THE LIBYAN UPRISING:

AN UNCERTAIN TRAJECTORY

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EXECUTIVE SUMMARY

Libya is not vital to the US strategic interest -- the country is primarily within the European strategic orbit. But Libya is an important energy exporter and the failure of the NATO intervention over the long-term can have important ramifications on US regional and international interests. As a recent White House report noted, stability in Libya is essential to “limit the spread of violence and instability in a region pivotal to our security interests, particularly while it is undergoing sensitive transition,” as well as “to prevent an imminent humanitarian catastrophe.”[1] There has also been speculation that Libya could become a jihadist sanctuary for groups allied to al-Qaeda, which may be overblown, but must be taken into consideration.

Polling in late March showed that about 60 percent of Americans continue to support the Libyan intervention, but only 15 percent want to see increased US participation.[2] Support is believed to have declined since, as the war continues, by one count to as low as 22 percent in early June.[3]

This background paper on the current war in Libya helps put these issues in perspective. Drawing from official NATO reporting and open-source analysis, the report tracks the conduct of the fighting and identifies some trends that will be crucial to plan for in shaping a post-war Libya. To date, planning for the post-Qaddafi period has been vastly inadequate, and it is likely that the end when it comes will come very quickly. Whether this takes days or months remains unclear, but some form of change is imminent in Libya, and will require careful accommodation.

A War with Uncertain Purpose and End Game

NATO forces are now engaged in a war of attrition in ways that essentially mean regime change. This is a significant expansion from the letter of the UN Security Council Resolution 1973 that mandated the implementation of a no-fly zone, as well as “all necessary measures to protect civilians.” President Obama has joined senior European and NATO officials in demanding the exit of Col. Qaddafi stating, “Let me just be very unambiguous about this. Colonel Qaddafi needs to step down from power and leave. That is good for this country. It is good for his people. It’s the right thing to do.”[4]

NATO has denied its goal is to target Qaddafi, and says its strikes are directed towards inflicting enough damage to persuade Qaddafi and his advisors to quit power. In the absence of a negotiated settlement, however, it is unclear that anything short than a whole-scale collapse of the loyalist military machine, or a decapitation of Qaddafi and his inner circle, will suffice. Furthermore, it is uncertain how NATO can hope to destroy the Libyan command and control apparatus without targeting the people at its center.

In the meantime, with nowhere really to go, and an International Criminal Court (ICC) ruling looming should he exit the country, Col. Qaddafi appears to be increasingly credible when he declares, as he did on June 7th that, “We shall stay here till the end, dead, alive, victorious; it doesn't matter.”5

There is also a growing perception that what begun as an uprising has become what could be a long civil war. As yet, it is not possible to determine the scale of support Qaddafi still retains, or accurately distinguish between those who are tied to him by loyalty, and those by fear. It, however, now appears unlikely that Qaddafi can stay in power over the longer-term but the timing and nature of his exit will have important implications on the success of the Libyan intervention.

A protracted conflict could present serious problems, including a rising humanitarian toll – perhaps lower than the retribution Qaddafi would have imposed had he retaken the east – but nonetheless significant, and growing as fighting continues. The cost to the Libyan economy is already severe and the cost to NATO is rising. The White House reported that the cost to the US reached $715.9 million by June 3rd, and is expected to rise to $1.1 billion by September 30th. 6 There are also worries that military operations could continue indefinitely, although NATO officials have repeatedly signaled that the end is near.7

The focus on the tactical conduct of the war has also led many to ignore the need to plan for a post-war Libya. In one form or another, a different Libya will emerge. There remains no clarity on how it will look, but any post-Qaddafi Libya will face deep institutional trauma, significant economic challenges and several obstacles towards a sustainable political structure.

Qaddafi’s mode of governance; diffusing power to ensure that none could threaten his rule has resulted in major ethnic, social, status and tribal divides, and overcoming them will be challenging. This will be particularly true for a government as fragile and untested as the current National Transitional Council (NTC). Extensive post-war international support will also undoubtedly be required. NATO has specifically stated it will not be responsible for post-war challenges, and the burden will fall on the UN and other international agencies.

**Continuing Need to “Win the War”**

The optimistic expectations allied forces seem to have had in entering the conflict are no longer realistic. Realistic military planning has turned from days and weeks to open-ended months, and the tenacity of loyalist forces has already forced scale-ups in military capacity. NATO’s fixed wing fleet has continued an operational tempo that remains at about the same levels as when it assumed command, and it has introduced attack

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helicopters and covert assets, including Special Forces into theater, in ways that essentially provide limited close air support to aid opposition forces.

Loyalist military forces do appear to have been significantly degraded, but they have showed considerable tenacity, and have adapted to the needs of the battlefield. They appear to have dispensed with large formations, blended into the civilian population, and swapped into civilian vehicles. Their superior tactical ability relative to opposition forces has allowed loyalist forces continue to hold onto important urban centers in the West, including the oil towns of Ras Lanuf and Brega, as well as regime centers of power in Sirte and particularly Tripoli.

The tactical weakness of opposition forces has been a major impediment to any rapid conclusion of the war. Despite the NATO multiplier, opposition forces have shown little capacity to operate outside their organic strongholds, to wage open combat against loyalist forces, or to capitalize on air support for organized offensive operations that can assault Qaddafi strongholds. Limited external support in arms and training transfers continues to constrain their operational abilities and prevent them from maneuvering in ways that actually pose a threat to dug in loyalist forces.

The key NATO countries have already expanded their objectives in ways that essentially mean regime change, but the legitimacy of its mandate has weakened as conditions have begun to be perceived as a tactical stalemate. Under the terms of the mandate provided by UNSCR 1970 and 1973, NATO forces are mandated to implement a no-fly zone and implement “all necessary measures” to protect civilians. Since, NATO forces have justified their demands that Qaddafi step down and exit the country as preconditions to an end of operational activity, under the aegis that loyalist forces under Qaddafi command are actively engaging civilian targets. The June 2011 White House report echoed this, noting that “Qaddafi’s departure is a critical component” of coalition demands. NATO forces now heavily target loyalist ground forces as well as their logistical and munitions supply chain. NATO has also moved from targeting marginal forces posing an imminent threat to civilians, to now targeting presumed regime centers of gravity such as the Bab al-Aziziya compound in Tripoli. There have also been military scale-ups, in the introduction of attack helicopters and the presumed expansion of covert activity.

The mission also remains hampered by a lack of cohesive action within the alliance as well as significant operational shortfalls. The burden of the Libya operations is increasingly borne by a small number of countries. Others have erected strong political obstacles to participation, or caveats on their military contributions. The Arab contribution, while much hyped in initial phases, is now marginal at best and growing international criticism, particularly from China and Russia, but also driven by public opinion in the United States and Europe, has rendered the probability of a surge in US military support unlikely. There are also reports of inefficient resource utilization, including the inability to share refueling tankers, and large shortfalls in specific

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equipment, personnel and munitions that continue to impede an optimal operational tempo.

Even if it ends tomorrow, the Libya mission raises new questions about the merit and conduct of humanitarian interventions, and has again exposed the danger that what started as a rapid and limited intervention could soon become a protracted war. Nonetheless, NATO objectives continue to appear achievable should operations be sustained, and despite growing impatience and some signs of war fatigue, core coalition forces appear set to continue their involvement indefinitely.

**Sustaining Victory**

Planning for a post-war Libya is difficult. There are too many ‘ifs’ with no clarity and even opposition forces themselves cannot say with certitude whether large, and powerful western centers in the country are bound to Qaddafi by fear, or by some form of loyalty.

If the best-case NATO scenario does play out, and an opposition government is handed control of all of Libya, the country’s problems are far from over. In fact, sustaining victory will be far more important and difficult than merely “winning” the war, and there will remain significant risks of post-war instability, including the possibility for fragmentation along ethnic, tribal, regional and religious lines, and the potential for militant sanctuaries in areas outside state control.

Significant economic challenges will also persist. The Libyan economy’s singular dependence on the oil sector — 95% of Libyan export earnings, 25% of GDP and 80% of government revenue — has meant that the economy has all but stopped as a result of the war. Rebuilding infrastructure and resuming production will be of immediate importance, but over the longer-term Libya will require navigation towards a more diversified and modern economy. Reforms to immediately provide productive employment opportunities that can leverage its educated but chronically unemployed youth base will also be important, as will a visibly improved stewardship of oil revenues in ways that create immediate and visible benefit to average Libyans, and provide accountability and transparency in a measurable change from the Qaddafi era.

Despite these immense challenges, the NTC is untested. It maintains nominal command over disparate groups that are currently united in a shared goal to topple Qaddafi, but this does not mean a shared vision for a post-war Libya. NTC officials will have to prove their ability to navigate and accommodate these many divisions in ways that truly represents the wants and needs of Libyans, instead of once more favoring narrow interests. It must prove able to guide Libya towards a representative government in ways that will overcome tribalism, and regional divides as well as accommodate the interests of minority ethnic groups.

In many ways, Libya will have to be rebuilt from scratch. The true institutional trauma that thirty years of Qaddafi’s rule has wreaked is still to be truly felt, but virtually no semblance of civil-society or viable state institutions exist. Separating the regime from

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10 CIA Factbook, last accessed June 10th
the state will be difficult, and reconciliation will play an important role. Any attempts at “de-Qaddafication” will likely have traumatic effects on both disintegrating any available state capacity as well as alienating large segments of the population, who might otherwise have only been tied to Qaddafi by material inducements rather than ideology.

A successful transition will necessarily require international assistance, but for true sustainable success, post-war planning must be Libyan-led and heavily involve the participation of regional countries. Many challenges will persist, but it is important to remember that war, and particularly revolutions, transform society in ways that are not easily foreseen, and the dynamics of the Libyan uprising offer good reasons to be optimistic for Libya’s future.
I. WINNING THE WAR

The Libyan war is now in its fourth month, and NATO intervention in its third. The current state of fighting as of early June 2011 appears to be growing increasingly tactically stalemated. The territorial balance has grown increasingly static, and opposition fighters appear incapable of mounting further advances independently without stepped-up NATO support. The outcome of the war in ways that fulfill NATO’s demands appears to depend upon tactical escalation by NATO. International observers have called for a ceasefire and some form of political accommodation, but loyalist forces have continued fighting, and both opposition forces and NATO have refused to accept anything short of regime change, where Qaddafi steps down and leaves Libya.

A Backgrounder on the Fighting

The Libyan uprising is believed to have begun in Benghazi, a major Libyan economic center, on February 15th, after protestors assembled outside city police headquarters to protest the detention of human rights activist Fethi Tarbel. The protest soon turned into a riot and by February 17th, activists had labeled the day, a “Day of Rage.” Violence escalated rapidly. Soon protesters were using looted bulldozers loaded with dynamite used for fishing to enter armories, and protests were reported across the country, including in Tripoli.

Various defections of high-ranking government officials soon followed, and in several cities such as Benghazi, Tobruk and Misurata anti-government militias took control.11 After a brief period, government forces soon recovered. On February 22nd Qaddafi issued a televised broadcast, ordering his forces to crush the uprising.12 Government forces utilized heavy equipment including armor, air and artillery assets to confront opposition forces, and the use of foreign mercenaries was widely reported.

Heavy fighting was reported in several coastal cities and by early March rebel momentum was broken at Ras Lanuf, where loyalist forces retook the city on March 10th, after a week of heavy fighting.13 Loyalist ground forces registered a rapid advance to Benghazi, the opposition stronghold, and home to the National Transitional Council, the self-appointed opposition leadership council. Forces begin laying siege to the city, and Qaddafi son Saif al-Islam told a French news channel, “Everything will be over in 48 hours.”14

On March 17th, an emergency session of the UN Security Council approved Security Council Resolution 1973, approving the implementation of a no-fly zone over Libya and

authorizing “all necessary measures” to protect civilians. Within two days, airstrikes struck the Libyan air defense network, various military installations around the country, and halted the loyalist ground advance on Benghazi. US operations were conducted under the code name Operation Odyssey Dawn; French participation was Operation Harmattan, the British Operation ELLAMY and the Canadian Operation Mobile.

NATO took official control of all military operations on March 31, 2011, under the name of “Operation Unified Protector” and by June 15th, had flown over 11,107 sorties including 4,212 strike sorties. Despite NATO intervention, Qaddafi forces continued to mount stiff resistance, and in particular continued to siege the city of Misurata. Strategically and symbolically vital, the city constituted the only major opposition outpost in the western half of the country, and lent credence to opposition claims that the resistance is a national popular uprising, and not an eastern separatist movement.

Misurata is the third largest city in Libya, houses a large port, and its location along the Gulf of Sidra made it a staging ground for attacks into core Qaddafi territory. Loyalist forces assaulted the city in what amounted to a “medieval siege” according to Western leaders. The only opposition lifeline through the port was heavily targeted and over 200 Grad rockets fired on the port on April 14th alone. Cluster munitions and anti-personnel mines were used, often indiscriminately and fuel storage facilities were also targeted and set ablaze.

The initial front line was drawn along Tripoli Street, the city’s main artery, but under cover from NATO aircraft by May 11th, opposition forces had retaken most of Misurata, and eventually, the city’s airport on the outer suburbs. Loyalist troops were reported to have taken heavy casualties from airstrikes and from the fighting, and various YouTube videos, purportedly from Misurata show several abandoned and destroyed pieces of armor and artillery, purportedly as a result of airstrikes. NATO showed reluctance to target inside urban centers for fear of inflicting civilian casualties.

Attack helicopters were introduced on June 4th as a means to better target loyalist ground forces in urban areas, and create a 16-mile buffer zone around Misurata. Despite their introduction in theater, a few days later on June 6-7 it was reported that loyalist forces had mounted another major assault on the city, with “thousands” of troops advancing along multiple axes. Loyalist forces have been repeatedly pushed back, but appear to

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remain within artillery range and continue to fire on opposition positions, causing civilian casualties.26

As of mid June, Qaddafi faced two westward opposition advances along the coastal axis; west from Misurata towards Ziltan, Zawiya and Tripoli, and from Ajdabiya towards the oil producing and processing centers of Brega, Ras Lanuf and Sirte. The nature of control over these oil cities will have impacts on post-war stability. Many western cities, particularly Sirte, which is Qaddafi’s hometown and has a large representation of his own tribe, are more strongly bound to the Qaddafi regime, often by tribal loyalties, and uncertainty on their allegiances has slowed down opposition attempts to advance.27 NATO forces have been active in targeting loyalist positions around these cities.

There was sustained fighting in towns in the Western Nafusa Mountains, populated by the Berbers, a non-Arab ethnic minority group marginalized under Qaddafi. This area is particularly crucial as pipelines from southwestern Libya traverse the Nafusa range to reach Qaddafi’s only functioning refinery at Zawiyah.28 Localized fighting has continued, particularly in the locally important town of Zintan, southwest of Tripoli, where fighting has continued sporadically since late February. Loyalist forces have mounted several counterattacks against opposition fighters who control the urban center, and remain within artillery range, despite NATO airstrikes and rebel attempts to break out. Grad rockets have been employed, and have targeted the city center, including hitting private homes, the hospital and mosques according to Human Rights Watch, which toured the area and found no military assets in the area where rockets struck.29

Loyalist troops are reported as augmented by the assistance of pro-government towns to the north that are tied to Qaddafi by tribal loyalty.30 Fighting has been reported in other towns such as Yifran, and in border towns near the Dehiba/Wazen border crossing along the Tunisian border, drawing condemnation from the Tunisian government.31

There have consistently been indications of support for the opposition in Qaddafi-controlled cities such as Tripoli, according to Western media reporting, but the reality is quite frankly unclear. An extensive security apparatus has clamped down on any anti-regime protests, and to date resistance in Tripoli has consisted of small and sporadic acts of civil disobedience.32 In June 2011, there were growing incidences of armed nocturnal

30 Ibid.
violence reported in Tripoli, particularly in the neighborhood of Souq al-Juma, where loyalist security forces are increasingly composed of novice soldiers recalled to service.  

The BBC in Figure 1.1 provides a snapshot of the territorial holdings in late March 2011. By June 2011, lines had grown increasingly static. Qaddafi forces continued to hold on to all major Western cities and opposition forces controlled Ajdabiya and Misurata, providing them with beachheads to push west into core Qaddafi areas. The humanitarian situation remains grim. IOM/OCHA estimated that more than 820,000 people had fled the country by May 18th.  

**Figure 1.1: Map of Fighting in Libya in March 2011.**  
(Source: BBC News)

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**Implications on Energy Markets**  
Libya is a member of OPEC, is a net exporter to Europe, and accounts for almost a quarter of energy imports for several Western European as seen in Figure 1.2 provided

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by the International Energy Association (IEA). The Libyan economy is an oil economy, and the oil sector contributes about 95% of export earnings, 25% of GDP and 80% of government revenue according to the CIA’s open-source data.\footnote{CIA Factbook, last accessed June 10\textsuperscript{th}} Control over energy resources will play a crucial role in any post-war future and continued infrastructure degradation as a result of the war will likely deepen the post-war economic recession.

