



Defence Intelligence Threat Statement

**The Conventional Weapons Threat
to Land Forces in Afghanistan**



[REDACTED] (S-Rel NATO-ISAF)

27 December 2012

MINISTRY OF DEFENCE

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Executive Summary

[REDACTED]

(UK SECRET)

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(UK S REL ISAF)

executive summary



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INTRODUCTION

[REDACTED] 'The Conventional Weapons Threat to Land Forces in Afghanistan' Threat Statement describes the conventional kinetic and non-kinetic threats to UK forces. [REDACTED]

[REDACTED]

[REDACTED] The focus is on technical capabilities of the following categories of systems: (UK CONFIDENTIAL)

- Small Arms and Light Weapons
- Anti-Armour Weapons
- Indirect Fire Systems
- Anti-Tank Guided Weapons (ATGW)
- Surveillance, Imaging and Lasers (STANOC)
- Communications
- [REDACTED]
- Man-portable Air Defence (MANPAD)

Munitions and equipment used by EF have many, varied origins. It should be remembered that many of the munitions and systems are a legacy of the Soviet presence in Afghanistan in the 1980s, and remain serviceable, despite over 2 decades of less than ideal storage.

[REDACTED] (UK CONFIDENTIAL)

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CHAPTER 1: SMALL ARMS AND LIGHT WEAPONS

1. [REDACTED]
[REDACTED] Although now supplied from a wider manufacturing base, SA remain almost universally of older Soviet design. [REDACTED]
[REDACTED] (UK-C)

2. The AK-47 and its modernised version, the AKM, continue to form the backbone of the EF SA threat. AKs are designed for ease of manufacture, simplicity of use and ruggedness. Although not as accurate as western assault rifles, AKs are cheaper, extremely forgiving of abuse and able to provide a quick, heavy weight of fire. [REDACTED]
[REDACTED] (UK-C)

3. The AK-47 is the most widely used assault rifle in the world, with huge numbers in service and stockpiled. New AK-series weapons are produced by over 20 countries. Other factors, such as NATO expansion, changes to smaller calibres and the lowering of some regional tensions, have led to huge numbers of used AK-47s flowing into the grey and black arms markets. [REDACTED]
[REDACTED] (UK-C)



Figure 1-1: Standard AK-47 with accessories. Common variations include a metal or folding stock, shortened weapon, under-barrel grenade launcher, folding bayonet and forward pistol grip, none of which affect the basic mechanism. (U)

4. The AK-47 uses 7.62 x 39mm ammunition (also known as 7.62mm short). [REDACTED]
[REDACTED] (UK-C)

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5. The 2 most common Light Machine Guns (LMGs) in service with EF are the magazine-fed RPK and the belt-fed RPD. [REDACTED]

[REDACTED] The RPD uses reusable non-disintegrating belts. The RPD weighs 7.4kg without ammunition, while the less complicated RPK weighs 5kg. (UK R)



Figure 1-2: RPK magazine fed LMG. There is also a larger drum magazine available. (U)



Figure 1-3: RPD belt fed LMG. The belt may or may not be contained in an ammunition box clipped to the weapon in a manner similar to the Minimi. (U)

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6. The basic Medium Machine Gun (MMG) in service with EF is the 7.62 x 54mm PK.

[REDACTED]

[REDACTED] (UK-R)

a. Effective range is 800m+ and 1200m+ for suppressive fire in, respectively, the light and sustained fire roles. (U)

b. The PK uses ammunition in non-disintegrating links. Ball, tracer and AP are in supply with EF. [REDACTED] (UK-C)

c. The PK weighs 10.5kg in the light role and 16kg in the sustained fire role. (U)

d. [REDACTED]

[REDACTED] (UK-C)



Figure 1-4: PK MMG in the light role (U)

7. Several models of Heavy Machine Guns (HMGs) are available to EF. The 12.7 x 108mm DShK is the most frequently used HMG. It is a very old (1938) design, although it has seen several modernisations. It is rugged and reliable. (UK-C)

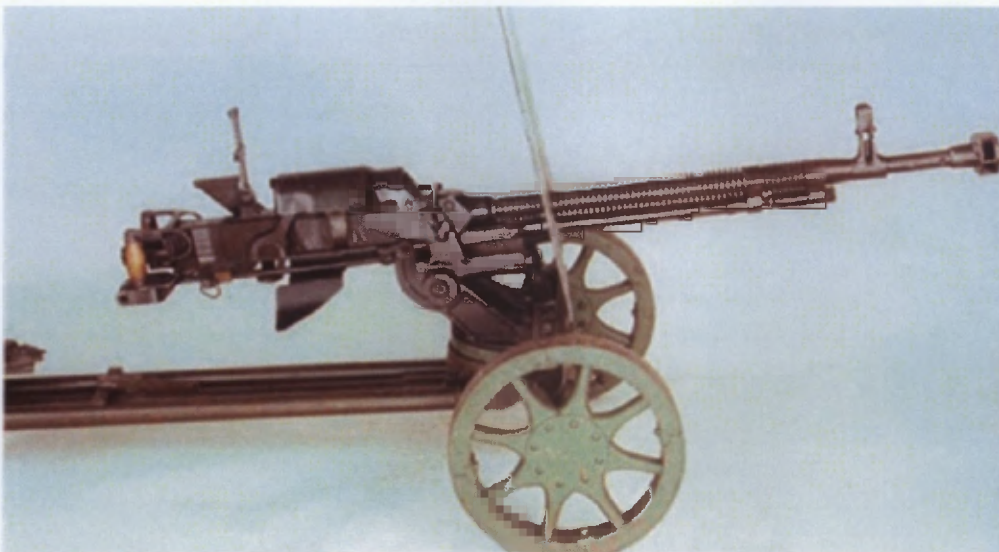


Figure 1-5: DShK on its original Sokolov mount (U)

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- a. The effective range of the DShK is 1500m against soft targets. Effective ranges against armoured targets vary depending on the protection levels and obliquity. (U)
- b. The 12.7 x 108mm ammunition is fired from non-disintegrating links. Steel-cored AP Incendiary (AP-I) is the most common round, although tracer is also available in large numbers. (U)
- c. The DShK weighs 151kg, without ammunition, on the original Sokolov mount. (U)
- d. The DShK is one of the 2 most widely available HMGs in the world (the other is the .50 in Browning). It is easily obtainable on the grey and black arms markets. (UK-C)

8. Sniper Rifles. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK-C)



Figure 1-6: The standard 7.62 x 54 mm Dragunov sniper rifle with accessories. It may also have a folding butt or plastic furniture but these do not affect its capabilities. (U)

- a. [REDACTED] (UK-C)
- b. [REDACTED] (UK-R)
- c. The Dragunov weighs 4.5kg complete with telescopic sight. (U)
- d. [REDACTED] (UK-C)

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9. **Bolt action rifles.** In addition to self-loading rifles such as the SVD Dragunov, EF have quantities of older bolt action rifles. The Lee Enfield .303 and 7.62x54R Mosin-Nagant are 2 examples of these. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] (UK-C)

10. **Large Calibre Sniper Rifles.** These weapons are also known as Anti-Materiel Rifles (AMR). [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK-C)



Figure 1-7: An Afghan with a Lee Enfield rifle circa 1985. (U)

11. **Improvised Anti-Materiel Rifles.** There has been limited reporting of Anti-materiel rifles being provided to or used by the EF. There was one seizure of improvised AMRs in Afghanistan in 2011. [REDACTED]

[REDACTED] (C)



Figure 1-8: [REDACTED]

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CHAPTER 2: UNGUIDED ANTI-ARMOUR WEAPONS

