LOGISTICAL CHALLENGES OF A MILITARY INTERVENTION IN SYRIA

INTRODUCTION

As of December 2012, the Syrian civil war remains volatile and shows no signals of nearing a resolution. In light of its persistence, there has been a growing call for a North Atlantic Treaty Organization (NATO) military intervention of the likes of the 2011 operation in Libya. But Syria is not like Libya – nor is it comparable to the other crises in which the international community has launched so-called "humanitarian wars". Even aside from the political challenges that would complicate an intervention (and its ultimate goals), there are numerous features that would undermine its logistics. Here, I select a sample of such considerations in the attempt to show just how problematic an intervention would be.

A "military intervention" can range from the establishment of humanitarian corridors for refugee flows and humanitarian assistance to the protection of "safe havens" for civilians; from the creation of "no-fly-zones" to aerial bombings to raise the costs of Resistance; or, at an extreme, to offensive attacks on military targets. While the maps shown here may apply to any of these types, this poster does assume that a NATO military intervention would involve the use of force and that this force would be primarily applied by air.

THE SYRIAN GOVERNMENT AIR DEFENSE SYSTEM

Syria's strong air defenses are located close to population centers, complicating the logistics of conducting aerial bombings on military targets while minimizing civilian casualties.

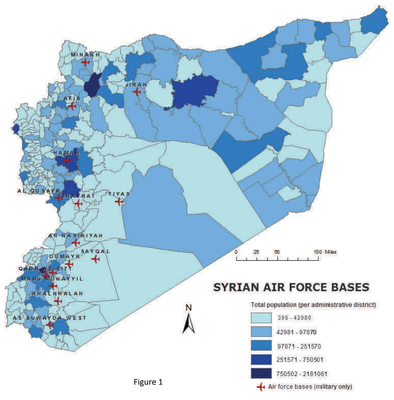

Figure 1

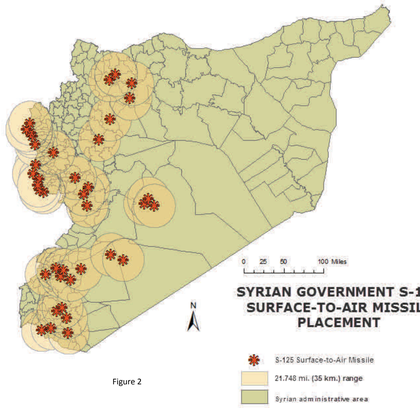

Figure 2

Figures 1 and 2 (above) focus on one particular challenge: the sheer strength of the Syrian government's military force, especially relative to those of other states into which NATO has intervened. This poses a particular problem for the establishment of a no-fly zone and aerial bombings. Syria's air force is large, the missile defenses are strong (the S-125 is just one type of surface-to-air missile system in-country), and the defense system is centralized in the most populous areas of the country (see Fig. 1 base layer for population reference). The risk of collateral damage is high, especially in comparison to a place like Libya. Data for Fig. 1 were incorporated into the map by plotting XY data from a constructed spreadsheet. The S-125 sites in Fig. 2 were drawn from maps published online by the Syrian National Council (the umbrella coalition of opposition groups). After plotting these, I used ArcGIS's buffer tool to illustrate each weapon's maximum range (~35 kilometers). As a point of comparison for the relative capabilities of the Syrian and Libyan governments, reference the chart below (for source data, see Aram Nerguizian, "Instability in Syria: Assessing the Risks of Military Intervention.")

	SYRIA	LIBYA
Air Force Manpower	40,000	18,000
Military Active Manpower	295,000	76,000
Military Reserve Manpower	314,000	40,000
Total Combat Capable Aircraft	555	394
Surface-to-Air Missiles (SAMs)	4707	216+
Light Air Defense	4,184+	424+

COLLATERAL DAMAGE

Violent clashes are centered in the regions with the highest population density. Even aside from the issue fluid and fragmented territorial holdings by both sides of the conflict, such density makes it difficult to militarily defend civilians without causing collateral damage.