The war has affected key export facilities. Five of six major terminals the IEA identifies as exporting light crude are located in the east, including the Es Sider Terminal, Marsa el Brega, Ras Lanuf, Tobruk and Zueitina. Together, these account for about 65% of total loading volumes in January 2011.\footnote{"Facts on Libya: Oil and Gas (February 21, 2011)," IEA, Available at http://www.iea.org/files/facts_libya.pdf} Libya has five major refining facilities, four of which are again in the east. In May 2011, heavy fighting continued around the city of Ras Lanuf, which housed the country’s largest refinery, and accounted for 220 of Libya’s total refining capacity of 378 kb/d. The second largest facility, accounting for 120 kb/d is located near Tripoli, where loyalist forces continue to hold power.

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Figure 1.2: Crude Oil (incl. condensate and NGLs) imported from Libya (kb/d)

<table>
<thead>
<tr>
<th>OECD Total</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>% of total crude imports (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>11</td>
<td>2.3%</td>
</tr>
<tr>
<td>Austria</td>
<td>35</td>
<td>17</td>
<td>23</td>
<td>31</td>
<td>21.2%</td>
</tr>
<tr>
<td>France</td>
<td>105</td>
<td>141</td>
<td>131</td>
<td>205</td>
<td>15.7%</td>
</tr>
<tr>
<td>Germany</td>
<td>220</td>
<td>210</td>
<td>167</td>
<td>144</td>
<td>7.7%</td>
</tr>
<tr>
<td>Greece</td>
<td>49</td>
<td>63</td>
<td>47</td>
<td>63</td>
<td>14.6%</td>
</tr>
<tr>
<td>Ireland</td>
<td>3</td>
<td>9</td>
<td>10</td>
<td>14</td>
<td>23.3%</td>
</tr>
<tr>
<td>Italy</td>
<td>538</td>
<td>504</td>
<td>423</td>
<td>376</td>
<td>22.0%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>43</td>
<td>40</td>
<td>27</td>
<td>31</td>
<td>2.3%</td>
</tr>
<tr>
<td>Portugal</td>
<td>36</td>
<td>29</td>
<td>19</td>
<td>27</td>
<td>11.1%</td>
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<tr>
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<td>120</td>
<td>102</td>
<td>136</td>
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<td>Switzerland</td>
<td>52</td>
<td>72</td>
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<td>United Kingdom</td>
<td>51</td>
<td>81</td>
<td>71</td>
<td>95</td>
<td>8.5%</td>
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<tr>
<td>United States</td>
<td>122</td>
<td>105</td>
<td>78</td>
<td>51</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Source: IEA

Energy revenues have been crucial to funding the war machine of both sides. In early June, the EU imposed sanctions and blacklisted several ports including Tripoli, Zuara, Zawiya, Al-Khums, Ras Lanuf and Brega, to deny Qaddafi the ability to receive refined fuel imports and keep his military vehicles running.\footnote{Jomana Karadsheh and Nima Elbagir, "Libya frees 4 journalists; Tunisia complains about Libyan rockets," CNN, May 19, 2011. Available at http://reut.rs/jAWHme} This problem has grown acute for Qaddafi. The Zawiya refinery, one of the few under his control operated at less than 30 percent of its capacity according to reports in early June,\footnote{"The Colonel is Running on Empty," The Economist, June 16, 2011. Available at http://econ.st/mQMTCE} and fighting in the Western Nafusa Mountains threatens to cut the oil pipelines that supply Zawiya from Libya’s southwestern fields. Something as simple as cement in a valve could hypothetically shut down supply, but NATO is believed to have specifically requested the opposition not to

\footnote{35 CIA Factbook, last accessed June 10\textsuperscript{th}  
37 Jomana Karadsheh and Nima Elbagir, "Libya frees 4 journalists; Tunisia complains about Libyan rockets," CNN, May 19, 2011. Available at http://reut.rs/jAWHme  
target these facilities, given the humanitarian and strategic consequences.\textsuperscript{39} Other key centers such as Brega and Ras Lanuf also continue to face threats by opposition forces.

The few sales of crude to Qatar, and US refiner Tesoro, from opposition-held terminals have helped opposition forces raise desperately needed revenues, including $100 million from one such shipment.\textsuperscript{40} By late May, production had stopped and the opposition had used up its last stocks of crude oil. The Tobruk refinery closed in late May and oilfields including the large Sarir fields, portions of which are outside NATO’s core patrolling area, are still susceptible to loyalist attacks.\textsuperscript{41}

Loyalist forces have in some instances pursued a scorched earth policy, targeting energy infrastructure in opposition-held areas as seen in \textbf{Figure 1.3}, including the Sarir, Es Sider and Ras Lanuf terminals.\textsuperscript{42} They have sabotaged various pipelines, shelled infrastructure in Ras Lanuf, Brega and Misurata, and have driven hundreds of miles across open desert to attack installations in the huge Sarir and Mislah oilfields blocking off about 300,000 barrels of oil a day.\textsuperscript{43}

There are real worries that if the conflict should stalemate along the East-West divide, energy installations such as those in the Gulf of Sirte are likely to be on the frontlines.\textsuperscript{44} Fortunately, to date the bulk of heavy urban combat has been restricted to Misurata, and has not reached extreme levels in the major oil cities such as Brega and Ras Lanuf, but any such expansion could be catastrophic for Libya’s post-war economic recovery.

\textsuperscript{39} Ibid.
\textsuperscript{40} Theo Leggett, “Sanctions are strangling us says a leading Libyan rebel,” \textit{BBC News}, May 18, 2011. Available at \url{http://www.bbc.co.uk/news/business-13280207}
\textsuperscript{41} “Libya rebels running out of crude forces,” \textit{Financial Times}, May 30, 2011. Available at \url{http://www.ft.com/cms/s/0/0359c5b2-8acd-11e0-b2f1-00144feab49a.html#axzz1No9y5E1m}
\textsuperscript{42} “Gaddafi’s Scorched Earth,” \textit{Daily Mail}, March 10, 2011. Available at \url{http://bit.ly/h0lOh5}
\textsuperscript{43} “Better for the rebels,” \textit{Economist}, May 19, 2011. Available at \url{http://www.economist.com/node/18713965}
Figure 1.3: Attacks on Libyan Energy Facilities

(Source: The Economist/Petroleum Economist)
DEGRADING LOYALIST FORCES

It is impossible to describe the current composition of Qaddafi’s loyalist forces with any confidence. Various formations, particularly those in the east, have disintegrated or defected to the opposition and several military facilities and arms depots have fallen to opposition forces. Engagements with NATO aerial forces and opposition fighters have resulted in casualties and the loss of equipment, the scale of which is likely to extensive. Qaddafi also faces severe funding pressures – the $500 million he had in cash at the start of the crisis has run out – and there are diminishing supplies of fuel available for military vehicles, according to the defecting Libyan Central Bank governor.45

A defecting general estimated in end May that Qaddafi’s army may now be at about 20 percent of its original capacity, and that Qaddafi can now only rely on about ten generals.46 A June 2011 White House report on Libya also noted the defections of “his foreign ministers, an interior minister, ambassadors to the United States and the United Nations, a central bank governor, an oil minister, five Generals, and his labor minister.”47

As a result, Qaddafi is undoubtedly closing ranks, and his inner circle is likely to be increasingly composed by the Rijal al-Khaimah (“Men of the Tent”), as described in a recent report by the International Crisis Group. These members include Qaddafi’s family, tribe and his original compatriots from the days of the revolution, all of whose “fate is tied to his.”48 In mid June, NATO targeted the country estate of Khoweildi al-Hamidi, a close associate of Qaddafi, who participated in his 1969 coup.49

- **Figure 2.1** details some important Libyan military facilities. At the time of writing, loyalist forces have lost most of the eastern cities including Tobruk with its naval base, Benghazi, a major Libyan economic center with another important port, and Misurata, now an important opposition stronghold, and the only opposition-held city in the west.

- **Figure 2.2** details the NATO targeting mix by major cities, highlighting where NATO forces have focused on targeting ground forces versus command and military facilities.

- **Figure 2.3** tallies reported NATO daily operational data. It provides an incomplete picture of operational activity, but some clarity on NATO targeting. NATO did not report for the first week of Operation UNIFIED PROTECTOR and there is little reporting from Operation Odyssey Dawn, and the first few weeks of conflict.

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45 Lara Setrakian and Gregory Viscusi, “Qaddafi’s days numbered, as Libyan coffers run dry, Ex-Central Banker says,” Bloomberg, June 14, 2011. Available at [http://bloom.bg/zLQv1](http://bloom.bg/zLQv1)
NATO Secretary General Anders Fogh Rasmussen declared on June 6th that NATO had destroyed almost 1,800 military targets, which “includes around 100 command-and-control sites which Qadhafi used to organize attacks on civilians. It includes over 700 ammunition stores, which are used to supply his attacks. And almost 500 tanks, armored personnel carriers and rocket launchers, which he used indiscriminately against his own people.”

NATO airstrikes have heavily targeted Tripoli, Qaddafi’s seat of power and the country’s most significant manufacturing and commercial center. Heavy fighting has been reported around Sirte, a strategically vital city that includes several oil loading facilities as well as a Military College, which was traditionally garrisoned with a “heavy concentration of troops according to Janes,” and the country’s largest port. The fighting in the West does not appear to have impacted any major loyalist military strongholds and appears to be being countered by loyalist expeditionary units dispatched south from Tripoli.

Most Libyan air, air defense and naval assets were destroyed in the first stage of US and European attacks. Follow-on raids by NATO have continued to target any surviving remnants. Ground forces have come under heavy attack, particularly in cities where they are engaged against opposition forces, such as Misurata, Brega or Zintan seen in Figure 2.3.

Loyalist ground forces have now dispersed into smaller formations and attempted to blend into the civilian population to complicate NATO targeting. NATO has released footage showing loyalist artillery firing from inside a mosque in Zintan, and loyalists are reported as storing equipment inside residential and cultural sites, such as the UNESCO-protected Roman ruins of Leptis Magna.


52 “Qaddafi forces firing rockets,” NATO, June 14, 2011. Available at [www.natochanneltv.com](http://www.natochanneltv.com)

Figure 2.1: Major Pre-War Libyan Military Facilities

(Source: BBC News)

Figure 2.2: NATO Targeting Mix by Major City (Till June 15th)

Note: Equipment includes SAMs and all associated facilities including stores and radars

(Source: NATO)
**Figure 2.3: Daily Reported NATO Operational Activity (Till June 15th)**

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Number of Strikes</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command and Control (C2) Nodes</td>
<td>90</td>
<td>C2 nodes are often undefined. Can include major targets such as Bab al-Aziziyah compound in Tripoli or the HQ of the 32nd Khamis Brigade on April 18th. Others may be far less strategically vital.</td>
</tr>
<tr>
<td>Military Facility</td>
<td>23</td>
<td>Can include military training centers, missile support facilities, vehicle fueling facilities etc.</td>
</tr>
<tr>
<td>Communications</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Armored Vehicle and Vehicle Storage Facilities</td>
<td>90</td>
<td>Major sites appear to be in Tripoli and in the area of Hun near Sirte</td>
</tr>
<tr>
<td>Ammunition Sites</td>
<td>337</td>
<td>Areas of Mizadah and Hun appear to be major sites for ammunition depots.</td>
</tr>
<tr>
<td>Fixed Emplacements (Bunkers)</td>
<td>32+</td>
<td>Includes all infantry emplacements including bunkers, checkpoints and buildings hosting active shooters</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Battle Tanks (MBTs)</td>
<td>131</td>
<td>Many hits clustered in Misurata, Brega and Ajdabiya</td>
</tr>
<tr>
<td>APC/AIFV/AFV/IFV</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Technical/Military Vehicle</td>
<td>106</td>
<td>These are not detailed further and are likely to encompass modified vehicles pressed into service as well as military trucks</td>
</tr>
<tr>
<td>Truck Mounted Guns</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Anti Aircraft Guns</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Artillery</td>
<td>29</td>
<td>Includes towed and self propelled holdings</td>
</tr>
<tr>
<td>Rocket Launchers</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Multiple Rocket Launchers</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Air Defense assets (includes radars, SAMs and SAM storage sites)</td>
<td>111</td>
<td>Major SAM systems were destroyed. Remainder are likely to be MANPADs, light SAMs and any surviving infrastructure such as storage sites, remaining radars</td>
</tr>
<tr>
<td>Transport and Logistics Vehicles</td>
<td>18</td>
<td>Includes equipment such as “heavy equipment transporters.” A few were carrying helicopters when targeted.</td>
</tr>
<tr>
<td>Naval Assets</td>
<td>9</td>
<td>Ports of Sirte, Al Khums and Tripoli. Targets included large surface combatants such as frigates and corvettes</td>
</tr>
<tr>
<td>Helicopters</td>
<td>3</td>
<td>More may have been destroyed being carried on heavy transport vehicles</td>
</tr>
</tbody>
</table>

(Source: NATO)
The Libyan Army

At the start of the uprising, unclassified sources estimated that the 50,000-man Libyan Army, included 25,000 poorly trained conscripts, and constituted the bulk of Libya’s 76,000 active forces. The 40,000 strong People’s Militia, a paramilitary organization was sometimes included as part of the army, but was really an additional and autonomous defense institution. The Libyan army seemed to lack anything approaching an effective and well-trained reserve system and was deliberately weakened by Qaddafi, who did not trust in its loyalty, particularly after an attempted military coup in 1969.

Qaddafi’s long-standing concerns over the quality and loyalty of the regular army appear to have been borne out. The army appears to have for the most part disintegrated and its commander, Major General Abu Bakr Yunis Jabir is reported to be under house arrest for refusing to order his troops to fire on protestors. There have been several reports of defections to the opposition, such as the al-Fadhl brigade in Benghazi, but defections have been concentrated in the east. It is now thought that Qaddafi relies heavily on two generals from his own tribe, Sayyed Qaddaf Eddam, formerly the military head of Cyrenaica, and Ahmed Qaddaf Eddham, formerly the point man for Egyptian issues. Defections have continued, and in late May, an additional eight generals were reported to have fled to Italy.

There has been increased talk of conscription in Qaddafi-controlled areas. In early May, public sector companies were given military draft plans through a letter for all male employees, and there has been increased references to it on state-controlled media. The Libyan Defense Ministry has thickened loyalist ranks with veterans recalled to duty in poor physical condition or cadets with little training. From various statements taken by captured soldiers, it appears that loyalist forces have been told by their officers that they are fighting a foreign-inspired al-Qaeda jihad.

Reliance on Local Cadres

Prior to the uprising, even most of the army’s best combat units were under strength and had severe training and leadership problems, although a few elite brigades detailed below received privileged funding, training and equipment. Manpower problems were compounded by tight political control, promotion based on political favoritism, and training often limited to erratic small unit training. Qaddafi rotated officers arbitrarily to

56 Ibid.
60 Ibid.
prevent coup attempts, and restricted some forms of training because he regarded them as a threat to his security.

Historically, Libyan invested in equipment and facilities rather than sound manpower infrastructure, and support base. This seriously hurt military effectiveness and morale, particularly after a decisive defeat in Chad at the hands of lightly armed Chadian forces. Its forces further declined in quality, and any reform attempts were token gestures with negligible impact on overall force quality, and certainly not resembling the scale of structural and ideological change needed for army-wide impact.

Certain “elite” units that Qaddafi perceived as personally loyal have benefited from higher levels of training and resourcing. These include the Hamza and Hosban brigades but the 32nd Reinforced Brigade, informally known as the “Khamis Brigade” is the most prominent example. The force is commanded by Qaddafi’s son Khamis and is believed to have 4,000 to 5,000 soldiers, many tribesmen loyal to Qaddafi.61 The formation was based out of Benghazi and is regarded today as one of the primary regime protection units. In leaked US diplomatic memos it was described as “the most well-trained and well-equipped force in the Libyan military.”62 Khamis himself received training at the military academy in Tripoli as well as the Frunze Military Academy in Moscow.