12. RPG-7. [REDACTED]

[REDACTED] It and its ammunition types are readily available throughout the country. The weapon system is used as much for its general support, high explosive fragmentation capability as for its anti-armour capability. [REDACTED]

[REDACTED] (UK-R)



Figure 2-1: [REDACTED]

[REDACTED] (UK-R REL ISAF)

a. [REDACTED]
[REDACTED] The effective range of a high explosive fragmentation (HE-Frag) round against an area target is much greater. (U)

b. [REDACTED]
[REDACTED] The most commonly recovered rounds include: (UK-R)

(1) Basic HEAT rounds, including the original PG-7V, the modernised PG-7VM, the Chinese Type-69 and the Iranian NADER. All will penetrate 300mm of rolled homogeneous armour (RHA), which is sufficient for the majority of armoured targets. (UK-C)

(2) HE-Frag rounds, with the extremely common OG-7 effective out to 1000m. (U)

(3) The Chinese Type-69 Bounding HE-Frag round, effective out to 1500m. (U)

c. The RPG-7 weighs 6.5 kg without ammunition. A standard HEAT round weighs approximately 2.2 kg. (U)

d. [REDACTED]
[REDACTED] (UK-R)

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13. Disposable Single Use RPG. [REDACTED]

[REDACTED]

[REDACTED] (NATO/ISAF CONFIDENTIAL REL GCTF)

a. [REDACTED] (SECRET REL ISAF)



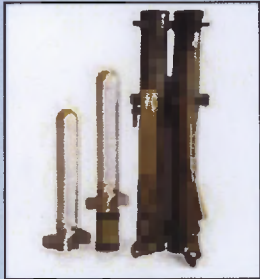
b. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] (SECRET REL ISAF)

c. An overview of these 3 systems: (U)

	RPG-22	RPG-18	RPO-A
			
	<i>Figure 2-a: RPG-22 in travel and extended position (U)</i>	<i>Figure 2-b: RPG-18 in travel and extended position (UK R)</i>	<i>Figure 2-c: RPO-A rounds and launch tubes (U)</i>
Calibre	72.5mm	64mm	93mm
Effective Range	250m	200m	600m
Length	755mm	705mm	920mm
Weight	2.7 kg	2.6 kg	12 kg
RHA Penetration	[REDACTED] (UK C)	[REDACTED] (UK C)	Thermobaric warhead
Supply	Russian and Bulgarian	Russian	Russian

14. **RKG-3 Anti-Armour Hand Grenades.** This is an older former Soviet design for use against lightly armoured vehicles. There are a number of variants, with RHA penetration from 125 to 225mm. [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)



Figure 2-3: [REDACTED] (UK R)

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- a. **Effective Range.** These are hand-thrown weapons, and engagement ranges of 15 to 20m are typical. (U)
- b. **Ammunition.** The grenades have shaped charge warheads with a diameter ranging from 65 to 77mm. (U)
- c. **Weight.** Most variants have an approximate weight of 1.1kg. (U)
- d. **Supply.** There has been no reported use in Afghanistan. (U)

15. **B-10/Type 65 82mm Recoilless Rifle(RR).** [REDACTED]

[REDACTED] Unlike the RPG-7, which is one-man portable, the B-10 is a crew served weapon. The B-10 entered service with the Soviet Union in 1954 and was phased out in the 1960s/70s. The Type 65 is a Chinese copy of the B-10 with very similar characteristics, although significantly it is much lighter than the Russian model. Both weapons are found in Afghanistan, although most recoveries of launchers and munitions are Chinese Type 65. If fired from a tripod mount, 82mm rounds are much more accurate than RPG-7. The Type 65 can be shoulder-fired. HEAT rounds are most common. [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

- a. **Effective Range.** [REDACTED]
- b. **Ammunition.** 82mm calibre HEAT and HE-Frag. (U)
- c. **Weight.** The B-10 weighs 87.6kg without ammunition (Chinese 28.1kg). A standard HE round weighs 4.5kg, and a HEAT round weighs approximately 3.6kg. (U)
- d. **Supply.** The B-10 is no longer manufactured, but is still in limited service with some countries. (U)



Figure 2-4: towed 82mm B-10 RR. (U)



Figure 2-5: Chinese Type 65 82mm RR on tripod. (U)

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16. **SPG-9 73mm Recoilless Rifle.** [REDACTED]

[REDACTED] It is also more limited in the
natures of ammunition it fires. [REDACTED]

[REDACTED] (UK-R)



Figure 2-6: SPG-9 recoilless rifle in service with the Pakistani Army. (U)

- a. **Effective Range.** 800m against a point target using HEAT and out to 4500m against an area target using HE-Frag. (U)
- b. **Ammunition.** 73mm calibre HEAT and HE-Frag. The warheads are the same as are used in the BMP-1 cannon. (U)
- c. **Weight.** The SPG-9 weighs 50.5kg without ammunition. A standard HEAT round weighs approximately 4.5kg. (U)
- d. **Supply.** The SPG-9 is less widely manufactured and available than the RPG-7 but it is still in wide service in the developing world. (U)

17. **Enhanced Blast Weapons.** Blast weapons, also referred to as thermobaric, volumetric or fuel-air explosive, have been present in Afghanistan since the Soviet era. The RPO-A was a first generation weapon which has a limited shelf life and was introduced during the Russian era. The technical details are presented earlier in this chapter. [REDACTED]

[REDACTED] (UK-S)

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CHAPTER 3: ANTI TANK GUIDED WEAPONS (ATGW)

18. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

19. [REDACTED]
[REDACTED]
[REDACTED]
(UK S REL NATO/AUS/NZ)



Figure 3-1: Russian Malyutka (AT-3) ATGM. (U)

20. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK R)

21. The Russian Konkurs (AT-5) was accepted for service by the Soviets in the mid-1970s and is a counterpart to the Franco-German HOT. Konkurs is a transportable system generally mounted on a variety of light vehicles, but unlike HOT, it may be fired from a ground launcher. The same launcher can be used for firing the smaller variant of the missile, the Fagot (AT-4).

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK C)



Figure 3-2: Russian AT-5 (Konkurs) ATGM. (U)

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22. The Soviets used the Shturm (AT-6) ATGM system in Afghanistan in the 1980s. The system is large and heavy and can only be fired from helicopters and dedicated armoured vehicles.

[REDACTED]

(UK S REL NATO/AUS/NZ)

23. The Russian Metis (AT-7) is a short range ATGM introduced in 1978 for use by special units, deployed at section or platoon level with a 2-man crew. The operator carries the launcher and one missile while a rifleman carries 3 missiles.

