UnitedNations

Reinforcement Training Package

for Military and Police Units on

Improvised Explosive Device (IED) Threat Mitigation Course

for United Nations Peace Operations

United Nations Department of Peace Operations

The Specialized Training Materials (STM) and Reinforcement Training Packages (RTP) for United Nations (UN) peacekeeping operations have been developed by the Integrated Training Service (ITS) of the UN Department of Peace Operations and Department of Operational Support.

This version has been released for use by Member States in their pre-deployment training for United Nations Peacekeeping Operations. The suite of STM / RTP products will be regularly updated so that it is fully responsive to the needs on the ground. Therefore, we strongly suggest that you check for updated versions before a training program is conducted.

The latest RTP versions can be found online at the Peacekeeping Resource Hub: http://research.un.org/en/peacekeeping-community. A link to receive your comments and suggestions for improvement can be located in the resource hub at the same location.

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Integrated Training Service

Department of Peace Operations

United Nations

New York, NY, 10017, USA

Background

The UN Department of Peace Operations developed a suite of training packages to prepare peacekeepers for their deployment to UN missions. Amongst these packages are the Specialized / Reinforcement Training Materials for specific military duties and military units.

In the peacekeeping environment, United Nations personnel may operate in remote areas with fragile security conditions that are often affected by the explosive ordnance and improvised explosive devices (IEDs). Peace Operations are evolving and adapting in this complex operational environment. United Nations staff peacekeepers, specifically commanders and planners, are required to undergo a robust pre-deployment training program in accordance with DPO's Operational Readiness Assurance and Performance Standards.

This Reinforcement Training Material (RTP) packet will provide Member States with the UN pre-deployment requirements, lessons, and materials specifically designed for operation in IED affected missions. The intent and content of this RTP are not to duplicate guidelines and training materials that are already outlined in United Nations Core Pre-Deployment Training Materials (CPTM) or United Nations Staff Officers (UNSO) STM; instead, these training materials focus on the mitigation measures and will supplement existing planning and command skills.

Aim

This RTP aim to provide troop-contributing countries with a comprehensive training package to enable commanders and planners to implement simple measures to reduce the threat of IEDs while deployed on operations. This training package combines both theory and practical.   The RTP includes exercises, as well as comprehensive scenario-based exercises, which can be run at the end of a training to strengthen participants' understanding how better to operate in a UN Peacekeeping environment. The training packages are designed for application in both pre-deployment and in-mission training.

Target audience

The intended recipient of this RTP are staff officers, commanders and planner of Troop/Police Contributing Countries to UN Peacekeeping missions who may be exposed to an ERW/IED laden environment.

Structure of the training materials

The package is constructed in three modules:

Module 1:   Explosive hazards and their impact on peace operations

Module 2:   Threat assessment and threat mitigation

Module 3:   Practical application of threat assessment, route analysis and threat mitigation

Annexes:
- Annex A: PowerPoint lessons.
- Annex B: Scenario based exercises

Acronyms:

5Cs	Confirm, Clear, Cordon, Control and Call
AAR	After Action Review
AO	Area of Operation
AU	African Union
AXO	Abandoned Explosive Ordnance
CAGE	Channelling, Aiming Markers, Ground, Environment
C-IED	Counter-Improvised Explosive Devices
CMSA	Colours, Markers, Shapes, and Atmospherics
CW	Command Wire
DS	Directing Staff
EHAT	Explosive Hazard Awareness Training
ECM	Electronic Counter-Measures
EO	Explosive Ordnance
EOD	Explosive Ordnance Disposal
ERW	Explosive Remnants of War
FPE	Force Protection Engineering
FOB	Forward Operating Base
GSA	Ground Sign Awareness
HME	Home-made Explosive
I/NGOs	International/Non-Governmental Organizations
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
IED-TM	IED Threat Mitigation
LP	Learning Plan
LSA	Land Service Ammunition
MT	Mobile Team
MTT	Mobile Training Teams
NGO	Non-Governmental Organization

PSO   Peace Support Operations

Q&A   Questions and Answers

RC   Radio Control

SBE   Scenario Based Exercise

SMEs   Subject Matter Experts

STAP   Surveillance Target Acquisition Plan

TM   Threat Mitigation

TTPs   Tactics, Techniques, and Procedures

UAV   Unmanned Aerial Vehicle

UNMAS   United Nations Mine Action Service

UXO   Unexploded Ordnance

WTI   Weapon Technical Intelligence

VA/VP   Vulnerable Areas/ Vulnerable Point

VOIED   Victim Operated Improvised Explosive Device

Acknowledgements

Contact person

For any proposal of update or improvement of this package, or any questions about these training materials, please write to peacekeeping-training@un.org. Any relevant update will be posted and explained on the Peacekeeping Resource Hub website (http://research.un.org/en/peacekeeping-community).Instructors are encouraged to check the site regularly.

Table of Contents

Instructor
Guidance

General Considerations for Instructors

This package is a compendium of critical training content for specific units operating in UN peacekeeping. No training material can cover the entire spectrum of complexity in a peacekeeping environment, with all its challenges and complexity. The RTP should, therefore, be viewed as the baseline to underpin related training efforts for military and police peacekeepers. However, when designing a training, trainers should be prepared to adapt these materials to the needs of their audience and structures. As a result, the duration of training delivered based on the materials may vary.

Concerning necessary competencies for participants to benefit from this training package, it is recommended that personnel receiving this training be proficient in basic military tasks (individually and collectively) at the tactical level. As such, it is expected that all military and police deploying to missions with IED threat should undertake IED TM as part of Pre-Deployment Training. It is also critical for all participants to have received the Core Pre-Deployment Training Materials (CPTM) as a pre-requisite to this training. The CPTM contains fundamental principles, concepts and ideas of UN Peacekeeping Operations (UNPKO), which should be grasped by trainees before participating in the specific STM/RTP training. Instructors should develop and implement an initial written test and final test to reinforce learning objectives and evaluate the knowledge of participants.

Instructor Profile

This training package is best presented by instructors who master the RTP, have knowledge of EOD skills and IEDD and have previous experience working in a UN peacekeeping mission. Experience with the specific unit at the tactical level is preferred. Knowledge of the mission environment where trainees are to be deployed is advisable, to be able to deliver a targeted training based on real experience. Finally, instructors should be familiar and comfortable with facilitator-based instruction and conducting Scenario-Based Exercises (SBE). Facilitators must successfully meet one of the following requirements to be eligible to instruct on this course:

- EHAT & IED-TM ToT
- All Arms Search Courses – Search Advisor (inclusive of a ToT element)
- Improvised Explosive Device Disposal (IEDD) (inclusive of a ToT element)
- National equivalent of the above training.

Student Profile

Participants must have attended the UN Explosive Hazard Awareness Training (EHAT) or National equivalent in CIED Awareness. Training participants are strongly advised to have command and staff training/experience i.e. military or police mission planning process and delivery of orders. It is desirable, not essential, for participants to be familiar with the UN Mission Planning Process.

The participants of the IED-TM RTP training are Staff Officers, Planners and Commanders of Troops/Police currently on or earmarked for deployment to UN missions and may involve the command or planning of personnel in an explosive hazard environment:

- Military. Sgt – Lt Col. Preferably Lt – Lt Col.
- Police Sergeants to Superintendent

Scenario Based Exercise (SBE) Considerations

Contained in the RTPs are SBEs. These exercises are scenario / situational-driven learning activities to help consolidate learning outcomes and help reinforce the lessons "Take Away". SBEs provide a learning environment tailored to facilitate discussions. They are set in an informal learning environment where the target audience can discuss the principles and concepts when operating in a United Nations Peacekeeping operations. The instructors use the environment within the training area to set up the SBEs. The exercises help participants to understand better the manifestation of integrating units in a peacekeeping environment.

Methodology: Using the modules in IED TM, several practical exercises are set up to augment the theory lessons. The effectiveness of a SBE is derived from the involvement of participants under the guidance of experienced instructors and mentors. Instructors should highlight the adequacy of the core elements and principles when operating in support of peacekeeping operations. Instructors should assist participants in bridging gaps in the transition from standard military operations to peacekeeping operations. Instructors must emphasize that Command and Control (C2), the support structure, and the coordination with the various actors in a UNPKO can be a challenge.

Training Characteristics

Training will vary for different units in different troop-contributing countries, based on priorities and resources. However, some fundamental training characteristics should be respected when delivering the training:

1. Training should be interactive and encourage the participation of trainees,

2. Trainers should bring examples and anecdotes from actual UNPKOs,

3. Training should be evaluated.

General Preparations

Facilities:

- 1x Classroom with enough space for syndicate work or breakdown rooms
- Appropriate outside space to conduct practical exercises, including sandpit (see lesson 2.6)

Administration:

- 1 x Flip chart per syndicate.
- Central projection facility with speakers and video capability.
- 1 x Printing facility. -NB: Significant amount of high-quality colour printing is required for syndicate exercise packs.
- Access to a photocopier.
- Syndicate Laptop computers. At least one laptop computer is required per syndicate with presentational software such as Microsoft PowerPoint. This is to enable syndicates to present briefs during the exercises.

Equipment

- Model kit (see lesson 2.6)
- Selection of Land Service Ammunition for demonstration – Desirable not essential.
- Inert IEDs for demonstrations – Desirable not essential.
- C-IED Pocketbook for each participant

Module

1

EXPLOSIVE HAZARDS AND THEIR IMPACT ON PEACE OPERATIONS

Module 1 at a Glance

Training Objective. To refresh participants knowledge of explosive hazards and how they impact the environment of Peace Operations.

Lesson 1.1 – Explosive Hazards. At the end of this lesson, the participants will be able to relate the prevalence of explosive hazards, types and uses of IEDs and understand the impact on peace support operations. (2 x 45-minute periods)

Lesson 1.2 – Mission Specific IED Threats. At the end of this lesson, participants will be able to explain the IED threats in relation to specific peace support missions. (1 x 45-minute period)

Lesson

1.1

EXPLOSIVE HAZARDS

The Lesson

Time. This module requires approximately 90 minutes to teach.