The Khamis Brigade is believed to have access to the cream of Qaddafi’s armories, including T-72 tanks, APCs, BM-21 122mm rocket launchers and at one point, attack helicopters. A Wikileaks cable from December 2009 recounted Qaddafi son Saif al-Islam seeking to acquire arms on behalf of Khamis, including attack helicopters, specifically the US “Little Bird” helicopters, spare parts for their Jordanian 4x4 Tiger vehicles, as well a desire to refurbish their M113 APC holdings.63 The Khamis Brigade is reported to have received the British-made Bowman tactical communications and data system in 2008.64

These elite units appear to have taken the lead in fighting during the uprising. The Khamis Brigade has been reported in fighting across several major flashpoints, including in Zawiya, Ajdabiya, Benghazi and Misurata.65 The Hamza Brigade was another key regime formation during the battles for Misurata,66 but NATO strikes may have significantly degraded the force. Amateur video made available April 21, 2011, by the “Freedom Group Misuratah-Libya”, appears to show several damaged and abandoned T-62 battle tanks and other military vehicles said to belong to the Hamza Brigade and other

Qaddafi forces abandoned in the aftermath of NATO airstrikes.\textsuperscript{67} Another video purportedly also of the Hamza Brigade in Misurata shows a column of abandoned MBTs, APCs, and artillery pieces.\textsuperscript{68}

NATO and US forces have specifically targeted these elite forces, particularly the Khamis Brigade which it described as the “primary regime protection element,”\textsuperscript{69} and targeted its HQ on April 18\textsuperscript{th}.\textsuperscript{70} As a result, larger formations have been dispersed into smaller subordinate units better able to avoid NATO aircraft. Only three tanks for example initially supported the commando force that retook Ras Lanuf, according to reports.\textsuperscript{71} Khamis has been reported to have recruited French-speaking sub-Saharan African mercenaries to augment loyalist forces, but it is uncertain what command structure they fold under.\textsuperscript{72}

There are no definitive indications on the casualties that these loyalist forces have suffered although they are believed to be significant. In the battle for Misurata alone, CJ Chivers counted 358 loyalist soldiers being buried and noted the capture of another 250. Rebel forces claim to have inflicted 2,000 casualties, a claim Chivers called “if not verifiable, then not outlandish.”\textsuperscript{73} Captured soldiers from the Khamis brigade have themselves described heavy losses. One soldier claimed to be part of a third contingent sent to Misurata from Tripoli after the first two suffered heavy casualties.\textsuperscript{74}

\textsuperscript{67} Misurata17Misurata,” YouTube, April 20, 2011. Available at \url{http://bit.ly/jFZpHu}
\textsuperscript{68} Patriots1of7Misratah, “Misratah – Hamza Battalion,” YouTube, May 12, 2011. Available at \url{http://bit.ly/kD4gCQ}
\textsuperscript{69} “Coalition watching Qaddafi’s son’s elite unit,” Business Week, March 23, 2011. Available at \url{http://buswk.co/ajDXR1}
\textsuperscript{70} NATO Operational Data, \url{www.nato.int}
\textsuperscript{71} “Gaddafi troops on the road to Benghazi,” Channel 4 News, March 17, 2011. Available at \url{http://bit.ly/eGLOHn}
\textsuperscript{72} “Khamis Gaddafi recruits mercenaries to shoot protestors,” IB Times, February 21, 2011. Available at \url{http://www.ibtimes.com/articles/114681/20110221/khamis-gaddafi-mercenaries-chad-benghazi.htm}
Libya has always been better at internal repression than in dealing with foreign adventures. Its various paramilitary forces and security services are the primary instruments for regime protection. Paramilitary forces are generally considered to be more loyal, not just to the regime but to Qaddafi personally, and have taken the lead in fighting during the current uprising. These forces have benefited from the militarization of Libyan society. Mandatory military service has meant that over 300,000 people or 20 percent of the population “belong to the paramilitary generation.”

The data on paramilitary forces is uncertain and sources report very different details. The largest paramilitary unit is the Peoples Militia with a nominal end-strength of 40,000 men, which is a defense body primarily tasked with territorial defense. There also seems to be a 3,000-man Revolutionary Guard Corps (Liwa Harris Al-Jamahirya) to guard Qadhafi with T-54/55/62 tanks, armored cars, APCs, multiple rocket launchers, and ZSU-23-4s and SA-8s, which are taken from the army inventory.

The Islamic Pan African Legion may have also 2,500 men divided into armored, one infantry, and one paracommando brigade, although its formal total manpower strength would constitute less than a brigade slice. The Islamic Pan African Legion was at one point equipped with at least 75 T-54s and T-55s and some EE-9 MICVs. Roughly 700-1,000 men from the Islamic Pan African Legion were believed to be in the Sudan in 1988, but current deployments are unknown.


Several other forces include Qadhafi’s personal bodyguards, local Revolutionary Committees, and People’s Committees, as well as the “Purification” Committees, which were formed in 1996 form a multi-layered and, pervasive surveillance system to monitor and control the activities of individuals. There is also a People's Cavalry Force that acts largely as a parade unit.

Many of these forces had major command centers inside the sprawling Bab al-Aziziyah military compound in Tripoli, which included the personal residence of Qaddafi himself, and his personal intelligence agency, the Maktab Ma’lumat al-ga’id (Intelligence Bureau of the Leader). NATO, targeting intelligence agencies, vehicle storage facilities and other military assets, has repeatedly bombed the compound including a sustained bombing raid on May 24th, in what was likely probably a political message to Qaddafi loyalists.77 Three days later on May 27th, RAF aircraft destroyed the compound’s guard towers and walls to show the regime, “they are no longer hidden away from the Libyan people behind high walls.”78 Despite this targeting, South African President Jacob Zuma was greeted by Qaddafi inside Bab al-Aziziyah on May 29th.79

Qaddafi and Family
Some paramilitary forces are under the command of Qaddafi’s sons. As noted earlier, son Khamis controls the 32rd Reinforced Brigade of the regular army. Qaddafi’s fourth son Mutassim has been appointed the head of National Security Commission (NSC), an overarching committee bringing together various security sectors, effectively making him Qaddafi’s National Security Advisor. In 2008, he allegedly requested $1.2 billion to establish a similar unit to that of Khasim,80 but there were reports that his command was subordinated to that of senior regime stalwart Musa Kusa after he insulted a senior regime official and fell out with his father.81 Kusa has since defected to the UK on March 30th.82

Third son Saadi is believed to be commander of the country’s Special Forces. There have been reports that Saadi personally ordered security forces to open fire on protestors after visiting a barracks in Benghazi,83 and that he was at the forefront of efforts to reorganize the armed forces into dispersed, small and agile units that can evade NATO aircraft.84 Even daughter Ayesha who is not usually associated with the armed forces is officially a

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77 “NATO’s most ferocious air strike on Tripoli,” The Telegraph, May 24, 2011. Available at http://tgr.ph/mve3VE
Lieutenant General in the Libyan Army.\textsuperscript{85} A NATO air strike killed other Qaddafi son, Saif al-Arab, the only son not believed to be a military commander of some form.

Paramilitary forces, including those commanded by Qaddafi’s family, are not immune from the wider trends sweeping security forces. Some have likely witnessed higher than average casualties as a result of being at the forefront of engagements with opposition fighters. Units may have fragmented or experienced defections and NATO aircraft have targeted key forces. However, paramilitary loyalists likely remain the backbone of Qaddafi’s forces and have been augmented by African mercenaries from Chad, Mali, Mauritania and Niger. Some mercenaries are believed to have already been in country, while others were flown in as the uprising progressed, according to reporting.

The Role of Mercenary Forces

Exact numbers are uncertain, but Ali Zeidan, spokesperson of the Libyan human rights league, claimed there were about 25,000 mercenaries operating in Libya.\textsuperscript{86} There have also been unconfirmed reports that hundreds of Polisario fighters have been paid $10,000 each to cross from Algeria into Libya to fight, allegedly with the support of the Algerian government.\textsuperscript{87} Mercenaries from the Sudanese Justice and Equality have been captured during bouts of fighting, and in the city of Kufra in southeast Libya, opposition forces have engaged other Sudanese mercenaries, although their affiliations are unknown.\textsuperscript{88} Demobilized Tuareg fighters from Niger and Mali have also been observed, and are reportedly promised as much as 1,000 euros a day.\textsuperscript{89}

Regardless of their numbers, mercenary forces have been reported to be at the forefront of attacks against civilian protestors, and have been accused of several war crimes violations including firing into crowds from rooftops.\textsuperscript{90} Many may have only rudimentary training. One captured Sudanese mercenary explained how he worked as a driver in Tripoli, was approached with middlemen, and then given about two hours of training before being dispatched to the frontlines.\textsuperscript{91} A video purportedly from Misurata also shows government fighters reported to be mercenaries abusing and detaining prisoners in civilian clothing.\textsuperscript{92} Others have described how they are offered any spoils of war, including rape.

There have been several reports of African men alleged to be mercenaries killed or captured during fighting with opposition forces. Their general sourcing from sub-Saharan

\textsuperscript{85} “Gaddafi’s children as controversial as father,” \textit{Al Arabiya}, February 23, 2011.
\textsuperscript{87} “Sources: Gaddafi paying Polisario mercenaries $10,000 each to fight for him,” \textit{World Tribune}, May 20, 2011. Available at \url{http://www.worldtribune.com/worldtribune/WTARC/2011/me_libya0607_05_20.asp}
\textsuperscript{90} “Who is propping up Qaddafi?” \textit{BBC News}, March 2, 2011. Available at \url{http://bbc.in/e0S8HS}
\textsuperscript{91} “Libya’s prisoners of war,” \textit{Al Jazeera}, May 24, 2011. Available at \url{http://bit.ly/lkwZjh}
Africa has also put migrant communities at risk, many of who find themselves targeted and accused of being mercenaries.

Figure 2.5: Major Paramilitary and Internal Security Forces

<table>
<thead>
<tr>
<th>Organization</th>
<th>Manpower</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>People’s Militias</td>
<td>40,000</td>
<td>Known as the Quwwat al-Muqawama al-Shabiya, is heavily linked to the armed forces and has received limited army training. Believed to patrol rural areas and protect public buildings. Janes considers it “ineffective and more a means to involve Arab tribes in the regime”</td>
</tr>
<tr>
<td>Revolutionary Guard Corps</td>
<td>3,000</td>
<td>Also known as al-Haras al-Thawri and attached with significant heavy weaponry including T-54/55/62, Some APCs, Some ZSU-23-4 AD guns, Some SAM-8 SAMs. Key regime protection unit with main duty to protect Qaddafi and his family. Likely to be heavily composed of Qaddafi’s own tribesmen.</td>
</tr>
<tr>
<td>Islamic Legion (Islamic Pan-African Union)</td>
<td>2,500</td>
<td>Composed of individuals from various ethnic origins. Formed in 1973 and raised to fight in several theaters including Lebanon, Uganda and Palestine but mainly associated with 1980 war with Chad. Performed poorly.</td>
</tr>
<tr>
<td>People’s Security Force</td>
<td>10,000</td>
<td>Unified organization of all regional police forces under command of Ministry of Interior. Includes both regular policing units as well as specialist units for counter-espionage, criminal investigation, traffic control, port security etc. In 2004 Qaddafi announced intent to award more military powers to force. Implementation uncertain.</td>
</tr>
<tr>
<td>Maktab Mulamat al-Qaid (Information Bureau of the Leader)</td>
<td></td>
<td>Qaddafi’s personal intelligence office located inside Bab al-Aziziya compound in Tripoli. Is command and control center for coordinating security and intelligence agencies</td>
</tr>
<tr>
<td>Jamahiriya Security Organization (Hayat Ann al Jamahiriya)</td>
<td></td>
<td>Libya’s intelligence/security service with two wings for internal and external security. Has been historically utilized against regime</td>
</tr>
</tbody>
</table>
opponents and headed by Qaddafi loyalists including key regime figure Musa Kusa.

<table>
<thead>
<tr>
<th>Military Secret Service (Al-Istikhbarat al-Askariya)</th>
<th>Affiliated with armed forces and run by Mustafa al-Kharroubi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazonian Guard (Green Nuns)</td>
<td>All-female bodyguard unit assigned to Qaddafi.</td>
</tr>
</tbody>
</table>

(Source: Janes Sentinel Risk Assessment, CSIS North Africa Military Balance)

The Libyan Navy
The Libyan Navy and coast guard had a nominal strength of 8,000 men at the start of the uprising, but may actually only have had 4,000-4,100 actives. Details on its pre-war equipment holdings are detailed in Figure 2.6. The Libyan navy's overall training and readiness levels were never high, and declined sharply after the mid-1980s, possibly because of decreased funding and a resulting drop in support from the former Soviet Union.

The Navy suffered badly from UN sanctions, but acquired some Ukrainian technical support in 1995 and received more parts deliveries and repairs after 1998 and placed emphasis on upgrading its inshore and coastal capabilities rather than pursuing acquisitions of additional major surface combatants. Some individual crews had moderate capability, but overall training, readiness, and command standards were low, and weapons systems and combat electronics rarely exercised. Libyan naval assets could not operate as an effective fleet, and most larger surface combatants have been destroyed or captured.

During the start of the 2011 uprising, loyalists used Libyan naval forces to provide coastal fire support and for mining opposition-held ports such as Misurata. Naval forces were reported to have fired on civilian neighborhoods in Tripoli during the early days of the uprising, as well as having shelled opposition positions in various coastal cities including Ras Lanuf. During the battle for Ras Lanuf, there were reports that loyalist forces using “four boats carrying 40 to 50 men each” made amphibious landings along the coast to flank rebel forces. In Misurata, where the port constituted the only lifeline for opposition forces inside the city, loyalist small boats were reported attempting to mine the harbor and target merchant vessels. In mid-May NATO reported intercepting two inflatable boats, at least one of which was heavily loaded with explosives, and were

96 “NATO intercepts boats laying mines outside Misurata,” The Telegraph, April 29, 2011. Available at http://tgr.ph/mUhQZq
designated by NATO as an “improvised explosive device with decoy human mannequins to threaten commercial shipping and humanitarian aid.”

The NATO air campaign did not specifically target naval forces until May 19th, when in the broadest attack against loyalist naval forces, eight naval craft were destroyed by NATO airstrikes in the ports of Tripoli, Al Khums and Sirte. The targets included major surface combatants such as the Libyan Koni class frigate, the Al Ghardabia. British Maj. Gen. John Lorimer, also claimed that British warplanes hit two corvette warships in the Khoms harbor and "successfully targeted a facility in the dockyard constructing fast inflatable boats, which Libyan forces have used several times in their efforts to mine Misrata and attack vessels in the area."

Other major surface combatants, such as Libya’s second frigate, the Al Hani, and the corvette Tariq-ibn-Ziyad have been captured in Benghazi and Tobruk.

**Figure 2.6: Libyan Navy in Pre-War 2011**

<table>
<thead>
<tr>
<th></th>
<th>Submarines</th>
<th>Frigates</th>
<th>Corvettes</th>
<th>Patrol and Coastal Combatants</th>
<th>Mine Warfare</th>
<th>Amphibiouss</th>
<th>Logistics and Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>15</td>
<td>4</td>
<td>7</td>
<td>12</td>
</tr>
</tbody>
</table>

(Source: “The Military Balance in 2011, IISS)

**The Libyan Air Force**

The Libyan Air Force – the nominal target of the “No Fly” operation – has not played a meaningful role after the initial days of the struggle. The 18,000-man force – like most aspects of Libyan military activity – operated a large pool of aging equipment, lacked consistent training and competent pilots and was badly organized. Air force assets were employed against opposition positions in initial phases of the conflict, but since most Libyan air assets have been destroyed in air strikes.

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The Libyan air force had nine fighter squadrons at the start of the uprising, equipped with a total of 15 Mirage F-1ED/BDs, 45 MiG-21s, 75 MiG-23 Flogger Es and 94 MiG-25s. These air defense fighters had aging avionics with limited capability, but advanced air-to-air missiles like the AA-2 Atoll, AA-6 Acrid, AA-7 Apex, AA-8 Aphid, R-530, and R-550 Magic. The only Libyan air force unit with advanced combat aircraft was a single Su-24 strike/attack squadron. The squadron had only six aircraft, and even its avionics were over a decade old.

The Libyan Air Force had one bomber regiment with six Tu-22 Blinders. The USSR transferred 12 long-range Tu-22 bombers in April 1979, of which 5-6 may still have been marginally operational. These aircraft are obsolete medium altitude bombers that are very vulnerable to both air-to-air and surface-to-air missile defenses. Libya also had some 250 trainer aircraft, and two reconnaissance squadrons with four Mirage-5DRs and seven MiG-25Rs. These gave Libya a reasonable mix of basic reconnaissance capabilities, but it seemed doubtful that the force was organized to use them effectively.

Libya’s six additional fighter ground-attack units had a total of 40 MiG-23BNs, 14 Mirage F-1ADs and 53 Su20/-22s. Some sources indicate there also was still a COIN squadron with 30 J-1 Jastrebs in 2004-2005, but this cannot be verified. Libyan attack aircraft performed poorly in close air support and interdiction missions in Chad, and there are no reports that Libya since developed effective training systems and facilities, or practiced meaningful exercises in low altitude combat, air defense evasion, countermeasure penetration, or combined arms with the Libyan army.