(UK C)



Figure 3-3: Russian AT-7 (Metis) ATGM. (U)



Figure 3-4: Franco-German MILAN ATGM. (U)

24. The MILAN missile is a Franco-German medium range ATGM introduced in the late 1970s. It has been known to be mounted on vehicles but is predominantly fired by a 2-man team from a ground launcher. (UK R)

25. [REDACTED]

[REDACTED] The practical use of Red Arrow 8 is somewhat hampered by the weight of the firing equipment (65kg) and the 5 person crew requirement to carry it. The rest of the systems described in this chapter can generally be transported and operated with a crew of 2-3 people. (UK S REL NATO/AUS/NZ)



Figure 3-5: Chinese Red Arrow 8 (Pakistan Baktar Shikan) (U)

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Table 3-1: Characteristics of Theatre ATGMs (UK-R)

Name and Designators:	Malyutka AT-3 SAGGER	Konkurs AT-5 SPANDREL	Metis AT-7 SAXHORN	MILAN	Red Arrow-8 (Baktar Shikan)
Maximum range, m:	████	████	████	████	████
Minimum range, m:	400	75	40	25	50
Maximum engagement altitude, m:	████ ██████	████ ██████	████ (estimated)	████	████
Warhead type:	Unitary shaped charge (HEAT)				
Propulsion:	Solid propellant boost (eject) and flight (sustain) motors				
Combat indicators:	████████ ████████ ████████ ████████ ████████ ████████	████████ ████████ ████████ ████████ ████████	████████ ████████ ████████ ████████ ████████ ████████ ████████ ████████ ████████ ████████	████████ ████████ ████████ ████████ ████████ ████████	████████ ████████ ████████ ████████ ████████
Transportability:	Man-portable	Vehicle-portable (crew-portable over short distance)	Man-portable	Man-portable	Man-portable
Emplacement time (Minutes):	Missile assembly: 1 Missile to launcher: 1 Launcher setup: 1	Missile to launcher: 1 Launcher setup: 1			
Rate of fire, rd/min:	3 (when missiles assembled)	2	3	2	2

CHAPTER 4: INDIRECT FIRE (IDF) SYSTEMS

ROCKETS AND MORTARS

26. The IDF threat in Southern Afghanistan consists of 60mm – 120mm mortars and 107mm – 122mm FFR. Other legacy IDF systems¹ are to be found in Afghanistan but, to date, there has been little reported use against CF. [REDACTED]

[REDACTED] (UK-R)

27. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

28. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

29. [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] This system fires a 3.2kg projectile (O-832) to a maximum range of 3km and can achieve a burst rate of fire of 25 rounds per minute. [REDACTED]
[REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

30. [REDACTED]
[REDACTED]

[REDACTED] Standard 120mm mortars will achieve a maximum range of 5.7 – 6.2km. [REDACTED]
[REDACTED]

[REDACTED] These projectiles weigh between 13 - 16kg and contain between 2.25 – 2.68kg of TNT. Experienced mortar crews can achieve a burst rate of fire of 9 rounds per minute and a sustained rate of 4 rounds per minute. [REDACTED]

¹ Such as 122mm FFR improved munitions and 130mm FFR. (U)

² [REDACTED]
[REDACTED]
[REDACTED]

³ [REDACTED]
[REDACTED]

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[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

31. [REDACTED]
[REDACTED]
[REDACTED] Technical details of this
weapon system are covered in the Anti-Armour Weapons chapter.⁴ (UK S REL NATO/AUS/NZ)



Figure 4-1: 107mm Rockets employed in Afghanistan – Chinese Type 63-II, Iranian Fajr-1 and Chinese WP variant. (UK R)

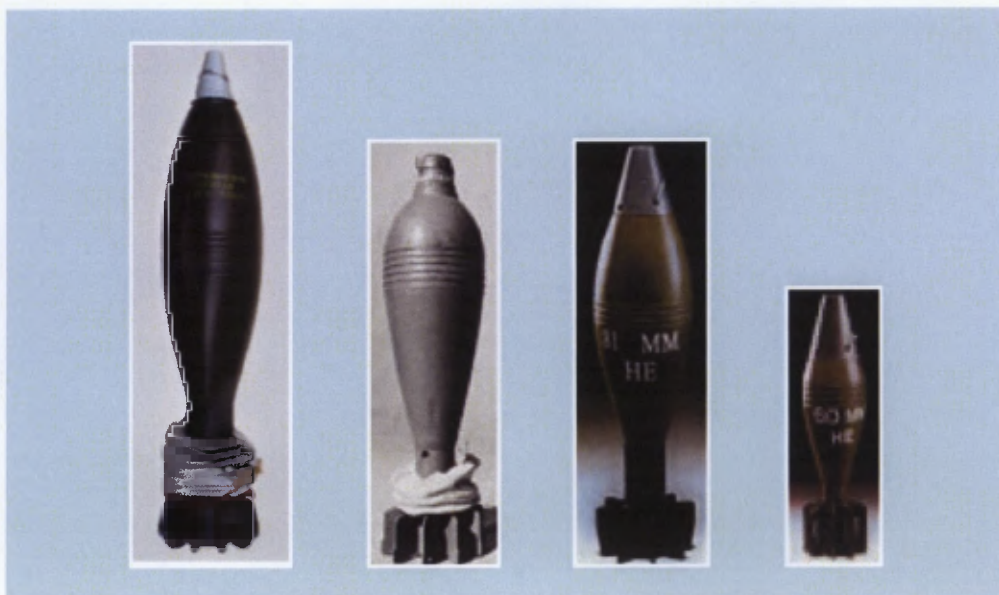


Figure 4-2: Mortars employed by EF in Afghanistan – 120mm, 82mm, 81mm and 60mm variants. (U)

⁴ Chapter 2 para 15.

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INDIRECT FIRE TTPS

32. **Mortars.** [REDACTED]
[REDACTED]

Mortars are exclusively fired from conventional mortar tubes. (UK S REL NATO/AUS/NZ)

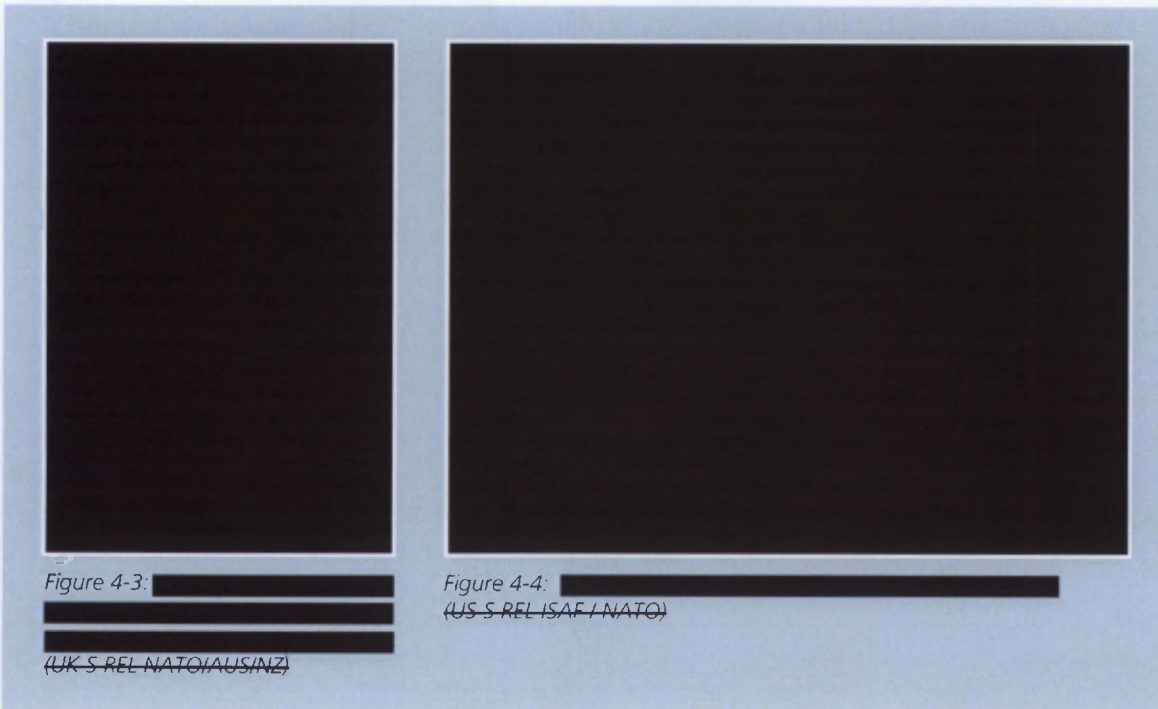
33. **Rockets.** [REDACTED]
[REDACTED]

[REDACTED] However, by far the most common method of employment of 107mm rockets is from crude improvised launchers. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