Performance Statement. At the end of this lesson, the participants will be able to differentiate the various categories of explosive and describe their key features.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

(1)   A remind and revision of explosive hazards (ERW, Mines and IEDs)

    (a)   Types of hazards

        i.   ERW (UXO and AXO)

        ii.   Mines

        iii.   IEDs

    (b)   Environmental indicators

        i.   ERW

        ii.   Mines

        iii.   IEDs

    (c)   Local behaviour

(2)   Components of an IED (1 x 45 min period)

    (a)   Main charge

        i.   Military ordnance

        ii.   Commercial explosives

        iii.   Homemade explosives

    (b)   Power source

    (c)   Switch

        i.   Time

        ii.   Command

        iii.   VO

    (d)   Initiator

    (e)   Container

Methodology. This lesson will be introduced through the lecture method and participatory approaches and discussions.

Infrastructure. Classroom with projection facilities.

Equipment. Inert munitions and inert IEDs. (desirable, not essential)

Instructor Guidance. Remember that students attending this training must have completed the UN Explosive Hazard Awareness Training (EHAT) or national equivalent. Therefore this should not be new content to the students and so the instructor should treat this as a revision session and encourage maximum participation from the students.

IED TM Lesson 1.1: Explosive Hazards

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Find guidance inserted in the note section of each slide.

Slide 2

Overview

1.1.1 Revision of Explosive Hazards

1.1.2 IED Fundamentals

2

Terminal Learning Objectives

At the end of this module, the participants will be able to differentiate the various categories of explosives and describe their key features.

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1.1.1 Revision of Explosive Hazards

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Defining Explosives

What is an Explosive?

An explosive is a substance which when suitably initiated, exerts a sudden and intense pressure on its surroundings, by the rapid formation of large quantities of gas.

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Instructor to ask the students to explain in their own words what an explosive is before revealing the definition.

Defining Explosives

Classes of Explosives

Low Explosives – generally have a normal design mode to deflagrate

High Explosives – have a normal design mode to detonate

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Instructor should explain that there are generally two types of explosives. Low explosives and high explosives. Low explosives tend to deflagrate or burn, while high explosives detonate.

High Explosives Detonate

Detonation is a supersonic shockwave, induced by deflagration or shock, that passes through the explosive converting it mainly to gas, which is susceptible to failure, but which is virtually independent of surface area and pressure

- A High Explosive is one which detonates
- It is only capable of detonation if sufficient stimulus is applied
- Detonation is a much faster event than the deflagration (burning) of Low Explosives

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High explosives
Remember, we said earlier that a high explosive is one which Detonates, so what is meant by detonation ?
Detonation Explosives are capable of detonation if sufficient stimulus is applied. It is a much faster event than the deflagration (burning) of low explosives.

Detonation of explosives:
A detonation is a **supersonic shockwave.**
This shockwave **passes through the explosive**.
When this shockwave passes through the explosive it **creates gases from the explosive material** that it passes through. It is virtually **independent of pressure;** therefore, confinement would not normally affect the velocity of this shockwave.
Detonation can be induced either by burning (deflagration) or by shock and is susceptible to failure.

NB: detonation is a supersonic shockwave, that passes through the explosive, creating gases and is independent of pressure

Uses of High Explosives

Main Fillings - for landmines, artillery shells, mortars, bombs, hand grenades, mines, torpedoes, depth charges.

Civil Engineering & Demolition Stores - for quarrying, mining and Explosive Ordnance Disposal (EOD).

Bursting Charges - for carrier bombs, shells and missiles.

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The instructor should explain some of the uses of high explosives.

Categories of Explosive Hazards

- Explosive Remnants of War (ERW)

  - Unexploded Ordnance (UXO)

  - Abandoned Explosive Ordnance (AXO)

- Landmines

- Improvised Explosive Devices (IEDs)

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These definitions of explosive hazards are taken from the UNMAS Landmines, ERW and IED safety handbook. These categories of hazards constitute the greatest threat to UN peacekeepers. Whilst there are other definitions of Explosive Ordnance under the International Mine Action Standards (IMAS) definition, for the purpose of simplicity we will focus on these three main groups; Explosive Remnants of Wars, Landmines and IEDs.

Categories of Explosive Hazards

Explosive Remnants of War (ERW) refers to:
- Unexploded Ordnance (UXO).
- Abandoned Explosive Ordnance (AXO).

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Image Left: An unexploded ordnance lying in Pulukere village, Amuru District, Northern Uganda. Source- Charles Akena, IRIN

Image Right: AXO found in Iraq. Source- UK MOD.

Explosive remnants of war are explosive ordnance that are left by a party to an armed conflict following the cessation of warfare. Generally speaking, ERW is broken down into two groups – Unexploded Ordnance or UXO and Abandoned Explosive Ordnance (AXO).

Landmines are generally not categorized as ERW, even though they fit the definition, as they are dealt with under two distinct international conventions.

Categories of Explosive Hazards

Unexploded Ordnance (UXO):

UXOs are explosive munitions that have been fired, thrown, dropped or launched but have failed to detonate as intended.

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Images (Left to Right)

A grenade which does not have a safety pin or fly-off lever, suggesting it has been thrown but not initiated.

An air dropped munition which has been dropped but not initiated.

Landmine in Laos.

An artillery munition that has been fired and not initiated. You can see from the rifled scratches and imprints on the driving band that it has been fired.

Explosive Ordnance which has been primed, fused, armed, or otherwise prepared for action, and which has been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material and remains unexploded either by malfunction or design or for any other cause.

UXO include artillery and tank rounds, mortar rounds, fuses, grenades, and large and small bombs including cluster-munitions, sub-munitions, rockets and missiles.

UXOs come in various "military colours"– khaki, green, brown, tan, grey – or can be unpainted. They are usually made of metal but can also be made of plastic. If they have been in the open terrain for a long time, UXOs may be rusted and discoloured, partially hidden, obscured by dirt and mud and difficult to recognize. Despite looking like harmless scrap, they remain extremely dangerous.

UXOs are usually found in areas where fighting has taken place or at military firing ranges. UXOs can be discovered inside and outside of buildings. They can be buried beneath the ground or hidden beneath rubble or collapsed walls. UXOs can even be found lodged in trees or hanging from branches, hedges and fences as well as a souvenir inside homes.

Categories of Explosive Hazards

Abandoned Explosive Ordnance (AXO):

AXO is explosive ordnance that has not been used during armed conflict and has been left behind and is no longer under control of any particular Force (combatants) that left it behind.

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Definition

AXO refers to unused munitions left behind when a conflict ends, no longer under the control of combatants when left them there. These abandoned munitions pose a serious problem in post – conflict countries as they are frequently not stored properly and are often not under the control of official security force. This increases the risk of unplanned explosions and proliferations of non-state armed groups.

Introduction

Post-conflict settings can be the site of arms caches and weapons depots or dumps full of Abandoned Ordnance (AO). AO is ordnance that has not been used but is no longer in the control of any force. AO includes every kind of ammunition such as mortar rounds, grenades, bombs, rockets, artillery rounds and others.

Caches of abandoned ordnance and poorly secured or maintained stockpiled munitions, sometimes located in or near communities, in military buildings, public buildings, schools, houses and so on, can produce catastrophic explosions. Poorly stored or maintained munitions may become more sensitive and suddenly explode. Absence of lightning rods or safety regulations, high temperatures and humidity can

all increase the risk of explosions. Intense heat from fires can also cause abandoned ordnance to detonate. Small caches of abandoned ordnance may continue to be discovered years after a conflict has ended. In Cambodia for example, small caches of ordnance that have been abandoned, forgotten or lost continue to be discovered for more than 30 years.

Getting authorities to secure these sites is essential but may be difficult to achieve in the short term. Disposing or securing large quantities of abandoned ordnance is also complex and is usually the responsibility of security forces. This may be outside the responsibility of a standard mine action programme.

Categories of Explosive Hazards

There are six main categories of LSA

1. Mines
2. Grenades
3. Projectiles
4. Mortars
5. Rockets and Missiles
6. Sub-munitions

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Land Service Ammunition or LSA will account for most, if not all, of the UXO and AXO that will be encountered on Peace Support Operations. Understanding what the main groups and distinguishing features will help in identifying them.

Categories of Explosive Hazards: Sub Munitions

Function

Multiples dispersed through air dropped bombs or artillery.
Initiate on impact or armed to initiate on movement

Appearance

Small in size and of various shapes and colours.

UXO Threat

Up to 70% know to fail to immediately initiate on impact.
Remain armed and sensitive to initiation through movement

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Images: Various unexploded submunitions. Extremely unstable: BLU-97, DM1385. Source: UNMAS landmines, explosive remnants of war and IED safety handbook 2015

According to the Diplomatic Conference for the Adoption of a Convention on Cluster Munitions, Cluster munition means a conventional munition that is designed to disperse or release explosive submunitions each weighing less than 20 kilograms and includes those explosive submunitions.

Submunitions and bomblets are carried to the target area in cluster bombs, warheads of artillery rockets, or artillery rounds. These canisters burst open in mid-air over the target area and scatter the submunitions over a wide area. A submunition can be an AP mine, a HEAT bomblet or a small bomb with several different fillers. The submunitions come in a variety of shapes and colours, such as the shape and size of tennis balls, butterflies or drink cans. They are also often brightly coloured.

Among UXO, submunitions represent a particularly dangerous threat due to their high volatility and dispersal over wide areas. Submunitions often fail and may remain

hazardous for many years. Estimated rates of failure between five and 30 per cent have been reported on several battlefields. This rate depends on various factors, but generally the softer the ground, the higher the failure rate. Unexploded submunition is highly sensitive and can detonate with very little contact. This ammunition is extremely dangerous and should never be approached. It can be found above or below the ground, and in and around buildings. Submunition may sometimes be found hung or caught up in trees, fences or on the roof of buildings.

