



A soldier with the African Union Mission in Somalia looks at a haul of weapons seized along with four suspected members of al Shabaab, March 2012. © Stuart Price/AU-UN IST/AFP Photo

Surveying the Battlefield

ILLICIT ARMS IN AFGHANISTAN, IRAQ, AND SOMALIA

INTRODUCTION

Shortly after midnight on 6 August 2011, a Chinook helicopter carrying NATO and Afghan security forces was preparing to land near the Tangi Valley in Afghanistan. As the helicopter was descending, a Taliban fighter fired a rocket-propelled grenade (RPG)¹ at the dangerously exposed aircraft. The helicopter burst into flames, breaking apart as it plummeted to the ground. Thirty-eight people died in the crash, including 22 US special forces troops, making it the deadliest single incident of the war for US forces (King, Dilanian, and Cloud, 2011; Riechmann, 2011). An unclassified summary of a US military investigation into the incident confirms that the helicopter was hit by a ‘rocket-propelled grenade’ but provides no additional details (US CENTCOM, 2011b).

Most media accounts also refer to the weapon simply as a ‘rocket-propelled grenade’,² but there are many kinds of RPGs from various sources and with very different capabilities. These differences matter—and not just in the case of the downed helicopter. Whether Taliban arsenals are filled with 30-year-old Soviet PG-7 rounds or PG-29V rounds for the deadly RPG-29 Vampir has profound implications, yet detailed data on illicit weapons in Afghanistan is scant.

These data gaps are not limited to Afghanistan. Details on the model, country of origin, age, and condition of illicit weapons are rare, and the little information that is available is usually anecdotal and incomplete. Thus, we are left to wonder what models of RPGs and other weapons are most readily available to terrorists, insurgents, and criminals. How technologically advanced are these weapons? Is it possible to keep them out of the hands of individuals and groups that are likely to misuse them? How old are they, and how many are still functional? Answers to these questions have the potential to shape efforts to stem the flow of illicit weapons and shed light on the threat they now pose. This chapter inaugurates a multi-year project to provide such answers through data-driven analysis of illicit small arms and light weapons worldwide.

The project consists of three overlapping phases. This chapter distils the findings of the first phase, focusing on ‘war weapons’, namely small arms and light weapons illicitly acquired and used by non-state actors in high-intensity conflict zones. Phase two will look at illicit small arms in low-intensity armed conflicts and in countries affected by high-intensity organized criminal violence. The third and final phase will examine countries affected primarily by individual criminal violence.

To date, the project has collected and analysed data on 80,000 illicit small arms and light weapons in Afghanistan, Iraq, and Somalia, making it the largest study of its kind. While the scope, specificity, and comprehensiveness of the data vary considerably from country to country, overall the data sheds new light on illicit weapons in war zones, confirming some common assumptions and challenging others. The main findings from this first phase of the project include:

- The vast majority of illicit small arms in Afghanistan, Iraq, and Somalia appear to be Kalashnikov-pattern assault rifles.³ Other types of small arms are comparatively rare.

- Most illicit light weapons and light weapons ammunition studied appear to be versions of Soviet- and Chinese-designed weapons first fielded decades ago.
- Data compiled for this study suggests that armed groups in Afghanistan and Iraq have access to very few technologically sophisticated or latest-generation light weapons.
- Newly acquired data on weapons seized in Iraq suggests that a significant percentage of seized Iranian weapons were manufactured recently.
- Despite the large quantities of small arms and light weapons that are trafficked into Somalia, the variety of available items is limited.

The chapter begins by defining key terms and concepts. A brief overview of the data used in the study is then provided. Illicit small arms and light weapons in Afghanistan, Iraq, and Somalia are then assessed in more depth. The chapter concludes with additional observations about ‘war weapons’.

USE OF TERMS

Many Iranian weapons seized in Iraq appear to have been manufactured recently.

For the purposes of this chapter, ‘illicit small arms and light weapons’ are weapons that are produced, transferred, held, or used in violation of national or international law. The chapter uses the term ‘illicit’ rather than ‘illegal’ to include cases of unclear or contested legality. As detailed below, the term ‘small arms and light weapons’ is used in accordance with established Small Arms Survey practices, with some minor modifications. In this chapter, the term ‘small arms’ (alternatively, ‘firearms’) refers to the following items:

- revolvers and self-loading pistols;
- rifles and carbines;
- shotguns;
- sub-machine guns; and
- light and heavy machine guns.

The term ‘light weapons’ is used to refer to the following items:

- mortar systems of calibres of 120 mm or less;
- hand-held, under-barrel, and automatic grenade launchers;
- recoilless guns;
- landmines;
- portable rocket launchers, including rockets fired from single-shot, disposable launch tubes;
- portable missiles and launchers, namely anti-tank guided weapons (ATGWs) and man-portable air defence systems (MANPADS); and
- improvised explosive devices (IEDs).

This list includes some items not typically thought of as light weapons, including improvised explosive devices and mortars of calibres of 100 mm to 120 mm.⁴ Since it is not possible to separate fully data on heavy machine guns—which the Small Arms Survey categorizes as a light weapon—from other types of machine guns, heavy machine guns are assessed with small arms in this chapter. The Survey’s definition of portability also shapes the choice of light

weapons retained for the chapter. The weight limit for light weapons and their ammunition is 300 kg—the maximum weight that can be transported on the chassis of a typical light vehicle—but 400 kg for towed weapons (Small Arms Survey, 2008, pp. 8–11).

Ammunition and accessories for the above-mentioned weapons are also included. Data on weapons parts is not analysed because it is beyond the scope of this study. Explosives are also excluded from the study.⁵

The definitions for ‘armed conflict’ and ‘war’ are borrowed from the Armed Conflict Dataset developed by the Uppsala Conflict Data Program and the International Peace Research Institute, Oslo. The dataset defines ‘armed conflict’ as ‘a contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths’ (UCDP, 2009, pp. 1–2). Armed conflicts are further divided into ‘minor’ armed conflicts with ‘between 25 and 999 battle-related deaths in a given year’ and ‘wars’, which are defined as armed conflicts with ‘at least 1,000 battle-related deaths in a given year’ (UCDP, 2009, p. 9). It is the latter type of conflict that is the focus of this chapter.

WAR WEAPONS: UNPACKING THE DATA

As explained above, this chapter aims to gain a better understanding of illicit weapons found in war zones through the compilation and analysis of data on the type, model, origin, and—whenever possible—source, age, and serviceability of illicit small arms in conflict zones. To this end, the project assembled datasets on illicit weapons in Afghanistan, Iraq, and Somalia. Together, they contain records on more than 80,000 illicit small arms, light weapons and ammunition, and accessories, along with hundreds of thousands of rounds of small-calibre ammunition.

The most comprehensive source of data on illicit weapons in Somalia is a series of reports published by the United Nations Monitoring Group on Somalia and Eritrea (UNSEMG). The reports contain references to thousands of weapons whose possession or transfer violated the Somali embargo after its adoption in 1992 (see Box 10.3); they also document domestic arms transfers. From October 2005 through July 2011, the UNSEMG published eight reports; each of the first six reports, covering October 2005 to December 2008, typically records around 50 incidents of transfers and seizures. As a result of changes to the UNSEMG mandate and staff, subsequent reports take a different approach, focusing on a small number of cases and providing more detailed information on associated transfers. This chapter draws primarily on information provided in the first six reports, using the later ones to assist with the overall analysis.

UNSEMG reports contain useful information on the basic types, quantities, sources, and end users of weapons in Somalia. Unlike the sources used in this study on illicit arms in Afghanistan and Iraq, the UNSEMG reports do not provide information on the age, country of manufacture, model, or condition of illicit weapons. As a result, this information is mostly absent from the database compiled for this study. To help compensate for this knowledge gap, this project included interviews with explosive ordnance disposal specialists and other experts working in Somalia as well as an examination of relevant media reports, videos, photographs, and other research articles.

There is no consolidated source of comparable information on arms trafficking to and within Afghanistan or Iraq (see Boxes 10.1 and 10.2).⁶ The chapter thus relies on data on weapons recovered from seized arms caches. The Small Arms Survey requested data from 27 governments and filed 20 freedom of information requests with the US and UK governments. The governments of Australia, the UK, and the United States responded by sending multiple datasets and documents.

UN monitors produced the most comprehensive data on illicit weapons in Somalia.

Data on weapons seized in Iraq comes from the following sources:

- **Documents obtained under the US Freedom of Information Act (FOIA).** Requests filed under FOIA yielded records on approximately 100 weapon caches seized in 2008 and 2009. The data, which is among the most detailed released to date, identifies the type, quantity, model, and country of origin for many weapons and the age and serviceability of a smaller percentage. The records also include dozens of photos of the seized weapons. Detailed US Army reports on small arms and light weapons that were circulating in Iraq shortly after the US invasion in 2003 were also obtained under FOIA.
- **Appendix C of *Iranian Strategy in Iraq: Politics and 'Other Means'*** (Felter and Fishman, 2008, p. 76). As part of a study on Iranian involvement in the conflict in Iraq, researchers from the Combating Terrorism Center at West Point obtained data on the contents of 74 caches that reportedly contained weapons of Iranian origin.⁷ Most of the data, which was obtained directly from the US military, identifies the model and country of manufacture of the seized weapons. The data also distinguishes 'caches' from 'explosive remnants of war' and 'post-invasion' from 'pre-invasion' caches; that is, caches assembled before and after March 2003.
- **The Defense Video & Imagery Distribution System.** Funded by the US Army, this information aggregation service contains thousands of media releases summarizing the contents of seized caches in Afghanistan and Iraq. It is among the largest public sources of data on seized caches and accounts for most of the caches analysed for this study.

Most of the data on illicit weapons seized in Afghanistan comes from US Army summaries.

Most of the data on illicit weapons in Afghanistan comes from a summary of seized caches obtained from the US Army under the Freedom of Information Act. The document contains records on weapons recovered from 493 caches seized from 2006 through 2008, 162 of which are fully redacted (completely withheld). Of the remaining caches, 236 contained small arms and light weapons. The records identify the date and time of seizure and the contents of the caches. The locations and most of the contextual information about the caches are redacted. The Survey also received data on the contents of several dozen caches from the Australian Defence Force and the British Ministry of Defence; this information relates to caches seized from January 2010 through April 2011 and September 2007 through September 2008, respectively. Many of the records identify the model, country of origin, and, in some cases, condition of the seized weapons.

While it is significantly better than most other publicly available information, the collected data is not perfect. The sample of seized caches in Iraq is not random, although any selection biases are at least partially mitigated by the size of the sample and the diverse nature of the seized caches. The data also reflects the US military's apparent tendency to inspect and report on weapons of Iranian origin more thoroughly than weapons from other countries. Also problematic is the fact that a large number of records containing US data on weapons seized in Afghanistan are redacted. The US Army does not explain why the records were singled out for redaction, and it is possible that data on certain types of weapons, weapons from certain countries, or weapons seized from specific end users was systematically withheld. The Australian Defence Force only includes weapons data that has been analysed by its Weapons Intelligence Teams. Emplaced IEDs, unstable military ordnance, homemade explosives, small arms ammunition, and other weapons that are not routinely analysed by these teams are not included. Concerns about reporting biases and data gaps are allayed to some extent by the notable overlap between weapon models and countries of origin in data from different sources.

Despite the cited limitations, the data assembled for this study is significantly more detailed and complete than other open source data, most of which is aggregated by weapon type and lacks information on models and countries of origin. Thus, the data sheds new light on illicit weapons in conflict zones. It also underscores the importance of government transparency. The reluctance of governments to release detailed data on seized weapons hinders analysis by private researchers and inter-governmental bodies, such as the UN arms embargo monitoring groups.⁸ The example set by the Australian, British, and US governments is worthy of emulation.

ILLICIT SMALL ARMS AND LIGHT WEAPONS IN IRAQ

This section is based on a review of the contents of more than 1,100 arms caches seized in Iraq in January 2008–September 2009. It appears to be the most comprehensive and detailed public dataset on illicit small arms and light weapons in Iraq. The data not only sheds light on the types, models, and origins of black market weapons in Iraq, but it also reveals where caches are commonly stored and how they are concealed.

Overview of seized caches

The seized caches analysed for this study range in size from a few dozen rounds of rifle ammunition to several thousand weapons of various types and calibres. In all, more than 30,000 small arms, light weapons, and rounds of light weapons ammunition were recovered from the caches, along with more than 500,000 rounds of small-calibre ammunition. Table 10.1 summarizes the data by weapon category.

Mortars and mortar rounds were found in greatest quantities, accounting for more than half of the recovered weapons. Firearms were second, representing approximately 12 per cent of seized weapons, followed by rocket-propelled grenades and launchers (10 per cent), grenades and landmines (7 per

Table 10.1 Categories of weapon recovered from caches in Iraq, 2008–09

Weapon category	Percentage of total
Mortar systems and rounds	57
Firearms	12
RPG launchers and rounds	10
Grenades*	7
Landmines	7
IEDs	5
Recoilless rifles and rounds	2
Portable missiles (MANPADS and ATGWs)	<1
Rockets in disposable launchers	<1

Note: *This category includes hand grenades, project grenades, rifle grenades, and other (unspecified) grenades.

Sources: Felter and Fishman (2008); US ARCENT (n.d.); US CENTCOM (2010; 2011a)

Table 10.2 Weapons identified by country of origin recovered from arms caches in Iraq, 2008–09

Country of origin*	Percentage of total
Iran	29
Russian Federation	16
China	13
Iraq	12
Soviet Union	9
All other countries	21

Note: *The data on countries of origin is taken directly from the source and therefore reflects any errors or omissions in the source.

Sources: Felter and Fishman (2008); US ARCENT (n.d.); US CENTCOM (2010; 2011a)

cent each), and IEDs (5 per cent). Shoulder-fired missiles, rockets in single-shot, disposable launchers, and recoilless rifles and rifle rounds were found in much smaller quantities.

The caches also contained a wide array of improvised weapons, including rocket launchers. The rockets fired from these launchers, mostly designed for use with multiple-launch rocket systems and helicopter-mounted launchers, were found in large quantities in the caches.⁹

Approximately nine per cent of the seized weapons are identified by country of origin, representing at least 19 countries, with five accounting for most of these weapons (see Table 10.2).

It should be noted that, because of the US military's emphasis on tracking weapons from Iran, the percentage of Iranian weapons identified by origin vis-à-vis weapons from other countries is almost certainly skewed. It should thus not be assumed that 29 per cent of the weapons in the dataset are of Iranian origin. It is possible that the sample more closely reflects the actual distribution of weapons from other countries, but a definitive assessment would require a larger sample size.