34. **Circular Area of Probability.** The use of improvised launchers degrades the accuracy of rockets but not the maximum achievable range. [REDACTED]

[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)



5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]

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35. **Direct Fire Rockets.** There have been numerous incidents of 107mm FFR being employed in a direct-fire role. [REDACTED]

[REDACTED] Due to rocket characteristics, however, the greater the engagement range is, the lower the hit probability (UK S REL NATO/AUS/NZ)

36. **Aircraft Cueing.** There are numerous examples of IDF incidents being cued by the arrival of aircraft (particularly rotary wing). [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

37. **Combined Arms Attacks.** [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

38. **EF Understand ISAF Counter Fires.** [REDACTED]

[REDACTED] EF are known to employ IDF from locations that complicate CBF engagement (built up civilian areas) and a reluctance to engage with IDF on to locations with a known detection and response capability. The presence of non combatants at the point of origin of IDF attacks is likely to continue. [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

ANTI-AIRCRAFT ARTILLERY (AAA)

39. The bulk of AAA systems available to EF are legacy Soviet gun systems from the 1980s.

[REDACTED] (UK S REL NATO/AUS/NZ)

Annex:

A. Generic Indirect Fire Threat Weapon Systems – Afghanistan

ANNEX A TO CHAPTER 4

GENERIC INDIRECT FIRE THREAT WEAPON SYSTEMS – AFGHANISTAN

Type and Calibre	Max Range	Warhead Weight	Explosive Fill Weight	Fill Type	Fuse	Max Projectile Velocity	Impact Velocity	No. of Fragments	Fragment Velocity	Lethal Radius Ground ⁷	Lethal Radius 5m HOB	Remarks
	(m)	(kg)	(kg)			m/s	m/s		(m/s)	(m)	(m)	
Mortars												
60mm Generic Mortar	2500	1.35	0.18	TNT	SQ/DEL		NK	NK	1454			A Chinese Type that provides a good representation of a standard 60mm mortar
60mm Hadid HM14	2550	1.6	0.16	TNT	SQ/DEL	~188	NK	NK	NK			
81mm Chinese W87	5600	4.02	0.6	TNT	SQ/DEL	NK	NK	NK	2552			A generic threat 82mm mortar
81mm Hadid HM15	5200	3.86	0.53	TNT	SQ/DEL	NK	NK	NK	NK			A copy of the Israeli Soltam M91
82mm NORINCO Type-W84	4700 ⁸	4.2	unknown	TNT	SQ/DEL	NK	NK	NK	1134			
82mm FSU M-37 HE FRAG	3040	3.23	0.44	TNT ⁹	SQ/DEL	207-211	~160	NK	964			
120mm OF-843	5000	16.5	1.58	TNT ¹⁰	SQ/DEL	NK	NK	NK	956			Fired from M-38 and M-43 120mm mortar but also able to be fire out of most 120mm mortars.
120mm DIO M48	6000	13	2.25	TNT	SQ/DEL/Prox	NK	~270	NK	NK			A copy of Israeli 120mm Soltam
120mm RAP	10064	16.7	2.15	Comp B	SQ/DEL/Prox	NK	NK	NK	NK			

⁷ The lethal areas as presented in this guide are not physical areas per se; they are measures of the effectiveness of different projectile designs. Lethal radius given is for unprotected troops standing in open terrain.

⁸ With 'special' charge it is claimed that this projectile can achieve a range 5900m. This would put extreme pressure on the barrel or would only be achievable when fired from a purpose designed mortar tube.

⁹ TNT and Dinitronaphthalen.

¹⁰ TNT or Amatol.

¹¹ [REDACTED]

Type and Calibre	Max Range	Warhead Weight	Explosive Fill Weight	Fill Type	Fuse	Max Projectile Velocity	Impact Velocity	No. of Fragments	Fragment Velocity	Lethal Radius Ground	Lethal Radius 5m HOB	Remarks
	(m)	(kg)	(kg)			m/s	m/s		(m/s)	(m)	(m)	
Rockets												
107mm Type-63 ¹²	8500 - 10000 ¹³	8.33	1.26	TNT	SQ/DEL	370-383	~235	5612	1088			
107mm Type-63-I Incendiary	8000	7.54	NK	WP	SQ/DEL	370-383	~235	NK	NK			Incendiary rockets found in cache find Aug 08. No reported use to date.
122mm 9M22	20075	18.4	6.4	RDX/TNT	SQ/DEL/Prox	690	337	3150	1474			
122mm 9M22U	20380	18.4	6.58	RDX	SQ/DEL/Prox	~705	313-245	4639	1722			
122mm HADID	20075	18.4	6.4	RDX/TNT	SQ/DEL/Prox	690	NK	NK	NK			
122mm ARASH	29000	18	NK	NK	NK	1050	NK	NK	NK			
122mm 9M521	40000	21.5	NK	RDX/TNT	SQ/DEL/Prox	>1050	NK	NK	NK			This rocket has not been seen in Afghanistan. Advertised as being twice as effective as 9M22U
122mm 9M522	37500	25	NK	RDX/TNT	SQ/DEL/Prox	NK	NK	NK	NK			This rocket has not been seen in Afghanistan. Advertised as being six times as effective as 9M22U
122mm 9M218	30000	25	NK	NK	Prox	NK	NK	45 bomblets	NK			
240mm FALAQ-1	10000	50	25	TNT	SQ/DEL	~400	~260	NK	NK			This rocket has not been seen in Afghanistan

¹² Iranian Fadjr-1 is a copy of Type-63

¹³ The older generation Type-63 II achieved 8500 the newer Type-63 III achieve 10000.

¹⁴ [REDACTED]
¹⁵ [REDACTED]

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CHAPTER 5: SURVEILLANCE IMAGING AND LASERS (STANOC)

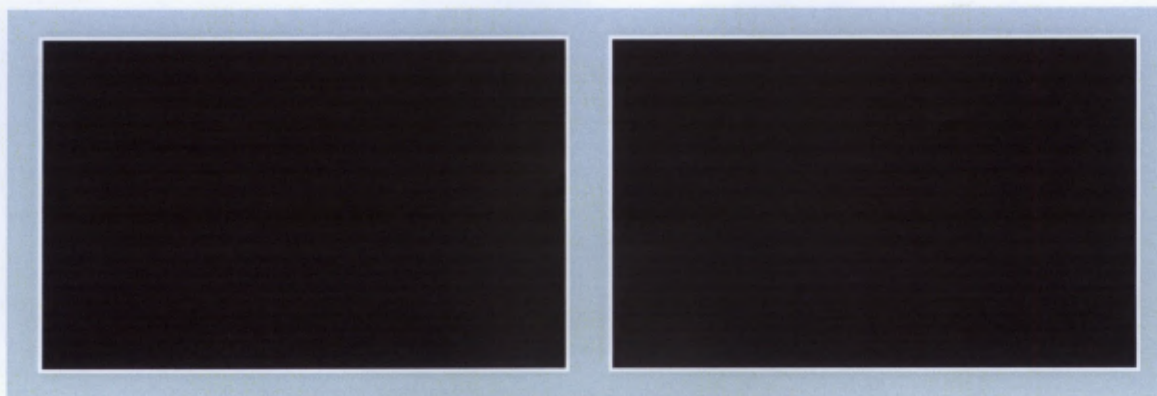
40. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL ISAF)

41. **Visible Band Optics.** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL ISAF)

Ser	Weapon System	Optical Sight	II Sight
1	AK 47	No optical sight	No known sights
2	RPK LMG, PKM MMG	No optical sight	1 PN34 II Sight
3	DShK HMG	No optical sight	No known sights
4	AKM	No optical sight	Can be used with 1 PN34 II Sight
5	Dragunov SVD Sniper Rifle	PSO-1, PSO-1M2	Can be used with 1 PN34 II Sight
6	Improvised Anti-material rifle	No known sights	No known sights

Table 5-1: Insurgent weapons and associated optical sights

42. Examples of weapons sights that could be used by insurgents: (UK S REL ISAF)



Figures 5-1 & 2: [REDACTED] (UK S REL ISAF)

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Figure 5-3: Russian Dragunov SVD Sniper Rifle with PSO-1M2 (U)

Night Vision Capability

43. **Current Threat.** [REDACTED]

a. [REDACTED] (UK S REL ISAF)

b. [REDACTED] (UK S REL ISAF)

c. [REDACTED] (UK S REL ISAF)

44. **Image Intensifiers (II).** [REDACTED]

[REDACTED] The quality of these systems has also improved from largely early generation legacy or COTS equipment to the latest generation military specification systems.