When an area has been targeted with submunitions, there will sometimes be signs and indicators of this, such as packaging, small parachutes or very definite "splash marks" on the ground or buildings. In addition, any trees in the vicinity will show characteristic signs, such as treetops stripped of branches and foliage. In open areas there will usually be numerous small holes and a considerable number of debris left behind, such as metal and plastic casing or small parachutes, as well as debris from the targets.

Categories of Explosive Hazards: Grenades

Function

Removal of safety pin and thrown.
Typically employ a time-delay mechanism.
Can be Blast, Chemical, Gas, Smoke, Noise.

Appearance

Hand grenades have a pineapple shape, cylindrical or round bodies about the size of an adult fist.

UXO Threat

Possibly prevented from initiation on landing after   thrown. Disturbance leads to initiation.
IED Threat: Grenades can be used as IEDs

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Images: Russian F1 Grenade and 40 mm grenade

Source: UNMAS landmines, explosive remnants of war and IED safety handbook 2015

Grenades are explosive devices usually thrown by hand or projected from rifles or grenade launchers. Grenades detonate either on impact or through a time-delay mechanism; both mechanisms may fail. "Defensive" fragmentation grenades are the most common, but there are also "offensive" blast grenades, incendiary grenades, chemical or gas grenades, and smoke grenades. A typical fragmentation hand or rifle grenade is likely to be lethal within 10 metres, with a danger area extending to 50 metres or more.

Hand grenades have a pineapple shape, cylindrical or round bodies about the size of an adult fist and up to 10 cm long. Grenades come in various colours. Stick grenades are hand grenades placed on a short stick, which increases the throwing distance. Metal was the most common material used for making grenades, but gas and chemical (smoke) grenades may be made from plastic as well.

Categories of Explosive Hazards: Projectiles

Function

Fired from weapon. Initiate on impact or with delay fuze.

Appearance

Like large bullets but can be cylindrical or have fins. Certain grenades can be fired from rifles as projectiles

UXO Threat

Can fail to initiate on impact and subsequent movement can result in initiation.
Self destruct fuze can be present.
IED Threat: Artillery shells can be used as main charge

Image: Various unexploded projectiles. 90mm AT Projectile, Artillery Round

Source: UNMAS landmines, explosive remnants of war and IED safety handbook 2015

Artillery rounds are explosive devices, designed to be fired at a long distance and to explode either in the air above the target, or on impact. Artillery rounds can be fired from ground, sea, as well as air-based guns/howitzers. The artillery can fire directly or indirectly but, due to the large distance to the target, users of the weapons may not be able to see their target. The destructive capability of conventional artillery rounds largely depends on their size.

Projectiles of tank ammunition are mostly explosive devices designed to destroy tanks, bunkers or troops in the open. Tank rounds are normally used as direct fire weapons but may be used as an indirect weapon that is fired from a great distance from the intended target.

Artillery and Tank rounds, like very large bullets, are aerodynamically shaped with a tapered nose, cylindrical body and flat base. Most are made of metal. Tank rounds may also have fins at the rear of the projectile and/or a straight, protruding fuse at the nose.

Due to the construction and the purpose of the gun, the rounds and the propellant can be loaded separately or as a cartridge. Unexploded rounds can be found

above or below ground or in rubble, and like other UXOs, they may be rusted or discoloured with age and difficult to identify. Most rounds contain high explosives, but some may contain white phosphorous or even chemical and biological weapons. Artillery rounds can also contain submunitions like bomblets. Tank rounds could be made from depleted uranium.

Be aware that due to spin, UXOs will lose large parts of their colouring when impacting the ground. Rust and dirt provide a UXO with the look of a stone rather than ammunition. Never touch suspicious objects.

Unexploded or abandoned artillery rounds can be used as a main charge of an IED.

Categories of Explosive Hazards: Mortars

Function

Launched from tubes. They can initiate on impact or through time delay fuze.
Can be HE, Smoke, Illumination, Chemical.

Appearance

Various colours, diameters and lengths. Metal with a tapered shape. They have a cylindrical section with holes and fins on the bottom.

UXO Threat

Can fail to initiate on impact and subsequent movement can result in initiation.
IED Threat: Can be used as a main charge.

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Image: Two 82mm HE O-832D Mortars Images: UNMAS landmines, explosive remnants of war and IED safety handbook 2015

And

60mm Mortar UNMAS Flickr (UNMAS - North Kivu - DR Congo | Flickr

Mortar rounds are projectiles launched mostly from tubes of metal about 90 cm to 170 cm in length, known as mortars. In recent years complex mortar-systems have been developed so that the difference between a howitzer and a mortar cannot be easily decided. Modern mortars can fire directly and indirectly and can be loaded like regular guns.

Mortar rounds are loaded into the tube from the front or the rear (depending on the system) and launched by their propellant charge. They often have a tapered nose at the front and fins at the rear. The metal bodies can range from 45 mm to current 240 mm diameter in width and from around 30 cm to over one metre in length. Due to their ease of use, relatively low cost and portability, mortars are an extremely widespread, ubiquitous weapon of war.

Mortar bombs are usually made of metal and when found may be rusted and discoloured with age. On impact they make craters, and the site is usually apparent. On paved roads, they create "splash marks" in the concrete or tarmac road surface.

The lethal and hazardous ranges of mortar bombs vary widely depending upon the calibre of the weapon. A small mortar bomb with a high explosive charge can destroy a car, while larger mortar bombs can destroy small to medium-sized buildings. Other fillers like smoke screening and illumination, as well as leaflets or bomblets, are possible. Modern Mortar rounds can be fitted with electronic proximity or very quick mechanical fuses. Also, Anti-Tank-Guided Mortar-Rounds are in use.

Unexploded mortar rounds may still contain propellant charge as well as the content described above. Mortar rounds must never be approached. Mortars are mostly indirect fire weapons, in that the people firing the weapon often cannot see their target, and it is fired at a high trajectory. As a result, firing patterns can be indiscriminate, and unexploded mortar rounds are found strewn across many battle areas. Unexploded or abandoned mortar rounds can also be used as the main charge of IEDs.

Categories of Explosive Hazards: Rockets and Missiles

Function

RPGs fired from shoulder launchers. Larger rockets fired from vehicle or ground based launcher.

Appearance

Rockets and missiles come in many shapes and sizes, from the relatively small air-to-ground, to very large artillery missiles.

UXO Threat

Can fail to initiate on impact and subsequent movement can result in initiation.

Image: Two 122 mm HE rockets 9M22U laying in an Afghan village.

Source: UNMAS Photo/Thomas Enke: UNMAS landmines, explosive remnants of war and ied safety handbook 2015 And

Various RPG7 UXO (https://eodofcshd.org/three-3-uxo-found-on-05-february-2023-by-team-02/)

Because of their slender shape, unexploded rockets and missiles (often broken into sections) can easily be mistaken for broken pipes. (See Image Top Bottom of Two 122 mm HE rockets 9M22U laying in an Afghan village. UNMAS Photo/Thomas Enke)

Image Top Left

This is a S-75 Dwina/SA-2 missile, Iraq

A rocket or a missile is an explosive device containing its own means of propulsion (the rocket motor) as well as explosives or other fillers (the warhead). Missiles are like rockets, although they are guided in their trajectory. Rockets and missiles can be fired from vehicles, ground-based launchers, or from the shoulder. They can also be launched from aircrafts, ships, and submarines. Rockets and missiles are used to deliver high explosives or other payloads like submunitions, leaflets, and chemical or biological materials at greater distances and with greater accuracy than just about any other type of weapon. The lethal range of explosion HE warhead of a rocket or

missile varies enormously depending on the size and nature of the warhead, but rockets and missiles typically have considerable destructive power, able to damage and destroy vehicles, buildings, and even entire neighborhoods.

Rockets and missiles come in many shapes and sizes, from the relatively small air-to-ground rocket S-5, around 80 cm long, to very large artillery missiles of more than 15 metres in length, like the 16,5 metres long RSD-10/SS-20 missile. Rockets and missiles are made of metal and are generally distinguishable by their long, thin, cylindrical shape. A rocket/missile is referred to according to its diameter. For example, a 122 mm BM-21 rocket has a diameter of 122 mm but has, depending on the type, a length of 2.87 metres or longer.

Unexploded rockets and missiles can be extremely dangerous, as disturbance may initiate any unspent rocket fuel, and propel the rocket in an unguided fashion. If the warhead is still intact, the explosive potential is equal to when the rocket or missile is initially launched, and even greater if the rocket or missile does not launch but explodes with a full load of fuel.

Rocket fuel is also extremely corrosive and volatile. It will burn exposed skin and can kill a person if the fumes are inhaled. If ignited, rocket fuel is also liable to explode. Some types of fuel will self-ignite in contact with air. For all these reasons, rockets and missiles should not be approached.

The remains of exploded rockets and missiles can contain gas bottles with compressed gases, which are needed for guidance or cooling the IR-seeker. See IMAGE Top Right Remains of an exploded Anti-Tank Missile BGM-71A/TOW-1B. Also, this scrap contains dangerous parts, such as filled gas bottles. UNMAS Photo/Thomas Enke)

Hazardous pyrotechnic devices for guidance and arming can also be found.

In specific conflicts involving heavily armed and technologically advanced powers, unexploded rockets and missiles can be massive in size, though such cases are relatively few.

Categories of Explosive Hazards: Landmines

Landmines

A landmine is an explosive device designed to destroy or damage vehicles, or to wound, kill or otherwise restrict people's activities.

They are grouped into two broad categories:
   a) Anti-Personnel (AP) mines.
   b) Anti-Vehicle (AV) mines, also commonly referred to as Anti-Tank mines.

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A landmine is an explosive device designed to destroy or damage vehicles, or to wound, kill or otherwise restrict people's activities.

Mines are used as defensive weapons: they provide protection for important military positions or hinder the movement of troops by causing casualties to a threat and destroying equipment. They are also used offensively: during conflicts, they are used to destroy or damage infrastructure and cause terror by denying civilian populations access to their homes, agricultural land, water, roads, schools, health care facilities and other resources.

Landmines are almost always hidden and camouflaged to match their surroundings, making them seldom seen and difficult to locate. They are usually buried or hidden in grass or buildings, fixed on stakes or to trees. During conventional warfare, landmines are usually laid in patterns to create consistent barriers, or along roads and around strategic points.