Data on the age of illicit weapons in Iraq remains scant. Production years are available for less than two per cent of the seized weapons analysed and involve mostly Iranian weapons. While of little value for determining the age range of seized weapons generally, the data is germane to the highly contentious issue of Iranian weapons acquired and used by armed groups in Iraq. According to the data, at least 29 per cent of the more than 900 seized weapons reportedly of Iranian origin were manufactured since 2003, and most were less than two years old when they were seized.

Assuming that the US assessment of the weapons' provenance is accurate, the data reveals the presence of a robust supply chain feeding weapons into Iraq. Whether this chain is linked to the Iranian government is unclear. Proving the existence of such linkages is extremely difficult, and even the best open source data rarely reveals the proximate source, let alone whether the shipments had the imprimatur of the Iranian government. Yet, if the Iranian government did not approve these transfers, they certainly entailed a surprisingly rapid diversion of often newly manufactured weapons from Iranian production or storage facilities, signalling a clear need for the review and strengthening of stockpile security practices in Iran.

The records on the seized caches also contain new information on the condition, or serviceability, of nearly 4,500 of the seized weapons. The data suggests that serviceability varies significantly from cache to cache. Some of the weapons are described as 'brand new' and were found in their original packaging. Other weapons, particularly those found underground, were highly corroded. The vast majority of weapons described as 'unserviceable' were mortar rounds, most of which were found in three large caches.





Image 10.1 Policemen inspect improvised rocket launchers confiscated from suspected insurgents at a police headquarters in Hilla, Iraq, October, 2007. © Reuters

The contents of seized caches were not limited to small arms and light weapons. Dead bodies, stolen vehicles, insurgent platoon rosters, bottles of 'poison', tanks of nitrous oxide, and a kidnapped child were also discovered, as were currency and IED components from around the world.¹⁰ These discoveries provide important clues about the age of the caches and the intentions of those who assembled them. The widespread presence of cellphones and other modern commercial technology suggests that many of the caches are fairly new. Al Qaeda propaganda, components for IEDs, attack plans, weapon training manuals, and kidnapping lists are indicative of the range of criminal and politically motivated violence pursued by consumers of illicit weapons in Iraq.

The caches were found in every conceivable location: bakeries, schools, mosques, tanneries, apartment buildings, fish farms, and even on the roof of the Ministry of Trade. Courtyards were common storage sites, as were houses abandoned during ethnic

purges or periods of intense fighting. In some cases, displaced families returning to their homes encountered IEDs, explosives, and other hazards left behind by militia members and other armed groups.

The methods of storing and concealing caches are equally varied. Some were packed into 55-gallon drums and buried in fields or courtyards or under buildings. Others were hidden in houses and apartment buildings, sometimes under floorboards or behind walls. While searching the home of an individual accused of sectarian killings, US troops found two explosively formed penetrators in the false roof of a shower. Some of the seized caches were so well hidden or randomly placed that, without local assistance, US and Iraqi troops would not have found them. A good example is a cache of 9 mm ammunition and IED components hidden in a bag on the top of a broken elevator at the Kadamiyah hospital. Tips from local citizens were by far the most commonly cited way in which the caches reviewed for this study were found.

Small arms

Illicit small arms recovered in Iraq range from run-of-the-mill Kalashnikov-pattern assault rifles to flintlock pistols. Among the more exotic weapons found by US troops are World War II-era German rifles etched with Nazi swastikas, gold-plated AKM rifles, and a four-barrel 'duck's foot' pistol used by sea captains against a first wave of ship-boarding

invaders (MilitaryNewsNetwork. 2009). Antique firearms recovered from the caches, some of which were in perfect working order, are worth as much as USD 25,000 to collectors (Minaya, 2007).

Most of the firearms recovered from arms caches are more commonplace, however. While data on firearms is less detailed than data on other weapons, it does provide some important insight into the types of illicit rifles, machine guns, and pistols available in Iraq. Interviews with government and private sector experts shed further light on these weapons.

Analysis of the seized caches is aided by two assessments of small arms and light weapons in Iraq as of 2004, both conducted by the US Army's National Ground Intelligence Center. The first is a handbook of small arms found in Iraq. The other is an assessment of small arms used by the 'anti-coalition insurgency'. The studies, which the Small Arms Survey obtained under the US Freedom of Information Act, provide a thorough overview of certain categories of small arms, light weapons, and ammunition circulating in Iraq as of mid- to late 2004.¹¹

According to the US Army, most rifles in Iraq were Yugoslav and Iraqi-produced weapons of Soviet design. The handbook finds that '[t]he primary rifle to be encountered in Iraq is the Tabuk/AKM and folding stock variants' (NGIC, 2004a, p. 16). The Tabuk is a locally produced version of the Yugoslav M64/M70, which is a variant of the Russian AKM (p. 16).¹² Other rifles that were common in 2004 were the AK-47, the Belgian-designed FAL, and the German-designed G3, a version of which has been produced by several of Iraq's neighbours, including Iran, Saudi Arabia, and Turkey (NGIC, 2004a, p. 31; Jones and Ness, 2007, p. 173). Russian, Chinese, and Iraqi SKS rifles, the Russian Mosin-Nagant, the British Lee Enfield, German Mauser 98 rifles, French Lebel rifles, and French FAMAS F-1 rifles were also reportedly available, but in smaller numbers. According to the assessment

Table 10.3 Firearms recovered from arms caches in Iraq, 2008-09

Type	Model	Quantity
Firearm, other	Pellet gun	2
Pistol	Pistol (unspecified)	42
	Pistol (unspecified, 9 mm)	110
	Beretta	2
	Flintlock	1
	Glock/Glock 19	8
Handgun	Handgun (unspecified)	10
Revolver	Snub-nose .38 Special	1
Shotgun	Shotgun (unspecified)	9
Rifle	Rifle (unspecified)	196
	Kalashnikov-pattern rifles	2,605
	'Barno'/'Berno'/'Bruno'	6
	Enfield	4
	FAL	2
	'GC'	2
	M1	1
	M4	1
	Mauser	4
	RPK 'rifle'	2
	Seminov/Siminov/SKS	75
	Smirnov	2
	Type 85	1
Sniper rifle	Sniper rifle (unspecified)	74
	Dragunov/SVD	16
	Semenov/Siminov/Smirnov	3

of insurgent weapons, ‘[t]he German Mauser 98, the French Lebel, and the French FAMAS F-1 were not known to be in prewar Iraq’ (NGIC, 2004b, p. 4).

Most sniper rifles and machine guns circulating in Iraq shortly after the US invasion were of Soviet design and produced in Iraq or in Eastern European countries. These include the Russian Dragunov and the Romanian FPK as well as the Iraqi Al-Kadissiya and Tabuk sniper rifles. Common light and medium machine guns include Iraqi-

produced versions of Yugoslav weapons, both of which resemble the widely exported Russian RPK and PKM machine guns (NGIC, 2004a, p. 49). Other machine guns include the PKT, RPD, RPDm, and RP-46 (NGIC, 2004b, p. 4). The heavy machine gun most readily available to armed groups in Iraq was the DShK, although its use by insurgents was reportedly minimal (NGIC, 2004a, p. 55). The US Army’s assessment did not look at handguns, shotguns, or sub-machine guns.

Data on firearms recovered from caches seized in 2008 and 2009 suggests that little changed following the publication of the US Army’s reports in 2004. Table 10.3 provides an excerpt of the data. The majority of seized firearms were Kalashnikov-pattern assault rifles, more than 2,600 of which were recovered from the caches. The only other rifles found in significant quantities were variants of the Soviet-designed SKS. Combined, Kalashnikov-pattern and SKS rifles accounted for at least 90 per cent of all seized rifles and 99 per cent of the rifles identified by type. While little is known about the specific models of the rifles recovered from the caches, interviews with military officials and private sector analysts provide some clues as to which models are most common in Iraq. According to the Olive Group, which has had a continuous on-the-ground presence in Iraq since 2004, Soviet AKM rifles and their foreign variants are common, as are Chinese Type 56 rifles, Polish PMK, Czech VZ 58, and Iraqi Tabuk rifles.¹³

Type	Model	Quantity
Sub-machine gun	Sub-machine gun (unspecified)	5
	MP-5	4
	Port-Said	1
	SKS ‘sub-machine gun’	1
	Sterling	2
	Tommy gun	1
Machine gun	Machine gun (unspecified)	54
	‘BKC’	1
	Delta	1
	M60	1
	M86	4
	M240	1
	MG42	1
	PK	2
	PKC	107
	PKM	5
	RPK	39
	SGM light machine gun	1
	Anti-aircraft guns (unspecified)	2
	DShK	19
ZPU	1	
Total		3,432

Note: The figures reflect the contents of the 1,100 caches studied. Weapons are listed as reported in the source document.

Sources: Felter and Fishman (2008); US ARCENT (n.d.); US CENTCOM (2010; 2011a)

Among the most striking features of the data is the small number of assault rifles used by coalition forces from large troop-contributing countries. The four countries with the largest troop presence brought tens of thousands of M16, M4, L85, K2, and SC70/90 rifles into the country (Jones and Ness, 2007), yet the number recovered from arms caches appears to be minuscule. While a reporting bias cannot be ruled out, the authors uncovered no evidence of systematic exclusion from the cache data of weapons used by US and coalition forces. In fact, documents obtained under the Freedom of Information Act include photos and detailed descriptive information, including serial numbers, of US M4 and M16 rifles recovered from arms caches. Assuming that reporting biases are indeed minimal, the data would indicate that the stockpile security practices of US troops and the largest coalition partners are sufficiently robust to prevent widespread diversion of issued weapons.¹⁴ However, the incomplete nature of available data precludes any firm conclusion on this issue.

The apparent absence of Iranian-produced G3 rifles in the seized caches is noteworthy.

Also noteworthy is the apparent absence of Iranian-produced G3 rifles in the seized caches. Hundreds of Iranian mortar rounds, rockets, RPG rounds, and blocks of C4 explosives were reportedly seized from arms caches, but the only firearms identified in the data as Iranian are two sniper rifles seized in separate caches in August 2008. Caches seized before 2008 include some G3 rifles and other Iranian firearms, but their numbers appear to be comparatively small (MNC-I, 2007). It is possible that some of the unidentified rifles in the seized caches studied were G3s, although the likelihood of significant under-reporting seems small given the rigour with which the US military scrutinizes seized caches for weapons made in Iran and their tendency to highlight Iranian weapons in public summaries of seized caches.

Machine guns recovered from the caches also appear to be primarily of Soviet design, with Russian models or their foreign variants comprising at least 75 per cent of all seized machine guns and more than 98 per cent of machine guns identified by type. Only three Western-style machine guns are listed, one of which is identified as an MG42—a World War II-era German machine gun.

The data reveals little about handguns recovered from the seized caches, except that they are widespread and are mostly 9 mm pistols. This is consistent with information provided by the Olive Group, which claims that pistols are in high demand in Iraq.¹⁵ The Olive Group identified six models that are commonly found in Iraq, five of which are 9 mm pistols.¹⁶ The 2008–09 cache data also provides little information about the sniper rifles recovered from the caches. Dragunov rifles are mentioned most frequently, but most of the approximately 90 seized sniper rifles are not identified by type or country of origin, precluding meaningful analysis of illicit sniper rifles in Iraq.

Light weapons¹⁷

The following section summarizes and analyses data on nearly 27,000 light weapons and ammunition seized from arms caches in 2008 and 2009. As it is beyond the scope of this study to explore all light weapons, the section focuses on the three categories for which the most detailed data was obtained: RPGs and launchers, shoulder-fired rockets and launchers, and portable missile systems.

Rocket-propelled grenades and shoulder-fired rockets

More than 2,200 RPGs and 410 RPG launchers were recovered from the seized caches.¹⁸ The majority of the items for which detailed information was available appear to be Soviet-designed models first fielded in the 1960s and 1970s;¹⁹ most were in circulation in Iraq in 2004 (NGIC, 2004a). Interviews and anecdotal accounts indicate armed groups have acquired more modern—and more effective—RPGs, but in very limited numbers. Most RPGs and launchers identi-



Image 10.2 Rocket-propelled grenade launchers and jacks recovered during a raid on a weapons cache are laid out at Camp Sparrow Hawk, Iraq, September 2009. © DVIDS

fied by model appear to be older Soviet and Chinese-designed models that are of limited utility against modern tank armour but can still be deadly when used against personnel and unprotected or lightly protected vehicles.

The US Army's assessments of weapons found in Iraq in 2004 provide a detailed overview of RPG rounds. According to the *Small Arms Handbook*, the RPG-7 was 'the primary portable rocket launcher in use by the insurgency' (NGIC, 2004a, p. 59). A version of the RPG-7, the Al-Nassira, was produced in Iraq under Saddam Hussein's regime. The RPG-16, a close cousin of the RPG-7 used by Russian airborne units, was also reportedly available, as were the RPG-18 and the RPG-22, which differ from the RPG-7 in that they are fired from single-shot, disposable launchers (NGIC, 2004a, pp. 58, 67). Smaller numbers of other rocket launchers were also reportedly available. The most notable is the Armbrust, a single-shot, disposable rocket manufactured in Singapore and Germany. The Armbrust is potentially attractive to armed groups because it is stealthy, versatile, and less likely to attract counter-fire than the RPG-7. It has no backblast, so it can be fired from enclosed spaces, has no firing signature, and is 'quieter than a pistol shot', according to the US Army (NGIC, 2004a, pp. 73–74; Jones and Ness, 2007, pp. 487–88).

RPG-7 launchers and their foreign variants fire a variety of rounds. The two main types are anti-personnel rounds and high-explosive, anti-tank (HEAT) rounds. Anti-tank rounds are further divided into models with one (unitary) warhead and those with two (tandem) warheads, the latter being much more effective against modern vehicle armour.

Most of the RPG rounds circulating in Iraq in 2004 were unitary HEAT rounds, with the most common being PG-7 and PG-7M rounds produced in Bulgaria, Iran, and the Russian Federation. Only one tandem HEAT round—a version of the Iranian NADER spotted in a news video—had been confirmed to be in Iraq as of 2004, according to the US Army (NGIC, 2004b, p. 5).