The air force was a critical component of loyalist forces during initial phases of the fighting, and was extensively employed to bomb opposition positions. There were some reports of dissension within the ranks. Two senior Libyan pilots defected and flew their aircraft to Malta in end February, becoming a visible symbol of the fragmentation of Qaddafi’s military. In some instances pilots were noted dropping their munitions conspicuously far away from their targets, lending credence to claims some deliberately chose not to attack opposition positions.

The air force was heavily targeted by the US and NATO in March, and ceased to be operational. By March 23rd RAF Commander Air Vice-Marshall Greg Bagwell announced that the Libyan “air force no longer exists as a fighting force… we can operate in Libyan airspace with impunity.” It is uncertain how many planes have been destroyed but various airfields across the country have been targeted, including the important Mitigia air base in Tripoli, the Ghardabiya air base near Sirte, the Al Jufra air base, as well as the strategically vital Sabah base in the southeast. Strikes have often destroyed several planes parked on the tarmac or inside hangars. On March 26th for example, French

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Rafales confirmed destroying at least five MiG-23s along with two Mi-35 helicopters at Misurata airport.\textsuperscript{104}

Opposition fighters and their stock of portable anti-air missile launchers are alleged to have inflicted casualties on loyalist air units. These included one Mirage F1 shot down in early March,\textsuperscript{105} a MiG-23 shot down over Benghazi allegedly by a rebel toting a MANPAD in the video,\textsuperscript{106} and two CH-47 Chinook helicopters near Ajdabiya on April 10\textsuperscript{th}.\textsuperscript{107} All are opposition claims and not easily verified.

Opposition forces now maintain their own Free Libyan Air Force, composed of a small number of captured aircraft. Video purportedly from Tobruk shows at least three captured MiG-23s,\textsuperscript{108} and several others also believed to have been captured. Opposition forces have been reported to have conducted a few operations on their own but have generally been ineffective or marked by chaotic command and control structures. A captured MiG-23BN for example was shot down by its own air defenses within moments of taking to the air according to the BBC.\textsuperscript{109} These aircraft have since been grounded on NATO orders.

Libya also had an attack helicopter squadron with 23 Mi-25s and 12 Mi-35s. Some of these helicopter forces seemed to have moderate training, but the helicopters were equipped with obsolescent avionics and with AT-2 Swatter air-to-ground missiles. Readiness was poor and some aircraft had been lost to accidents.

On May 5, NATO destroyed two or three helicopters carried by big trucks heading towards Tiji, a small town near Libya’s border with Tunisia. It is not clear if the helicopters were being moved to be hidden from NATO warplanes or were being relocated for use against rebels in the area of Zintan, however this activity suggests that Gaddafi has some surviving aircraft. There have been unconfirmed reports that despite the implementation of the NFZ, loyalist forces occasionally have used helicopters to target opposition forces. In response to these allegations, ItAF Brigadier General Claudio Gabellini, the Chief Operations Officer declared that while, “We have lots of reports talking about helicopters wearing the Red Cross on them, but we have no, absolutely we have no evidence at all.”\textsuperscript{110}

\textsuperscript{106} QatchiCanada,”Gaddafi’s plane shot down in Benghazi, Libya (March 17, 2011),” YouTube, March 18, 2011. Available at http://www.youtube.com/watch?v=2yfzAV4xzQg
\textsuperscript{107} “We Have Shot Down 2 US-Built Helicopters,” FOX News, April 10, 2011. Available at http://fxn.ws/dKzeFB
\textsuperscript{109} Ibid.
Equipment
Loyalist forces remain significantly better armed than opposition forces, but they have suffered high material casualties. Attempting to estimate numbers is both pointless and futile, as loyalist forces continue to be engaged and verification is impossible. Speaking more generally however, many pieces of heavy equipment have been abandoned, captured or destroyed, including high-end systems such as the Libyan air defense network, combat aircraft, or principal naval combatants. Large amounts of ground force equipment have also been destroyed. By Secretary General Rasmussen’s account on June 6th, this has amounted to over 700 ammunition stores and 500 tanks, armored personnel carriers and rocket launchers by NATO alone, presumably not accounting for those destroyed in battles with opposition forces, or those destroyed in the pre-NATO phase of operations.

Libyan equipment holdings have long outstripped available manpower levels, as a result of Qaddafi’s arms purchase sprees throughout the 1970s and 80s. Libya, however, only had about 25-33% of the manpower needed to man its combat units, and total equipment pool – with much of its major combat equipment is in storage. Janes further estimated that over 50 percent of army equipment was unserviceable. Today these stockpiles have obvious utility in replenishing lost equipment and in recognition, NATO has deliberately targeted “ammunition sites,” “armored vehicle storage facilities” and “vehicle storage facilities” to attempt to degrade the logistical and munitions supply chain available to loyalist forces. Protracted fighting is likely to degrade the level and quantity of forces able to operate high-end systems, even if stores remain available.

Pre-war estimates have limited utility in estimating the force balance after the uprising began, but they help illuminate the range of weaponry available to Qaddafi forces and help highlight the military imbalance vis-à-vis opposition forces. Equipment in Qaddafi’s service is not standardized. A large portion comes from the usual Russian, Chinese and the former Eastern bloc suppliers — but arms seized from loyalist forces have included North Korean anti-aircraft guns, Spanish MAT-120 cluster munitions, South African sniper rifles, French mortar rounds, American recoilless rifles, and the modern NATO-standard Belgian FN Herstal 2000 assault rifle.

This disparate accumulation of equipment is a testament to Libya’s chaotic military equipment purchases. Libyan purchases during the Cold War involved incredible waste and over-expenditure on equipment and were made without regard to providing adequate manpower and support forces, and they did not reflect a clear concept of force.

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development or combined arms. The diversity of equipment types also made it difficult to create an effective training and support base, although in today’s chaotic battlefield, such niceties appear less relevant than quickly arming any and all able to ‘spray and pray.’

Captured munitions reveal that while heavy platforms may be relatively outdated and procured decades earlier, munitions sourced for them may be newer, and in good or at least better condition.\footnote{CJ Chivers, “In a Libyan Greenhouse, Hints of Who Shelled Misurata,” \textit{New York Times [Blog]}, May 13, 2011. Available at \url{http://nyti.ms/mmJH0h}} There have been reports of Qaddafi attempting to re-arm, particularly from eastern bloc countries such as Belarus. SIPRI analyst Hugh Griffiths noted several flights from Belarus including one on February 14\textsuperscript{th} when an Il-76 cargo aircraft departed Baranovichi airport, the site of a major Belarusian weapons stockpile and landed in Sebha, a Qaddafi stronghold. Qaddafi’s personal planes have also made flights in and out of Belarus.\footnote{Simon Schuster, “The Tyrant of Belarus: Gaddafi’s Friend Far, Far to the North?” \textit{Time Magazine}, March 2, 2011. Available at \url{http://www.time.com/time/world/article/0,8599,2056420,00.html}} Even prior to the war, and despite sanctions, arms shipments may have continued. An Albanian newspaper Shekulli reported on February 27\textsuperscript{th} of a freighter’s worth of 82mm mortar rounds delivered to Ras Lanuf in late 2010, although the rounds themselves may have been manufactured in 1988.\footnote{CJ Chivers, “Qaddafi’s Arms Bazaar, Slowly Exposed,” \textit{New York Times [Blog]}, March 8, 2011. Available at \url{http://atwar.blogs.nytimes.com/2011/03/08/qaddafis-arms-bazaar-slowly-exposed/}}

While loyalist forces retain access to heavy armor and artillery (with few scruples on employing them even in urban built up areas), they have moved down the warfighting chain to employ more asymmetric tools of conflict. For example, to avoid coalition air strikes modified civilian utility vehicles or “technicals” may be more effective than T-72 battle tanks in maneuvering while staying alive in the current battlefield environment.

Loyalist forces have not shied away from using the full spectrum of available weaponry in densely populated urban areas. Cluster munitions have been reported to have been used by loyalist forces during the siege of Misurata, and in early May, CJ Chivers reported on the first documented use of Chinese Type 84 Model A antipersonnel land mines which are fired from MRL systems. Markings on the munitions showed they were manufactured in 2009.\footnote{CJ Chivers, “Land Mines Descend on Misurata’s Port, Endangering Libyan City’s Supply Route,” \textit{New York Times}, May 6, 2011. Available at \url{http://nyti.ms/iPSSed}}

\textbf{Main Battle Tanks}

Loyalists have employed main battle tanks (MBTs) in urban fighting against opposition fighters. Many MBTs are likely to have been destroyed in fighting, although precise numbers are not available. Video from various engagements in Misurata and other cities has shown columns of destroyed and abandoned MBTs, particularly in the aftermath of NATO air strikes.

Libyan tank munitions have been sourced from Russia, China and other eastern Bloc countries. After loyalist forces fled Misurata airport, CJ Chivers reported on finding large piles of expended 125mm high explosive fragmentation rounds for the T-72 MBTs.

\footnotesize
\begin{enumerate}
\item Simon Schuster, “The Tyrant of Belarus: Gaddafi’s Friend Far, Far to the North?” \textit{Time Magazine}, March 2, 2011. Available at \url{http://www.time.com/time/world/article/0,8599,2056420,00.html}
\end{enumerate}
Stenciling on the crates and the paperwork inside revealed them to be part of a 8,126 crate consignment from Russia, believed to be delivered in 2002, an indication that a portion of Qaddafi’s munitions may be newer and in relatively good shape.\textsuperscript{122}

**Figure 2.7:** Libyan Heavy Armor in Pre-War 2011

![Graph showing Libyan Heavy Armor in Pre-War 2011](image)

(Source: “The Military Balance in 2011, IISS)

**Armored Vehicles**
The Libyan army had some 120 armored reconnaissance vehicles, including 50 BDRM-2s and 70 EE-9 Cascavals – a small portion of the number Libya had originally purchased at the beginning of the uprising. There were over 1,000 aging BMP-1 armored infantry fighting vehicles in inventory in 2010. Like Libya’s tanks, many of its other armored vehicles were in storage or had serious maintenance problems. Only a few battalion-sized elements of Libyan armor had even moderate effectiveness in offensive and maneuver operations.

**Figure 2.8:** Libyan Light Armor in Pre-War 2011

![Graph showing Libyan Light Armor in Pre-War 2011](image)

(Source: “The Military Balance in 2011, IISS)

\textsuperscript{122} CJ Chivers, “In a Libyan Greenhouse, Hints of Who Shelled Misurata,” New York Times [Blog], May 13, 2011. Available at [http://nyti.ms/mmUH0h](http://nyti.ms/mmUH0h)
Anti-Tank Weapons (SP, MANPATS, RCL, RL)

<table>
<thead>
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<th>Type</th>
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<tbody>
<tr>
<td>9P122 BRDM-2 Sagger</td>
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<tr>
<td>AT-3 9K11 Sagger</td>
<td>620</td>
</tr>
<tr>
<td>AT-3/AT-4 Spigot/AT-5 Spandrel</td>
<td>1940</td>
</tr>
<tr>
<td>Milan</td>
<td>400</td>
</tr>
<tr>
<td>M-40 A1 106mm</td>
<td>220</td>
</tr>
<tr>
<td>Carl Gustav</td>
<td>400</td>
</tr>
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</table>

(Source: “The Military Balance in 2011, IISS)

Artillery Weapons
Libya had a limited surface-to-surface missile capability at the beginning of the uprising, and had some 45 FROG-7 surface-to-surface missile launchers. (Some reports indicate an additional 80 Scud Bs and 450-500 North Korean No Dong missiles, but are not confirmed.) The Pentagon confirmed that it targeted a SCUD facility with Tomahawk missiles, and at least one SCUD Transport Erector Launcher (TEL) was seen captured in Benghazi on February 22nd. There are also indications that FROG-7s have been used against civilians, including in Misurata. NATO aircraft have since targeted any launchers and SCUD canisters, including at least 20 FROG-7 launchers and about 20-30 Scud canisters destroyed near Sirte by RAF aircraft on May 6th.

Libya’s artillery strength was numerically impressive, but once again, much of it remained in storage or was not operational. Libya had poor standardization in terms of weapon and ammunition types. It also lacked the training, organization, and sensors and C4 (command, control, communications, and computers) equipment to conduct combined arms operations, maneuver effectively, switch fires rapidly, target beyond visual range, and conduct efficient counter-battery operations.

Conventional artillery forces have been a key tool in the loyalist arsenal and have been reported in virtually every engagement with opposition forces. They have been employed to shell and target opposition-held areas, and have resulted in civilian casualties. The BM-21 Grad MRL is the most notorious. With the ability to be readied to fire quickly and deliver a large volley of rockets against targets, they are useful to intimidate and indiscriminately destroy, but their large CEP makes them ineffective tools for pinpoint precision, and they are often blamed for civilian casualties.

Figure 2.9: Libyan Artillery Holdings in Pre-War 2011

<table>
<thead>
<tr>
<th>Self Propelled</th>
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<td>122mm 2S1 Carnation</td>
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<tr>
<td>152mm 2S3</td>
<td>60</td>
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<tr>
<td>152 mm M-77 Dana</td>
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<td>155mm M-109</td>
<td>14</td>
</tr>
<tr>
<td>155mm VCA 155 Palmaria</td>
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<tbody>
<tr>
<td>105mm M-101</td>
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<td>130mm M-46</td>
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<tr>
<td>152mm M-1937</td>
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<table>
<thead>
<tr>
<th>MRL</th>
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<td>107mm Type-63</td>
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<tr>
<td>122mm BM-11</td>
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<tr>
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<td>122mm RM-70 Dana</td>
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<table>
<thead>
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<th>Mortars</th>
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<tr>
<td>120mm M-43</td>
<td>48</td>
</tr>
<tr>
<td>160mm M-160</td>
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</tr>
</tbody>
</table>

(Source: “The Military Balance in 2011, JISS)

**Air Defense Network**

Much of Qaddafi’s air defense network, including many fixed SA-2 Guideline, SA-3 Goa and SA-5 Gammon sites was destroyed early in the conflict. An RAF spokesman claimed that coalition forces had destroyed over 70 SAM systems, including at least one SA-8 Gecko mobile SAM system by an US Predator UCAV.

Some light mobile SAM systems such as the SA-6 and SA-8s may continue to operate, but the primary (but limited) threat to aircraft is now believed to consist of shoulder-fired MANPADs. MANPADs pose little threat to fixed-wing aircraft, given the altitudes and

speed at which they operate, but with the introduction of lower-flying NATO attack helicopters, they are likely to be of far greater concern.

The primary MANPAD in service is believed to be the relatively obsolete SA-7 Grail system, which entered service in 1968. However there have also been reports that loyalist forces possess the SA-24 Grinch (Iгла-S), initially believed to have been shipped from Venezuela, and is one of the few weapons that can actually pose a threat to NATO aircraft operating within an 11,000 feet ceiling. Since, Russian arms manufacturer KBM has confessed to selling Qaddafi the SA-24 but insists they only sold the truck-mounted version, and have claimed that Libya lacked the triggering mechanisms to convert into a man-portable system (as well as claiming that the truck-mounted version can’t fire its two missiles simultaneously).  


The Low Tactical Capacity of Opposition Forces

The spontaneity of the Libyan uprising is also its weakness. Opposition fighters are still only loosely organized under the aegis of the National Liberation Army (NLA), and are a diverse assortment of forces with low tactical capacity to fight a full-scale war. Yet, despite their lack of formal military training and organization, opposition fighters alongside NATO air support, have proven to be a formidable threat to loyalist forces and appear to have sizeable support amongst large segments of the population in opposition-controlled areas. The extent of their support in the Qaddafi-controlled western areas is uncertain, where tribal and other affiliations with the regime are presumed to be stronger.

Organization

The NLA opposition “army” is not cohesive, and its reporting lines of command and control are far more chaotic than structured. This presents problems as defeating Qaddafi, and operating inside his core strongholds in the West is likely to require a more cohesive force capable of conducting coordinated offensive operations outside their organic strongholds. Despite progress, so far this appears far from the current reality, and even providing close-air support may be inadequate to help opposition forces effectively advance.

The command chain is disorganized. Generals - prominently General Fatteh Younes, formerly Qaddafi’s Interior Minister and General Khalifa Hifter, hero of the Chadian War recently turned after two decades of exile in the US - squabble over leadership and deflect military failings on each other. The lack of cohesion has trickled down to frontline commanders who bemoan the lack of leadership and express dissatisfaction with their commanders. Many distrust Younes for his long links with the Qaddafi regime, and Haftar is rumored to be backed by the CIA. Younes has criticized NATO in early April saying it has “disappointed us” for failing to protect civilians due to its slow chain of command.