Landmines can be broadly broken down into two categories. Anti-Personnel (AP) and Anti-Vehicle (AV).

...Landmines
Anti-Personnel Landmines

Images (Left to Right). AP mines can be broken down into four further categories. Image 1 – Blast.

Image 2- Fragmentation. In this case omni-directional fragmentation.

Image 3 – Directional Fragmentation.

Image 4 – Bounding Fragmentation.

An Anti-personnel (AP) landmine is designed to be detonated by the presence, proximity or contact of a person, and is intended to incapacitate, injure or kill one or more people. AP mines are usually detonated when they are stepped on or when a tripwire is touched, but they can also be set off by the passage of time or by controlled means.

AP mines can be found on the ground, buried or fixed above ground and are generally small devices that come in many different shapes. Often, they are camouflaged to help them blend into the surroundings and can be fabricated of wood, plastic or metal. Areas suspected of containing AP mines should be avoided.

...Landmines

Anti-Vehicle Landmines

Anti-Vehicle (AV) mines, often referred to as Anti-Tank mines, are designed to disable or destroy vehicles. Like Anti-Personnel mines, Anti-Vehicle mines can be detonated by pressure, though normally much greater weight is needed, by remote control, by magnetic influence or through the disturbance of a tilt rod

AV mines are much larger than AP mines and have a far heavier explosive charge. They are generally round or square in shape, and range in size from 40 cm in diameter and 16 cm in height to 23 cm in diameter and 10 cm in height. *(see image 1 – Source- of HALO trust)*

AV Mines can often be used as the Main Charge for IEDs. *(see image 2 – Source- of US DoD)*

Categories of Explosive Hazards:
Improvised Explosive Devices (IEDs)

"A device placed or fabricated in an improvised manner incorporating **destructive, lethal, noxious, pyrotechnic or incendiary chemicals** *and designed to* **destroy, incapacitate, harass or distract.** *It may incorporate military stores, but is normally devised from non-military components"*

UNMAS Lexicon Definition

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Definitions of terms:

Noxious- Harmful, poisonous or very unpleasant.

Pyrotechnic- fuel/oxidizer mixtures with ingredients to produce a. Heat b. Illumination c. Sound d. Smoke e. Gas

Incendiary- designed to cause fire.

Categories of Explosive Hazards

Improvised Explosive Devices

Image Left – An IED recovered in Afghanistan. Image Source- of UK MOD

Image Bottom Centre – Various IED making equipment. Image Source- of UK MOD

Image Right – Found in Somalia. Image Source- of ATMIS.

An IED is a manually placed explosive device, normally home-made and adapted in some way to kill, injure, damage property or create terror. Often UXO or abandoned munitions are modified to construct IEDs, which can then be detonated by the victim, by remote means (radio controlled, command wire, etc.) or as a suicide attack.

Certain types of mines and also some types of IEDs and booby traps require the use of tripwires or electrical wires. If you see pieces of wire lying about in an area known to have experienced fighting, it indicates that landmines, IEDs or booby traps may have been used. Tripwires are usually strung across paths, trails, roadways, fields and other areas in which foot traffic could be expected. Remember that tripwires are extremely difficult to see and just because they are not visible, does not mean they are not around.

Categories of Explosive Hazards

Improvised Explosive Devices

- Cheap
- Easy to make
- Specific to the attack
- Easy to hide
- Complex attack
- IED used as a precursor

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The IEDs remain a persistent threat across most theatres of conflict including in DRC, Mozambique, Somalia, Mali and CAR just to name a few on the African continent.

Why are IEDs so prevalent?

Cheap – Easily procured from in expensive sources. *Image* Left – IEDs in Somalia manufactured using locally available materials. Source- ATMIS

Easy to make – all the information you need to manufacture IED's can be found on from open-source information. E.g. Internet.

Specific to the attack. They can be adapted to suit specific targets.

Easy to hide. *Image Right – Image Source- of UK MOD.*

IEDs are used alone or as part of coordinated complex attack that can include direct or indirect fire.

Slide 25

Instructor to confirm understanding of lessons by clarifying any questions from the students.

Environmental Indicators of Explosive Hazards

Recognizing Dangerous Areas

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Mined areas are often not visibly different from mine-free areas, as they may not be marked with any particular warning signs. As a rule, mines are often impossible to see; they are usually buried or concealed in undergrowth.12 Areas contaminated with other ERW may be more obvious, as there may be visible ammunition casings on the ground, unexploded ordnance, and so on. Booby traps and IEDs are mostly invisible, but the behaviour of the population and the recognition of markers and ground signs can assist to avoid a possible dangerous area. This section is intended to help readers recognize warning signs and clues. Constant vigilance will help you identify and steer clear of potentially dangerous areas.

Environmental Indicators
Warning Signs

Official Warning Signs

Unofficial (Improvised) Warning Signs

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OFFICIAL WARNING SIGNS

Sometimes you will come across official signs, erected by a government, a non-governmental organization (NGO), a United Nations agency or by some other organization, to warn you that mines or other explosive hazards are in the area. These warning signs may differ from one country to another, but are normally bright red, square or triangular in shape, and made of metal, concrete, wood or plastic. The most common ways of marking a mined- or ERW-affected area with official signs are:

• Skull and crossbones sign in red and white, rarely yellow and black, often with the words "DANGER MINES" in English and/or the local language.

• The word "MINE" or "EXPLOSIVES" in English and/or the local language.

• Rope or tape, usually coloured either yellow, red or blue.

• A red triangle, sometimes with a black dot or the word "mine" in the centre and

concrete or wooden post, painted red on one side and white on the other. The red side indicates the side that is dangerous.

A conventional army sometimes uses barbed wire or high fences to section off an area of important military interest, especially around permanently strategic points like airports or ammunition depots. Additionally, these fences can be protected with mines.

In absence of suitable material official warning signs could look more improvised. Red or blue painted stones could also be a serious warning.

All warning signs are subject to deterioration over time, meaning you must be observant. Signs may have fallen, rusted away or become covered in vegetation or (seasonally) by snow. Poor construction materials along with low quality paint often result in signs becoming dislodged, broken or badly faded. Signs are also often stolen or not properly maintained or replaced.

Mine action programmes should use barbed wire or fences to warn and keep the local population from entering dangerous areas.

UNOFFICIAL (IMPROVISED) WARNING SIGNS

In addition to official signs designed to warn people, conventional army and other official responsible persons may use signs to indicate areas they have surveyed as dangerous and which they plan to clear or are in the process of clearing. In Afghanistan, such areas are marked with rocks painted red to indicate uncleared areas and painted white to show areas that are clear. Also, buildings, roads and trees may be painted red or white with map coordinates and minefield numbers, indicating that the area may be dangerous and has been surveyed.

In the absence of official signs, local people often develop their own techniques and signs for marking dangerous areas. Such techniques vary from one country to the next and even vary in different parts of the same country. With local signs there are no hard and fast rules, and they are often only obvious to local people. Such signs nonetheless have some common characteristics to represent danger ahead, and may include:

• A piece of cloth or plastic bag tied to a fence or tree.

• A can on a post.

• Small piles or circles of rocks.

• Rocks laid across a path.

• A clump of grass that has been tied in the middle.

• Sticks which have been tied to form a cross, then placed across a path or placed in the ground next to a path.

• Signs which have been cut into the bark of a tree and a shorn-off branch.

Because of their improvised nature, local signs often do not give a clue as to the precise location or particular nature of the threat. Imagine coming along a road or a path where you encounter a barrier. How will you know whether you are in front of the threat or already inside the hazardous area? Look for other indicators and consult with local people. Often these signs can also be used to represent other types of danger, like a damaged bridge, a pothole in the road and so on. Whatever the meaning, these local signs represent danger, and caution should always be exercised.

Environmental Indicators
Visible Mines, ERW and IEDs

- The edge of a buried mine, protruding metal and wooden stakes
- Abandoned and unexploded ordnance
- Pieces of wire or tape strewn about
- Tilt rods and fuses
- Discarded packaging, wrapping and military debris

The edge of a buried mine, protruding metal and wooden stakes

In addition to being extremely difficult (if not impossible) to see, mines are almost always purposely camouflaged and, to compound the problem, their location is often buried, obscured by long grass or thick brush. However, certain landmines that are laid above ground may be visible after careful scrutiny of the area. Erosion or natural forces can also uncover or partially uncover landmines. Snow, which hides even surface-laid mines, has obvious implications, as does the subsequent snowmelt. But be aware, erosion and natural forces can also have the effect to bury a landmine. If you are in an area, you suspect could be contaminated, and you can see any portion of an object that appears to be made of plastic or metal, and cannot be identified as safe, you should assume the area is mine or UXO-contaminated. Wooden and metal stakes about 30 cm in length would also indicate the potential presence of certain types of above ground mines. Landmines are seldom planted in isolation, so evidence of one mine would indicate the potential presence of others in the area.

Abandoned and Unexploded Ordnance

Areas contaminated with abandoned and unexploded ordnance may be more obvious than those affected by mines, but the presence of such devices will often indicate the presence of mines as well. You may see ammunition casings on the

ground, unexploded mortar or artillery rounds and grenades, boxes containing unused ammunition and weapons. These are signs that fighting has taken place and are an indication that mines and ERW may be in the area.

Pieces of wire or tape strewn about

Certain types of mines and also some types of IEDs and booby traps require the use of tripwires or electrical wires. If you see pieces of wire lying about in an area known to have experienced fighting, it indicates that mines, IEDs or booby traps may have been used. Tripwires are usually strung across paths, trails, roadways, fields and other areas in which foot traffic could be expected. Remember that tripwires are extremely difficult to see and just because they are not visible, does not mean they are not around.

Tilt rods and fuses

Sometimes you may see tilt rods or fuses above ground. This usually indicates the presence of anti-vehicle mines but may also indicate anti-personnel mines in the area.