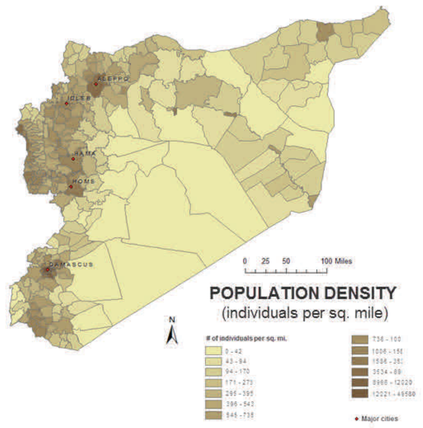

Figure 3

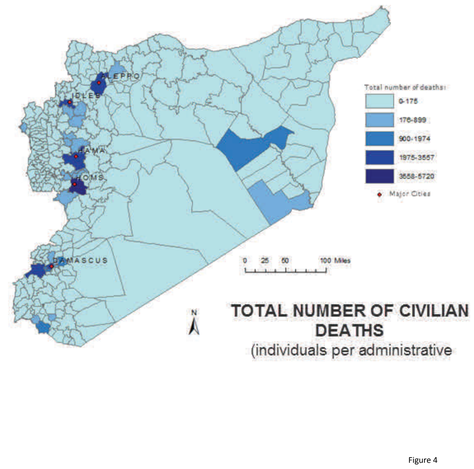

Figure 4

Figures 3 and 4 (above) are intended to demonstrate the risk of collateral damage in aerial bombardments. By putting both maps side-by-side, I aim to show how a mission designed to protect the greatest number of civilians would necessitate defending the most densely populated areas of the country. Sites with the highest numbers of deaths overlap with those of highest population density. Inasmuch as bombings may be more accurate than ever, missions to defend urban populations bring forth high risks of killing innocents, especially when the cities themselves are contested between both sides and the lines continue to fluctuate. The data for both figures were acquired through a crowdmapping site, Syria Tracker, in the form of shapefiles. I then selected specific attributes to show on each map.

THE NECESSITY OF U.S. AIRCRAFT CARRIERS

The shortage of adequate NATO aircraft basing for aerial attacks in Syria serves as a considerable constraint on a military intervention. For the 2011 intervention in Libya, NATO could fly warplanes directly from Sicily and helicopters from small French and British aircraft carriers. The size and geographic location of a mission in Syria, however, would likely require the use of 1-2 large U.S. aircraft carriers. Even if this were feasible, such an action would portray the mission as being one of U.S. unilateralism rather than international cooperation, thereby undermining its legitimacy.

THE DISPERSION OF SYRIAN OPPOSITION CONTROL

Battle lines remain indistinct, even within city borders. In combination with the lack of an organized opposition, the territorial fluidity makes it difficult to establish sanctuaries for opposition groups (such as the Free Syrian Army) and to identify targets.

Figure 5 (below) is intended to further illustrate the complications of militarily defending the territorial holdings of the opposition groups. Territorial lines are incredibly fluid, both across the country and within cities like Damascus and Aleppo. There is high overlap between the two and in some instances (e.g. Idleb), it is the government forces that are surrounded by rebels. Unlike Libya, this would not be a case of protecting a uniformly-held city from a government attack. Data here is acquired from Institute for the Study of War research. Using the ArcGIS editor function, I created polygons on top of a base layer to represent rebel holdings and concentrations of government forces.

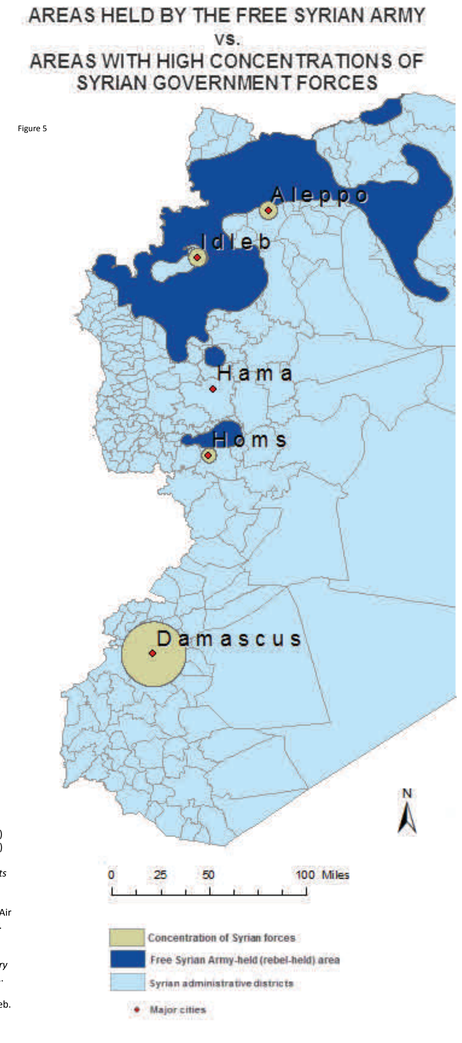

Figure 5

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Poster design and cartography: Rachel Baras (December 14, 2012)
Map projections: Transverse Mercator (WCS 1984 UTM Zone 37N)
Data sources:
Haggerty, Brian T. *Safe Havens in Syria: Missions and Requirements for an Air Campaign*. Working paper. Cambridge, MA: Security Studies Program, MIT, 2012. Print.
Kenner, David. "Syrian National Council Publishes Maps of Syrian Air Defenses." *Foreign Policy*. 3 Oct. 2011. Web. 18 Dec. 2012.
"Maps for Syria Tracker's Crowdmapped Data from Mar 18, 2011 through Present." *Syria Tracker*. Web. 10 Dec. 2012.
Nerguizian, Aram. *Instability in Syria: Assessing the Risks of Military Intervention*. Working paper. Washington, D.C.: CSIS, 2011. Print.
"Syria: Mapping the Insurgency." *BBC News*. BBC, 4 Dec. 2012. Web. 18 Dec. 2012.