[REDACTED]

45. [REDACTED]

[REDACTED] (UK S REL ISAF)

46. [REDACTED]

[REDACTED] (UK S REL ISAF)

Defence Intelligence Threat Statement

47. [REDACTED] (UK S REL ISAF)



Figure 5-4: [REDACTED] (UK S REL ISAF)



Figure 5-5: [REDACTED]
[REDACTED] (S REL ISAF)



Figure 5-6: [REDACTED]
[REDACTED] (UK S REL ISAF)

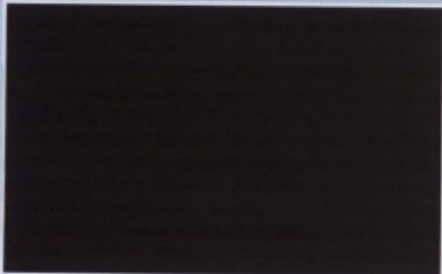


Figure 5-7: [REDACTED]
[REDACTED] (UK S REL ISAF)

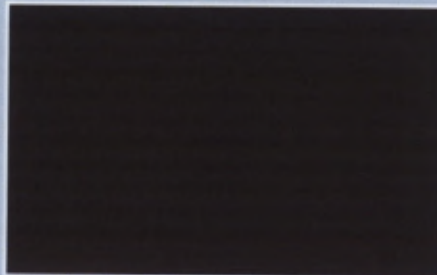


Figure 5-8: [REDACTED]
[REDACTED] (UK S REL ISAF)



Figure 5-9: [REDACTED]
[REDACTED] (UK S REL ISAF)

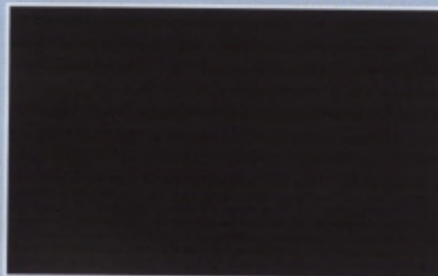


Figure 5-10: [REDACTED]
[REDACTED] (S REL ISAF)

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48. Thermal Imagers (TI). [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

(UK S REL ISAF)



Figure 5-11: [REDACTED] (UK S REL ISAF)

49. Lasers. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

(UK S REL ISAF)

50. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

(UK S REL ISAF)

Defence Intelligence Threat Statement

51. Laser Range Finders (LRFs) and Laser Target Markers (LTM) are normally military specification systems employed to accurately locate and mark targets.

- a. LRF. [REDACTED]
[REDACTED]
- b. LTM. [REDACTED]
[REDACTED]
[REDACTED] (UK S REL ISAF)

[REDACTED]

- a. [REDACTED]
[REDACTED] (R)
 - b. [REDACTED]
[REDACTED] (R)
 - c. [REDACTED] (R)
 - d. [REDACTED]
[REDACTED] (R)
-

Defence Intelligence Threat Statement

CHAPTER 6: COMMUNICATIONS

Executive Summary

52. Afghanistan is in the process of upgrading to its communications network by laying fibre across the country, which will act as a bearer for third generation (3G) cellular communications. A microwave network has also been implemented that will supplement this national telecommunications backbone network. (U)

53. The introduction of 3G within the country not only offers much faster data rates and internet access speeds, but also makes the internet much more widely accessible from mobile phone handsets.. [REDACTED]

[REDACTED] (UK S REL NATO/ISAF)

54. [REDACTED]

[REDACTED] (UK S REL NATO/ISAF)

COMMERCIAL TELECOMMUNICATIONS NETWORKS

Telecommunications backbone networks

55. The availability of fixed and mobile communications systems in Afghanistan has been shaped significantly by the mountainous terrain, years of conflict and underinvestment. Recently, however, there has been an extensive programme to lay fibre optic cable around the country (Figure 1) that will provide a backbone network for third generation (3G) cellular communications and internet access. [REDACTED]

[REDACTED] The government is keen to complete this fibre network in order to increase revenue. Other than farming, revenue from cellular communications is the largest source of income to the government. (UK S REL NATO/ISAF)



Figure 6-1: Afghanistan Fibre Ring Geographical Lay Down (U)

56. Running in parallel with the fibre network is a microwave backbone network that is also used for cellular communications and internet access. Although this will not provide the full capability that a fibre network will, the microwave network is complete and covers a greater area than the current fibre network. This network is also being used by mobile phone providers to deliver a slightly reduced 3G service. (U)

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Mobile Phone Networks

57. **3G and GSM Cellular Communications.** In addition to the network provided by the Afghan Telecommunication Regulatory Authority (ATRA),¹⁶ there are 4 cellular providers in Afghanistan: Etisalat, Roshan, MTN and AWCC. All of these provide second generation (2G) Global System for Mobile Communications (GSM) coverage in the 900 and 1800 bands, predominantly in populated areas of Afghanistan. All 4 of these providers have been recently upgrading their networks to offer a 3G UMTS service, however at the time of writing this assessment, only Etisalat and MTN offer 3G services in a few cities and regions. The other 2 providers are both expected to sign a 3G licence in the very near future and then offer 3G services at a later date. It should be noted that even when a provider offers 3G, this will almost certainly not give the same levels of geographical coverage as is offered with 2G.¹⁷ For this reason, until the cellular provider is able to offer a comparable 3G coverage, they will continue to offer the 2G service as well. 3G subscribers will automatically affiliate to a 3G network when in a coverage area, but will revert back to the default 2G network when 3G is unavailable. (U)

58. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)

59. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)

Public Switched Telephone Network

60. Due to a lack of cable infrastructure, many subscribers access the Public Switch Telephone Network (PSTN) is through use of Code Division Multiple Access (CDMA) wireless local loop (WLL). In essence these systems look like mobile phones but generally have no, or very limited, roaming capability; nonetheless they can provide a viable commercial rival to GSM in some areas. CDMA WLL currently uses frequencies in the 800 MHz range in Afghanistan and is a relatively inexpensive way of delivering voice and data services to home users. The Government is trying to ensure that these services are pushed out into rural areas, however availability is going to be better in urban areas for the foreseeable future. (U)

¹⁶ ATRA currently offer a very limited CDMA cellular network, however they are in the process of transforming this into a 3G UMTS network.

¹⁷ This is because a 3G Base Station (called a Node B) propagates a mobile phone signal approximately half the distance of a 2G Base Station.