Fuses can become detached from an explosive device or munition or may simply be left lying on the ground without being fitted. A fuse can be very small but is nonetheless potentially dangerous and can even be deadly. They indicate fighting, the presence of mines and ERW.

Discarded packaging, wrapping and military debris

Occasionally forces lay mines in a hurry, and leave the packaging, tripwire spools and safety pins from the mines. If you see wooden, plastic or metal containers that have military markings lying around, always be suspicious of mines in the area. Also, any small metal rings with a metal pin attached should be viewed as a sign of possible mine activity in the area. Empty cluster bomb containers found in a conflict area also indicate danger.

Environmental Indicators
Signs of Fighting or Military Activity

- Trenches, Dykes, Bunkers Or Battle Positions
- Damaged, Abandoned Or Destroyed Civilian And Military Vehicles
- Discarded And Abandoned Weapons
- Military Checkpoints And Border Areas
- Around Military Buildings And Installations

TRENCHES, DYKES, BUNKERS OR BATTLE POSITIONS

Any areas occupied by combatants, especially trenches, bunkers or battle positions, would likely have been mined as a protection from attack. Abandoned military facilities could be booby-trapped to deny their use. Also, there would be a strong possibility of the presence of UXO and abandoned munitions.

DAMAGED, ABANDONED OR DESTROYED CIVILIAN AND MILITARY VEHICLES.

A damaged, abandoned or destroyed civilian or military vehicle could indicate the presence of UXO, anti-vehicle or even anti-personnel mines. Where there is one mine, there are usually several others. You might also encounter pieces of metal or debris that look like they are the results of an explosion. Abandoned vehicles may also be booby-trapped. Vehicles could contain abandoned ordnance, toxic fuels or chemical residues. Damages by fire could be an indication of ammunition containing depleted uranium. Remains of explosives are not excluded. These are clear indications of danger and should be avoided.

DISCARDED AND ABANDONED WEAPONS

Discarded weapons indicate recent fighting in the area and contain hazards like abandoned or destroyed vehicles. Sometimes the weapons are loaded and ready to fire, and the ammunition can be damaged. Do not approach such weapons.

MILITARY CHECKPOINTS AND BORDER AREAS

The longer combatants occupy any area, the more likely they have protected themselves by laying mines in the immediate surrounding areas. In many countries, minefields are placed along international, and sometimes internal administrative, borders (such as provinces and district borders) to prevent infiltration. These areas are often the last to be cleared of landmines, especially if the tensions between neighboring countries or internal conflicts are not completely resolved.

AROUND MILITARY BUILDINGS AND INSTALLATIONS

Mines are most often used as defensive weapons. Therefore, any military installation or building, or any area occupied by combatants, may have been mined or booby trapped as a protective measure against attack, or mined after occupation so as to prevent use of the facility by the opposing side. Fences, entries and important infrastructure inside a camp, like power stations, could be strengthened with a minefield. Such facilities may also contain large stockpiles of abandoned munitions.

Environmental Indicators
Signs of Fighting or Military Activity

- Bridges, Dams And Surrounding Areas
- Roads And Paths
- Airports And Railway Tracks
- Electrical Power And Water Supply
- Shaded Areas, Fruit Trees, Water Sources, Wells And River Banks, Cave Entrances
- Built-up Areas

BRIDGES, DAMS AND SURROUNDING AREAS

Mines are also used to stop or alter the movement of opposing forces. Mining bridges, dams and surrounding areas can block the travel route of opposing soldiers and deny them valuable resources. It is important not to walk around or under the entrance of bridges in heavily mined areas. IEDs are often placed at so called "Vulnerable Points". These points are also named as "Slowdown Points". Bridges are slowdown points that have a lot of space for a huge mass of explosives, as well as culverts and other items, which can be used for markers. In connection with good lines of sight and safe firing points, bridges are excellent locations for an ambush.

ROADS AND PATHS

Strategic roads and tracks are often mined to stop movement of troops or commercial traffic. Roads that are damaged or blocked often force vehicles off the roadway and onto the shoulders. The edges and shoulders of roads are sometimes mined as a choke point. Sometimes the tarmac of the road is soaked with diesel fuel to dig a hole and insert a mine or an IED into the road. Their round patches (and maybe a line for the command wire) can be seen on the pavement. Similarly small pathways that traverse conflict areas may be mined. Bottlenecks are slowdown points, such as blind corners, narrow roads and paths with dense vegetation or rocks. In connection with a good line of sight and safe firing points bottlenecks are excellent locations for an ambush.

AIRPORTS AND RAILWAY TRACKS

As is the case with bridges, airports and railway tracks are very important means of transportation and key strategic areas for the military. As such, they are often mined. Fences and signs could be broken or removed; gates and official entries abandoned but secured with mines or booby traps.

ELECTRICAL POWER AND WATER SUPPLY

Electrical power plants, power lines and substations are of great strategic importance during wartime. Cutting off a threat's power supply can seriously affect the ability to move and communicate. Also dams and waterworks can be used for supply of the population or for flooding an area to deny this from the threat. Therefore, these areas are often protected using mines.

SHADED AREAS, FRUIT TREES, WATER SOURCES, WELLS AND RIVERBANKS, CAVE ENTRANCES

Soldiers, members of opposite militant forces, as well as civilians in battle, will often seek areas that offer shade or shelter from the elements as well as to reduce their visibility. They will also try to secure their access to water and food sources and often defend such areas with mines. Larger gatherings of people, well known meeting points and areas with a high volume of traffic could be very suitable for an IED target

BUILT-UP AREAS

Building materials like lintels are often raw materials. Sometimes the population uses large ERW or UXOs, like artillery rockets or cartridge cases, as raw materials to maintain and improve their buildings. Lintels, stairways and walls could all contain hazardous ammunition.

CHANGES OF VEGETATION AND SOIL

Ground signs could indicate the present of mines. The colour of the vegetation shows patches of dried plants. In sandy areas the soil can show patches of not typical soil formation. If a minefield has

been in existence for some time, there might be a visible pattern of slight depressions over the mine where the once loosened soil has settled after a rainfall. In some cases, small mounds of earth may be present that could indicate recent digging activity, though such evidence will disappear quickly. If a mine has been laid recently, there might be patches of dead grass where the roots have been cut when the mines were buried. If a mine was laid very recently, the moist soil used to cover the landmine when it was buried may show up darker than the surrounding area.

DESERTED VILLAGES AND OVERGROWN AREAS

Villages and towns that have been abandoned, or fields that are no longer used, indicate the strong likelihood of mines or ERW in the area. After a cluster bomb strike, or an artillery attack with bomblet ammunition, the area would be hazardously contaminated in the same way as a minefield.

ABANDONED AND DESTROYED BUILDINGS AND HOUSES

Often soldiers or combatants of opposite militant forces will mine houses for defence or leave behind mines or booby traps in abandoned houses, to trick other soldiers or combatants who are

seeking shelter. If a house has clearly been damaged or destroyed through fighting, and is uninhabited, there is every possibility that UXOs may also remain. Abandoned and solitary buildings

and houses can be used as weapon and ammunition caches, and potentially secured with mines or booby traps.

LOG OR BRANCHES PLACED ACROSS A ROAD OR PATH (AN AMBUSH BARRICADE)

Sometimes combatants will lay a barricade across a road to stop vehicles at an illegal checkpoint, or even force them off the road into the surrounding area, which may have been mined or contaminated with UXO.

EXPLOSION CRATERS

Craters from explosions or regular signs of repair on tarmac roads may be visible indicators, usually for anti-vehicle mines or signs of a battle. Be careful in surrounding areas as other mines may not have been cleared or may have been overlooked. In particular, never stray off pavements onto the soft shoulder or adjacent ground.

Shelling with mortar rounds, grenades or the use of cluster bombs also leaves particular signs of damage on buildings, on road tarmac, or "decapitated" trees. Sometimes the impression looks like a splash mark carved into the tarmac.

Maintenance on tarmac or road could also be a hint of buried Command Wire (CW) IEDs. If there is an additional small groove leading from the "repaired" patch to the shoulder of the road it will be a real indicator for a CW IED.

Environmental Indicators
Signs in the Environment

- Patches Of Growth
- Unused Or Overgrown Paths, Roads Or Fields
- Animal Carcasses Or Skeletons
- Any Object That Appears "Out Of Place"

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PATCHES OF GROWTH

In drier areas, some places where mines are buried become greener or have grass and plants growing over them. This is because metal cased mines form condensation on them during the night, which then gives the plants more water than the surrounding soil.

UNUSED OR OVERGROWN PATHS, ROADS OR FIELDS

If an area is clearly unused and overgrown or no one has travelled over an area in some time, the reason could be because of mines or UXO. If an area is not cultivated, in contrast to other plots around it that are being farmed, assume the area is mined or contaminated with UXO. Also abandoned weapons and ammunition caches could be found buried in overgrown fields, sometimes secured with booby traps and mines. When in doubt, use only tracks or roads that appear well travelled.

ANIMAL CARCASSES OR SKELETONS

The skeleton or body of an animal or person which has been left to lie could indicate a minefield. Be aware that an injured animal or person can move over a long distance after the accident occurred. Look for additional clues. Be aware that corpses could be wearing ammunition like hand grenades, which could be in an unsafe condition after an explosion. Also, corpses can be booby-trapped to secure against recovery of the body.

ANY OBJECT THAT APPEARS "OUT OF PLACE"

In an area of on-going conflict, if you see something unusual, of interest or of value by the side of the road, always remember that it may be booby-trapped. Booby traps are intended to lure and trick someone into moving an object and detonating the trap. If you don't know to whom an object belongs and you're travelling through a suspicious area, the smart approach is to not approach it at all.

Environmental Indicators
Local Behaviour

- Forbidden Areas And Village Deminers
- Untypical Behaviour
- Scrap Metal Yards And Fishing

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FORBIDDEN AREAS AND VILLAGE DEMINERS

Never go anywhere where the local population refuses to go, whether along a road or path, or to villages or fields. Such areas will usually appear abandoned, unused or uninhabited. Local populations often (though not always) know what areas are dangerous because they have witnessed fighting, suffered casualties, observed mines being laid and/or because they may have even laid mines themselves. Returning refugees or displaced people may not have the necessary information, as opposed to the local populations who have resided in the risk area during the conflict. It is better to seek advice from people who have been in the area for a longer period of time.