The opposition’s military forces lack cohesive and meaningful leadership, operational command and control apparatuses, battlefield communication mechanisms, or an organized logistical chain. Most units appear to operate almost autonomously, particularly the shabab (the youth). As a result loyalist flanking maneuvers and coordinated assaults have often sent opposition forces into headlong retreats, especially before NATO intervention. Even with NATO support, operations have been relatively slow and involved heavy fighting. Misurata for example, was sieged for over three months, and was relieved only a month after NATO operations began.

There appears to have been a calibrated effort to create hierarchies and an organized command structure. “Brigades” have been formed, for example the Omar Mukhtar Brigade composed of 200 men and 100 trucks that amalgamates fighters from Derna, Benghazi and Ajdabiya and was formerly led by a senior LIFG commander, until he was killed.\textsuperscript{136} Fighters also appear to have been issued ID cards and more importantly radios to help communicate during tactical engagements.\textsuperscript{137}

Despite these advances, the overall tactical ability of opposition military forces remains low, although fighters in certain areas may be more effective than those in other cities. There has been little evidence of an ability to maneuver effectively at either the small-unit level or in larger organized formations. CJ Chivers, a former US Marine, now reporting for the \textit{New York Times} from opposition-held territory reported that opposition fighters “lack understanding of the fundamentals of offensive and defensive combat, or how to organize fire support.” He notes their failures to hold seized ground or even employ basic defensive techniques such as digging trenches to better entrench themselves against incoming artillery and rocket fire, leaving them susceptible to avoidable casualties.\textsuperscript{138}

Footage of opposition fighters shows poor weapons handling and fire discipline. A video purportedly from Misurata and posted on May 18\textsuperscript{th} is a good example. In the footage a large crowd, many unarmed and all men can be seen randomly firing down a street where presumably loyalist forces are dug in. Homemade rocket launchers can be seen as can fighters with small arms and various modified technicals. Even in the limited snapshot offered in the video, an enormous amount of ammunition can be seen being expended, often with no discernible attempt made to aim. At the end of the video, the bodies of three presumably loyalist soldiers can be seen being carried away.\textsuperscript{139}

There are numerous examples of ingenuity, although they often speak to the scarcity of opposition equipment and organization. Fighters have been reported to be using Google Earth to map coordinates for their weapons systems and Skype to communicate\textsuperscript{140} and opposition supporters have been known to post coordinates of loyalist forces on social networking sites such as Twitter to assist NATO targeting, although such unverified data presents obvious problems.\textsuperscript{141} There have been organized and impressive coups, although they are often the results of individuals rather than the opposition organization. A Libyan-American telecoms executive for example helped fighters hijack Qaddafi’s communications network and re-establish the phone and internet network.\textsuperscript{142}

\begin{thebibliography}{9}
\bibitem{136} “Libyan rebels get organized,” \textit{Al Jazeera}, April 19, 2011. Available at \url{http://bit.ly/i69M5o}
\bibitem{137} Ibid.
\bibitem{139} Ashahedly, ""YouTube, May 18, 2011. Available at \url{http://bit.ly/iHg4J9}
\bibitem{141} @gisat, “Confirmed Coordinates,” \textit{Twitter}, March 22, 2011. Available at \url{http://bit.ly/meas1W}
\bibitem{142} Margaret Coker and Charles Levinson, “Rebels hijack Gaddafi’s Phone Network,” \textit{Wall Street Journal}, April 13, 2011. Available at \url{http://on.wsj.com/eqS549}
\end{thebibliography}
Discipline appears to be sporadic. As will be discussed later, various factions within the opposition army operate virtually autonomously with their own rules of engagement, even as their commanders and other factions declare their intent to follow universal warfighting norms. The NTC for example, has pledged to avoid the use of landmines and ordering their forces to destroy all those present in their inventories. Despite this, BBC reporters witnessed opposition fighters laying landmines near Ajdabiya.

There have also been reports of opposition fighters committing human rights abuses including battlefield executions, reprisal attacks and other violations, and the low prisoner count at present sits awkwardly alongside earlier reports of the claimed capture of thousands of loyalist soldiers and mercenaries. Captured soldiers are sometimes shot in the foot to prevent them escaping and a group of French private military contractors were detained at an opposition checkpoint and their leader shot dead in unclear circumstances. The opposition leadership has reacted swiftly to these issues, however, distributing guidelines to fighters on how to treat POWs, although again there is no indication what extent these are adhered to.

Composition
The composition of the rebels has been a source of continuing debate. Western intervention is sometimes criticized as rushed and lacking in adequate due diligence or an understanding of the forces they are assisting. A jihadist presence within the opposition military force has been a concern, although they appear few in number and with relatively little influence. In contrast, at a time when anti-Americanism is prevalent across the Muslim world, the opposition in Libya has shown significant warmth to Western journalists and forces. An ejected American pilot was offered significant assistance including unilateral attempts by Libyans to reach US government officials, a bouquet of flowers, as well as sanctuary until his rescue. A New York Times report also detailed a “warmth and gratitude rarely seen in any Muslim country” for the West in opposition-held areas.

The Soldiers
Soldiers that have defected from Qaddafi make up the majority of military experience within the opposition “army.” Various units across the east, and to a lesser degree in the west, have defected to the opposition, and are now engaged in the struggle against loyalist forces. It should be remembered, however, that the regular Libyan army was

generally denied even rudimentary force development measures by Qaddafi to keep them weak and disorganized. This is likely to have inherently restricted the military talent available to opposition forces.

Military men of all sorts appear engaged in local areas, helping to coordinate, command and fight. Near Zintan for example, an Air Force Colonel and former MiG pilot commands opposition ground forces, helping them plot artillery and infantry engagements. There do not however appear to be significant numbers of professional soldiers on the frontlines. Former army officers who are engaged in the fighting have often lamented these manpower shortfalls, with one stating, “There is no army. It’s just us – a few volunteers like me and the shabab.”\textsuperscript{151} This is borne out by the composition of the Az Zawiyah Brigade, an opposition formation that has been at the forefront of fighting since the start of the uprising. 90 percent of the brigade are estimated to be volunteers, some retired army officers returned to service, but overwhelmingly civilians with no military background.\textsuperscript{152}

Defecting soldiers have, however, been instrumental in several engagements. In Benghazi, momentum shifted quite rapidly after Libyan army units in the city defected and attacked loyalist positions, soon liberating the city, albeit initially only temporarily.\textsuperscript{153} Similar trends have been seen in other cities such as Misurata. Soldiers may be more heavily represented in the saiqua (lightning) units, the so-called opposition Special Forces, who are tasked with securing frontline areas ahead of the main army.\textsuperscript{154}

There have been reports of soldiers operating on the frontlines and engaging in firefights with loyalist forces, but at present the primary utility of former soldiers - some defected, others come out of retirement - may be as trainers rather than fighters. There have been reports of soldiers operating makeshift training camps to train civilian volunteers for battle at military bases across opposition-controlled territory.\textsuperscript{155} Courses are short, lasting about a week and cover mostly basic weapons handling with little time for tactics. There also appears to be some sort of rudimentary sorting process, where volunteers are assessed for either frontline duty or guarding strategic locations inside cities.\textsuperscript{156} Rafaa al-Ghawarsha, a former Libyan army soldier now helping train the shabab estimated that 1,000 volunteers show up at their training camp on most days.\textsuperscript{157}

\textsuperscript{151} Jon Lee Anderson, “Who Are the Rebels?” The New Yorker, April 4, 2011. Available at \url{http://nyr.kr/fE69cr}
\textsuperscript{152} Mike Hanna, “Libya’s Forgotten Frontline,” Al Jazeera, May 18, 2011. Available at \url{http://bit.ly/kmZhal}
\textsuperscript{154} Evan Hill, “Libyan rebels get organized,” Al Jazeera, April 19, 2011. Available at \url{http://english.aljazeera.net/indepth/features/2011/04/201141942947854663.html}
\textsuperscript{155} Eric Westervelt, “For Libyan Rebels, A Battle Against Time to Organize,” NR, April 1, 2011. Available at \url{http://www.npr.org/2011/04/01/135023821/for-libyan-rebels-a-battle-against-time-to-organize}
\textsuperscript{156} “Boot camp for rebels in Libya,” AP, May 15, 2011. Available at \url{http://yhoo.it/f15spx}
\textsuperscript{157} “Ragtag band of untrained youths armed with little more than the will to win,” Irish Times, March 5, 2011. Available at \url{http://www.irishtimes.com/newspaper/world/2011/0305/1224291373559.html}
The Shabab

The majority of the fighting strength of the Libyan opposition appears to be the shabab—the young people who began and sustained the uprising. Jon Lee Anderson, who spent weeks with opposition fighters in Benghazi, reported; “The hard core of the fighters has been the shabab—the young people whose protests in mid-February sparked the uprising. They range from street toughs to university students (many in computer science, engineering, or medicine), and have been joined by unemployed hipsters and middle-aged mechanics, merchants, and storekeepers [and] a contingent of workers for foreign companies: oil and maritime engineers, construction supervisors, translators.”

The shabab are generally the young men seen by most reporters wearing civilian clothes, and now some looted army uniforms. By and large, the shabab have no military training, very low tactical expertise and seemingly little desire to organize into larger coordinated formations. Their zeal however is unmistakable, and they have often been seen charging into battle against loyalist forces with little in the way of weaponry or planning. Numbers are contested and extremely difficult to pin down, particularly as the volunteer nature of the opposition means that numbers and available manpower may vary from day to day.

Eastern Libyans, who were long discriminated against in resource allocations by Qaddafi, have flocked in large numbers to join the opposition. Similarly in other places, local conditions have facilitated recruitment. In the Western Mountains, it has been reported that ethnic Berbers may be the major opposition force, seeing the uprising as a means to assert the identity long denied to them by Qaddafi. They have also been augmented by expatriate Libyans, many of whom have returned to help fight.

There has been greater evidence of attempts to organize. Many of the shabab are now believed to seek at least some formal military training at makeshift training camps run by defected soldiers, and more experienced civilians, but this does not necessarily represent any qualitative change in their combat ability. As is the case with untrained civilians, the utility of training differs greatly. Some men have been seen playing with their cell phones when they should be learning to fire their RPGs, or wandering off during mortar demonstrations. Men of military experience do not necessarily run camps. Fawzi Buktif, a former petrochemical engineer, for example runs one camp outside Benghazi and has been competent enough to receive the first foreign shipment of 400 rifles from Qatar.

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The Jihadists

There do appear to be jihadist factions, including some veterans of conflict in Iraq, Afghanistan and Pakistan. They appear to be few in number and with little influence over the broader opposition movement. The Libyan Islamist Fighting Group (LIFG) is believed to be the major Salafist jihadist group operating in Libya. The LIFG was founded by returned Libyan mujahideen from the Soviet jihad and has waged war against the Qaddafi regime ever since. Former LIFG leader Noman Benotman estimated that there are about 1,000 jihadist fighters in Libya, but they are hardly a structured and organized political force after decades of heavy repression by Qaddafi.

The most prominent reporting on jihadist fighters has focused on Abdel-Hakim al-Hasidi, the current rebel military coordinator in the city of Derna, and a former senior LIFG commander. Al-Hasidi claims to have fought in Afghanistan in the early days of the invasion, to have been arrested and repatriated from Pakistan, and to have recruited fighters to fight in Iraq against American forces. Jihadist have also been reported in Benghazi, and blamed for war crimes violations.

Some other LIFG commanders are believed to be involved in the fighting, and at least two were identified as having been killed in and around Brega. Internet videos posted on jihadist forums also carry many exploits of jihadist fighters on the frontlines across Libya under various names such as the Thunderbolt Battalion and the Islamic Army of Benghazi. There have also been reports that Libyan fighters fighting alongside the Afghan Taliban have begun departing their sanctuaries in Pakistan’s tribal areas to return to Libya to fight Qaddafi’s forces.

Weaponry and Equipment

Opposition military officials often imply that their inability to battle loyalist forces is a function of their inadequate weaponry, but this is not entirely accurate. Opposition forces undoubtedly suffer from a severe weapons deficit, particularly as the conflict has continued, and widespread equipment and ammunition shortages are often reported. Small arms --- assault rifles, RPGs and homemade mortars --- constitute the majority of rebel equipment, and many carry even less. It should be noted, however, that Iraqi and Taliban insurgent forces utilized the same equipment against exponentially more technologically and tactically proficient US soldiers, and achieved better results.

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Opposition fighters do have access to various forms of heavy weaponry, including a frigate, combat aircraft, battle tanks and armored vehicles, but are hampered by their lack of technical capacity to actually utilize captured equipment. Opposition forces have captured sizeable depots in the east, including the Ajdabiya armory, which was one of the Libyan Army’s largest weapons storage sites in the country and an integral component of Qaddafi’s defensive strategy in the east. *Guardian* reporter Martin Chulov counted 12 large hangars filled with boxes of rockets, mortars, artillery shells and howitzers at the facility, some dating back to the late 80s.\(^{168}\)

The Ajdabiya armory is just one of the arms depots opposition forces have captured. A YouTube video, purportedly from Tobruk and posted on February 25\(^{th}\) shows rows of abandoned MBTs, APCs, fighter aircraft and munitions.\(^{169}\) However, equipment in the eastern armories is not always of the highest standard due to Qaddafi’s deliberate military neglect. The IISS reports that in the east, “dilapidated bases and installations there contrast sharply with the well-kept barracks and tank parked outside Tripoli,” and notes that the rebel capture of T-55 MBTs contrast starkly with the T-72s possessed by loyalist forces.\(^{170}\) There is also a good probability that a proportion of these weapons do not work due to inadequate care in maintenance and storage.\(^{171}\)

Furthermore, particularly during the early phase of the war it quickly became apparent that the rebels had extremely low technical capacity to employ captured high-end equipment. Early in the conflict, opposition forces captured the Gamal Abdul el-Nasser airbase near Tobruk, one of the largest Libyan air facilities, but were been unable to utilize it, possibly due to “lack of functional aircraft at this air base, the distance from the frontline and reported supply issues faced by both sides, have prevented forces from the periphery from being actively employed.”\(^{172}\) Similarly even captured T-55 tanks have ended up remaining in storage, even as Qaddafi’s armor advances, and significant stocks of captured SAM stocks remained at their eastern installations because opposition forces were unable to shift them towards the fighting, even at a time when Qaddafi’s MiGs were wreaking havoc.\(^{173}\) As a result, regardless of their enemy, opposition forces are only really able to conduct fighting utilizing light arms, manageable perhaps in urban defense, but disastrous for open offensive combat.

The disorganized manner with the armories were looted has meant that many have disappeared into the hands of those who cannot effectively use them, or potentially to those with more nefarious objectives in mind. A writer from Human Rights Watch points out that in the main weapons depot in Ajdabiya he found no one guarding the facility, leaving its 35 munition bunkers to any and all takers, including several AT missiles such as the AT-14, various MANPADS including SA-7s, thousands of 122mm Grad rockets

\(^{168}\) Martin Chulov, “Rebel forces hold huge armory, ready for march on Tripoli,” *Guardian*, March 1, 2011.


\(^{173}\) Ibid.
Some fighters have also been seen carrying out incomplete systems, for example only the launcher tubes for MANPADs. At present the opposition has initiated a buyback program using donor money for these weapons, but many continue to hold onto them in hopes of better prices in the future. As a result while some “units” may be well armed, others may be making do with antiquated and ineffective weaponry.

A variety of small arms have been seen in the hands of opposition fighters in reflection of Qaddafi’s arms purchases, but reporters from Libya – particularly CJ Chivers, a former US Marine – have noted fighters carrying an assortment of other weaponry, often old, or with limited utility on the battlefield. For example Chivers reports, “A PKT machine gun, a weapon designed to be mounted on a Soviet tank and fired electronically by a crew member inside, has no manual trigger, no sights and no shoulder stock. That does not prevent many Libyan rebels from carrying it as if it were an infantryman’s gun.”

Others weapons seen in their diverse assortment have included an MP-38 submachine gun, probably a remnant of Rommel’s Afrika Corps, a Carcano carbine from the Italian colonization era, and MAT-49s from the French colonial era, and used in Algeria and Indochina. It is uncertain how well weapons such as these have survived the tests of time, and it is worth noting that both the Carcano and MP-38 were carried without ammunition.

Opposition forces have often shown tremendous ingenuity. In Misurata, makeshift weapons workshops and logistical facilities soon appeared to convert pickups into modified fighting vehicles and to modify conventional weapons to better suit the needs of opposition fighters. Most of the workers in these factories have no prior experience with armaments, adding a significant layer of danger to both the production cycle as well as the utilization of these weapons.

One video in particular is notable for these unique inventions, showing what appear to be a BMP turret mounted on a truck.