Little appears to have changed since 2004. Of the approximately 1,029 RPG rounds recovered from the seized caches that were identified by model, most were reportedly PG-7 anti-tank or OG-7 anti-personnel rounds or their Chinese or Iranian equivalents.²⁰ Also present in smaller numbers were the slightly improved PG-7M and the Chinese Type 69 Airburst (DZGI) rounds. Most of the anti-tank rounds identified by model have limited ranges and low armour penetration. The Iranian NADER round, several dozen of which were found in the caches, is thought to be of particularly poor quality by the US military (NGIC, 2004a, p. 85). The only higher-end anti-tank RPG rounds identified in the cache data are two PG-7L²¹ rounds found in northern Iraq. The PG-7L, which was not known to be in Iraq in 2004, is described by the US Army as the ‘top of the line’ unitary HEAT round and is capable of penetrating up to 500 mm of armour—nearly twice the armour penetration of the basic PG-7 round (NGIC, 2004a, p. 130).²² Given their

Table 10.4 Rocket-propelled grenades and shoulder-fired infantry rockets seized from arms caches in Iraq, 2008–09

Type	Model*	Quantity	Countries of origin*
RPG round	RPG-7 (unspecified)	88	Unspecified
	PG-7	325	Bulgaria, China, Iran, Iraq, Russian Federation, Soviet Union
	PG-7G	123	Bulgaria, China, Iraq, Russian Federation, Soviet Union
	PG-7M	86	Bulgaria, Russian Federation, Soviet Union
	PG-7L	2	Unspecified
	NADER	9	Iran
	PG7-AT-1	47	Iran
	PG-7-A2	4	Iran
	OG-7	232	Bulgaria, Iraq, Russian Federation, Soviet Union
	OG-7V	162	Bulgaria
	Type 69	7	China
	Type 69-1	1	China
	Type 69 Airburst	31	China
Single-shot rocket	RPG-18	11	Soviet Union
	RPG-22	1	Unknown
	AT-4	1	Unknown

Notes: *As identified in the source document.

The figures reflect the contents of the 1,100 caches studied.

Sources: Felter and Fishman (2008); US ARCENT (n.d.); US CENTCOM (2010; 2011a)

extremely limited numbers, however, the PG-7L rounds do not in themselves signal a clear improvement in insurgent capabilities as compared with 2004. Data collected for this study²³ and interviews with experts indicate that the number of illicit tandem HEAT and thermobaric rounds for RPG-7 launchers available in Iraq is minimal.²⁴ Table 10.4 summarizes the cache data for RPG rounds and shoulder-fired infantry rockets.

US troops found at least 38 optical sights for RPG launchers in the seized caches, including one night vision sight. Nearly half of the sights were found in their cases, suggesting that at least some were in working order. The use of optical sights can increase the effective range of anti-tank rounds from 200–300 m to 500 m (NGIC, 2004a, p. 58). However, RPG sights are reportedly difficult to use and require extensive training (Shea, 2006). It is unclear whether armed groups in Iraq have received such training.

Also found in the seized caches were a limited number of single-shot, disposable rockets, most of which are early model US, Soviet, and Yugoslav weapons that are comparable in range and armour penetration to most of the available RPG-7 rounds. A single ‘AT-4’ was recovered from a cache in eastern Baghdad in June 2008. It is unclear whether the recovered item was the modern Swedish-designed shoulder-fired rocket deployed by several NATO countries or the Soviet-designed 9K11 Fagot wire-guided anti-tank missile first fielded in 1970, since the designation ‘AT-4’ is used to refer to both weapons. If the item was the Swedish rocket, it is the only contemporary Western rocket identified in the cache data.



Image 10.3 A weapons cache discovered by US and Iraqi soldiers in Mosul, March 2007.
© DVIDS

Notably, there is no mention of later-model RPG series rockets in the data. Widespread proliferation of these weapons, which can penetrate modern tank armour, would pose a significant threat to armoured vehicles and other hardened targets in Iraq. These rockets include the Russian RPG-29 Vampir, a reusable rocket launcher that fires a highly effective tandem HEAT round. In the 2006 war in Lebanon, the RPG-29 was one of the few anti-tank weapons used by Hezbollah that proved capable of defeating the advanced reactive armour on Israel's Merkava 4 tanks (Ben-David, 2006).

While RPG-29s are not identified in the caches studied, armed groups in Iraq have acquired an unknown but presumably small number of them,²⁵ of which one was used to disable a British Challenger tank (Fox and Sheikhly, 2007; Rayment, 2007). Several videos of purported RPG-29 attacks on US tanks have also been posted on file-sharing websites (LiveLeak, n.d.). The US military claims that Iran is probably the source of the RPG-29s (AFP, 2006), which were reportedly distributed in limited quantities and 'appear to have been used in a "trial" capacity', according to the Olive Group.²⁶ The absence of references to RPG-29 rounds (PG-29V) in the seized caches is consistent with claims that distribution of this weapon was extremely limited.

Data on RPG attacks compiled by the US Defense Manpower Data Center indicates that they were significantly less effective than attacks with other weapons. The data reveals that RPGs were responsible for 53 deaths and 773 injuries in Iraq from 2003 through early 2012, a tiny fraction of the 35,000 deaths and injuries²⁷ resulting from hostile events documented during this time period. In contrast, 'explosive devices'—presumed to include IEDs—reportedly killed nearly 2,200 people and injured more than 21,000 during this period. RPG attacks also inflicted fewer casualties than firearms and indirect fire²⁸ (DMDC, 2012). It is unclear whether poor tactics, obsolete technology, or a combination of both accounts for the comparative ineffectiveness of RPG attacks in Iraq, but ready access to more effective anti-tank rockets almost certainly would have resulted in more casualties.

Although the percentage of seized RPG rounds identified by country of origin is relatively small, the data sheds some light on this issue. Of the roughly 2,200 RPG rounds found in the seized caches, 525 are identified by country of manufacture. Bulgaria and the Soviet Union are the most common sources, followed by Iran, China, the Russian Federation, and Iraq.

Portable missiles

Data collected for this study provides important new information on illicit man-portable air defence systems and anti-tank guided weapons in Iraq. MANPADS are lightweight, portable surface-to-air missiles that are often fired from a launch tube that rests on the shoulder of the operator. ATGWs are lightweight missiles that are used to attack armoured vehicles, bunkers, buildings, and exposed personnel. Both missile types are widely exported and have been used by armed groups worldwide.

Portable missiles comprise less than 0.1 per cent of the small arms and light weapons recovered from the caches reviewed for this study. Twenty of the 21 missiles and launchers for MANPADS identified by model were early model Soviet-designed systems, as were all of the seized ATGWs identified

Table 10.5 Portable missiles and launchers recovered from arms caches in Iraq, 2008-09

Model	Quantity
SA-7 missile	17
SA-7 launcher	2
SA-14 missile	1
SK-10 launcher	1
9M14 Sagger missile	9

Note: The figures reflect the contents of the 1,100 caches studied.

Sources: Felter and Fishman (2008); US ARCENT (n.d.); US CENTCOM (2010; 2011a)

by model.²⁹ The remaining item was an SK-10 launcher (gripstock), which is part of the Chinese QW-1 MANPADS. Table 10.5 lists the portable missiles seized in the 1,100 caches studied.

The only ATGWs identified in the cache data are early model, wire-guided Sagger missiles, which are difficult to operate. In its 2004 assessment of insurgent weapons, the US Army identifies four additional models of missiles used with ATGWs in Iraq, including later model systems that are much easier to use, namely the Russian Fagot and Konkurs and the Euromissile MILAN. While the Iraqi government stockpiled ‘significant inventories’ of these missiles prior to the 2003 invasion, most of the launchers were vehicle-mounted (NGIC, 2004b, p. 7). The lack of portable launchers may explain, in part, why armed groups adopted the IED as their primary weapon for use against coalition vehicles. This, in turn, may help to explain the large number of IEDs vis-à-vis ATGWs in the seized arms caches.

The seized MANPADS are also noteworthy for several reasons. First, the models of missiles—and the ratios of the different models in the seized caches—are largely consistent with other open source accounts of black market MANPADS in Iraq. US officials have identified four models of MANPADS that armed groups in Iraq have acquired: the Soviet-designed SA-7, SA-14, and SA-16 (Baker, 2007), and the Misagh-1 (Fox and Sheikhly, 2007), which is reportedly a variant of the Chinese QW-1 produced in Iran. Two of these models—the SA-7 and the SA-14—were found in the seized caches studied. While estimates of Iraq’s pre-war MANPADS inventory are imprecise, available information suggests that the regime stockpiled far fewer SA-14s and SA-16s than SA-7s, which may explain why far fewer of these systems have been found in seized arms caches (SIPRI, n.d.). The Misagh-1 has also been found in much smaller quantities (Schroeder, 2008).

The only ATGWs identified in the cache data are early model, wire-guided Sagger missiles.

The US military report on the seized SK-10 launcher is among the most notable documents obtained as part of this study (US CENTCOM, 2011a). The associated QW-1 MANPADS is a second-generation system first unveiled in 1994. It is faster, has a longer range, and is able to engage targets at higher altitudes than the other MANPADS recovered from the caches; moreover, it is ‘all aspect’, meaning that it can engage targets from any direction (O’Halloran and Foss, 2010, pp. 9, 39). The report contains a photograph of the seized launcher—the first publicly available hard evidence of a QW series MANPADS in Iraq.³⁰

The photograph is a significant contribution to the ongoing debate over Iranian-supplied weapons in Iraq. Iran is a major importer of Chinese weapons and is believed to produce a copy of the QW-1 called the Misagh-1 (SIPRI, n.d.).³¹ According to the Stockholm International Peace Research Institute (SIPRI), Iran produced an estimated 1,100 Misagh-1 MANPADS in 1996–2006 (SIPRI, n.d.). The US military claims that Iran has provided Misagh-1 missiles to armed groups in Iraq but has offered little hard evidence to support this claim (Fox and Sheikhly, 2007). Information from other sources is scant. The most significant is an amateur video of what appears to be a Misagh-1 attack perpetrated by members of Kata’ib Hizballah, an armed group in Iraq with alleged ties to Iran (Schroeder, 2010). While impossible to authenticate, the video was the strongest publicly available evidence of Chinese-designed MANPADS in Iraq until the release of the report on the seized SK-10 gripstock.

There is some circumstantial evidence linking Iran to the launcher, including the cache in which it was found. In addition to the launcher, the cache reportedly contained nine blocks of Iranian C4 explosives and four recently manufactured Iranian RPG rounds (US CENTCOM, 2011a). Conclusively linking the launcher to Iran is difficult, however. There are other potential sources of QW-1 missiles, and it is unclear whether Iran imported any gripstocks directly from China or if its own gripstocks are marked with the same designations. Answers to these questions are necessary, but not sufficient, for linking the Iranian government to the gripstock, which may have made its way to Iraq through

Box 10.1 Trafficking in small arms and light weapons in Iraq

Arms trafficking in Iraq takes many forms. Actors may circulate weapons internally or traffic them across Iraq's borders with Iran and Syria. To a lesser extent, arms dealers have smuggled arms into Iraq from the United States and Europe. Using open source information, this box describes some of this trafficking activity, including the routes and methods used by smugglers.

Of the alleged sources of weapons trafficked into Iraq, the most politically sensitive is Iran. US officials have repeatedly accused the Iranian government of facilitating this trafficking, a charge that Iranian officials deny. They claim that any Iranian weapons in Iraq are either vestiges of the Iran-Iraq war or were purchased on the open market. Data on seized weapons compiled for this study includes references to dozens of weapons reportedly manufactured in Iran. In addition, there are reports of arms traffickers caught smuggling weapons from Iran into Iraq, although they are difficult to confirm (AP, 2007).

In addition to Iran, there are several reports identifying Syria as an entry point for illicit weapons into Iraq. Arms smugglers detained by the US military have reportedly 'confessed to bringing weapons, foreign fighters, and money for [insurgent groups] across the Syrian border into Iraq' (AP, 2005). Some sources contend that Iraqi insurgents continue to obtain arms through the channels that Saddam Hussein utilized to bypass the arms embargo, some of which go through Syria and involve the provision of false end-user certificates (Intelligence Online, 2004). Nonetheless, there is little open source evidence indicating that the Syrian government is directly involved in trafficking.

In addition to cross-border trafficking, many arms transfers occur within Iraq. Former soldiers have sold some of the weapons that now circulate illicitly in Iraq. Recent reports also indicate that members of the reconstituted Iraqi army and police have sold their weapons on the black market, including those procured with US government funding. In 2006, C.J. Chivers of *The New York Times* wrote that, among the 370,000 weapons purchased by the United States for Iraq's security forces, three of the principal types could readily be found in Iraqi shops and bazaars (Chivers, 2006). In 2007, arms dealers reportedly told Reuters that many Iraqi soldiers and policemen were selling their pistols on the black market. In the same report, an Iraqi soldier explained that this decision was motivated by the need to 'feed my family until I find a safer job' (Rasheed and Colvin, 2007). Data on the pistols seized from insurgent caches in 2008-09 is too vague to assess these claims.

Open source reports indicate that international and Iraq-based traffickers utilize a variety of routes. In their paper, *Iranian Strategy in Iraq*, Joseph Felter and Brian Fishman describe several common routes for smuggling arms from Iran into Iraq, stating that traffickers often receive shipments of explosively formed penetrators from Iran through Amara, Basra, and Diwaniyah, transfer them to Sadr City, and then distribute them to Special Groups in outlying provinces (Felter and Fishman, 2008). Militants mention the marshy areas next to the Iraqi border town of Qal'at Sali as a common trafficking route for small boats carrying illicit weapons. Traffickers have also been detained in the village of Qasarin near the border with Iran (AP, 2007). Media reports mention several popular locations for selling illicit arms inside Iraq, including the Meridi market in Sadr City and the arms bazaars in Amara (Hasni, 2003; Sherwell, 2004).

When trafficking weapons, smugglers and insurgents utilize a variety of transportation and concealment methods. US intelligence reports and interviews with Iraqi gun-runners reveal that weapons are smuggled in trucks hauling cigarettes, sheep, cement, crates of fruit, or propane gas cylinders. Other shipments are carried by boat via the marshes of Qal'at Sali (Felter and Fishman, 2008). Smugglers unload the boats at various points along the shoreline and place the weapons in the beds of pickup trucks, covering them with reeds. Many smugglers use local dirt roads to evade checkpoints manned by coalition forces. A 2004 interview with an Iraqi arms trafficker illustrates the precision and planning that characterizes many smuggling efforts:

Travelling with fake documents, he is guided by spotters who drive ahead in cars and check with street observers who advise them on which routes are guarded and where diversions are needed [. . .]. Once in Baghdad, the gun runners offload the lorries and distribute the arms in cars or minibuses, relying on the laxness of the Iraqi police to see them through (Hider, 2004).

US Marines claim that Sunni insurgents who traffic arms and fighters into Fallujah have used ambulances and aid trucks to transport weapons between neighbourhoods (Navarro, 2004). US marines have, in fact, found false bottoms in vehicles filled with assault rifles and RPG launchers as well as an anti-aircraft gun hidden in a truckload of aid (IWPR, 2005). In April 2008, Iraqi policemen identified an abandoned truck stacked with hay that had been transporting arms through the area. The shipment was reportedly 'moved up the al-Kut highway to be broken down into smaller packages for movement to Baghdad' (Sowers, 2008).

