of 16 troops per thousand, and a probability of success of 75 percent for a force density of 40 troops per thousand.

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[1] Joint Publication (JP) 1-02, 517.

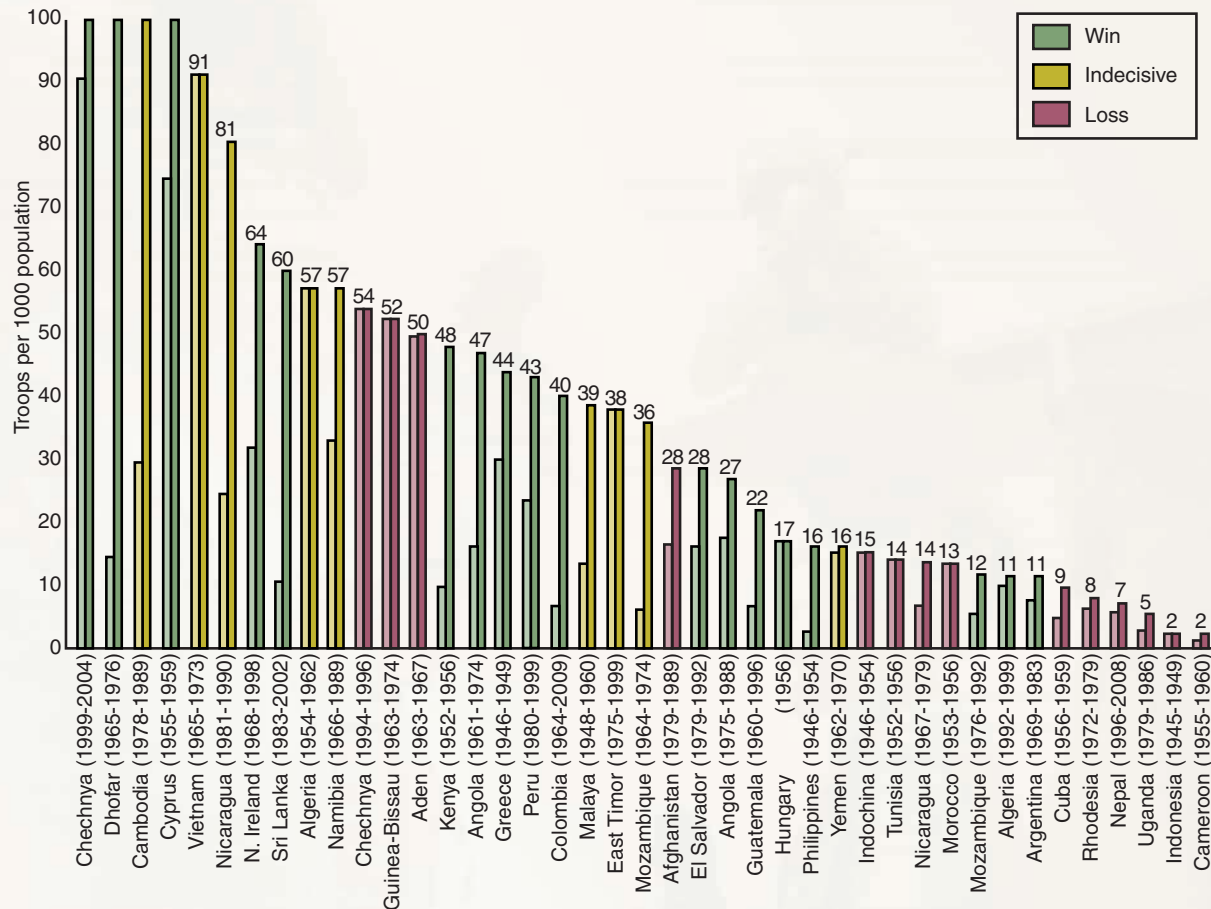[2] Department of Defense Directive 3000.07, 2.

Figure 1: Troops per Thousand Population for Historical Counterinsurgency Operations.

Data from recent operations in Iraq and Afghanistan also provided additional corroboration with regard to the relationship between force density and campaign success. The peak of the surge in Iraq achieved a force density for the total counterinsurgency force (U.S., coalition forces, and Iraqi forces) of 20 per thousand based on the population of the entire country—higher (but undetermined) for the actual area of operations. In Afghanistan, on the other hand, force densities achieved during the period covered by the study were much lower.
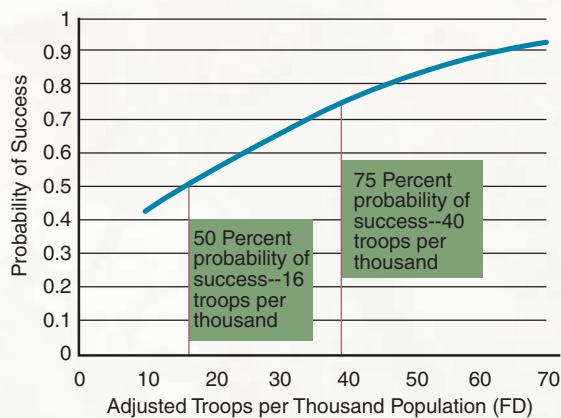
Force Size Projections