The open armories also pose substantial proliferation risk, particularly MANPADs. Currently, many are now in rebel hands, and often used ineffectively, or carried around without complete systems. Over time as they lose utility to the holder, these weapons are likely to fall into the hands of organized smuggling groups, and then potentially into the hands of terrorist organizations or other non-state actors. Even obsolete systems such as the SA-7 can be deadly against civilian airliners, but MANPADs are only one part of the problem. Nathan Hughes of the US Naval Institute notes that, “However this ends, the

177 Ibid.
weapons they have broken out of Libyan military stockpiles will be proliferated around the region and popping up in conflicts from North Africa to Yemen for years to come.\textsuperscript{181} Nevertheless, opposition fighters continue to run desperately short of weapons and ammunition, and by all accounts despite a growing level of security and expanded coalition support, stocks appear to be declining and not increasing. Some weapons were delivered to the rebels according to reports, primarily from Qatar, and delivered over the border from Tunisia, but these have not been sufficient to change the tactical balance. Transfers were primarily of small arms, including assault rifles and reportedly the MILAN anti-tank missile,\textsuperscript{182} and a video from Al Jazeera shows an opposition fighter clutching a newly delivered rifle of the AK-100 series.\textsuperscript{183} This support, however, remains limited.

\begin{flushleft}
\textsuperscript{183} "Rebels Move Closer to Tripoli [1:50]," Al Jazeera [Video], June 3, 2011. Available at http://bit.ly/IRe9Hg
\end{flushleft}
The NATO Multiplier

The Libyan intervention began on March 19, 2011 to implement UN Security Council Resolution 1973. The resolution authorized force under Chapter VII and mandated “all necessary measures” to protect civilians. In the Libyan context this has proven a difficult task, and what began as a mission closely aligned with the principles of Responsibility to Protect (R2P) has expanded considerably into essentially an air war to force regime change. President Obama has repeatedly called for Qaddafi to go, and has begun declaring that it “a matter of time before Qaddafi goes,”184 rhetoric echoed by NATO Secretary General Rasmussen who said after a defense review on June 8th, “For Gadhafi, it is no longer a question of if he goes but when he goes. It may take weeks, but it could happen tomorrow and when he goes the international community has to be ready.”185

Unfortunately for Libyans every delay in achieving solid results, involves serious humanitarian costs in death tolls and suffering caused by intense and indiscriminate engagements with loyalist forces, an unfolding refugee and internally displaced crisis, significant degradation of already scarce infrastructure, and considerable economic and psychological damage.

NATO forces now seem to support a side in a civil war that shows no independent ability to secure success, pushing the onus of tactical escalation onto NATO forces. Air strikes have expanded from attacking marginal targets to prevent immediate harm to civilians to attacking regime centers of gravity to induce Qaddafi’s departure. NATO, in particular France and Britain, deployed a limited number of attack helicopters into theater, ostensibly accompanied by a scale-up in covert activity. NATO has vociferously denied any intention to use ground forces, but has not ruled out other forms of escalation.

Despite some rhetoric suggesting the immediacy of Qaddafi’s departure, a NATO defense ministers’ meeting in Brussels on June 8th was dominated by calls for other NATO countries to contribute more to the fight – namely targeting Germany, the Netherlands, Poland, Spain and Turkey,186 reiterated in a “very blunt” session with US Defense Secretary Gates.187

The Evolution of the NATO Intervention

NATO describes its mission as consisting of three elements: “an arms embargo, a no fly zone and actions to protect civilians from attack or the threat of attack. The NATO-led arms embargo covers the maritime approaches to Libya, the other elements cover the whole territory of Libya.”188 NATO Secretary General Anders Fogh Rasmussen further clarified these military objectives on May 20th, declaring that operations would continue until, “Firstly, a complete end to all attacks against civilians. Secondly, withdrawal of

Gaddafi's military forces and paramilitary forces to their bases. And thirdly, immediate and unhindered humanitarian access to people in need in Libya.”

The first phase of operations was US-led under the mission codename Operation Odyssey Dawn. Other key contributors were France with Operation Harmattan, the United Kingdom with Operation Ellamy and Canada with Operation Mobile. In a little more than two weeks, the US officially relinquished operational control and withdrew its strike aircraft and transitioned to providing a supporting role. NATO officially assumed control of the mission on March 31, 2011 under the codename Operation Unified Protector and under the command of Canadian Lt. General Charles Bouchard. On May 31st, two months later, NATO extended its air mission another 90 days to late September.

By April 2011, available coalition forces included 195 aircraft and 18 ships. Figure 3.1 provided by the IISS details the maritime forces involved in the mission and the air bases from which NATO aircraft are operating. As of end May 2011, countries enforcing UNSC 1973 include Belgium, Bulgaria, Canada, Denmark, France, Greece, Italy, the Netherlands, Norway, Romania, Spain, Sweden, Turkey, the United Kingdom, and the United States. Other contributors include Jordan, Qatar, Sweden and the United Arab Emirates.

Initial Operations

While the NATO mission expanded in scope and intensity, it was apparent from the outset that enforcing a no fly zone in the strict sense of the term was only part of the mission. With loyalist ground forces advancing rapidly to the opposition “capital” in Benghazi, stopping their advance was crucial to preventing a total defeat of opposition forces. In reflection of this, the first French strikes struck advancing Libyan ground forces instead of air assets. However, initial activity remained heavily weighted towards creating and enforcing a NFZ and Libyan air, and air defense assets were heavily targeted. A brief timeline highlighting major operational activity is provided below. It is by no means a full accounting of coalition activity.

- **March 19, 2011** – Operations begin. The first strike of the day is a French Rafale or Mirage 2000 that targets ground forces near Benghazi. US forces launch barrage of 110 Tomahawk cruise missiles fired from naval platforms against air defense and communication nodes. RAF Tornados also participate. US B-2 stealth bombers drop about 40 conventional bombs on unspecified airfield.

- **March 20** – Heavy activity to suppress air defense network and airfields. The US contribution included the EA-18G Growler to jam communications. Strike aircraft included AV-8B Harrier II. B-2 Spirit bombers, F-15E Strike Eagle, F-16 Fighting Falcon.

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190 "Nato agrees to extend Libya air war for another 90 days,” *The Telegraph*, June 1, 2011. Available at [http://tgr.ph/igryoB](http://tgr.ph/igryoB)

F-16C Fighting Falcon. EC-130Js were used for PSYOPS against loyalist forces. First reported involvement of Danish and Italian contingents, and perhaps Mirage-2000s from the Qatari Air Force.

- **March 21** – Focus on Libyan SAM sites, particularly mobile SA-6 and SA-8 platforms. US Vice Admiral Bill Gortney claimed by the end of the day that fixed SA-2 Guideline, SA-3 Goa and SA-5 Gammon sites were destroyed and that only SA-7 Grail and SA-8 Gecko MANPADs remained potential threats. Aircraft shelters also targeted at the Ghardabiya, Mitiga and Sebha airfields. Exact casualties unknown but a large portion of the Libyan Air Force are destroyed. First reported involvement of the Spanish and Belgian Air Forces.

- **March 22** – Target shift from air defenses to Qaddafi ground forces.


- **May 25** – Defense officials claim Libyan Air Force “no longer exists as a fighting force”.

- **March 26, 27** – US AC-130 Specter and A-10 Thunderbolt II ground attack aircraft begin operations to target infantry positions, marking another targeting escalation. RAF Typhoons destroy at least three T-72s near Ajdabiya with air-to-ground Brimstone missiles and French aircraft strike the Al Jufra airport.

- **March 28** – Two Libyan coast guard vessels (Vittoria class patrol) and two smaller craft targeted after seen firing into Misrata and at merchant vessels. Air strikes focus around Misratah, Sirte and Tripoli.

- **March 31** – Command handed over to NATO. Beginning of Operation Unified Protector.

- **April 5** – Last day involving US strike aircraft. US moves to support role and aircraft are put on standby.

(Source: Ministry of Defense France, MOD UK, MOD Italy, US Department of Defense, David Cenciotti)
Once Libyan air and air defense assets were conclusively destroyed or suppressed, and a NFZ assured, coalition forces have continued targeting loyalist ground forces in ways that assisted opposition forces defend, hold and secure territory. Over the next few months and into end May, NATO has been involved in helping break the siege of Misurata, and in targeting loyalist forces and facilities in areas of heavy fighting including Sirte, Ras Lanuf, and more recently in the Western Mountains, particularly Zintan. Figure 3.2 highlights key areas where NATO has struck targets

Shifting to Attacking Ground Targets

Figure 3.3 illustrates the operational tempo of NATO forces. By early June 2011, NATO had conducted over 10,000 sorties and almost 4,000 strike sorties, an average of about 54 daily strike sorties between March 31 and June 15th. Daily strike runs are about half to a third of the average over Kosovo, a benchmark humanitarian intervention, and it should be noted that strike sorties refer to those intended to identify and engage targets, but do not necessarily imply a release of munitions. Furthermore they do not equate to strike missions, as most missions are conducted by formations of at least two or more aircraft.

Drawing from data provided by individual defense ministries, it appears that the French have taken the lead on kinetic action, and represent about 20% of total NATO activity and about 30% of all air-to-ground attacks, including high-profile attacks such as the one that destroyed a Libyan Koni-class frigate. Defense Secretary Gates singled out the Norwegians and Danes for praise; despite constituting 12 percent of available strike aircraft, together they have accounted for about a third of all airstrikes. The British had attacked over 430 “regime targets” by June 10th while the Canadian air force had flown 324 sorties by May 25th and its CF-18s had dropped 330 bombs by mid-June, although no elaboration was offered. In contrast nations such as the Netherlands, and Italy -- which flew over 2,000 sorties without ever opening fire -- have imposed caveats restricting their aircraft from participating in air strikes.

With NATO in the lead, US Admiral James Stavridis estimated that US forces were providing about 25 percent of support sorties by mid-May. The US decision to increase its contribution of refueling tankers in late May allowed NATO to increase on-station times for strike aircraft by about 30 percent.

199 “Transcript of Defense Secretary Gates’s Speech on NATO’s Future,” Wall Street Journal, June 12, 2010. Available at http://on.wsj.com/k0ODZr
202 Paul Koring, “Canada’s Role in Libya its biggest military gambit in decades,” Globe and Mail, June 20, 2011.
Figure 3.1: Allied Assets in Libya

(Source: IISS)

Figure 3.2: NATO Attacks on Named Targets as of May 22, 2011

(Source: The Guardian)
Figure 3.3: NATO Operational Tempo (March 31- June 15)

(Source: NATO)
NATO’s Uncertain Search For Decisive Force
There is no strong evidence that air power alone can induce regime change, and with this alone NATO faces tough challenges. Kosovo is often cited as a comparable benchmark of humanitarian intervention but there are very crucial differences. NATO’s operational tempo is significantly lower than during the Kosovo campaign. Moreover, Milosevic could retreat to Serbia-proper, faced intense Russian pressure to capitulate, as well as the credible threat of an imminent NATO ground force option. In contrast, Col. Qaddafī has nowhere to go, with the coalition demanding his exit, but an ICC ruling awaiting him if he concurs. Given the scale of defections, and the likely whittling down of the command structure to the inner circle, there are real worries that Qaddafī is extremely credible when he declares, as on June 7th, “We shall stay here till the end, dead, alive, victorious; it doesn't matter.”

There are, however, real questions about NATO capacity. Defense Secretary Gates has used the freedom of his last few days in office to make his displeasure clear at the state of NATO capabilities and progress in Libya. He stated bluntly on June 10th that, “Turning to the NATO operation over Libya, it has become painfully clear that similar shortcomings – in capability and will – have the potential to jeopardize the alliance’s ability to conduct an integrated, effective and sustained air-sea campaign.” He went on to note that despite being a mission with “widespread political support… that does not involve ground troops under fire… [and] is a mission in Europe’s neighborhood deemed to be in Europe’s vital interests… less than half [of NATO alliance members] have been willing to participate in the strike mission. Frankly many, of those allies do so not because they do not want to participate, but simply because they can’t.”

In June, Secretary Gates in particularly pointed to chronic shortfalls in ISR capacity, and noted that the NATO air operations center required a “just in time infusion” of US targeting specialists. Despite these personnel, the center, which was designed to support 300 sorties a day continues to struggle to provide 150, and a recent White House report, noted that nearly 70 percent of coalition intelligence assets, and a majority of refueling assets continue to be provided by the US. The British in contrast, were forced to extend the service of the Nimrod R1 reconnaissance aircraft literally days before it was due to be scrapped, while budget cuts assured that the RAF was only able to deploy 18 strike aircraft.

209 “Transcript of Defense Secretary Gates’s Speech on NATO’s Future,” Wall Street Journal, June 12, 2010. Available at http://on.wsj.com/k0ODZr
210 Ibid.
211 Ibid.
Much has been made about the British and French deployment of attack helicopters. These represent an important attempt to address shortfalls in relevant operational capacity, but they are not a decisive game-changer. Firstly, they only constitute about 20 in total including four British AH-1 Apaches, relatively obsolete French SA-342 Gazelles which entered service in the late 1960s, and the more modern French Eurocopter Tiger. The Tigers however are believed to be the HAP version, and armed with only guns and Mistral air-to-air missiles, rendering them less useful against heavy armor than for reconnaissance, fire support or escort duties. However they may also be filling unanticipated shortfalls; one of the first strike sorties conducted by the British AH-1 Apaches was against an undefended and static radar installation that fixed-wing aircraft were apparently unable to destroy!

Attack helicopters do have capabilities to engage targets located inside urban areas, where NATO has been shy to utilize fixed-wing aircraft, for fear of civilian casualties. Their ability to loiter and provide close-fire support is an important asset but comes with their vulnerability to ground fire, particularly MANPADs, but also RPGs and small-arms, raising the risk of ground forces in any extraction scenario. Neither has their deployment led to immediate tactical advantage. Among other things, helicopters were reported to have been tasked with creating a 16-mile buffer zone around Misurata, but a few days after their appearance in theater, loyalist forces have been able to return to Grad range and have restarted shelling in Misurata.

NATO already faces growing operational strains. At the latest Defense review in early June, NATO officials made calls for increased contributions, and Secretary Gates specifically cited Germany, Poland, The Netherlands, Turkey and Spain as nations that could do more, while praising the contributions of Belgium, Canada, Norway and Denmark. French Foreign Minister Alain Juppe in contrast has lamented the lack of US participation in the continuing strike mission, and UK Navy Chief Admiral Mark Stanhope warned in early June that should the mission continue over six months, the UK would face “challenging decisions about priorities.”

Canada withdrew its AWACS aircraft in early June citing a requirement to trim defense spending and Norway’s six F-16 strike aircraft have been reduced in strength to four, and will withdraw from operations by August 1st. The Dutch have increased a “handful
of new staff” but continue to refuse to allow their six F-16 aircraft involved in the mission be used to conduct airstrikes.\textsuperscript{225} Even the deployment of attack helicopters was reported to have caused strains between the French and the UK; the French reportedly acted unilaterally to announce the British deployment before the British themselves had come to a decision.\textsuperscript{226} Most recently, the Danes have been reported to have been running out of munitions for their F-16s, and have been forced to ask the Dutch for help,\textsuperscript{227} and the UK reportedly cannibalized and grounded three non-deployed Eurofighter Typhoons for spare parts to keep its deployed fleet of four flying.\textsuperscript{228}

NATO forces have set themselves an extremely high threshold for avoiding civilian casualties, a laudable policy, but one that has tradeoffs in terms of lethality,\textsuperscript{229} particularly as Qaddafi has been reported as using human shields and positioning military assets in civilian areas,\textsuperscript{230} as well as cultural heritage sites such as the UNESCO protected Roman ruins of Leptis Magna.\textsuperscript{231}

Opposition forces have also expressed some frustration with NATO’s strict targeting rules, claiming that they essentially control opposition military momentum and prevent them from making independent tactical advances for fear of stepping into NATO ‘red lines’ on the battlefield.\textsuperscript{232} Despite their importance in helping the opposition advance militarily, NATO has denied that its targeting seeks to provide close-air support for opposition fighters. One official stated, “We cannot be [the opposition’s] air power. This was a popular uprising and it has to unfold that way, in a natural way. It’s not for us to do any more in terms of support.”\textsuperscript{233}

By mid-June, perhaps in reaction to the relatively slow pace of fighting and the increasing perception of a stalemate, NATO forces have expanded their targeting scope and reignited controversy that they may be seeking a “regime kill” option, i.e. deliberately targeting Qaddafi and his inner circle. NATO has consistently denied that it is targeting Qaddafi personally, and maintained that NATO attacks are to degrade loyalist fighting strength, destroy their ability to maintain communications or logistical and supply chains, as well as to pressure a fracture in Qaddafi’s inner circle.