Author: Chelsea Kelly



Image 10.4 SA-7b MANPADS recovered from an arms cache in Iraq.

per cache is shrinking, which may indicate that the number of MANPADS looted from government depots in 2003 and still outside of government control may be dwindling.

In the first few years after the Baathist regime fell, coalition troops regularly encountered caches containing dozens of missiles. In June 2003, US forces seized 87 SA-7s from a terrorist training camp in Anbar Province (Wright and Reese, 2008). Three months later, a cache of 23 SA-7s was found near Tikrit (First Battalion, 2003). Seizures of this size continued for years, revealing just how many looted MANPADS had entered the black market in 2003. By 2008, however, the number of missiles seized per cache had dropped significantly; none of the caches studied contained more than two missiles identified as MANPADS. It is possible that larger caches were found and not reported, but there is little evidence of a shift in reporting practices from previous years. The most likely explanation is that insurgent usage, buy-back programmes, and cache seizures have reduced the number of illicit MANPADS available in Iraq to levels more consistent with other war zones.

Finally, the data provides a rare, if limited, glimpse at the age and serviceability of illicit MANPADS in Iraq. Documents obtained from the US government contain photos of the markings on seized MANPADS, few of which are publicly available (see Image 10.4). The markings on one of the seized missiles indicates that it is a Soviet SA-7b manufactured in 1978, which suggests it is one of the thousands looted from Iraqi stockpiles in 2003. According to SIPRI, the Iraqi government imported 6,500 SA-7 missiles from 1975 to 1986, placing the manufacture of the photographed missile within the delivery timeframe (SIPRI, n.d.). The date is important in determining whether the missile and others like it are operational. Since the reported shelf life of most MANPADS is roughly 10–20 years (Schroeder, 2011; Hunter, 2001), it is possible that the missile was either no longer operational or would not have performed as intended. On the other hand, the documents also highlight the danger of assuming that MANPADS are unserviceable simply because they are first-generation systems. Documents obtained from the US military contain serviceability assessments for five of the seized MANPADS. Explosive ordnance disposal experts deemed three of the five missiles ‘serviceable’. While this sample size is too small to extrapolate to the broader population of illicit MANPADS in Iraq, the documents do raise the possibility that at least some of the loose SA-7 MANPADS are operational despite their advanced age.

other means. This analysis of the SK-10 and its possible origins provides yet another example of the difficulty of tracking illicit weapons back to their sources using publicly available data.

Also notable is the limited number of models of MANPADS found in the seized caches. Twenty countries have produced more than 30 different models of MANPADS (USGAO, 2004), yet only five have been identified in Iraq, and the vast majority appear to be Soviet-designed systems first fielded in the 1960s and 1970s. The data also suggests that the number of missiles seized

ILLICIT SMALL ARMS AND LIGHT WEAPONS IN AFGHANISTAN

This section is based on a review of three previously unreleased datasets. They contain:

1. records compiled by the US Army that summarize the contents of 331 caches seized in Afghanistan from 2006 through 2008;
2. information on weapons recovered from 82 caches seized in the Afghan province of Uzurgan from January 2010 through April 2011 and analysed by Weapons Intelligence Teams of the Australian Defence Force; and
3. information on 409 weapons recovered from arms caches by British forces in Helmand Province from September 2007 to September 2008.

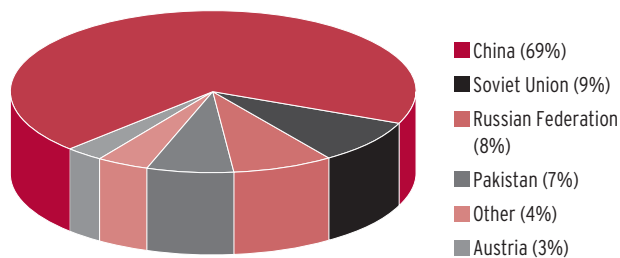
Even though different governments compiled the datasets, and they cover different time periods, the similarities are often striking. The following section summarizes this data, supplementing it with open source accounts from journalists and government officials.

Overview of seized caches

Nearly 9,600 small arms and light weapons and approximately 200,000 rounds of small arms ammunition were recovered from the seized caches summarized in the data provided by the US Army and the British Ministry of Defence.³² As in Iraq, mortars and mortar rounds were the most frequently encountered items, but here they only accounted for about 40 per cent of all seized weapons. Roughly 27 per cent of the weapons were grenades (hand, rifle, and spin-stabilized). RPGs and recoilless rifles and rounds were found in roughly equal numbers, each accounting for about 13 per cent of seized weapons. Notably, firearms accounted for only four per cent of all seized small arms and light weapons as compared to more than ten per cent of items seized in Iraq. Also significant is the comparatively small number of seized IEDs. Only 100 IEDs were reportedly recovered from the caches in Afghanistan, 77 of them in just three caches. In contrast, nearly 1,700 IEDs were recovered from 287 out of the 1,100 Iraqi caches studied.

Approximately 1,157 items (12 per cent) of small arms and light weapons recovered from the seized caches are identified by country of origin (see Figure 10.1). While this sample size is too small to extrapolate beyond the 1,157 items, the predominance of Chinese and Eastern Bloc weapons in the sample is noteworthy. Nearly 70 per cent of the weapons in this sub-set were identified as 'Chinese'. These items include hundreds of mortar and recoilless rifle rounds, dozens of tactical rockets, grenades, and RPG rounds, and a small number of firearms and landmines. 'Russian' and 'Soviet' weapons combined account for about 17 per cent of the seized weapons, followed by weapons from Pakistan, which comprised about seven per cent of the seized items. Given the repeated accusations of Iranian

Figure 10.1 Seized weapons by country of origin in Afghanistan



support for armed groups in Afghanistan, the data contains surprisingly few references to weapons of Iranian origin, namely one single anti-tank mine and four mortar rounds. The number of Western weapons identified in the data is also small. Combined, weapons made in Australia, Europe, and the United States account for six per cent of the 1,157 weapons. Very little data on the condi-

tion and date of manufacture was provided, precluding any meaningful analysis of the serviceability and age of the seized weapons.

As in Iraq, items other than weapons found in the caches provide clues regarding when the caches were assembled and the interests of those who assembled them. The items include cellphones, voter registration cards, brass knuckles with spikes, an arms sales ledger, narcotics, and IED components, including a ‘remote control fob trigger device’. In a cache discovered in April 2007, US forces found ‘school teaching material [including] weapons manuals [that] appears to be focused on children or young adults’ (US ARCENT, 2011).

Small arms

The data on seized caches includes records of 217 firearms recovered by the US military and an additional 169 firearms seized by the Australian Defence Force and the British military (see Table 10.6). The seized weapons range from early 20th-century Lee-Enfield rifles to an AKM assault rifle ‘never before fired’ and still covered in packing grease. As in Iraq, several novelty firearms were also found, including a musket, a pen gun, and a World War-II-era M3 sub-machine gun. The caches contained few surprises; nearly all of the types and models of seized firearms have been available in Afghanistan for many years and have been documented elsewhere (Bhatia and Sedra, 2008, pp. 65–66; Chivers, 2011).

Rifles accounted for more than half of all seized firearms, with Kalashnikov-pattern assault rifles being the most numerous. A smaller but still significant number of bolt-action rifles were also found in the caches; most of them appear to be chambered for the .303 round used by various iterations of the British Lee-Enfield rifle, which was first produced more than a century ago. This mix of seized rifles documented by the United States is roughly the same as that documented by Australia and is consistent with accounts from journalists (Chivers, 2011).

The large number of .303 bolt-action rifles is a departure from caches found in Iraq and merits closer attention since they illustrate the widespread and continuous proliferation of firearms technology and the resulting difficulty of definitively identifying the sources of seized firearms. Despite their vintage, Lee-Enfield-style rifles have many potential sources for Afghans: local supplies left over from the US government’s covert war against the Soviets in the 1980s; versions of the rifles produced in Pakistan and India; and ‘Khyber Pass copies’—that is, local copies of the Lee-Enfield and other bolt-action rifles made by Pakistani gunsmiths near the Afghan border.³³

Too little is known about the seized rifles to determine from which of the aforementioned sources they came, although on-the-ground reporting by Chivers provides some clues. In 2011, Chivers was given access to five Lee-Enfield rifles and other weapons seized by US troops in eastern Ghazni Province. At least two of the five Lee-Enfield rifles had anomalous markings. One of the weapons, a Short Magazine Lee-Enfield rifle, had a date stamp of 1881—35 years before that model was first fielded. The second rifle had a ‘weird and wonderful’ logo that was clearly different from the factory stamp usually found on that particular model. Both rifles, it turns out, were ‘Khyber Pass’ copies (Chivers, 2011).

Despite their apparent ubiquity, .303 bolt-action rifles are not widely used by armed groups in Afghanistan, according to Chivers. He speculates that a lack of ammunition may be a major reason (Chivers, 2011), a theory that is supported by caches studied in this analysis. Of the tens of thousands of rounds of small-calibre ammunition found in the seized caches, only one ‘bag’ of ammunition for .303 calibre bolt-action rifles was identified.

Most of the machine guns seized in the caches are widely exported models of Soviet design. More than half are PKMs, which are among the most widely exported machine guns in the world. Smaller numbers of RPD and RPK light

The large number of .303 bolt-action rifles is a departure from caches found in Iraq.

Table 10.6 Firearms seized in Afghanistan by Australian, British, and US troops between 2006 and 2011

Seized weapons		Quantity		
Type	Model*	US Army (January 2006- December 2008)	Australian Defence Force (January 2010- April 2011)	UK Ministry of Defence (September 2007- September 2008)
Anti-aircraft gun	DShK	6	-	5
	ZGU-1	1	-	-
	ZUK	1	-	-
Handgun	Makarov pistol	-	4	-
	Pistol (unspecified)	10	4	1
	Revolver (unspecified)	1	-	-
	Tokarov pistol	-	1	-
Machine gun	DPM machine gun	-	-	1
	Gernov	1	-	-
	M382	-	1	-
	Machine gun (unspecified)	5	1	1
	PAPASHA	4	-	-
	PK	1	-	-
	PKM	17	2	7
	RPD	2	2	-
	RPK	2	1	-
	WW2-era M3 sub-machine gun	-	1	-
Rifle	AK-47/unspecified Kalashnikov-pattern assault rifles	69	32	37
	AK-47M/AKM	-	2	-
	Bolt action (unspecified)	10	4	-
	.303 calibre (model unspecified)	-	15	-
	Dragunov sniper rifle	-	-	1
	Enfield/Enfield-style	6	4	1
	Mauser	-	1	-
	SKS	1	1	-
	Sniper (unspecified)	1	-	1
Unspecified	15	-	-	
Shotgun	Shotgun (unspecified)	7	2	35
Other	Golden gun type weapon	-	-	1
	Guns	55	-	-
	Musket	1	-	-
	Pen gun	1	-	-
Total		217	78	91

Note: *As identified in the source document.

Sources: Australian DOD (2011); UK MOD (2011); US ARCENT (2011)

machine guns were also found, as were several DShK heavy machine guns. Shotguns and handguns were also found in the caches.

While roughly 20 per cent of the seized firearms are identified by country of origin, most are from a single cache of 55 Pakistani ‘guns’ seized in September 2008. Of the 18 other weapons identified by country of origin, all but two—an unspecified British rifle and a Spanish pistol—are labelled as either Russian or Chinese. This is consistent with historical assessments of Afghanistan’s weapons stocks (Bhatia and Sedra, 2008, p. 65) and recent on-the-ground cataloguing of seized caches (Chivers, 2009; 2010).

As in Iraq, very few US- and European-designed rifles and machine guns are listed in the contents of the seized caches. It is possible that some of the firearms not identified by type are of Western origin, but even if half of the unidentified firearms were manufactured in the United States or Europe—which is unlikely—they would still only constitute a small share of seized firearms. Furthermore, only a small percentage of the ammunition recovered from the seized caches were 5.56 mm rounds used in most US and Western European rifles. Of the 283 identifiable ammunition magazines found in the caches, only four were identified for M4 and M16 rifles.³⁴

The data reveals little about the security of the Afghan National Security Forces (ANSF) inventories. Most of the firearms in ANSF arsenals are Kalashnikov-pattern assault rifles and PK series machine guns—the same types of firearms used by insurgents (*Jane’s World Armies*, 2012).³⁵ The media regularly produce accounts of weapons that were issued to Afghan soldiers or police officers and subsequently seized from insurgents or recovered from arms caches. Among the more compelling examples is Chivers’ analysis of 30 seized Kalashnikov magazines, which finds that ‘at least 17 of the magazines contained ammunition identical to the cartridges issued by the United States to Afghan government forces’ (Chivers, 2010).³⁶ Whether this account is representative of insurgent holdings more generally is difficult to determine, however, since little aggregate data on seized ANSF weapons has been made public.

Few US- and European-designed rifles and machine guns are listed in the contents of the seized caches.

Light weapons

Despite persistent concerns about the acquisition of new, deadly weapons by the Taliban (Danahar, 2007; Vanden Brook, 2008), an analysis of the seized caches and other reports suggest that most illicit light weapons in Afghanistan are primarily older models that have been available in Afghanistan for decades. While they still pose a threat, few, if any, of the Taliban’s weapons appear to be technologically sophisticated game-changers comparable to the Stinger missiles acquired by their predecessors in the 1980s.

Data on light weapons recovered from the seized caches that were studied suggests that many are early generation systems of Chinese, Russian, or Soviet design. Of the more than 1,100 light weapons found in the caches that are identified by country of manufacture, almost 90 per cent are identified as Chinese, Russian, or Soviet. Many of these systems were first fielded in the 1960s or early 1970s. For example, most of the models of seized RPG launchers and rounds identified in the data were fielded at least 40 years ago,³⁷ and several dozen of the rounds were developed in the 1950s. As in Iraq, no tandem warhead or thermobaric rounds are listed.

Furthermore, literature on previous conflicts in Afghanistan suggests that the models of RPGs—and most of the other seized light weapons—were first introduced in the country many decades ago. The United States and its allies supplied thousands of Chinese and Soviet weapons of various models to the Mujahideen in the 1980s (Bhatia and Sedra, 2008, p. 44). Many of the same models have been recovered from the seized caches. Thousands more weapons were acquired from the Soviet-backed regime, either on the battlefield or from government depots when the regime collapsed in 1992 (p. 49). Whether the recently seized weapons themselves date back that far is not clear,

but the data does suggest that the types of weapons—and their technological sophistication—has changed little over the last 20 years.