¹⁸ [REDACTED]

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61. In rural areas where access to fixed networks is limited, High Powered Cordless Phones (HPCP) (Figure 2), sometimes referred to as Long Range Cordless Phones (LRCP), are popular for both locals and insurgents. These systems look like GSM phones but operate in the VHF and UHF bands and allow mobile communications from the fixed network base station up to 250km away (in optimal conditions). There are genuine commercial manufacturers of HPCP, but also a number of "fake" brands which have less predictable operating characteristics. (U)



Figure 6-2: Various HPCP Handsets, Base Stations, and Antennae (U)

Satellite Phones

62. In the absence of other commercial telecommunications systems, satellite phones have also been a popular means of communication in Afghanistan due to their extensive coverage and reliability. The most common network provider is Thuraya, a Middle Eastern company, which offers good countrywide coverage. Thuraya phones (Figure 3) are dual mode, i.e. can operate in both satellite and GSM mode, and incorporate GPS. Subscriber Identity Module (SIM) cards can be readily changed within handsets, enabling multiple phone numbers from the same handset. Thuraya operates from 1525.0 to 1559.0 MHz from satellite to handset and 1626.5 to 1660.5 MHz from handset to satellite. Use of satellite phones is often expensive and usage will likely reduce as availability of other commercial communications systems improve. Some commercial satellite systems, including Thuraya, offer Internet access and commercially secure communications. (U)

Defence Intelligence Threat Statement



Figure 6-3: Thuraya Phones: (from left to right) HNS-7100, XT, SG-2520 and SO-2510 (U)

Internet

63. Access to the Internet within Afghanistan has increased significantly with 2G and 3G network evolution. Historically, the internet has been predominantly accessed in internet cafés within urban areas, however with the much faster data rates of 3G and latest GPRS/EDGE versions 2G networks, many more people have internet access through their mobile phones. (U)

Outlook

64. The recent improvements in the countrywide fibre and microwave networks in conjunction with the introduction of 3G¹⁹ mean that the country now has much more widespread internet access using mobile phones. In terms of cellular area coverage, the introduction of 3G will not give a greater countrywide coverage, because a 3G signal propagates shorter ranges than a 2G signal. For this reason, until many more 3G towers are built, a 2G service will still be offered as a reversionary network in areas not covered by 3G. In areas that do not currently have 2G services, Satellite phones and HPCT will still be used. (U)

GOVERNMENT AND MILITARY COMMUNICATIONS

65. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK-S REL NATO/ISAF)

¹⁹ [REDACTED]
[REDACTED]
[REDACTED]

Defence Intelligence Threat Statement

66. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)



Figure 6-4: PRC 1099 HF radio (U)

67. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] There is specific communications training for officers and soldiers and the ANA has a dedicated Signals Branch. (UK S REL NATO/ISAF)

Outlook

68. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK C REL NATO/ISAF)

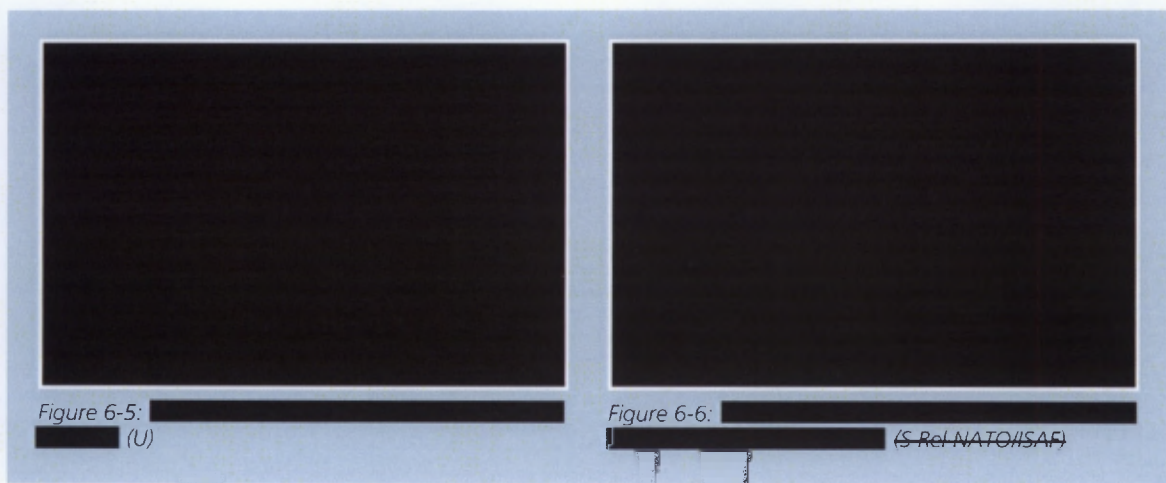
INSURGENT FORCES COMMUNICATIONS

69. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)

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VHF Radio Communications

70. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)



HF Radio Communications

71. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)

72. [REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)

Defence Intelligence Threat Statement

Security

73. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)

Outlook

74. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/ISAF)

Annex:

A. [REDACTED]

ANNEX A TO CHAPTER 6

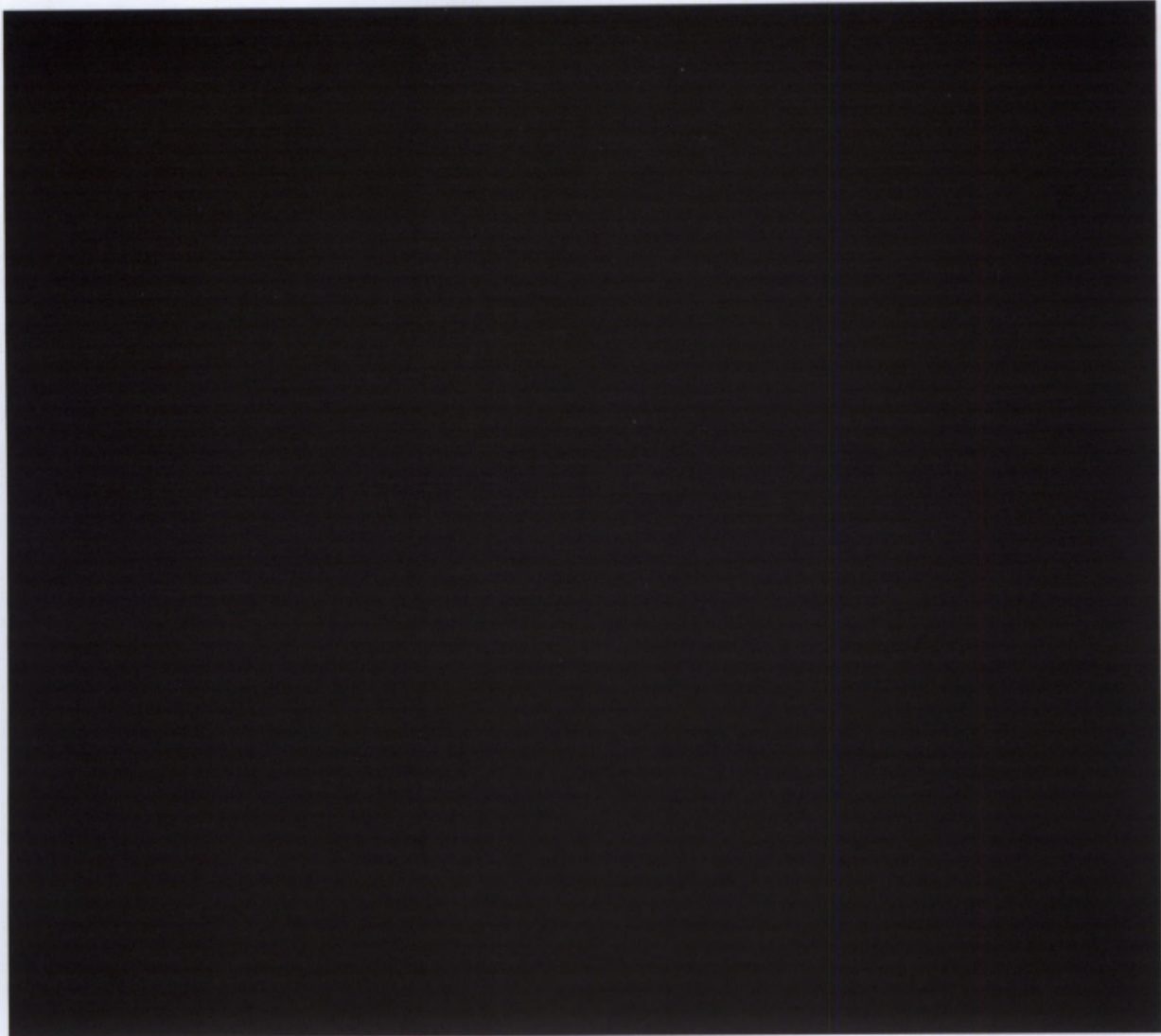
[Redacted]