\textsuperscript{225}“Dutch Government Extends its Military Involvement in NATO’s Campaign in Libya,” \textit{AP}, June 11, 2011. Available at \url{http://wapo.st/mO6Vpx}


\textsuperscript{228}Thomas Harding, “RAF bosses dismissed plan to train Typhoon pilots,” \textit{The Telegraph}, April 14, 2011. Available at \url{http://tgr.ph/dWdydb}

\textsuperscript{229}Con Coughlin, “Libya: On a Wing and a Prayer,” \textit{The Telegraph}, May 29, 2011. Available at \url{http://tgr.ph/fgbd5S}

\textsuperscript{230}Deborah Haynes, “Muammar Gaddafi Using Civilians to Protect Key Sites,” \textit{The Australian}, March 22, 2011. Available at \url{http://bit.ly/gXTPZM}


\textsuperscript{232}Chris Stephen, “Libyan rebels’ advances near Misrata wiped out on NATO’s orders,” \textit{The Guardian}, June 6, 2011. Available at \url{http://www.guardian.co.uk/world/2011/jun/06/libya-rebels-misrata-nato-advances-lost}

There does, however, appear to be a growing perception that the death of Qaddifi could collapse his regime as there is no clear succession plan or individual with his clout. Qaddifi ensured that political power in Libya was been diffused along a divide-and-rule philosophy that even extended to his own family. His sons are powerful, but none has influence across the various security and intelligence services, and influential tribal leaders.\(^\text{234}\) As a result, it remains unclear if any loyalist figure could fill the vacuum.

Qaddifi’s command center -- the Bab al-Aziziyah compound in central Tripoli that houses key command nodes as well as his personal residence -- has been repeatedly targeted, particularly from mid-May. On May 24\(^\text{th}\) a vehicle storage facility adjacent to the compound was targeted in some of the heaviest and most sustained bombing seen to date, in what was likely an attempt to message Tripoli’s residents, including Qaddifi’s loyalists who are clustered in the area, of NATO’s resolve and capability, and Qaddifi’s precarious position.\(^\text{235}\) Three days later on May 27\(^\text{th}\), RAF aircraft destroyed the compound’s guard towers and walls to show the regime, “they are no longer hidden away from the Libyan people behind high walls.”\(^\text{236}\) Despite these attacks, Qaddifi greeted South African President Jacob Zuma inside Bab al-Aziziyah on May 29\(^\text{th}\).\(^\text{237}\) On June 8\(^\text{th}\), NATO forces destroyed a rural tented compound favored by Qaddifi.\(^\text{238}\)

As a result of these NATO strikes Qaddifi appears to have stopped taking chances. Earlier in the campaign he was confident enough to drive around Tripoli in a convoy of vehicles to meet chanting crowds and attend and speak at a rally held by his supporters.\(^\text{239}\) Since that time, he has generally disappeared from public view. Western intelligence sources have been reported as saying that Qaddafii is staying in different hospitals every night to keep from being targeted.\(^\text{240}\)

The question that remains, however, is whether airpower can be enough. Coalition forces have consistently forsown the use of ground forces. The US House of Representatives overwhelmingly voted against allowing US ground troops or private contractors to operate inside Libya. Yet, a limited number of unspecified Western ground forces, mostly covert, special forces, and/or contractor personnel, are believed to already be operating, both to help train the opposition forces as well assist with targeting. In a video taken by Al Jazeera and released on May 29\(^\text{th}\), what appears a team of six armed Western soldiers is seen operating alongside opposition forces on the frontline in Misurata.\(^\text{241}\)

\(^{236}\) NATO planes target Gaddafi’s Tripoli compound,” BBC News, May 28, 2011.
\(^{239}\) “Col Muammar Gaddafi ‘parades through Tripoli in a jeep,” The Telegraph, April 14, 2011. Available at http://tgr.ph/0XWS6Cx

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In April, UK Foreign Secretary William Hague announced that an expanded military liaison team would be dispatched to work with the Benghazi-based Transitional National Council and to help opposition forces improve "organisational structures, communications and logistics" but stressed: "Our officers will not be involved in training or arming the opposition's fighting forces, nor will they be involved in the planning or execution of the [transitional council's] military operations or in the provision of any other form of operational military advice."\(^{242}\)

Regional involvement also remains unclear. There have been reports that Qatar, which is the most involved of all regional or Arab countries, sent arms, including rifles and MILAN anti-tank missiles.\(^{243}\) Completely unconfirmed reports indicate that 100 or so Egyptian commandos from the elite Unit 777 are operating inside Libya to help train opposition forces.\(^{244}\)

\(^{242}\) Ibid.

II. SUSTAINING VICTORY

There is no guarantee that NATO’s best-case scenario that a national opposition government will take power will come to pass, or even that such a government would prove to be the best option on a long-term basis. There is a chance, that Qaddafi will be able to resist Western pressure and cling on to power by retaining his western strongholds despite an open-ended NATO air campaign. It is far less likely that he can now retake the east and control over all of Libya. The most likely outcomes appears to be some form of negotiated settlement, an eventual collapse of loyalist military forces, or the killing of Qaddafi and his inner circle in targeted strikes. Regardless of the outcome, some form of tremendous change is imminent, and requires careful post-war planning.

Some decision is also needed as to who will help Libya in any transition process. NATO has unequivocally declared that it will not be involved in post-war Libya and Secretary General Rasmussen has stated that, “We do not see a lead role for NATO in Libya once this crisis is over. We see the United Nations playing a lead role in the post-Gaddafi, post-conflict scenario.”

To date this planning has been woefully lacking. Furthermore as Micah Zenko of CFR notes, while Libya, and especially post-war Libya, is likely to require generous humanitarian assistance, so far “the international community has not been generous so far.” As of early June, all UN aid agencies had received less than half of required funding including pledges and regional countries and international institutions had been less than optimal in their level of involvement.

Given this background there are some important trends that will affect the outcome and any practical definition of “victory.”

The Immediate Effects of War

The humanitarian situation in Libya is grave and will deteriorate as long as the war continues. It will require sustained post-war assistance. Abdel Hafiz Ghoga, Vice President of the NTC has claimed that over 15,000 people have been killed, repeated by a member of a UN Human Rights Council Mission to Tripoli, but there are no ways to confirm this count. Hundreds of thousands of people have been made refugees and the International Committee of the Red Cross (ICRC) warned of deteriorating conditions.

UN chief Ban Ki Moon has reiterated that the “crisis is getting worse,” and in late May, the ICRC reported that it now expects to assist over 850,000 people by the end of 2011, and increased its budget for the crisis by 47 million Swiss francs to a total of 77

245 Tony Karon, “NATO hopes to pass the buck in Libya, but may not be able to hand off responsibility,” Time Magazine [Blog], June 8, 2011. Available at http://bit.ly/kDKgC5
247 Ibid.
248 Mariam Fam, “Libyan rebel official says death toll after revolt reaches at least 15,000,” Bloomberg, May 19, 2011. Available at http://bloom.bg/mI1Xed
Food and fuel shortages are extensive. Even before the fighting, Libya imported over 65% of its food, and the World Food Program (WFP) warned in early May that food supplies could run out in four to six weeks. However by early June, reporters inside Tripoli have noted no signs of any chronic shortages in food, and noted that business, while down, continues.

Civilians have borne the brunt of fighting between loyalist and opposition forces. Both sides have committed human rights violations, but loyalist forces in particular appear to be employing targeted violence against civilians as a weapon of war to cow opposition forces, or pressure NATO towards a more favorable negotiated settlement. Loyalist forces have also targeted infrastructure that can assist the opposition, particularly pertaining to energy, but a worry is that loyalist forces may choose to target the aquifers that constitute the Great Manmade River (GMMR) Project. Libya is one of the driest countries in the world with little rainfall and the GMMR is the main source of potable water for many coastal cities, including several currently in opposition control.

The brutality of fighting can complicate the necessary process of reconciliation in any post-war scenario, or allow an end to fighting. Misurata in particular has been devastated by a three month siege of the city, during which all access points but the port were cut instigating a severe humanitarian crisis inside the city. Various reports detailed how loyalist forces shelled the city indiscriminately and Bryan Denton, a photographer for the New York Times counted over 8-10 critical casualties every hour as a result of fighting at hospitals without adequate beds, painkillers, or doctors. Hundreds of men between the ages of 20 and 40 are reported to have disappeared, reportedly at the hands of loyalist security forces.

Some reports claim that loyalist forces are using rape as a weapon of war. In Yefren, female medical staffs at a hospital garrisoned by loyalist forces were allegedly raped, and in Misurata, about 259 women were reported to have come forward. It is alleged that due to the conservative social structure, many more may have chosen to remain silent to avoid the stigma that rape carries. Captured soldiers have confessed to rape, but claimed it was under duress and as a result of direct orders from their commanders and commanders.

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258 Al Jazeera, “Medical Staff at Yefren Narrate Horror they had to go through at hands of Gaddafi forces,” YouTube [Video], June 11, 2011. Available at [http://www.youtube.com/watch?v=YWwulKNE5ys](http://www.youtube.com/watch?v=YWwulKNE5ys)
claimed that Special Forces units such as the Khamis Brigade have been the worst culprits.\textsuperscript{260}

A major refugee crisis continues to play out as Qaddafi warned when he threatened to unleash “millions of blacks” across the Mediterranean onto Europe’s shores. Loyalist forces are believed to be active in currently pressuring migrants to make the dangerous voyage, to raise international pressure on coalition forces,\textsuperscript{261} but even without coercion, tens of thousands of Libyans and third country nationals have attempted to flee the fighting. Already an estimated 1,400 Africans have perished in the Mediterranean,\textsuperscript{262} and the UN now estimates a 10 percent fatality rate for migrants fleeing Libya by sea.\textsuperscript{263} Inside Libya, African migrant populations, which resemble Qaddafi’s mercenary forces have also come under significant threat from both forcible recruitment by loyalists and targeted violence by opposition forces.

According to figures provided by the UN Office for Humanitarian Coordination (UNOCHA) and the International Organization of Migration (IOM), 822,126 people had fled Libya by May 19th --- 288,549 to Egypt and 409,051 to Tunisia --- a startling number when considering Libya’s official population of 6 million. The pace appeared to be quickening as a result of fighting in the Western mountains, where 51,200 people crossed the border into Tunisia in ten days.\textsuperscript{264} 40,000 Chadian refugees are stranded at the border with Chad according to the European Commission who warned of a “fast growing humanitarian emergency” and pointed to their low capacity to care for these refugees.\textsuperscript{265} Chadian refugees in particular face tremendous dangers on their journey home. The Libyan-Chadian border is mined, forcing many to use Niger as a transit country, which requires a long, arduous and dangerous journey across harsh terrain with little water or medical supplies.\textsuperscript{266}

Tunisia has been a major destination for people fleeing the violence. More than 410,000 people are believed to have crossed into Libya including about 60,000 Libyans. Qatar has opened two refugee camps in southern Tunisia to help accommodate these refugees alongside another sponsored by the UN.\textsuperscript{267} Conditions in these camps have been terrible and refugees have often been met with hostility. In late May, one camp housing Sudanese, Somali and Eritrean refugees was attacked by locals angered by the refugees blocking roads to protest their conditions. Subsequent clashes included inter-nationality feuding, by the end of which over two thirds of the camp had been destroyed and most camp residents forced to live in the open.\textsuperscript{268}

\textsuperscript{260}“Libya: Forced to Rape in Misrata,” \textit{BBC News}, May 23, 2011. Available at \url{http://bbc.in/msd9ii}
\textsuperscript{261}Hans Lucht, "The Killing Seas," \textit{New York Times}, May 18, 2011. Available at \url{http://nytimes/m6YHC8}
\textsuperscript{262}Tendai Marima, “Our seas of dead Africans,” \textit{Al Jazeera}, June 14, 2011. Available at \url{http://bit.ly/kmRcdu}
\textsuperscript{263}Barbara Lewis, “UN says 10 percent fatality for Libya sea migrants,” \textit{Reuters}, May 13, 2011. Available at \url{http://uk.reuters.com/article/2011/05/13/us-libya-migrants-idUSTRE74C35N20110513}
\textsuperscript{265}“EU warns of alarming situation at Libya-Chad border,” \textit{AFP}, May 30, 2011. Available at \url{http://bit.ly/maAwKc}
\textsuperscript{266}http://www.voanews.com/english/news/africa/decapura-libya-chad-20may11-122336279.html
\textsuperscript{268}“Tunisia camp destroyed in fatal clashes, says UN,” \textit{BBC News}, May 27, 2011. Available at \url{http://www.bbc.co.uk/news/world-africa-13575486}
Figure 4.1: Refugee Exodus from Libya in May 2011

(Source: UNICEF)
A Long Path to a Stable Post-War Structure

If the war-fighting phase is any indication, chaos may be the prevailing order during the first phase of any post-war structure. Any successful transition will require international assistance, but must be Libyan-led, both because Libyans should be the primary arbiters of their fate, and because neither the US nor Europe has any appetite for nation building as the war in Afghanistan continues. Fortunately, this appears to be the wish of Libyans too, many of who in opposition-controlled areas appear to be eagerly anticipating rebuilding their liberated country. They will, however, require significant assistance.

Libya is historically composed of three major parts --- Tripolitania in the west, Cyrenaica in the east, and Fezzan in the east --- which united in the 1950s but remain separated by vast expanses of desert and poor transportation and communication links. This regional division alone may complicate the emergence of any national post-war structure, and will likely be compounded by several other issues including tribalism, an unfamiliarity and inexperience with representative governance, a singular oil economy, and a post-Qaddafi power vacuum. The length and nature of hostilities, and the manner of Qaddafi’s end will also impact the post-war structure.

Building Unity and National Institutions

If the war ends in NATO’s best-case scenario, the opposition movement may be anointed as the formal government of all Libya, but serious questions will remain on its claim to legitimacy and its capacity to govern and unite the post-war order. This will be particularly true given the Orwellian nature of the Qaddafi regime, and the deep trauma it has imposed on the political sphere. Libya lacks formal institutions and has little history of a civil-society, as noted by Andrew Exum who points out that neither the Italians nor Qaddafi did much to create any local administration or functioning bureaucracies. As a result, various domestic groups are likely to jostle for power and greater shares of oil revenues in any post-Qaddafi vacuum, as well as seek a say on the ideological direction of the new Libya.

The NTC is a fragile and incoherent movement that continues to struggle to unite and to control the many disparate groups that nominally adhere to its authority. Its international image has been a major strength, as has its sympathetic reporting in Western media, but the hard truth remains that it is untested as a national government and may have little capacity to follow through on its promises. The question also emerges as to who will control the oil sector revenues. In Libya’s oil-dependent economy, he who controls the oil sector and revenues has a major advantage in becoming the new center of power.

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Despite being self-appointed and unelected, the NTC has been anointed by the West. It has been encouraged to open an office in Washington DC, and the recent White House report labeled it “the legitimate interlocutor for the Libyan people.” By mid-June, a growing number of countries had recognized the NTC as the legitimate representative of the Libyan people. These included Western countries such as Germany, Spain, France, Italy, and Canada, as well as some regional countries -- Qatar, the UAE, and recently former Qaddafi ally Senegal. Even amongst staunch opponents of intervention, there were signs of change. Russia recognized the NTC in end May, and China has invited NTC head Jalil to Beijing for a two-day visit in end June.

The NTC describes itself as transitional body that will help post-Qaddafi Libya move towards multi-party democratic elections, but there is no clarity on the timeframe for such a transition. Its leadership council has mushroomed from its original 31 members, and it is said to have local committees in every locality in liberated eastern Libya. Young people are believed to anchor the movement, but tribal sheikhs, from the Zuwaya, Ubaidat, Awdl Ali, Awaqir and many other tribes are also influential. Eastern Libyans are perceived to dominate the NTC’s de-facto government, but some representatives from Tripoli and Sebha have also been named. The manner in which the NTC is able to transition power to a post-war government that reflects the will of the people will have important ramifications on long-term unity and prosperity.

Any post-war government will face the daunting task of rebuilding Libya’s institutions from scratch. As Wolfram Lacher notes, “The institutions of the old regime -including the General People’s Congress (Parliament) and the local Basic People’s Congresses – play a purely symbolic role and will not survive Qaddafi’s fall. As a consequence, the foundations of the state and the political system will have to be built entirely from scratch, such as the form of government, the separation of powers, the role of the regions and the electoral systems.” Political players will also have to overcome entrenched and new patronage and corruption networks that will be strengthened by the flood of post-war aid, as well as resist the temptation to focus on distributive issues and the redistribution of wealth, and instead create a sustainable, and national political framework.

This will be particularly important in Libya. As seen in Figures 4.2 and 4.3, the Libyan people have had little trust in their government’s accountability and stewardship, and it has been a major driver of the current uprising. Any continuing governmental inability to actually implement promised reforms will be a source of instability, and strengthen political counter-currents.