In certain cases, you may even come across villagers who are undertaking mine clearance without the assistance of mine clearance organizations. It is important to get information from these people about possibly affected areas, but it is also important to keep away from their demining work.

UNTYPICAL BEHAVIOUR

The local population reacts to changes in their surroundings. If there is danger, they will avoid it. Empty streets with less than usual or no pedestrians and low traffic on a normally well-used road are untypical in all areas of the world. Shopping areas and gas stations without customers at popular shopping times should lead to some

questions about the local behaviour and the reason why. An IED attack or an ambush cannot be excluded, at any time.

SCRAP METAL YARDS AND FISHING

UXOs and ERW are a very expensive raw material. For example, an artillery round contains steel, brass and explosives. In countries of extreme poverty, and where large quantities of UXOs/ERW exist, people will often collect and recycle the metal casings of the ammunition and try to extract the explosive. As a result, some scrap metal yards may contain UXO or ERW, after the treatment by the population, which will be in an unsafe condition.

You may even hear stories about people fishing with landmines, ERW and UXO. Such stories are a strong indication of mined land and abandoned ammunition caches in the area.

Slide 34

Instructor to confirm understanding of lessons by clarifying any questions from the students.

1.1.2 IED Fundamentals

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Components of an IED
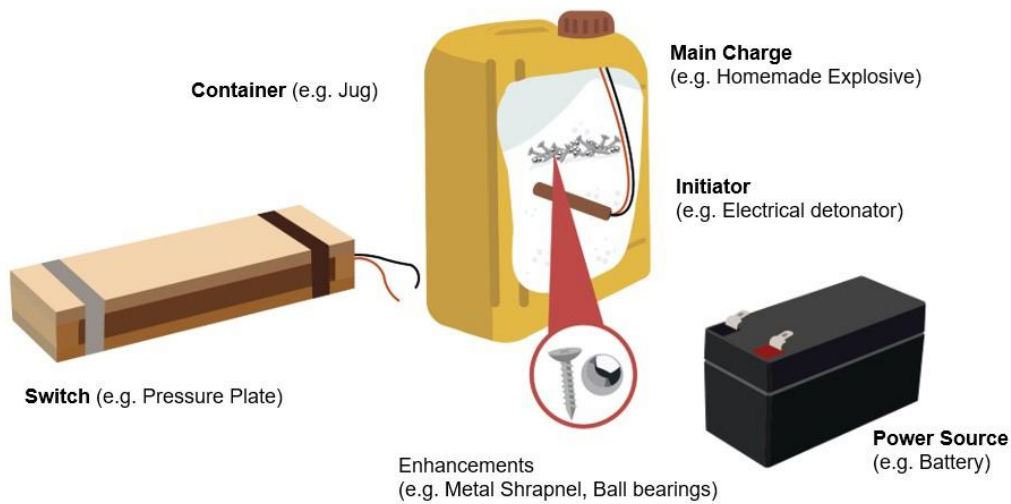
Figure 1-1: Components of an IED

UN IED Threat Mitigation Handbook 2024

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Although there are virtually limitless ways in which and IED can be built and employed, they generally consist of a

• Switch

• Initiator

• Main Charge

• Power Source

• Container (see figure)

and may contain

• Enhancements.
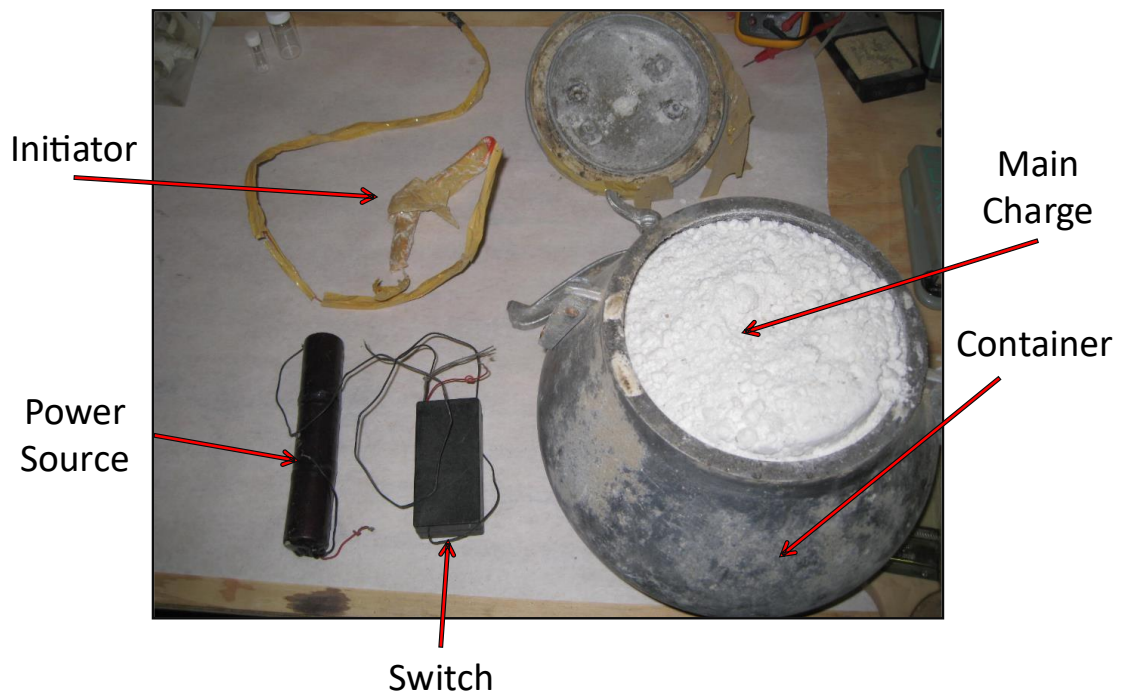
Here is an example of a real IED from Afghanistan, you can see it has the same core components. Image Source- of UK MOD.

Components of an IED

Switches

Initiator

Main charge

Power Source

Container

Enhancements
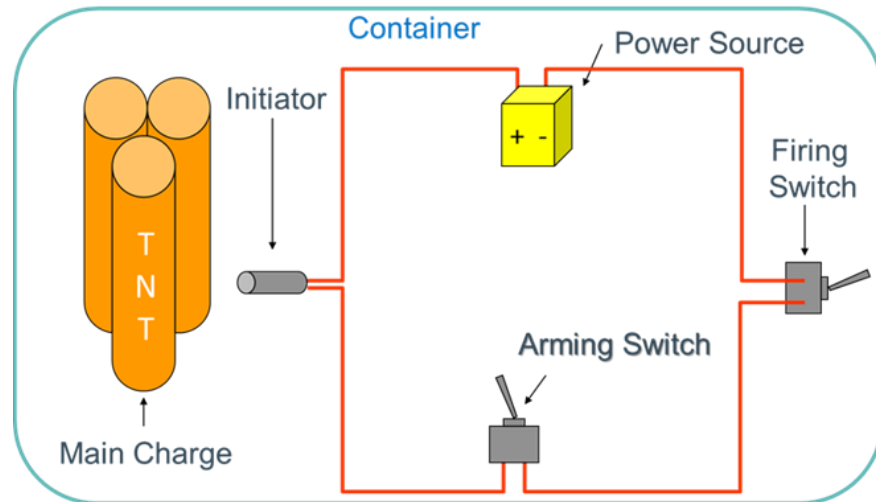
Image: UN IED Threat Mitigation Handbook 2024

We will now go through each component in detail. This simple diagram will be used to illustrate the six (6) main components of an IED.

Each of these components will be described in detail in later slides.

Components of an IED:
Switches

The Switch is a device for making, breaking, or changing a connection in an IED.

- Arming switch – gives Bomb maker safety during; Fabrication, Transportation & Emplacement.
- Firing switch – initiates the firing sequence.

- **Firing Switch –** always present
- **Arming Switch –** may be present as a safety feature
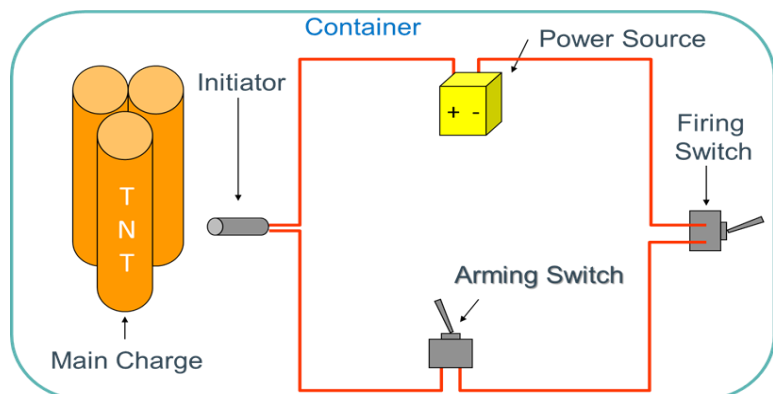
The Switch is a device for making, breaking or changing a connection in an IED. As you can see there are two types of switches: an Arming Switch which enables a IED maker to keep the IED in a safe state while fabricating, transporting or emplacing the IED. This can be thought of like a safety catch on a rifle. A Firing switch is the switch that initiates the IED. All IEDs must have a firing switch but not all will have an arming switch.