Equally striking is the apparent absence of portable missiles and other technologically sophisticated light weapons in the seized caches. Contrary to claims of large-scale trafficking of ‘sophisticated weapons’, there is little evidence—in the cache data or elsewhere—of widespread acquisition and use of MANPADS or ATGWs by armed groups in Afghanistan (Jalalzai, 2011). No MANPADS or ATGWs are identified in the data, and the only component of such weapons is a single

battery (power unit) for a Stinger missile launcher found in November 2006. A review of other open source documentation suggests that illicit portable missiles were more commonplace during the era when the Taliban were in power. A US Defense Department summary of weapons seized by US troops during the first half of 2002 includes 319 shoulder-fired surface-to-air missiles (Rhem, 2002). The Defense Department does not identify the model of the missiles, but subsequent statements by US military officials indicate that most MANPADS seized during this period were first-generation Chinese HN-5 missiles (Murphy and Freedberg, 2002). MANPADS continue to circulate in Afghanistan, but the quantities appear to be extremely limited. In 2007, US journalist Philip Smucker received photos of HN-5 MANPADS from a Taliban ‘weapons expert’, who claimed that the missiles were recent acquisitions (Smucker, 2007; see Image 10.5). Markings on the launch tubes of these missiles appear to confirm them as HN-5s, which are comparable to first-generation Soviet SA-7s. Few, if any, MANPADS have been seized from Taliban arms caches in recent years (Schroeder, 2010).

Illicit anti-tank missiles appear to be a bit more common than MANPADS, but available data suggests that stocks are limited and most are older models. Coalition forces reportedly found 17 missiles in a single cache in August 2005 (AFPS, 2005) and additional anti-tank missiles have been recovered as recently as 2010 (US ARCENT, 2010). Little is known about many of the seized missiles, but those identified by model are all Soviet-designed Sagger missiles, which were first fielded in the early 1960s (Jones and Ness, 2007, p. 473). The Taliban have also acquired MILAN anti-tank missiles, one of which is displayed in a Taliban propaganda video released in December 2010 (see Image 10.6). The origin of the missile is unclear, but it could be one of two missiles abandoned by French soldiers



Image 10.5 HN-5 MANPADS reportedly acquired by the Taliban, 2007. Courtesy of Philip Smucker



Image 10.6 MILAN anti-tank missile fired by a Taliban fighter. © Florian Flade

Box 10.2 Trafficking in small arms and light weapons in Afghanistan

Illicit small arms and light weapons in Afghanistan are legacies of decades of international and regional conflict. With thousands of small arms and light weapons left over from the Soviet invasion and the ongoing conflict, civilians and insurgent groups within Afghanistan have easy access to unregulated arms. Nonetheless, weapons left over from previous conflicts are not the only illicit arms. Weapons continue to flow across Afghanistan's porous borders and particularly across the borders with Iran, Pakistan, and Tajikistan. This box assesses the regional sources of illicit arms in Afghanistan as well as the routes and methods used by smugglers.

Reports of weapons intercepted along Afghanistan's border with Pakistan as well as interviews with arms dealers underscore the importance of the trade in the mountainous frontier region. For example, in 2005, the Afghan Defence Ministry reported 475 seizures of weapons, including more than 2,000 rockets, 4,000 land mines, and 5 million cartridges on the border with Pakistan, some of which reportedly belonged to former Taliban and al Qaeda fighters currently stationed in Pakistan (IWPR, 2005). Similarly, in January 2007, Afghan forces found 40 truckloads of machine guns, explosives, and rockets belonging to the Taliban that were hidden in mountain caves near the border with Pakistan (Khost, 2007).

Arms are also trafficked across the border with Tajikistan, to the north. There are multiple documented reports of arms caches found along the border, and arms dealers have described the region as a prime smuggling route during media interviews (Starkey, 2008). Weapons seized along the border include Kalashnikov-pattern rifles, small arms ammunition, and hand grenades reportedly abandoned by Afghan smugglers in Tajikistan's Moskovskiy district in March 2001 (ITAR-TASS, 2001). Media interviews with arms smugglers in 2008 indicate that Russian arms dealers and Taliban drug lords often utilize this border to exchange Russian arms for Afghan opium (Starkey, 2008).

Possible arms trafficking across the border with Iran receives significantly more attention than trafficking at other points along the Afghan border. Many US and Afghan officials believe that the Iranian government is at least turning a blind eye to activities of certain armed groups.³⁸ Part of this suspicion stems from the March 2011 seizure of 48 122 mm Iranian-produced rockets by British troops in Nimruz Province (Borger and Norton-Taylor, 2011). Similar incidents include the reported capture of Iranian arms traffickers in October 2009 and the seizure of a large shipment of anti-tank mines and mortars crossing from Iran into Afghanistan in June 2009 (AP, 2010; Parks, n.d.). Corroborating claims that the Iranian government is involved in such incidents using open source data is extremely difficult, however, and even the US military concedes that groups other than those directly affiliated with the Iranian government may be responsible for at least some of the arms trafficking. For example, the Joint Improvised Explosive Device Defeat Organization (JIEDDO) suggests that Baluchi insurgents (instead of Iranian intelligence or al-Quds) may be the ones transferring many of the Iranian weapons (Parks, n.d.).

The routes used by traffickers are many and varied. Some common routes from Afghanistan to Pakistan run through the Logar and Wardak Provinces of Afghanistan to border towns of Pakistan such as Bannu, Miranshah, and Wana (IWPR, 2005). While there is little publicly available data on the precise locations of trafficking from Tajikistan, an Afghan police commander claims that smugglers use the Darqad Pass between Tajikistan and the northern Afghan province of Takhar (Jalalzai, 2011). Furthermore, during media interviews, arms smugglers have claimed that Russian arms dealers meet Taliban drug lords to make exchanges at a bazaar near the old Afghan-Soviet border, deep in Tajikistan's desert, and then transport the arms from Tajikistan towards conflict areas in Afghanistan. According to JIEDDO, many of the arms trafficked between Afghanistan and Iran go through the Afghan border town of Islam Qala, on the road between Herat and Mashhad, Iran. The British *Sunday Times* asserts that much of the trafficking through Islam Qala is conducted by a drug trafficker in southern Afghanistan who is believed to have bought weapons from the Iranian government and sold them to the Taliban (Albone, 2007).

Smugglers and insurgents utilize a variety of methods for transporting and concealing weapons. Arms are often trafficked in cars, in trucks, and on the backs of donkeys and horses. For example, in March 2006, Afghan highway police stopped a Toyota Corolla loaded with Kalashnikov-pattern rifles reportedly destined for the Taliban (IWPR, 2006). In January 2003, Afghan authorities seized weapons being carted over the Pakistan border on donkeys and horses near the city of Jalalabad (News Wire Services, 2003). As navigating the mountainous terrain of Afghanistan's borders can be daunting, smugglers sometimes use a guide who specializes in wilderness border crossings (JIEDDO, n.d.). Traffickers often conceal their weapons with building materials, agricultural produce, livestock, flour sacks, cigarettes, and cement (Hussain and Hayadat, 2011; Parks, n.d.; Moscow Interfax, 1998). In 1998, the Kyrgyz security service detained 16 railroad cars carrying weapons from Iran to Afghanistan disguised as sacks of flour provided as humanitarian aid (Moscow Interfax, 1998). Sometimes, guns are disassembled to facilitate transport (Starkey, 2008). Smugglers have also been known to disguise themselves as cloth traders, labourers, humanitarian aid workers, and police. An official from the Afghan interior ministry stated that police vehicles are sometimes used in narcotics and weapons smuggling (Jalalzai, 2011).

during an engagement with the Taliban in August 2008 (Flade, 2010). If so, the Taliban's supplies could be quite limited. Interviews with government officials and private analysts appear to confirm this. When queried about illicit ATGWs in Afghanistan, a NATO spokesman noted that '[e]arlier variants of MILAN could be available on the black market. Though it is not a common occurrence, insurgents have been known to hold such weapons.'³⁹ Similar views were expressed by private analysts.⁴⁰

As evidenced by the data on the seized caches, the number and types of modern, technologically sophisticated light weapons accessible to armed groups in Afghanistan appear to be very limited. The constraining effect on Taliban operations is most clearly evident in the number of aircraft shot down in Afghanistan. The US has lost 17 helicopters to hostile fire in ten years (Peter, 2011)—a small number compared to the 270 Soviet aircraft shot down by Afghan armed groups in the late 1980s (Kuperman, 1999). While training and tactics partially explain this difference, the weapons themselves—and the US military's familiarity with them—undoubtedly have played a major role. The Stinger, which the Mujahideen never would have obtained without US assistance, was latest-generation technology that the Soviets were initially incapable of countering (Schroeder, Stohl, and Smith, 2007, pp. 84–85). None of the weapons supplied to—or acquired by—the Taliban are technologically comparable to the Stinger missile in the 1980s.

Whether the Taliban's light weapons are first generation or latest generation matters only in certain contexts, however. While consistently outgunned by NATO forces, the Taliban control an arsenal that is often equivalent to or better than the Afghan forces, which are the most frequent targets of its attacks. The Afghan police are particularly ill-equipped. A 2011 report by the US Defense Department's Inspector General concludes that, '[w]hen they are attacked by insurgents, the [Afghan Uniformed Police] often cannot defend themselves, or the population they are supposed to protect' (USDoD IG, 2011, p. 29). The insurgents, observes the Inspector General's office, are 'more heavily armed with better quality AK-47s, robustly supplied rocket-propelled grenades (RPGs), heavy machine guns, mortars and other weapons' (p. 30). Nonetheless, while the Taliban are apparently able to acquire sufficient quantities of certain types of small arms and light weapons, evidence suggests that national controls on portable missiles and the latest generation of other advanced weaponry are fairly robust and that the few governments that are willing to provide armed groups with such weapons are not willing to do so in Afghanistan.

Earlier variants of MILAN could be available on the black market.

ILLICIT SMALL ARMS AND SOMALIA

The information provided in this section is derived from an analysis of the reports of the United Nations Monitoring Group on Somalia and Eritrea from 2004 through 2011. As mentioned above, these reports include information on individual incidents of international and domestic transfers, as well as seizures of arms caches. They offer unique insight into the sources of illicit weapons in Somalia, patterns of movement to and within Somalia, and the types of weapons that are circulating in the country.

Background

UNSEMG reports from May 2004 through July 2011 record 445 instances of arms transfers (international or domestic) or seizures, involving almost 50,000 small arms and light weapons. Small arms were the most voluminously recorded items, appearing in approximately 72 per cent of the weapons records,⁴¹ with light weapons accounting for roughly 28 per cent.⁴² The reports reveal surprisingly little diversity in weapons. Kalashnikov-pattern assault rifles,

PKM machine guns, DShK heavy machine guns, RPG-2s and RPG-7s, and B-10 recoilless rifles are the items most frequently cited, often as part of the same transaction, suggesting their widespread use by many armed groups. The vast majority of the records concern weapons purchased at Somali arms markets (85 per cent), followed by unauthorized international transfers (10 per cent) and cache seizures and interdicted shipments (4 per cent) (SOMALILAND).

The UNSEMG data spans a period of continuous conflict and fundamental power shifts in Somalia. The formation of the Transitional Federal Government (TFG) provided Somalia with an internationally recognized government, even though, until recently, it only controlled very limited portions of the capital and countryside (Wezeman, 2010, pp. 1–2). The year 2006 witnessed the rise of the Islamic Courts Union (ICU), a political alliance that became the dominant power for a short period, briefly ending the warlordism that had reigned since the collapse of the Barre government. The ascension of hard-line factions within the ICU prompted Ethiopia to launch an offensive into Somalia in December 2006,

Box 10.3 The UN embargo on Somalia

In response to the political instability that has defined Somalia since the ousting of President Mohamed Siad Barre in 1991, the UN Security Council has maintained an arms embargo on the country (UNSC, 1992a; 1992b; 2002a; 2008b). UN Security Council Resolution 733, adopted in January 1992, decreed 'a general and complete embargo on all deliveries of weapons and military equipment to Somalia until the Council decides otherwise' (UNSC, 1992a, para 5). The Transitional Federal Government (TFG) formed in 2004 as a result of internationally sponsored peace talks (Menkhaus, 2010, p. S331). The TFG has received greater international support than previous transitional governments since the Barre era (Bryden and Brickhill, 2010, p. 259). Beginning in 2007, in an effort to bolster the TFG, the UN arms embargo was amended to include exemptions for weapons and training destined for the fledgling authority⁴³ and the punishment of countries seeking to destabilize or overthrow it (Wezeman, 2010, p. 2).⁴⁴

Requests for embargo exemptions in support of the TFG are submitted to the sanctions committee and are not made public.⁴⁵ As a result, a comprehensive list of countries that have supplied the TFG armed forces is not available. In 2005 and 2006, prior to the adoption of Resolution 1744, both Ethiopia and Yemen reportedly supplied arms to the TFG armed forces.⁴⁶ The United States received committee authorization in 2009 to supply the TFG armed forces with weapons and ammunition that were largely acquired from Ugandan stocks (UNSC, 2010, p. 54).

The UNSEMG distinguishes two kinds of embargo violations: 'technical' violations, which support the TFG but are not approved in advance by the sanctions committee, and 'substantive' violations, which would not have qualified for an exemption (UNSC, 2011, p. 41). Since 2007, the UNSEMG has denounced several states for their failure to receive prior approval before supplying military equipment or training to the TFG police and military forces. They include Ethiopia, Kenya, Sudan, Uganda, the United Kingdom, the United States, and Yemen (UNSC, 2008a, pp. 23–24; 2010, pp. 55–56). While no action was taken in these cases, the Security Council imposed an arms embargo on Eritrea in 2009, largely in response to that country's support for armed opposition groups in Somalia (UNSC, 2009).

in an effort to counter the influence of the ICU and bolster the TFG (Menkhaus, 2009). In 2007, the African Union Mission in Somalia (AMISOM) was established in the country to, among other tasks, assist in security stabilization programmes (Wezeman, 2010, p. 2).