In such a structure, where the former regime is not easily separated from the state, reconciliation will be particularly important. So far, the NTC has made all the right

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275 “China says Libya rebel chief to visit,” Reuters, June 19, 2011. Available at http://reut.rs/ieKMeF
278 Wolfram Lacher, “Libya After Qaddafi: State Formation or State Collapse?”
279 Wolfram Lacher, “Libya After Qaddafi: State Formation or State Collapse?”
noises, promising not to pursue policies similar to the US de-Baathification in Iraq, or seek revenge or retribution against loyalist supporters. British officials are reported saying, “There are a few people in the Gaddafi regime they can’t deal with but there are many more they can deal with.” Many former regime elites have also defected and now occupy senior positions in the NTC, itself a matter of both concern and reassurance. In the short-term, it enhances the credibility of reconciliation, but over the longer-term an elitist movement that does not adequately account for the marginalized and the youth is a recipe for instability, particularly if former regime credentials make leaders easier to denounce and discredit.

Unfortunately, the opposition government itself does not truly know even the extent of its current level of control. Individual initiative continues to supersede organizational controls, and there have been several reports of extrajudicial killings of loyalist collaborators and supporters, particularly black African migrant workers mistaken for mercenaries. There have been executions of captured soldiers and horrific mob violence, but in total, these appear to be on a relatively sporadic and small scale and the function of a lack of order and warfighting discipline, than any strategy. However if they continue as a result of protracted fighting, or if it turns out that westerners’ support for the opposition is limited, then these pressures run the danger of creating centrifugal forces that continue to violently oppose the new government, even after Qaddafi’s ouster.

In many instances, however, the NTC has acted quickly and sensibly despite the chaos of the uprising, albeit to the best of its currently low capacity. It has set up shadow government ministries and local councils and has pledged several commitments to advance liberal democratic values, including the naming of a civilian to head the military in anticipation of the collapse of the Qaddafi regime. Its choice of government personalities is also telling; the Chairman of the NTC is Mustafa Abdul Jalil, Qaddafi’s former Justice Minister who is widely perceived as honest and one of the few people who was willing to stand up to the regime and its security forces on behalf of the people. Furthermore, the NTC has done an impressive job in transitioning to new rule in Benghazi and other liberated cities. Severe shortages persist, particularly food and fuel, but by and large, the daily realities such as electricity and water continue to function.

However, the NTC could face significant funding pressure given current trends, particularly if sanctions and other measures continue to restrict access to international liquidity and assets – and as a result, will likely require sustained international financial commitments, at least until the oil sector is repaired and resumes full production. Dr. Ali Tarhouni, the NTC Finance Head estimates his budget at $3bn semi-annually, but has

281 “Libyan Army soldiers executed by the rebels,” YouTube, April 2, 2011. Available at http://www.youtube.com/watch?v=mmyYscx5fEs
faced major problems in raising these funds. So far international pledges have totaled only about $1.1 billion – including $81 million in humanitarian relief from the US – as well as a unilateral $400-500 million cash infusion from Qatar. In Benghazi, in a desperate attempt to keep paying public sector wages and other operating and wartime costs, the opposition was forced to raise $200 million by tunneling into the vaults of the local branch of the Central Bank. So far, a sense of civic duty has helped ease funding shortfalls in opposition-held cities, and many public officials have returned to work without pay, but such a situation is unsustainable.

Figure 4.2: Government Effectiveness By World Percentile

![Graph showing government effectiveness by world percentile](image)

(Source: World Bank Development Indicators 2010)

Figure 4.3: Control of Corruption

![Graph showing control of corruption](image)

Note: Higher figures indicate greater control
(Source: World Bank Development Indicators 2010)

286 Ibid.
Tribalism and the Fear of Post-War Fragmentation

Tribalism is a concern for post-war Libya, which is home to about 140 tribes. Some major tribes are mapped in more detail in Figure 4.4. There are fears that any post-war security vacuum could lead to disintegration along tribal lines. While tribal identity is no longer be a primary mode of identification for most Libyans, a weak central state and the geographical realities of oil resources make tribal warlordism a viable risk.288

The current state of tribalism in Libya is unclear. While tribes played a key role in the colonial era, they have been stripped of much political power by Qaddafi and weakened by the pressures of modernization and education.289 Some, including French Foreign Minister Alain Juppe have dismissed the tribal dimension. He noted that, “85 percent of Libyans live in urban areas, not under tents in the desert,”290 figures borne out by the UN, which noted urbanization of 77 percent in 2007.

During Qaddafi’s rule, however, some tribes were privileged and remained vehicles through which to gain advancement and employment.291 Three major tribes were dominant under Qaddafi; his own tribe, the Gadhadhfa, and the allied Magarha and Warfalla tribes that are dominant in the west. Others were brought into the ruling structure by material inducements, including public sector funds and favorable employment opportunities for tribal members.292 Tribal identification was particularly important for entrance into loyalist security forces, which may help explain why the opposition has found it hard to make advances on areas such as Sirte, which is home to 70,000 members of Qaddafi’s clan.293

In late May 2011, some 100 community and tribal elders met in Turkey to express their opposition to Qaddafi, including representatives of the Warfallas, in an indication that they may have now switched loyalties.294 However, the extent tribal elders exert real control over their youth, remains unclear.

Already, there are some indications of tribal tensions. In Misurata, many native Misuratans are suspicious, and some openly hostile, of residents of the nearby town of Tawergha, who they claim supported loyalist forces during the fighting. Similarly in the Nafusa Mountains, members of the Zintan tribe are actively engaged against their traditional rivals, the Mashashya, who have been pro-government. The continuation of these trends writ large can have dangerous implications for long-term security.

The East-West Divide as Symbolic of Distributive Problems
If the NTC should come to govern all of Libya, it may still face a fairly acute Libyan division with easterners and westerners, which will continue to play out in terms of competition over access to power and resources.

This divide may gain in importance, since the NTC continues to be perceived as a primarily eastern movement that may be tempted to re-assert the historical primacy of Cyrenaica. The region produces the country’s oil wealth, was the birthplace of anti-Italian guerilla campaign, and will now have the revolutionary credentials of the anti-Qaddafi uprising. The east will have much say in the post-war structure, and are likely to seek to influence the redistribution of oil revenues in ways that reform their perceived discrimination by Qaddafi.

The International Crisis Group notes that a perception amongst easterners that they are owed restitution for discrimination under Qaddafi is a dangerous one. It notes there is no “statistical evidence, such as it is, [that] bears out easterner’s claims of suffering.

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discriminatory treatment where public investment is concerned.\^296 Regardless of the truth, most easterners are convinced Qaddafi kept them impoverished and second-class citizens as a tool of suppression.

**Chaos and the Islamist Sanctuary**

The Islamist presence in Libya does not appear to exert major influence in the current structure. Islamists were heavily persecuted under the Qaddafi regime, not just the Libyan veterans of the Afghan jihad, but also any domestic Salafist groups willing to speak up against Qaddafi. In the past few years, the Qaddafi regime, largely through the efforts of son Saif al-Islam made some moves towards rapprochement, freeing political prisoners and opening reconciliation programs.

Nevertheless, the Islamist presence in Libya is worrying, given the close relations al-Qaeda has had with Libyan jihadist groups. Several Libyans have held senior positions in al-Qaeda, including Abu Yahya, the head of al-Qaeda military operations in Afghanistan, Abu Faraj, a current detainee at Guantanamo Bay and Abu Lais, al-Qaeda’s third in command who was killed in a Predator strike in 2008.\^297 The LIFG is also officially affiliated with al-Qa’ida and the two announced a merger in November 2007, announced by al-Qaeda leader Ayman al-Zawahiri. In an audiotape, al-Zawahiri urged AQ fighters to topple the Government of Libya, describing Muammar al-Qadhafi as an “enemy of Islam” and criticizing the 2003 decision to renounce WMD and terrorism.

So far jihadist fighters appear to be few in number but they appear to constitute some of the most dedicated anti-Qaddafi fighters and are consistently described as fighting on the frontlines, where their “discipline and fighting experience is badly needed.” No jihadists have attempted to claim the revolution as their own yet and so far they appear to have very little formal influence,\^298 but as Bill Roggio, editor of the *Long War Journal* notes; “While the Derna rebels may be faithfully serving the rebellion’s secular leadership today, it remains to be seen what their plans are for the near future.”\^299

In released Wikileaks cables, US diplomats warned of their worries that eastern Libya, particularly the city of Derna, but also Benghazi, were becoming a breeding grounds for religious extremism.\^300 The International Center for the Study of Radicalization reported Internet jihadists are portraying Libya as a new front in the war against the West, and that senior al-Qaeda leaders including Ayman al-Zawahiri have given sermons focusing on Libya.\^301 Poverty and unemployment were seen as having created a vast recruiting pool for radical mosques and seminaries, many run by returned fighters from Afghanistan,


Lebanon and the West Bank. Libyans were amongst the largest sources of foreign fighters in Iraq, according to captured al-Qaeda documents. They represented 111 Libyans – 18% of total foreign fighters – the highest per capita contribution by any country, and over 85 percent were registered as suicide bombers.

There have been recent indications that the LIFG has moderated its position. Six leading members of the Libyan Islamic Fighting Group, being held in the Abu Salim prison, issued a document renouncing violence and claiming to adhere to a more sound Islamic theology than that of AQ and other jihadist organizations. The 417-page, Arabic-language document, entitled “Revisionist Studies of the Concepts of Jihad, Verification, and Judgment of People,” was the product of a two-year reconciliation project between the Government of Libya and the LIFG, facilitated by the Qadhafi Development Foundation.

Low government capacity, from education and employment provision, to law enforcement capabilities – may be drivers of any resurgent jihadist currents. The rule of law has already weakened in Benghazi. Weapons have proliferated, prisons emptied, reprisal attacks against loyalist elements have intensified, and the justice system is in shambles – out of 280 judges in Benghazi, now only 70 continue to work. Regional neighbors worry of jihadi spillover, and Algerian Prime Minister, Ahmed Ouyahia, claimed in end May, that Islamist terrorists armed with weapons obtained from Libya’s looted arsenals, killed 40 Algerian soldiers in recent clashes. The same was reported in Niger, where fighters belonging to Al-Qaeda in the Islamic Maghreb (AQIM) were reported as having armed themselves in Libya, and then crossed over to attack Niger Army positions.

Nevertheless, Islamists appear weak and exert low influence over the Libyan uprising. Libya is generally more educated and secular than many of its regional neighbors, and Qaddafi heavily persecuted Islamists. Furthermore, in today’s context major organizations such as the Muslim Brotherhood have made major missteps by their rapprochement with Saif al-Islam three years ago, which is likely to cost in credibility.

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Meeting Economic and Demographic Challenges

If NATO is able to successfully implement regime change, and the new government is able to gain legitimacy in the eyes of a majority of Libyans, and if the international community steps in to provide for the country’s immediate post-war needs, then the economic future of Libya looks bright. Despite being horrifically mismanaged under Qaddafi, and subjected to crippling sanctions, Libya is not a particularly poor or backwards country.

According to UN statistics, the average Libyan household income is $14,000 a year\textsuperscript{308} and the World Bank estimated an 89 percent literacy rate and a life expectancy of 76 years.\textsuperscript{309} Libya also boasts large hydrocarbon reserves. Prior to the war, BP estimated Libyan production at 1.6 million barrels of oil per day, about 2 percent of the global supply, and estimated Libya could sustain this level of production for about 77 years.\textsuperscript{310}

A post-war opposition government could reap the benefits of a substantial improvement in relations with the West, which when combined with rising global oil prices and its educated population --- all offering significant opportunity to attract foreign investment. Libya was already one of the largest African recipients of foreign aid, and the end of Qaddafi’s stigma offers hopes for further improvement.

US Executive Order 13566 imposed sanctions and froze about $37 billion of Libyan state assets,\textsuperscript{311} which Secretary of State Hillary Clinton said would be released to “help the Libyan people.”\textsuperscript{312} Additionally, Libya has a tremendous stock of foreign reserves, amounting to at least $110 billion\textsuperscript{313} and significant money has been identified in Libyan sovereign wealth funds deployed overseas, including about $53 billion in three funds managed by the Libyan investment authority. Of the money, large sums were held by international banking institutions --- $293 million invested with HSBC, $110 million with RBS, $182 million with Goldman Sachs, $500 million with Nomura, $300 million with US hedge fund Och-Ziff -- to name but a few.\textsuperscript{314} However, by end June, little of this money had been made available.

Nevertheless, Libya’s economy has suffered serious short-term damage. The ongoing war has shut down production, and Libya’s oil economy has stopped, for all intents and purposes. Geoff Porter, former director of the Eurasia Group estimated that after accounting for the fact that much of “non-oil industrial activity” is actually attributable to supporting the oil and gas sector, then the actual percentage of Libya’s dependence on the

\textsuperscript{308} "Libyan Arab Jamahiriya," UN Data, \url{http://data.un.org/}, last accessed June 15, 2011.
\textsuperscript{309} "World Bank Development Indicators 2010," World Bank, (DC: IBRD, 2010).
\textsuperscript{313} Howard Schneider and Steven Mufson, "Despite sanctions, Libya holds extensive reserves," Washington Post, March 1, 2011. Available at \url{http://wapo.st/h7JlPg2}
hydrocarbon sector rises to a staggering 98 percent. Once brought back online, Libyan production can serve as an engine of growth to fund the country’s post-war development, and help encourage diversification more typical of a sustainable modern economy, but the process will be long and likely require extensive external support, both technical and financial.

In the meantime, the Libyan dinar is believed to have depreciated more than 50 percent and cash withdrawals have been limited to prevent a run on the banking system, but have resulted in severe cash shortages in an extremely cash-intensive economy. Fuel and food prices are also believed to now be chronic.

Libya was highly dependent on migrant workers, and about 2.5 million migrant workers were thought to be in the country before the crisis, almost half of the entire Libyan population. These workers came from across Asia and Africa, particularly sub-Saharan Africa, and the vast majority came illegally. Given the conditions that many have endured, bringing them back in a post-war scenario becomes more difficult, albeit less so given the chronic poverty in the region, and the supply of available labor for virtually any risk level.

Furthermore, as important as restoring the economy will be, so too will be reforming it in ways that ensures that Libya’s oil wealth actually reaches its population. Despite Libya being the top recipient of foreign investment in Africa in 2004 and accounting for 20 percent of all FDI inflow on the continent, the majority of Libyans were unemployed and lived on less than $200 per month with public sector wages unchanged in almost thirty years. The public sector became a bloated and inefficient sector that requires significant trimming to stimulate the private sector, but such reform will incur a high-degree of short-term trauma that Libyan governmental state capacity in the post-war period is likely to be ill-equipped to provide.

Libya’s large and unemployed youth base will require continued economic growth, and investments in private-sector employment and education that is relevant to the labor market. Despite its educated population, the CIA estimated unemployment in Qaddafi’s Libya at over a third, and protracted fighting will complicate any economic recovery. Already, it is estimated that the Libyan economy will shrink 19 percent in 2011, compared to a 7.4 percent rate of growth in 2010. Tackling unemployment particularly important given Libya’s youth bulge as seen in Figure 4.5, where channeling the youth

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into productive employment will be essential to avoid recruitment by radical Islamists, criminal enterprises and other negative influences.

If political stability can be found, there is potential in undeveloped non-oil industries, for example in an undeveloped tourist industry that boasts very well-preserved Roman and Greek archaeological sites and hundreds of miles of pristine Mediterranean coastline, a short hop from Europe, in addition to thousands of acres of undeveloped arable land.\(^{322}\) Existing non-oil industries such as petrochemicals, iron and steel are important domestically but are uncompetitive on the global market.\(^{323}\)

Qatar appears to be positioning itself for expanded influence in post-war Libya. The extremely wealthy Gulf monarchy has provided significant support to eastern Libya, including funding of at least $400-500 million, essential supplies, and arms for opposition fighters, as well as 100 percent of eastern energy needs for over a month and half.\(^{324}\) Part of Qatari support appears to be to gain regional influence, but it also is believed to seek expanded influence over the Libyan energy sector.\(^{325}\) Turkish companies, which have extensive experience in Libya are likely to reap reconstruction contracts, which given the scale of infrastructure damage, could prove to be an important source of growth if utilized efficiently.\(^{326}\)

The extent to which Libya’s post-war planners manage the economy in ways that visibly and tangibly benefit the people of Libya, will greatly impact the success of any sustainable transition towards democracy and accountability. Resentment to Qaddafi’s rule bred in no small part from Libyan perceptions that unlike the oil-rich neighbors, where the benefits from oil-wealth were easily apparent, Libyans were subjected to tremendous waste for the benefit of a narrow ruling elite, and any repetition in the post-war period will be a sure recipe for further fragmentation and instability.

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\(^{325}\) Ibid.
Figure 4.5: Libyan Youth Bulge in 2011

(Source: International Census Bureau)