Figure 3 indicates the type of force size projections developed by the study. These projections were developed in a three-step process. First, historically-derived data were used to estimate the size of the total counterinsurgency force. Then, based on both historical and more recent experience in Iraq and Afghanistan, the proportion of the total force that likely will need to comprise non-indigenous, or intervention, forces was estimated. Thirdly, using subjective factors developed in the 2006 study, the proportion of the intervention force that would likely comprise U.S. forces was computed.
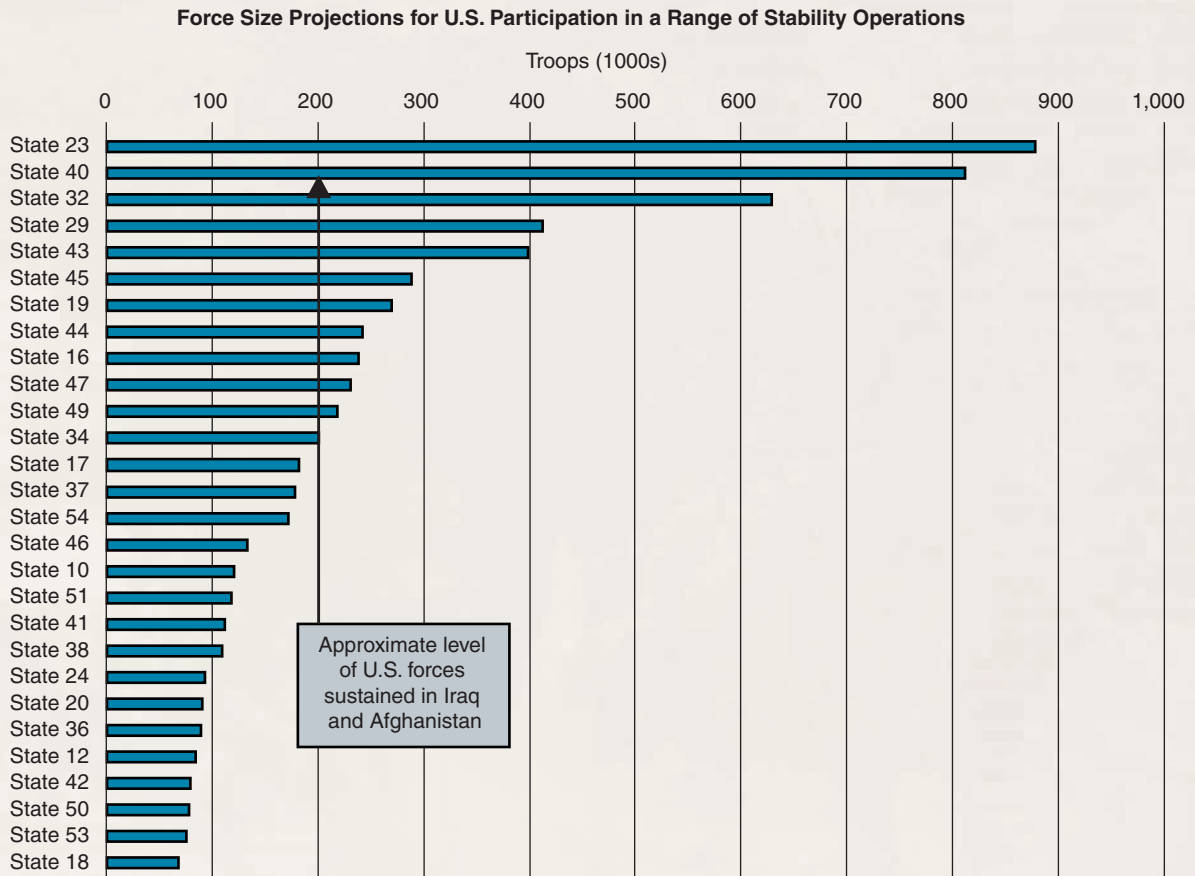

Figure 2: Force Density vs. Conflict Outcome Determined by Logistic Regression.

Force Size Projections for U.S. Participation in a Range of Stability Operations

Troops (1000s)

Figure 2: Estimates of the Size of U.S. Ground Forces Participating in Stability Operations.

Summary

Using newly compiled historical data, the study found evidence to support the guidance found in a key Army and Marine Corps field manual that 20 counterinsurgency troops per thousand inhabitants in the area of operations is the *minimum* for a successful outcome, while on the order of 40 to 50 troops per thousand are needed for a higher probability of success.

Drawing on the analyses summarized above, the study developed several techniques for estimating future force requirements for COIN-like stability operations and applied them to postulated operations in 54 countries. Using different approaches, estimates were found to vary by factors of two or more. Thus, projecting force requirements for future stability operations is subject to a large degree of uncertainty. Using mid-range estimates, the current U.S. ground force posture could probably sustain a COIN-like stability operation in most of the countries considered, but several key countries with larger-populations would likely be infeasible, unless the area of operations within the country could be limited significantly.