Following the quick defeat of the ICU in early 2007—largely at the hands of Ethiopian forces—an Islamist nationalist insurgency, al Shabaab, emerged as the principal opposition force in the country, gaining control over most of Mogadishu and south and central Somalia (Menkhaus, 2010, p. S332). Ethiopian troops withdrew from Somalia in December 2008, but al Shabaab continued its insurgency against the TFG, affiliated militias, and AMISOM peacekeepers. Other armed groups—mainly clan militias—have gained importance as local proxies of the TFG, AMISOM, Ethiopia, and Kenya.⁴⁷ By late 2008, the most formidable TFG-allied militia, Ahlu Sunna wal Jama'a (ASWJ), was considered a 'legitimate local security sector institution' (UNSC, 2010, p. 13). Clashes between al Shabaab and the TFG and allied forces continued into 2011. Al Shabaab withdrew from Mogadishu in mid-2011 but accelerated its use of IEDs and suicide bombings against government targets (BBC News, 2011b). In October 2011, Kenyan forces mounted an offensive against

al Shabaab along the Kenya–Somalia border, while Ethiopian forces moved farther into the southern regions of the failing state through the end of 2011.⁴⁸

Small arms

Illicit small arms in Somalia are similar to those in Iraq and Afghanistan in that most are variants of widely exported Soviet-designed assault rifles and machine guns. Kalashnikov-pattern assault rifles are by far the most numerous types of assault rifles, while the PKM and DShK have near complete monopolies on the light and heavy machine gun markets, respectively. Combined, these three types of firearms account for 92 per cent of all firearms recorded in the UNSEMG reports (see Table 10.7).

Kalashnikov-pattern assault rifles are the most common firearms found throughout the country, with 28,695 cases of illicit transfer or seizure recorded by the UNSEMG during the period studied (October 2005–December 2008). In fact, the UNSEMG reports identify 93.2 per cent of all assault rifles as ‘AK-47s’, combining different generations of Kalashnikov-pattern assault rifles, including non-Soviet variants, under this heading. The reports identify other types of assault rifles in Somalia but in much smaller quantities. These are: the German-designed G3 (and

G3A3), the Belgian FAL, the US M16, and the Singaporean SR-88. Together, these models represent less than 7 per cent of all illicit assault rifles documented in the UNSEMG reports. Moreover, according to one panel member, these weapons are becoming increasingly scarce as their ammunition becomes less available.⁴⁹

As previously mentioned, the UNSEMG reports contain very little information on the country of manufacture, age, or condition of the illicit weapons that they document. However, anecdotal accounts from other sources provide some insight into these characteristics. For instance, investigations conducted by journalists into the Bakaara arms market, the most notorious arms market in Somalia, have revealed the presence of Kalashnikov-pattern rifles from Bulgaria, China, India, North Korea, the former Soviet Union, and Ukraine (Coker, 2001; Sheikh, 2009). The Chinese Type 56 is believed to be the most common version in service, probably in part due to its lower cost, which can be less than a third that of a Russian AKM (UNSC, 2010, p. 74).

Table 10.7 Firearms identified in UNSEMG reports

Type	Model/calibre	Quantity
Pistol	Unspecified	745
Rifle	Kalashnikov-pattern assault rifles	28,695
	FAL	193
	G3	1,646
	G3A3	Unspecified
	M16	65
	SAR-80	Unspecified
	SR-88	55
	Unspecified	137
Machine gun	Browning .30 Cal	Unspecified
	PKM	3,754
	RPD	20
	SG-43	Unspecified
Heavy machine gun	DShK	446
	12.7mm	Unspecified
	14.5mm	2
Total		≥35,758

Sources: UNSC (2005; 2006; 2007; 2008a; 2008c)

Ages of Kalashnikov-pattern rifles in Somalia vary greatly. Older rifles of this type, some probably remnants of Barre's stockpiles, are still used throughout the country.⁵⁰ Until 1977, the Soviet Union supplied Somalia with substantial amounts of military hardware, from fighter jets and tanks to Kalashnikov rifles, as a result of the countries' cold war alliance (Jane's SSA, 2010). As the Barre regime collapsed, so did controls over government stockpiles, leading to massive looting (Forberg and Terlinden, 1999, p. 26). Newer Kalashnikov variants are also in circulation, however. Production years for many of the Chinese Type 56 reported in Somalia, for instance, range from 1976 to 1991 (UNSC, 2011, p. 37), but newer models of this firearm, from 2007, clearly shipped to Somalia post arms embargo, are also circulating (UNSC, 2008a, p. 37).⁵¹

With one exception, Soviet-designed machine guns are the only versions reported by the UNSEMG. Machine guns are reported almost as frequently as Kalashnikov-pattern rifles in transfers and seizures, although overall quantities were lower. The Soviet-designed PK series is the most frequently mentioned type of machine gun in the dataset and the second-most cited weapon (3,754 recorded). Although foreign variants of the PK are manufactured, the UNSEMG's reports mention only the Russian-built PKMs. The other Soviet-designed machine guns reported by UN monitors were the RPD and SG-43. The only Western-designed machine gun was a single US Browning .30 calibre.

In the 1970's and 1980's, the Somali government imported a number of missile systems.

Likewise, the Russian-built 12.7mm DShK was the only heavy machine gun identified. Given their size, DShKs are often mounted on vehicles known as 'technical' (Somaiya, 2010). The term 'technical' in Somalia also applies to vehicles mounted with recoilless rifles, such as the B-10, and larger anti-aircraft cannon, such as the 23mm ZU-23. Technicals are common in Somalia; their role in both providing heavy fire and transporting troops was recorded in the 1990s (Guled, 1996). More recently, they have been utilized in many major battles, including the ICU capture of Mogadishu in 2006⁵² and fighting against Kenyan troops in 2011.⁵³

An analysis of the UNSEMG data reveals several patterns. Transfers and seizures typically consist of a large number of Kalashnikov-pattern rifles, a few PKMs, two or three DShK machine guns, and one or two other types of light weapons, often RPGs. This lack of diversity has logistical benefits in that the same or closely related weapons use the same type of ammunition and parts. The fact that TFG and AMISOM forces also use many of the same types of weapons has made them another potential source of arms and ammunition. As described below, there is growing evidence that weapons and ammunition supplied by AMISOM to the TFG armed forces and its affiliated militias, such as ASWJ, are finding their way into arms markets and the hands of al Shabaab.⁵⁴

Light weapons

According to UNSEMG reports, the only large conventional weapons⁵⁵ available to Somali armed groups are anti-aircraft cannon and artillery shells. While these weapons fall outside of the scope of this study, it is worth noting that al Shabaab is converting large-calibre artillery shells—155 mm for instance—into IEDs, giving them one of their most effective weapons against heavy armour (VOA News, 2011). Recent media reports on cache seizures indicate that large-calibre artillery shells are still numerous in the country and will probably continue to threaten the TFG and AMISOM.⁵⁶

Illicit light weapons currently circulating in Somalia appear to consist primarily of older model anti-tank weapons, grenades, mines, and mortars, along with a few surface-to-air and anti-tank missiles.

Guided light weapons systems

In the 1970s and 1980s, the Somali government imported a number of missile systems that, at the time, were relatively advanced. These included Soviet (SA-7b Strela) and US (FIM-43C Redeye) MANPADS as well as ATGWs, such as the French MILAN and Soviet AT-3 Sagger (SIPRI, n.d.). The same missiles, from the same period, have been spotted in

Somalia in recent years. In Mogadishu in 2008, AMISOM troops seized an arms cache containing French-designed MILANs as well as Russian anti-tank missiles.⁵⁷ Markings on the side of one of the MILANs indicate that it was manufactured in 1978, which suggests that the missiles were part of a 1978–79 shipment to Somalia⁵⁸ (see Image 10.7). Given the advanced age of these missiles, many may no longer be operational.

Evidence suggests that, since the UN Security Council imposed the arms embargo in 1992, a limited number of portable guided missiles have entered Somalia. During the period under review, UNSEMG reports record six incidents of shoulder-fired missiles involving SA-7b ('Strela') MANPADS,⁵⁹ unspecified 'shoulder-fired surface-to-air' missiles,⁶⁰ and disputed⁶¹ reports of second-generation anti-tank missiles.⁶² More recent UNSEMG reports also confirm the existence of three SA-18 Igla MANPADS (UNSC, 2011, p. 241).

Although opposition forces appear to possess some advanced weaponry, its overall impact appears to be minimal. In 2007, there were two confirmed MANPADS attacks (one successful, one not) and a third attack that was claimed but not confirmed (UNSC, 2011, p. 241). In 2010, the UNSEMG reported seeing a small number of wire-guided anti-tank weapons in the possession of armed opposition forces (UNSC, 2010, p. 6), but the only confirmed usage of an anti-tank guided missile occurred in 2010, when a Soviet designed AT-7 Saxhorn was fired at AMISOM troops (UNSC, 2010, p. 48). While the origins of the AT-7 are unclear, it seems unlikely that it was part of the Barre regime's stocks since the weapon did not enter into service until 1979, two years after Somalia stopped receiving support from the Soviet Union.⁶³

Grenades

The UNSEMG reported the transfer and seizure of 6,570 hand grenades during the period under review (see Table 10.8), with the Soviet-designed F1 being the only model named in the reports. The F1, the first generation of which was designed in WWII, is an anti-personnel hand grenade that has been widely produced and deployed (Jones and Ness, 2007, p. 788). Although no other models are named in the UNSEMG reports, other sources indicate that several grenade varieties circulate in Somalia. Of the 493 hand grenades destroyed by the Mines Advisory Group in Puntland from 2008 to 2011, for example, explosive ordnance disposal experts most often observed the Italian Breda 35 type and the Czech RG4, with the Soviet F1, RGD5, British type 36/23, and US M67/M33 making up the rest. While the experts did not keep details on the serviceability or age, the grenades reportedly range from poor condition to brand new and vary in age, although many were identified as pre-1991.⁶⁴

Grenades have become a common feature of insurgent warfare in Somalia. In 2010, the UNSEMG recorded 155 grenade attacks (UNSC, 2011, p. 18); many of these were surprise attacks, involving the use of a single grenade against specific targets or buildings. The technique is primarily associated with al Shabaab, whose attacks largely target AMISOM and TFG troops, police, and international organizations (UNSC, 2011, p. 18).



Image 10.7 MILAN anti-tank guided missiles and rocket launchers, and an M79 rocket launcher designed in the former Yugoslavia, seized from militants by AMISOM troops in Mogadishu, 2008. Provided by Steve Priestley

Table 10.8 Light weapons reported in UNSEMG reports

Type	Model	Calibre	Quantity*
Anti-tank weapon	Unspecified	75 mm	–
	'2 nd generation (infrared)'		–
	M-72 light anti-tank weapon		175
	Shoulder-fire anti-tank		18
Under-barrel grenade launcher	For Kalashnikov-pattern assault rifle		350
Grenade launchers	M-79		1,107
Hand grenades	F1		5,000
	Unspecified		1,570
MANPADS	PZRK Strela		–
	SA-7b		18
	Unspecified		175
Mortars, launcher	Unspecified	60 mm, 120 mm, unspecified	6
Mortars, rounds	Unspecified	60 mm, 80 mm, 120 mm, unspecified	834
Mortars, unknown	Unspecified	80 mm, 82 mm, 120 mm, unspecified	294
Recoilless rifle	B-10		77
	M-40		–
RPG, launcher	RPG-2, RPG-7, and unspecified		430
RPG, round	RPG-2, RPG-7, and unspecified		2,149
RPG, unknown			1,955
Total			14,158

Note: *Dashes indicate that although the weapons were reported, the quantities were not specified.

Sources: UNSC (2005; 2006; 2007; 2008a; 2008c)

Anti-vehicle weapons

The UNSEMG reports indicate that RPGs, and specifically the RPG-2 and RPG-7, are the most common anti-tank weapons in circulation in Somalia. RPG launchers and ammunition present in Somalia have been attributed to Bulgarian, Chinese, and Russian manufacturers (UNSC, 2010, p. 75).

A range of RPG rounds is available in Somalia; the HEAT type PG-7V, PG-7VL, and PG-7VM are the models most frequently encountered by UN monitors (UNSC, 2010, p. 75). The UNSEMG confirms that 18 Chinese-manufactured 40 mm Type-69 grenades, seized from pirates by international naval patrols, were made in 2008 and transferred from

China to an unidentified 'East African' government. Older RPG rockets are also circulating. In 2010, UN monitors identified seized pirate-held Russian RPG expulsion charges that went out of production in 1987 (UNSC, 2011, pp. 36–37).

Firing an 82 mm cartridge (Hogg, 1989, p. 414), the Soviet-designed B-10 recoilless rifle is one of the largest anti-vehicle weapons frequently listed in the UNSEMG reports. Originally fitted on wheels for easier transport, the B-10 was designed to fire off a tripod for increased manoeuvrability (Hogg, 1989, p. 414). Videos of recoilless rifles in use in Somalia, however, suggest that other models of this weapon type are also available. Several videos show Somali fighters firing what are described as B-10s from the shoulder of a single shooter.⁶⁵ Given that the weight of a loaded B-10 is roughly 90 kg, it seems unlikely that this recoilless rifle was a B-10. A closer examination of the video suggests that it could be a SPG-9, a Soviet replacement for the B-10 that weighs significantly less.⁶⁶ UN monitors have also documented the much larger, US-designed 105 mm M-40 in a transfer originating in Yemen.

The most prevalent Western-produced light weapon cited in UNSEMG reports is the M-72 light anti-tank weapon, a single-shot, disposable system developed in the 1960s.⁶⁷ Western-produced grenade launchers are also identified, including the US-designed 40 mm M-79 as well as under-barrel grenade launchers for FAL assault rifles. Photos of the Swedish-designed Carl Gustav recoilless rifle on the shoulder of a Shabaab fighter appear to point to the presence, though not necessarily the widespread use, of other illicit light weapons in Somalia (see Image 10.8).





Image 10.8 A member of the armed militia for the Islamic Courts Union poses with a recoilless rifle near Mogadishu, December 2008. © AP Photo

Weapons circulation

Unlike the data on illicit weapons in Iraq and Afghanistan, which reveals little about how and when the weapons were acquired, the UNSEMG reports often contain detailed information on the movement of illicit weapons into and within Somalia. In some cases, information on the source country, the intermediaries involved in the transfer, the route to and within Somalia, and the eventual end user are reported.

Trafficking routes

During the period under review, covering incidents that took place from May 2004 through November 2008, UN monitors recorded 88 embargo violations. Three countries were identified as the primary sources of such transfers: Yemen (28 transfers), Eritrea (26 transfers), and Ethiopia (23 transfers). The UNSEMG also identifies the following other sources of illicit weapons: Iran (3 transfers), Italy (2 transfers), Libya (1 transfer), Saudi Arabia (2 transfers), Syria (1 transfer), and the United Arab Emirates (1 transfer). It is important to note that not all of these transfers were state-sponsored, but were, instead, reported simply as countries of origin.

Boats, or dhows, were the most frequent modes of transportation for imports from the primary source countries. Imports from Yemen mostly arrived via sea. The majority of items arriving by air typically originated in or arrived from Eritrea, though some also arrived by sea. Imports from Ethiopia, by contrast, were sent via land routes along its long shared border with Somalia.