[Redacted]

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(UK S REL NATO/SAF)

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CHAPTER 7: [REDACTED]

Introduction

75. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

76. [REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

Enemy Force Capability

77. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

78. [REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

79. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

[REDACTED]

80. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

20. [REDACTED]
[REDACTED]
[REDACTED]

Defence Intelligence Threat Statement

CHAPTER 8: MAN-PORTABLE AIR DEFENCE (MANPADS)

81. **Introduction.** This chapter highlights the Man-Portable Air Defence Systems (MANPADS) threat in Afghanistan. These systems consist of: a launch-tube, a battery coolant unit (BCU) (or battery unit for legacy systems) and a gripstock firing mechanism. The battery provides the initial power to the missile and gripstock; the coolant unit (where applicable) is used to sensitise the seeker, to aid target acquisition. The gripstock provides the gunner's interaction with the missile; it also provides all the pre-launch functions. The only reusable part of a MANPADS is the gripstock. So, after a missile is launched, the empty tube and battery unit are disposed of. [REDACTED]

[REDACTED] These systems are also fire-and-forget (with the exception of Blowpipe). [REDACTED]

[REDACTED] (U)

82. **SA-7b (Strela 2M)/ CSA-3 (HN-5).** [REDACTED]

[REDACTED] The system can be operated by a single man, and consists of a launch tube containing the missile, a gripstock that is connected to the launch tube to control pre-launch functions, and a thermal battery that is connected to the launch tube to provide power. [REDACTED]

[REDACTED] The operator must visually acquire and track the target before launch. The system does not include an integral IFF or NVD, although these components can be added to the basic system. The CSA-3 (HN-5) is the Chinese copy of the Russian SA-7b. (UK-R)

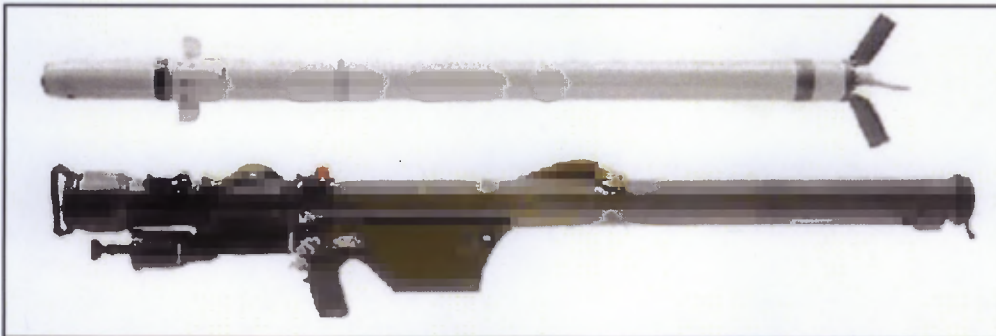


Figure 8-1: An SA-7b missile and tube with gripstock and battery unit fitted (U)

a. **Range.** [REDACTED]

[REDACTED] (UK S-REL NATO/AUS/NZ)

b. **Altitude.** [REDACTED]

[REDACTED] (UK S-REL NATO/AUS/NZ)

c. **Weight.** The SA-7b weighs 15.86kg complete, the missile weighs 9.86 kg.

[REDACTED] (UK S-REL NATO/AUS/NZ)

d. **Supply.** The SA-7b/CSA-3 (HN-5) is no longer manufactured but is the most widely

proliferated MANPADS. [REDACTED] (UK S-REL NATO/AUS/NZ)

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83. **SA-14 (Strela-3).** [REDACTED]

[REDACTED] The system is operated by a single man, and consists of a launch tube containing the missile, a gripstock that is connected to the launch tube to control pre-launch functions, and a thermal battery and cooling unit that is connected to the launch tube to provide power to the gripstock and nitrogen gas to sensitise the detector. [REDACTED]

[REDACTED] The system does not include an integral IFF or NVD, although these components can be added to the basic system. (UK S REL NATO/AUS/NZ)

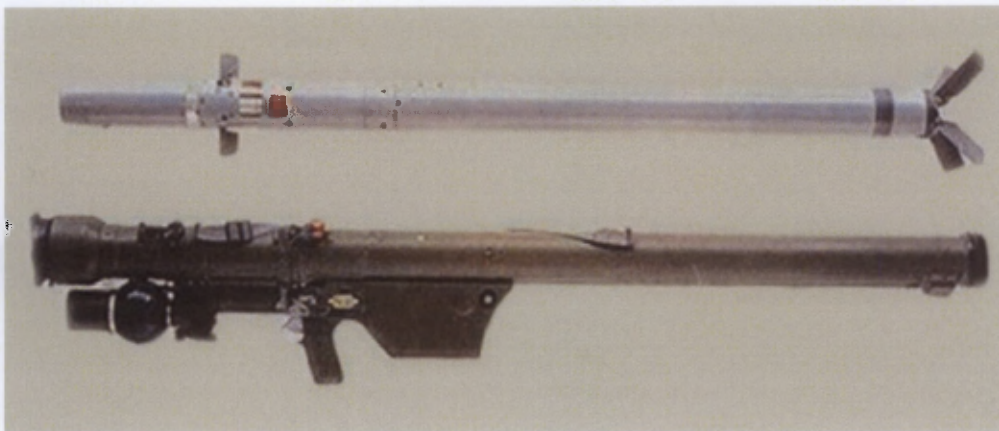


Figure 8-2: An SA-14 missile and tube with gripstock and battery unit fitted (U)

a. **Range.** [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

b. **Altitude.** [REDACTED]

(UK S REL NATO/AUS/NZ)

c. **Weight.** The SA-14 weighs 16.05kg complete, the missile weighs 10.3 kg.