Components of an IED: Switches

There are 3 types of Firing Switches:
• Time Operated
• Command Operated,
• Victim operated.
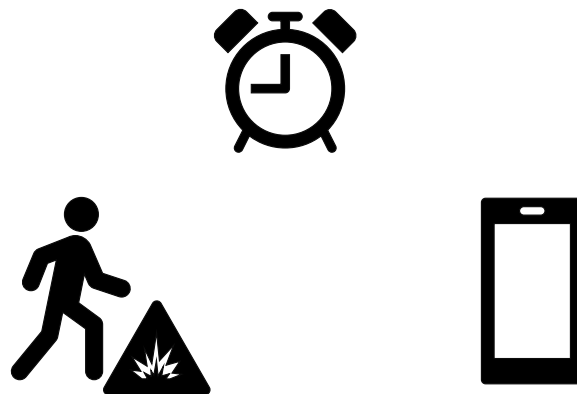
40

At this point, it is worth noting that the Firing switch can generally be broken down into 3 categories. These are Time, Victim and Command operated switches. The type of switch determines the type of IED. E.g. if an IED had a time switch, it is described as a Time IED, if it has a victim operated switch it is described as a victim operated IED or VOIED. This will be described in more detail later in the lesson.

Components of an IED:
Initiator

Any component that may be used to start a detonation or deflagration.

A small tube containing explosives which are sensitive to heat, shock, or friction.

Two types;
- • Electric
- • Non Electric

These can be:
- • Military
- • Commercial
- • Home Made
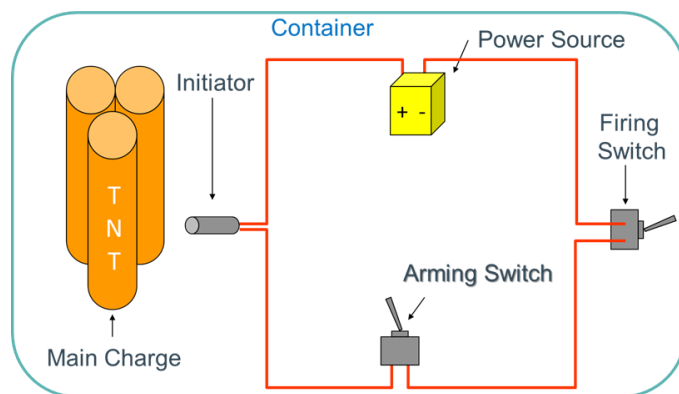
41

High Explosives require a detonator to function. They are small tubes containing approx. 1g of explosives. Like military detonators these can either be electric or non-electric. Electric initiators use electric energy to detonate the explosive whereas non-electric generally use heat from a safety fuze. In almost all cases, IEDs tend to use electric initiators.

Detonators are normally either Military or Commercial and as shown they often have significant recognition features.

Initiators are usually the most complex component to manufacture and so IED makers will usually try to train these from commercial or military sources.

Components of an IED:
Initiator
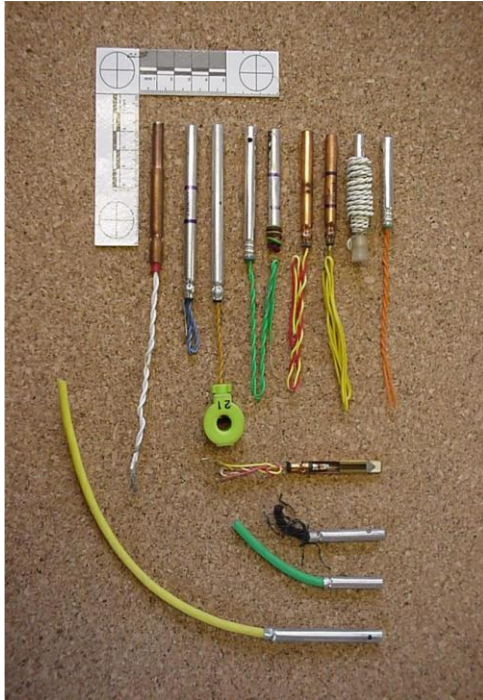
Image Left – these are an example of a number of military and commercial initiators. Those on the top are all electrical and those on the bottom are non – electrical. There is no significant difference between military and commercial initiators.

Image Top Right – the initiator in a grenade can be used to make a homemade non-electrical initiator.

Image Bottom Right – this is an example of a homemade electrical initiator.

All images Source- of UK MOD.

Components of an IED:
Main Charge

The bulk explosive component of an IED capable of providing an explosion by its own energy when initiated

Military

Commercial

Homemade

Container

Power Source

Initiator

Firing Switch

+ −

T
N
T

Arming Switch

Main Charge
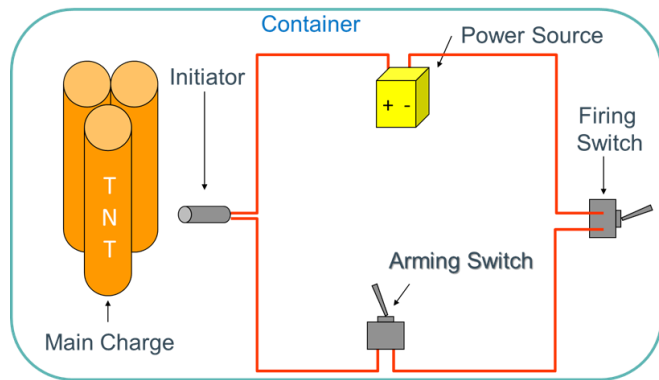
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Explosives come in many shapes and forms, and we will consider explosive effects as part of this.

Just like detonators, there tend to be three categories of explosives used in IEDs, Military and homemade are the most common types used by organised IED networks, but commercial explosives are seen if there is a ready supply.

Components of an IED:
Main Charge

Military

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Military explosives can used in IED in a variety of way. It could be either bulk explosive such as C-4 (see image Top left – Source- Wikipedia) or using complete munitions (mortars, mines, projectiles, grenades etc) in their current state (see Image Bottom Left – Source- US DOD). Where there has been a conflict there are often many military munitions available for use by adversary – they will often be happy to use ERWs and harvest mines from minefields. Obviously, most munitions already incorporate the appropriate target effect (fragmentation, blast) (see image Right – Source- Getty Images). Alternatively, the explosive from a number of smaller mines can be harvested to make a much larger main charge.

Image top Left – A commercial plastic explosive. Image Source- of Poliex.

Image bottom – commercial detonating chord. Although bright in colour this could be confused with insulated electrical wire.

Image Right – Ammonium Nitrate based explosive. Despite the label, this could be confused with fertilizer. Image Source- of NitroMak.

Commercial explosives are used by the civil engineering and mining sectors usually for quarrying, construction or demolition. Although these are licensed products they can be stolen or acquired by illicit means. They come in a variety of forms; solid, power or liquid. They can occasionally be in brightly coloured packaging but often they can be confused with normal materials.

Components of an IED:
Main Charge

Home made

Potassium Chlorate

Ammonium Nitrate
Aluminum (ANAL)

Calcium
Ammonium Nitrate

46

All images Source- of UK MOD.

The manufacture of HME is widely known and it is easy to get recipes on the internet. There are many effective mixes – some require specialist chemicals – some don't.

Chemicals range from commonly used fertilizer (Ammonium Nitrate) to specialist industrial chemicals that can only be made in sophisticated factories – but have a legitimate use elsewhere.

Components of an IED: Power Source

A device that stores or releases electrical or mechanical energy. Used to provide power to the electrical initiator.

In most cases, the power source is usually a battery.

Common battery types include:

- 12V car batteries

- 12V Motorcycle batteries

- 9V and 6V dry cells.

- Multiple AA or D cells

12V Motorcycle Battery

6V Motorcycle Battery

9V Battery used in PBIEDs

47

Image source unknown

Power Source: The key elements of information about a power source are its type and source, number of batteries and their configuration (series or parallel), it's voltage (if electrical) and how it is connected to close an IED switch.

Overview

Common types of batteries used as power sources include:

12V Car batteries

12V Motorcycle batteries

9V Dry Cells batteries

6V Dry Cells batteries

Components of an IED: Power Source

The key elements that determine the type of battery are:

- Availability

- Method of delivery

- Lead time for emplacement

- The number of initiators in the device.

12V Motorcycle Battery

6V Motorcycle Battery

9V Battery used in PBIEDs

48

Image source unknown

The type of batteries used depends on:

The availability of the batteries – Readily available batteries are typically used in IEDs as power source. For example, during the NATO ISAF mission in Afghanistan, AA batteries were readily available and so were often put together in series to make a suitable power source. In Somalia today, the readily available motorcycle batteries are frequently used in Victim and Command IEDs.

Method of delivery – Person Borne IEDs have smaller batteries that can easily be hidden under the clothing. IEDs delivered by vehicles such as SVBIEDs and VBIEDs utilizes car batteries. Also, the mode of transport of the placer will play a role, if an placer or triggerman is on foot, they are unlikely to be able to carry a 12v car battery.

Lead time between emplacement and activation of the device – The longer the waiting period the bigger the battery.

In general, the greater the number of initiators in an explosive train, the larger the power source needs to be.

Images sources unknown.

Here we can see some example of common power sources used in IEDs.

Top Left and Bottom Left – common AA batteries connected in series and parallel. There were commonly used in Afghanistan. Interestingly, there was evidence of used AA batteries being discarded by British troops on patrol that were subsequently collected by the Taliban and used in IEDs to target the very same British troops. *Image Source unknown.*

Top Right – 3 different power sources, the large 12v car battery, two smaller 2 smaller 12v motorcycle batteries. Can you see the 3rd? Answer – the solar panel behind the batteries could be used as a power source.

Bottom Right – 3 9V batteries connected to make a more powerful battery.

Components of an IED: Container

- An IED Container is any item with a void within it, into which the other components of an IED are placed.
- IED containers can simply contain components of an IED or can also act to **conceal** the components and / or **confine** the explosive material of the IED which can produce direction effects.
- The container can serve both as a container and potentially an enhancement.

50

Image source unknown.

An IED Container is any item with a void within it, into which the other components of an IED are placed. IED containers can simply contain components of an IED or can also act to conceal the components and / or confine the explosive material of the IED which can produce direction effects.

There are various forms of containers used by threat actors in transportation and emplacement of IEDs. Containers can be used for explosive use only or to carry more than one component of the IEDs.

An IED typically looks like whatever the container it uses. Anything that has a void in it can in theory be used as an IED container.