As illustrated by data compiled from the UNSEMG reports, weapons enter Somalia throughout the entire country (see Map 10.1 and Table 10.9). The variety of entry points reveals the porous nature of Somalia's land and sea borders. Mogadishu (Banidir region) was the point of entry most frequently identified in the UNSEMG reports, with imports arriving from all the major source countries. Between May 2004 and November 2008, most arms imports originating in Eritrea arrived within a 100 km radius of Mogadishu. Later UN reports suggest that the port of Kismayo in southern Somalia has become a major entry point for weapons destined for opposition groups (UNSC, 2010, p. 48). Most imports from Yemen arrived in the Puntland region, particularly the port of Bosaso, and northern Somali coastline towns, such as Harardheere. According to the UNSEMG, the route through Puntland remains the 'primary gateway for arms and ammunition into Somalia' (UNSC, 2010, p. 49). Most shipments from Ethiopia were sent to interior provinces in central Somalia and southern Puntland.⁶⁸

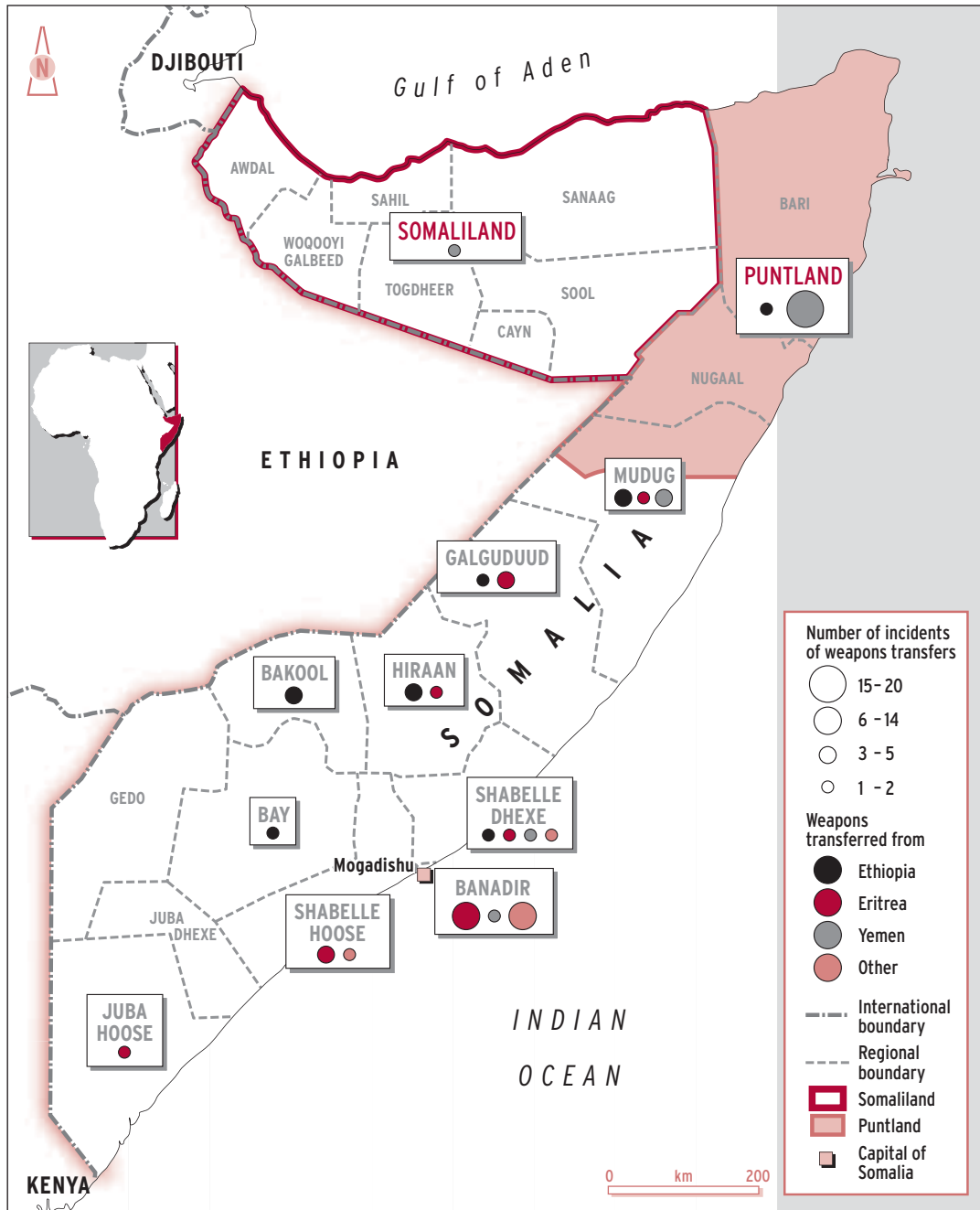
Arms shipments do not necessarily stay at their first destination in Somalia. Many make their way to Mogadishu. For example, it appears numerous weapons originally shipped to Bosaso, Galkayo, Garowe, and other towns in the Puntland region were eventually retransferred to Mogadishu or farther south.

Table 10.9 Number of arms shipments to Somalia, by mode of transit and origin, May 2004–November 2008

	Ethiopia	Eritrea	Yemen	Other	Total
Sea	0	9	18	7	34
Air	3	14	2	4	23
Land	14	1	0	0	15
Unspecified	6	2	8	0	16
Total	23	26	28	11	88

Sources: UNSC (2005; 2006; 2007; 2008a; 2008c)

Map 10.1 Trade routes into Somalia



Direct support from foreign states to TFG, AMISOM, and non-state armed actors

The UNSEMG reports show that arms shipments are sent from source countries, both to specific armed actors and to undetermined end users at arms markets. According to UN monitors, direct support to specific Somali non-state actors and state forces, including the TFG, has been most evident in the case of Eritrea and Ethiopia. Since the late

1990s, Eritrea and Ethiopia have provided weapons and ammunition to the TFG armed forces, various warring factions, and clan militias in Somalia in a kind of proxy war (*Jane's Intelligence Review*, 2009). All shipments without sanctions committee authorization are formally violations of the embargo (see Box 10.3), yet the UNSEMG distinguishes between deliveries to support the TFG or AMISOM, which are eligible for exemption, and those to armed opposition groups or arms markets, which are not eligible. Arms sent in support of the TFG without prior approval are considered 'technical' violations, while others are characterized as 'substantive' violations.

Throughout the October 2005 through December 2008 reports, UN monitors document a regular supply of Eritrean-sourced weapons to Islamic opposition groups in Somalia. Of the 26 shipments the UNSEMG reports identify as originating in Eritrea, 25 (96 per cent) were reportedly intended for the ICU, al Shabaab, or other militant Islamist groups. The UNSEMG finds that, in recent years, Eritrea has dramatically reduced its support of these groups; indeed, there is no hard evidence that Eritrea has directly supplied any arms in recent years,⁶⁹ although it maintains financial support to al Shabaab (UNSC, 2010, p. 47). In November 2011, Kenyan and Somali officials accused Eritrea of sending several arms shipments to al Shabaab through the town of Baidoa (Teyie and Wabala, 2011). These reports were not verified by the UNSEMG (BBC News, 2011a) and, in fact, the UNSEMG's preliminary findings, released in January 2012, indicate that the accusations 'were incorrect' (Maasho, 2012). The UN Security Council nevertheless imposed stronger sanctions on Eritrea in December 2011 for continuing to support al Shabaab (Reuters, 2011).

The UNSEMG has alleged that the more advanced guided weapons systems documented in the UN reports have entered Somalia via Eritrea. Probably the most significant evidence of this are two SA-18 missiles seized from al Shabaab in 2007 and 2008 that UN monitors traced back to a 1995 shipment of MANPADS from the Russian Federation to Eritrea (UNSC, 2011, p. 243; see Table 10.10).

The UNSEMG reports document weapons entering from Ethiopia largely for the benefit of the state authorities in Somalia and Puntland, as well as allied armed groups, such as ASWJ (UNSC, 2010, p. 48). Although conducted in support of the TFG, the transfers documented by UN monitors were all considered 'technical violations' of the embargo as they were made either prior to Resolution 1744 or subsequently without the consent of the sanctions committee (UNSC, 2010, p. 47).

Reports by the UNSEMG also indicate that Ethiopia sent arms into Somalia to support the operations of its own troops or the TFG armed forces and its allies. Resupplying efforts to either Ethiopian troops or the TFG armed forces accounted for 40 per cent of the total number of deliveries entering Somalia from Ethiopia. An additional nine per cent of the deliveries identified Puntland authorities as the end recipient. The UN monitors indicate that weapons

Table 10.10 Selected weapons by country of origin as reported by UNSEMG

Weapon	Eritrea	Ethiopia	Yemen
Assault rifles	7,019	6,026	10,671
Machine guns	295	549	2,782
RPGs (launchers and rounds)	272	455	2,008
Grenades	4,000	1,000	300
MANPADS	68	-	-

Sources: UNSC (2005; 2006; 2007; 2008a; 2008c)

have also supported warlords and clans firmly or loosely allied with the TFG. Each of the warlords or clan leaders identified in this regard, such as Mohammed Dheere of Jowhar, have held high positions in the TFG government at some point (Hanson and Kaplan, 2008). Despite the lack of UN approval for the weapons shipments from Ethiopia, their intended purpose, namely to support the officially recognized government of Somalia, puts them in something of a grey area as far as illicit transfers are concerned—hence their ‘technical violation’ status. The same is true for the Yemeni government’s support of the TFG in 2005 and 2006; UNSEMG reports link 18 per cent of the deliveries from Yemen to the Somali government.

Somali arms markets

Somali arms markets are largely autonomous and, according to UNSEMG reports, supply the full range of Somali clans, warlords, al Shabaab, and the TFG police and military (UNSC, 2011, p. 41). These markets have provided a steady source of weapons for these actors, remaining open for all but brief periods during the embargo.

According to UN monitors, weapons bound for the commercial markets in Somalia most often originate in Yemen (UNSC, 2010, p. 6). Data compiled in UNSEMG reports appears to support this claim; all imports arriving to arms markets from an identified source country reportedly originated in Yemen. It must be noted that most (approximately 70 per cent) of the imports coming from Yemen are linked to local arms traders and not the government. Until 2007, ‘arms were openly sold in Yemen in at least 18 arms markets’; however, arms control campaigns in 2007 and 2009 shut down most of the arms markets⁷⁰ (Small Arms Survey, 2010, p. 6).

Since the bulk of the reports in the database compiled for this study cover periods before the end of 2008, it is not possible to determine the impact this development has had on arms shipments to Somalia. Yet the 2011 UNSEMG report does note the continued predominance of Yemeni weapons in Somali markets (UNSC, 2011, p. 41). There are also allegations of the diversion of official Yemeni arms to Somalia. According to *Jane’s Defence Weekly*, poor stockpile management in Yemen is probably contributing a large portion of these supplies, with Yemeni military officials suspected of selling their own inventory (Knickmeyer, 2010). The Yemeni government denies these claims (UNSC, 2011, p. 41).

Leakage from weapons stockpiles in Somalia is another important source of weapons fuelling the country’s illicit market. This involves the unauthorized sale of weapons and ammunition by individual officers or corrupt officials from the TFG or allied armed groups. Opposition forces also take weapons from seized state or African Union arms depots or from dead soldiers and police. Desertion and defection of TFG police and military are also a great concern, with a 2008 report suggesting an attrition rate of 80 per cent; when these trained security and defence forces leave their jobs, they take their weapons and uniforms with them (UNSC, 2008c, p. 12). These weapons are often sold at arms markets.

A 2010 report by the UNSEMG indicates that this practice has probably increased since 2008. This is particularly true of ammunition (UNSC, 2011, p. 43). The sale of ammunition has become a means for many TFG troops and ASWJ members to supplement their low salaries, according to UN monitors, and presents a difficult dilemma for countries wishing to support the TFG with military equipment, as they may inadvertently feed the illicit market. In a survey of ammunition available in the Bakaara arms market, eight of 11 rounds had markings consistent with AMISOM holdings (UNSC, 2011, p. 44). It is estimated that government and pro-government forces typically sell between a third and a half of their ammunition (UNSC, 2011, p. 44).

Weapons bound
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CONCLUSION

As illustrated throughout this chapter, illicit small arms and light weapons in the three countries studied have several common characteristics. Most weapons identified by model are early designs of Eastern Bloc or Chinese weapons that have proliferated widely and are often significantly less capable than their modern counterparts. Many of the models have also been circulating in the same countries for years, or decades, revealing a remarkable continuity in the models and technological sophistication of illicit weapons.

Among the most significant findings of this chapter is the absence of latest-generation weapons in the countries studied. Most portable missiles recovered from seized caches in Iraq are Soviet-designed systems initially fielded several decades ago and stockpiled in large quantities by Saddam Hussein's regime. No latest-generation Russian or Chinese MANPADS are identified, and no MANPADS of any generation from other countries are listed. Similarly, most of the ATGWs found in Iraqi caches are first-generation Soviet-designed missiles, and no late-generation RPG systems⁷¹ are identified in the cache data.

Evidence also suggests armed groups in Afghanistan are no better equipped. Armed groups in Somalia have acquired limited numbers of third-generation SA-18 MANPADS manufactured in the 1990s, but no latest-generation systems are identified, and most of the MANPADS appear to be first-generation SA-7s. UN monitors have not found any modern anti-tank missiles in Somalia.

The weapons acquired by armed groups in recent years contrast sharply with the arsenals of their better-armed counterparts from previous decades, such as the Mujahideen in Afghanistan in the 1980s. As explained above, the United States provided hundreds of cutting-edge Stinger MANPADS to the rebels, who used them to shoot down hundreds of Soviet and Afghan aircraft, severely affecting Soviet and Afghan air operations and possibly hastening the Soviet withdrawal from Afghanistan. Other examples of armed groups that acquired substantial numbers of latest-generation light weapons include UNITA in Angola in the 1980s (Hunter, 2001).

Without extensive government assistance, however, it is highly unlikely that the Mujahideen would have acquired any Stinger missiles at all, let alone the large quantities and training necessary to disrupt Soviet air operations. UNITA was equally dependent on the United States for its Stingers. Thus, as illustrated by these cases, assistance from producing states is an essential factor in determining the speed and extent to which latest-generation portable missiles enter the black market.