(UK S REL NATO/AUS/NZ)

d. **Supply.** [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

Defence Intelligence Threat Statement

84. **SA-16 (Igla-1).** [REDACTED]

[REDACTED] The system is operated by a single man, and consists of a launch tube containing the missile, a gripstock that is connected to the tube to control pre-launch functions, and a thermal battery and cooling unit that is connected to the launch tube to provide power to the gripstock and nitrogen gas to sensitise the detector. [REDACTED]

[REDACTED] It can engage approaching, receding and crossing targets. The system can include an integral IFF device that is built into the tube and operated by a switch on the gripstock. The system does not include integrated NVDs although these can be added to the basic system. (UK S REL NATO/AUS/NZ)

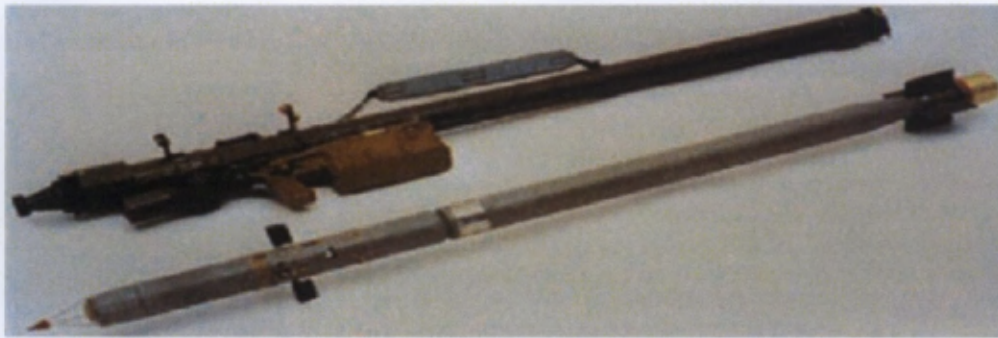


Figure 8-3: An SA-16 missile and tube with gripstock and battery unit fitted (U)

a. **Range.** [REDACTED]

[REDACTED] (0.3km). (UK S REL NATO/AUS/NZ)

b. **Altitude.** [REDACTED]

(UK S REL NATO/AUS/NZ)

c. **Weight.** The SA-16 weighs approximately 17kg complete with IFF and 16kg without IFF, the missile weighs 10.78 kg. (UK S REL NATO/AUS/NZ)

d. **Supply.** [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

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85. **Blowpipe.** [REDACTED]

[REDACTED] The system is operated by a single man, and consists of 2 main components: the Aiming and Interrogator Unit and the ammunition round, which comprises a Blowpipe missile sealed in its canister. [REDACTED]

[REDACTED] The system can be optionally supplied with an IFF antenna also installed in the canister. The Aiming Unit is a self-contained firing and control pack with a pistol grip at the right hand side. [REDACTED]

[REDACTED] (UK C)



Figure 8-4: Blowpipe (U)

a. **Range.** [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

b. **Altitude.** [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

c. **Weight.** The Blowpipe weighs 26.76kg complete, the missile weighs 11.16kg.

[REDACTED] (UK S REL NATO/AUS/NZ)

d. **Supply.** [REDACTED]

[REDACTED] (UK S REL NATO/AUS/NZ)

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86. **Redeye.** [REDACTED]

[REDACTED]
[REDACTED] The operator must visually acquire and track the target before launch. The system is operated by a single man, and consists of 3 main components: the launcher, the missile, and the battery coolant unit (BCU). The launcher comprises: a launch tube, an optical sighting device and a gripstock, both of which are integral to the tube; the gripstock is not clip-on like other MANPADS. The missile is carried in and fired from the launch tube; after firing, the whole item is discarded. [REDACTED]

[REDACTED] The system does not include an integral IFF subsystem, or NVD, but it may be possible to add these components to the basic system. Redeye's optical sighting device has a x7.5 magnification with a 25° field of view and is designed to enable the gunner to track the target, estimate its range and insert lead and superelevation into the missile launch direction. [REDACTED]

[REDACTED] The missile has an impact only, blast-fragmentation warhead. (UK S REL NATO/AUS/NZ)



Figure 8-5: Redeye (U)

a. **Range.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

b. **Altitude.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

c. **Weight.** The Redeye weighs approximately 15kg complete; the missile weighs approximately 8kg. (UK S REL NATO/AUS/NZ)

d. **Supply.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

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87. **Stinger Basic.** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

The missile is carried and fired from the launch tube. A gripstock attaches to the tube and controls the pre-launch functions. Pre-launch electrical power and gas to cool the seeker is provided by the canister BCU that connects to the gripstock. The system can include an IFF device but does not include integrated NVDs although these can be added to the basic system. (UK S REL NATO/AUS/NZ)



Figure 8-6: An Stinger Basic missile and tube (U)

- a. **Range.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)
- b. **Altitude.** [REDACTED]
(UK S REL NATO/AUS/NZ)
- c. **Weight.** The Stinger Basic weighs 14.79kg complete, the missile weighs 9.73kg.
(UK S REL NATO/AUS/NZ)
- d. **Supply.** [REDACTED] (UK S REL NATO/AUS/NZ)

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88. SA-18 (Igla). [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

The system can include an integral IFF device that is built into the tube and operated by a switch on the gripstock. The system does not include integrated NVDs although these can be added to the basic system. (UK S REL NATO/AUS/NZ)



Figure 8-7: An SA-18 missile and tube with gripstock and battery unit fitted (U)

- a. **Range.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)
- b. **Altitude.** [REDACTED]
(UK S REL NATO/AUS/NZ)
- c. **Weight.** The SA-18 weighs 17.25kg complete with IFF and 16.43kg without IFF, the missile weighs 10.6 kg. (UK S REL NATO/AUS/NZ)
- d. **Supply.** [REDACTED]
[REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

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89. CSA-7 (QW-1)/Misagh-1/Anza II. [REDACTED]

[REDACTED]

The system does not include an integral IFF system. The CSA-7 (QW-1) is produced in Iran as the Misagh-1 and in Pakistan as the Anza II. (UK S REL NATO/AUS/NZ)

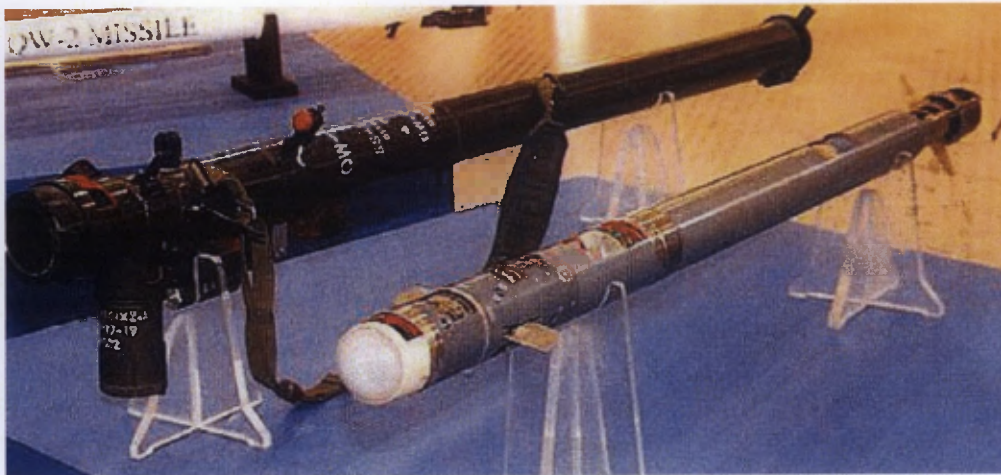


Figure 8-8: A CSA-7 (QW-1) missile and tube with gripstock and battery unit fitted (U)

- a. **Range.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)
- b. **Altitude.** [REDACTED]
(UK S REL NATO/AUS/NZ)
- c. **Weight.** The CSA-7 (QW-1) weighs 19.06kg complete, the missile weighs 10.7kg.
(UK S REL NATO/AUS/NZ)
- d. **Supply.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

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90. **CSA-11 (QW-18)/Misagh-2.** [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] The system does not include an integral IFF system. The CSA-11 (QW-18) is produced in Iran as the Misagh-2. (UK S REL NATO/AUS/NZ)



Figure 8-9: A CSA-11 (QW-18) missile and tube with gripstock and battery unit fitted (U)

a. **Range.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

b. **Altitude.** [REDACTED]
(UK S REL NATO/AUS/NZ)

c. **Supply.** [REDACTED]
[REDACTED] (UK S REL NATO/AUS/NZ)

The Conventional Weapons Threat to Land Forces in Afghanistan

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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Although all product elements and paragraphs are individually marked, the overall protective marking of this product is: UK SECRET REL NATO/AUS/NZ



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Points of Contact



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