With the possible exception of Iran, there is no compelling reason for the few producers and importers of latest-generation MANPADS and ATGWs to supply them to armed groups in Afghanistan, Iraq, or Somalia, and the diplomatic consequences of doing so—deliberately or inadvertently—would be severe. Indeed, there is little substantiated evidence that *any* armed group has acquired latest-generation MANPADS—a testament to the growing awareness of the terrorist threat posed by these weapons and the effect of global efforts to address it.

It is less clear why armed groups have not acquired and used more third-generation portable missiles and advanced anti-tank rockets. These weapons are in the arsenals of many more countries than are latest-generation systems, including countries with poor stockpile and export controls and those accused of arming non-state groups. One possible explanation is that less sophisticated but readily available weapons and ammunition were effective enough that it was not worth the cost and trouble of acquiring more sophisticated weapons from abroad. In Iraq, armed groups had access to thousands of tons of weapons looted from government depots in 2003. Large-calibre

ammunition from these depots has been used extensively in improvised explosive devices, which accounted for approximately 40 per cent of US casualties from 2003 to 2006 (Roane and Pound, 2004; O'Hanlon and Livingston, 2011, p. 8). In Afghanistan, IED makers also use locally available components, including ammonium nitrate fertilizer produced in Pakistan and widely used by Afghan farmers. Journalist Greg Jaffe claims that these devices cost about USD 40 to make (PRI, 2011); along with other IEDs, they account for more than 60 per cent of US casualties in Afghanistan (DMDC, 2012). In both theatres, IEDs appear to be an adequate substitute for advanced ATGWs and anti-vehicle rockets, which are almost certainly more expensive and difficult to obtain, particularly in the quantities necessary to sustain the high tempo of insurgent activity in Iraq and Afghanistan.

This explanation is less compelling with respect to MANPADS. While RPGs and firearms are sometimes used to shoot down helicopters, MANPADS are particularly well suited for use against military aircraft. MANPADS have a significantly longer effective range than RPGs and most firearms and, because they are guided, they are much more likely to hit their target. Given these attributes, and the heavy reliance of US and NATO troops on air operations during the time period studied, the apparent inability of armed groups in Afghanistan and Iraq to acquire third-generation MANPADS is more probably explained by supply-side dynamics than a lack of demand.

Another possible explanation is that the best-equipped armed groups are reliant on sympathetic governments for certain light weapons, and these governments are withholding (or limiting the number of) weapons viewed as particularly sensitive. There is evidence that state sponsors of armed groups in Iraq and Somalia have, at times, reduced the flow of weapons in response to international pressure. Whether this pressure has had a constraining effect on the quantities and types of portable missiles and other sensitive weapons provided by these governments is unclear, in part because of a lack of publicly available evidence conclusively linking individual illicit weapons to the governments accused of supplying them. More and better data on sanctions-defying arms shipments and weapons seized from arms caches would help to answer these questions.

Despite these gaps, the data has clear implications for policy-makers. The apparent absence of latest-generation MANPADS in Afghanistan, Iraq, and Somalia strongly suggests that national and international initiatives to eliminate the illicit proliferation and use of these weapons are bearing fruit. Studying these initiatives—and identifying the most effective control strategies employed as part of these efforts—could yield important insight into controlling other latest-generation small arms and light weapons. Applying these lessons to the most sensitive weapons, including portable sensor-fused weapons, programmable ('smart') airburst grenades, and guided mortars, could significantly reduce the likelihood that they will end up in the wrong hands.

At the same time, the data also underscores the need to control the availability of early generation weapons. As evidenced by data on usage of illicit weapons in all three countries studied, even the simplest weapons can be extremely destructive when deployed in large numbers and innovative or tactically savvy ways. Of particular importance is the prevention of excessive stockpiling, which led to the accumulation of millions of tons of weapons and ammunition in Afghanistan, Iraq, and Somalia. When the regimes controlling these stockpiles collapsed, the weapons quickly spread to the armed groups that filled the resulting power vacuum. These weapons were used extensively in the years following the looting, and data collected for this study suggest that at least some of these weapons remain in circulation today. Preventing similar stockpiling in countries prone to instability—and right-sizing existing (excessive) stockpiles—would help to limit the number of illicit weapons in current and future war zones. ■

LIST OF ABBREVIATIONS

AMISOM	Africa Union Mission in Somalia
ANSF	Afghan National Security Forces
ASWJ	Ahlu Sunna wal Jama'a
ATGW	Anti-tank guided weapon
FOIA	Freedom of Information Act
HEAT	High-explosive anti-tank
ICU	Islamic Courts Union
IED	Improvised explosive device
JIEDDO	Joint Improvised Explosive Device Defeat Organization
MANPADS	Man-portable air defence system
RPG	Rocket-propelled grenade
TFG	Transitional Federal Government
SIPRI	Stockholm International Peace Research Institute
UNSEMG	United Nations Monitoring Group on Somalia and Eritrea

ENDNOTES

- 1 'RPG' is a reverse acronym for the Russian term 'ruchnoy protivotankovy granatomyot,' which means 'hand-held anti-tank grenade launcher'.
- 2 See, for example, Riechmann (2011) and King, Dilanian, and Cloud (2011).
- 3 Unless otherwise specified, the chapter uses the term 'Kalashnikov-pattern assault rifles' to refer to all weapons derived from the Kalashnikov AK-47 rifle and subsequent models (such as the AKM and AK-74), including foreign variants, such as the Chinese Type 56 rifle.
- 4 See UNGA (1997) and Small Arms Survey (2008, pp. 8–11).
- 5 For the purposes of this chapter, improvised explosive devices are considered 'light weapons'.
- 6 Reports on the UN arms embargo on al Qaeda and the Taliban contain little detailed data on illicit small arms and light weapons. See, for example, UNSC (2002b, p. 17).
- 7 The data obtained by Felter and Fishman covers 166 incidents of Iranian weapons discovered in Iraq, but only 74 arms caches, which are the focus of this study.
- 8 UNSC (2002b, p. 17).
- 9 Rockets fired from rails and used with improvised launchers are not included in the dataset because of the difficulty of separating rockets used in these capacities from other types of projectiles.
- 10 One cache contained 5,620 US dollars, 75,000 Iraqi dinars, 245 Indian rupees, and 140 United Arab Emirates dirhams. IED components included items as diverse as Indian ball bearings, Chilean blasting caps, and Bulgarian fuses.
- 11 The assessment does not claim to be comprehensive, noting that 'virtually any weapon [...] in the world can be found in Iraq' (NGIC, 2004a, p. 4); that claim is consistent with the broad array of illicit arms seized since 2004.
- 12 In its 2004 assessment of insurgent weapons, the US Army identifies other variants of the AKM that were available in Iraq, including 'the Chinese Type 56, the Iranian KLF, the Hungarian AMD-65, the Romanian Model 63 AKM, the Bulgarian AKM, and the Polish Kbk-AKM' (NGIC, 2004b, p. 4).
- 13 Author correspondence with the Olive Group, 25 July 2011.
- 14 Since the Iraqi security forces primarily use Kalashnikov-pattern rifles, the data reveals little about their stockpile security practices.
- 15 Author correspondence with the Olive Group, 25 July 2011.
- 16 Author correspondence with the Olive Group, 25 July 2011. The one pistol identified by the Olive Group that is not 9 mm is the 7.65 mm Russian Makarov Model D.
- 17 Note that this section does not include heavy machine guns, which are categorized as small arms and assessed in the previous section.
- 18 Excluded from this figure are approximately 500 items identified as 'RPGs' in which it is unclear whether the item in question was an RPG round or an RPG launcher.
- 19 A smaller number of the weapons were fielded more recently, including the RPG-22 (1985) (Jones and Ness, 2007, p. 479).
- 20 The Iranian NADER was not designed by the Soviets but is a contemporary of its Soviet-designed counterparts.
- 21 While the designation 'PG-7L' technically refers only to the warhead, the source appears to use the designation as shorthand for the entire round. The designation for the complete round is 'PG-7VL'.

- 22 Jane's Information Group claims that the PG-7VL can penetrate up to 600 mm of armour (Jones and Ness, 2007, p. 477).
- 23 While one source indicates that the PG-7-AT designation is used for rounds with tandem warheads, photographs of at least some seized rounds bearing this designation are not consistent with photographs of known Iranian tandem rounds.
- 24 There are media reports of insurgent acquisition and usage of tandem PG-7VR rounds, but they cannot be confirmed independently (Roos, 2003).
- 25 As of mid-2006, US forces had only found one RPG-29 in Iraq, according to Gen. John Abizaid (AFP, 2006).
- 26 Author correspondence with the Olive Group, 25 July 2011.
- 27 Note that this total includes casualties from unknown and 'miscellaneous' causes.
- 28 Data on casualties from artillery, mortar, and rocket attacks is combined in a single category.
- 29 Note that the caches contained 11 'anti-tank missiles' that were not identified by model.
- 30 The US military previously released a photograph of an Iranian variant of the QW-1 (Misagh-1) (US MNF-I, 2007).
- 31 It is unclear whether the SK-10 launcher, which is used with the Chinese QW-1 MANPADS, is also used with the Iranian Misagh-1.
- 32 Since the data only includes firearms, grenades, and RPGs, it was excluded from the aggregate statistics but is included in the commodity-specific analysis.
- 33 Bhatia and Sedra (2008, p. 65); Chivers (2011); Crile (2003, p. 158); Pegler (2012, p. 70).
- 34 Since US manufacturers produce ammunition for Kalashnikov-pattern rifles and other Soviet-designed weapons, the data says little about the quantity of US-manufactured ammunition seized from the caches.
- 35 The US decision to supply the ANSF with M16 rifles and other US-made weapons may soon result in the decommissioning of many of the ANSF's Soviet-designed firearms.
- 36 The US Government Accountability Office has also reported accusations of diversion from Afghan arsenals, including the theft of 47 pistols from the Afghan National Army's central depot (USGAO, 2009, pp. 17–18).
- 37 The only exceptions are five rounds for the Chinese Type 69-1 RPG, which was fielded in the 1980s.
- 38 See ABC News (2007); AFP (2011a); Albone (2007); Channel 4 News (2010); Parks (n.d.); and Solomon (2011).
- 39 Author correspondence with a spokesman of the International Security Assistance Force, British Royal Navy, 1 September 2011.
- 40 Author correspondence with private analysts, 1 September 2011.
- 41 In UNSEMG reports, ammunition is often difficult to distinguish from weapons. Reports often list several different types of ammunition together, with no breakdown of quantities. Most often, ammunition types are grouped together under the generic term 'variety', meaning ammunition for various small arms, light weapons, and, in a few cases, larger conventional weapons systems that are beyond the scope of this study. Quantities, when provided, are given in individual units, bags, and tons.
- 42 The UNSEMG reports record anti-tank weapons (excluding anti-aircraft cannon and howitzers), explosives, grenades, landmines, MANPADS, mortars (launchers and rounds), recoilless rifles, and RPGs (launchers and rounds).
- 43 See UNSC (2007).
- 44 See UNSC (2008b; 2009).
- 45 Author interview with a member of the UNSEMG, Geneva, 4 January 2012.
- 46 For more information, see Wezeman, Wezeman, and Béraud-Sudreau (2011, pp. 30–31).
- 47 Author correspondence with Ken Menkhaus, professor of political science, Davidson College, 18 December 2011.
- 48 Author correspondence with Ken Menkhaus, professor of political science, Davidson College, 18 December 2011.
- 49 Author interview with a member of the UNSEMG, Geneva, 9 January 2012.
- 50 Author interview with a project manager, HALO Trust, Hargeisa, Somaliland, 14 August 2011.
- 51 See also Coker (2001).
- 52 See BBC News (2006).
- 53 See Xinhua News Agency (2011).
- 54 Author interview with panel member of the UNSEMG, Geneva, 9 January 2012.
- 55 During the cold war, Somalia was one of the most heavily armed countries in Africa. Militarily supported by the Soviet Union until the start of the Ogaden War in 1977, and subsequently by the United States, the government built large arsenals of conventional weapons, no longer featured in Somalia's weapons landscape (Jane's SSA, 2010). Today, the only verified use of large, mobile conventional weapons systems (such as tanks or aircraft) is by AMISOM and countries allied with the TFG: Ethiopia's offensive in Somalia to remove the ICU; Kenyan air incursions (AFP, 2011b); and US air attacks on al Shabaab targets in 2009 and 2011 (CBS, 2009; Walsh, 2011).
- 56 Demilitarization records from Puntland provided by the Mines Advisory Group show that 997 projectiles with calibres greater than 120 mm were destroyed between July 2008 and February 2011. VOA News reports that the African Union destroyed 137 shells found in 2011 (VOA News, 2011).
- 57 Author correspondence with Steve Priestley, explosive ordnance disposal expert, 7 August 2011.
- 58 The SIPRI Arms Transfers Database shows that 1,000 MILAN anti-tank missiles were delivered to Somalia from an unidentified country between 1978 and 1979 (SIPRI, n.d.). Explosive ordnance disposal expert Steve Priestley assisted in assessing the markings on the MILANs pictured.
- 59 See UNSC (2005, p. 13; 2006, p. 14; 2010, p. 50).

- 60 See UNSC (2006, pp. 13, 21).
- 61 Note that the accuracy of these reports has been questioned. As SIPRI analyst Siemon Wezeman points out, second-generation missiles do not use infrared guidance technologies but instead use wire, radio, or laser guidance systems. According to Wezeman, there is no evidence that missiles with infrared guidance are in Somalia (author correspondence with Siemon Wezeman, analyst, SIPRI, 14 September 2011).
- 62 See UNSC (2006, p. 13).
- 63 Author correspondence with Paul Holtom, senior researcher, SIPRI, 2 November 2011.
- 64 Data provided by the Mines Advisory Group. Additional information attained through author correspondence with Jack Frost, technical field manager, Mines Advisory Group, Puntland, 2 August 2011.
- 65 See, for example, LiveLeak (2008).
- 66 Author correspondence with Steve Priestley, explosive ordnance disposal expert, 17 September 2011. Priestley indicated that the weapon was probably an SPG-9 but could not confirm this because of poor image quality.
- 67 See FAS (n.d.).
- 68 Of the 14 shipments the UNSEMG identifies as entering Somalia from Ethiopia over land, ten were sent to one of these provinces: Bakool, Galguduud, Hiraan, and Mudug.
- 69 Author correspondence with a member of the UNSEMG, Geneva, 9 January 2012.
- 70 In correspondence with the Small Arms Survey, a former panelist of the UNSEMG stated that the main Yemeni arms market supplying Somalia—Mukalla—was not among the markets that have closed. Author correspondence with a panellist of the UNSEMG, Geneva, 9 January 2012.
- 71 The term ‘late-generation RPG systems’ is used here to refer to the RPG-28, RPG-29, RPG-30, and RPG-32.

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