Components of an IED: Container

- **Plastic Containers** – 5 litre Milk Container & Yellow Oil Drums
- **Small Metal Boxes** - UVIED
- **Military Ordnance (MILORD)**
- **Vehicles (VBIED)**
- **Machined containers** for directional effects
  - o Directional Fragmentation Charges (DFC)
  - o Improvised Claymores (IC)
  - o Platter charges
  - o Explosive Formed Projectile (EFP)
- **Vests** – used by PBIED
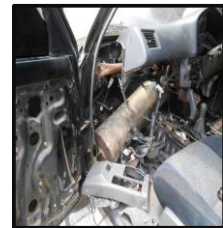
51

Image source unknown.

These are some examples of common IED containers. The yellow cooking oil drum serves as a simple container, usually just to hold the main charge, usually HME. When trying to conceal UVIEDs, they will usually be contained in a metal box to help it look like a part of the vehicle. When military ordnance is used, the explosive material is usually already contained in some kind of delivery system e.g. an artillery shell. This is a container but can also act as an enhancement. Machined metal containers are fabricated to contain large but portable IEDs. They are fabricated to achieve directional effects such as directed fragmentation charges (DFC) or improvised claymores, platter charges or an Explosive Formed Penetrator (EFP) effect. These types of IEDs can be designed to target personnel (DFC or improvised claymores), soft skin vehicles (platter charges) or armoured vehicles (EFP). In the case of vehicle bourne IEDs, one can say that the vehicle itself is a container.

Components of an IED: Enhancements

- An optional, deliberately added components (as opposed to secondary hazard) which modifies the effect of an IED. The IED would be effective, yet produce a different measurable result if enhancements are not added
- Enhancements are also considered a characteristic of a container
- Indicators/Observables - The following indicators could be evidence of efforts to enhance IEDs:-
  - o **Fragmentation** such as ball bearings, nuts, bolts, washers, nails, bullets, shell casings, scrap metal, rocks, glass, etc.
  - o **Gas cylinders & containers** – Compressed Propane, Oxygen, Acetylene and other gases, intended to increase blast, thermal and / or fragmentation effects.
  - o **Liquid Gasoline, diesel and paraffin** in plastic or metal containers could be present as an attempt to give the IED a greater blast and/or thermal effect.
  - o **Charge Effect**

Ball bearings

Ball bearing mixed with explosive

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An optional, deliberately added components (as opposed to secondary hazard) which modifies the effect of an IED. The IED would be effective, yet produce a different measurable result if enhancements are not added

Enhancements are also considered a characteristic of a container

Indicators/Observables - The following indicators could be evidence of efforts to enhance IEDs: -

Fragmentation- such as ball bearings, nuts, bolts, washers, nails, bullets, shell casings, scrap metal, rocks, glass, etc. could be present for use as an additive to the IED for purposes of providing an anti-personnel effect.

Gas cylinders & containers – Compressed Propane, Oxygen, Acetylene and other gases, intended to increase blast, thermal and / or fragmentation effects.

Powdered metals and pastes to increase blast and/or thermal effect.

Liquid Gasoline, diesel and paraffin in plastic or metal containers could be present as an attempt to give the IED a greater blast and/or thermal effect.

Image source unknown

Generally, there are 3 types of explosive effects used – blast, fragmentation and anti-armour.

Blast – tends to be large quantities of explosives and effective against vehicles or infrastructure – typically a VBIED will use blast as the primary effect. This does not require any enhancements.

Fragmentation is effective against personnel but is sometimes added to VBIEDs to increase casualties. Fragmentation charges generally require less explosives and can be more easily concealed. They may be omni-directional or directional. This effect generally requires some kind of enhancement.

The anti-vehicle effect is a characteristic of an enhanced container. This will be discussed more in the subsequent slides.

In terms of DtD – metal cased charges are easily detectable, however some buried plastic contained blast IEDs will have no metal content.

In terms of AtN – containers can offer some intelligence, and homemade fragmentation charges require metalwork facilities to produce, which can potentially be identified.

Components of an IED: Enhancements

Explosively Formed Penetrator, Self Forging Fragment

The EFP can defeat the new generation armoured vehicles.

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Anti – Armour target effects – most commonly this is achieved by using something called an EFP.

They use similar technique to military anti-armour charges by placing a shaped metal liner in front of the explosives. Which is then projected at the target at high speed.

In terms of AtN – as shown metal working facilities and resources are required to produce these.
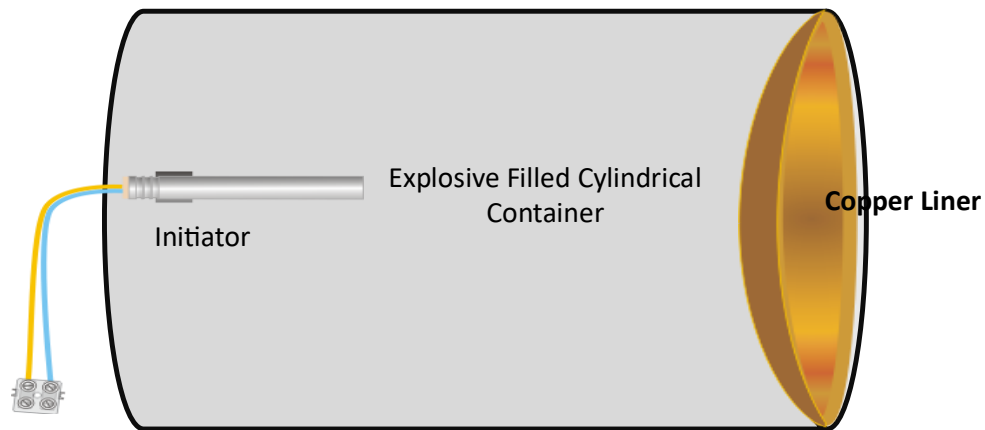
An Improvised EFP is likely to look like this – A detonator fitted in the rear, a cylindrical container (plastic or thin metal) containing HE and a copper liner at the front
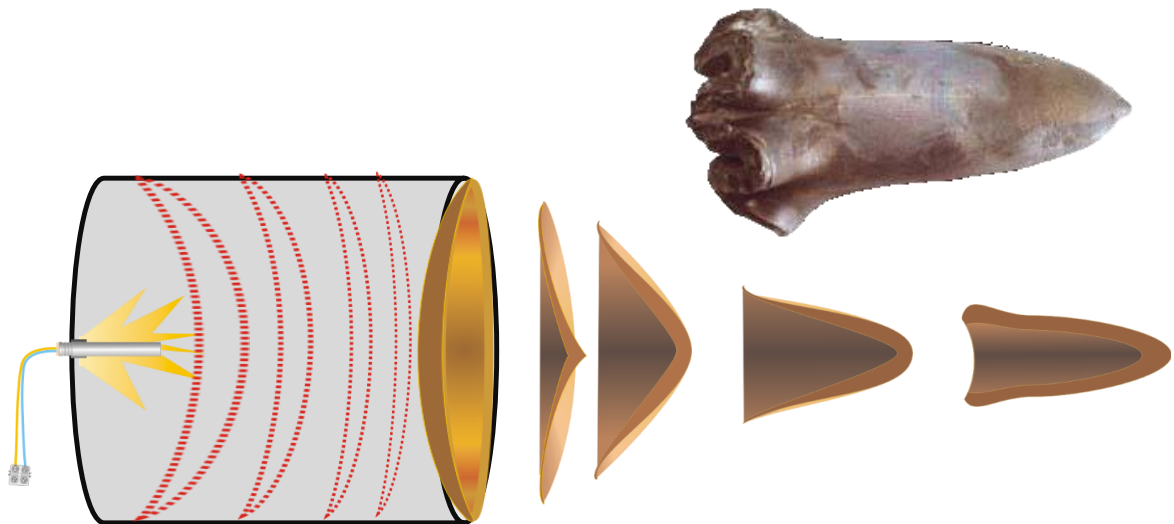
This slide builds

1.   EFP before firing – note the shaped liner and the detonation started at the rear.

2.   PRESS ONCE to start animation 1. This shows the initiation and the detonation wave passing through the explosives towards the liner.

3. PRESS AGAIN to start Animation 2. This shows the effect of the detonation wave on the liner and the formation of the explosively formed projectile.

This shows the projectile shape and a high-speed photo of a projectile in flight. The speed is roughly 2-3,000 meters per second. Approx 3-4 times faster than a typical assault rifle bullet.

Instructor to confirm understanding of lessons by clarifying any questions from the students.

It was briefly mentioned during the section on switches that the Firing switch can generally be broken down into 3 categories. These are Time, Victim and Command operated switches. The type of switch determines the type of IED. We will now look at each of these in detail to help understand why each type of IED is used.

Image: UN IED Threat Mitigation Handbook 2024

IED Initiation Systems: Command

This category of IED comprises command switches. This is a type of switch that is activated by the attacker in which s/he controls the device and function it at an opportune moment.

Command IEDs operate in two modes
- Physical link
- Non-physical link

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Images Source- of UK MOD.

Command IEDs use a type of switch that is activated by an attacker in which s/he controls the device and functions it at an opportune moment. There are a variety of different Command switches that pose significantly different challenge to CIED operations. Generally, there operate in two modes, using a physical link such as with a wire or string, or non-physical such as using a radio signal.

IED Initiation Systems: Command

- Used to attack specific targets.
- Used against slow moving and static targets but which are in a predictable location at a somewhat predictable time
- Required the attacker to identify a firing point and a contact point.
- Includes suicide IEDs

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Command IEDs are generally used to target very specific targets. As they are under the control of the attacker, they can choose which specific vehicle within a convoy can be targeted for be best effect and are able to prevent harming specific groups such as civilians.

These types of IEDs can be used to target moving or static targets however moving target carry the risk of initiating the IED when the target isn't in the exact location. This means these types of IED require some kind of aiming system (usually an aiming marker) and generally require a location where a moving target will slow down to a speed at which they can be targeted. E.g. at a sharp road bend, a junction or a narrow bridge. These are often called vulnerable points, we will discuss these in more detail later in the training.

Command IEDs also require the attacker to identify a firing point and a contact point. This means command IEDs generally require advantageous terrain to be employed.

Suicide IEDs are also considered a type of command IED.
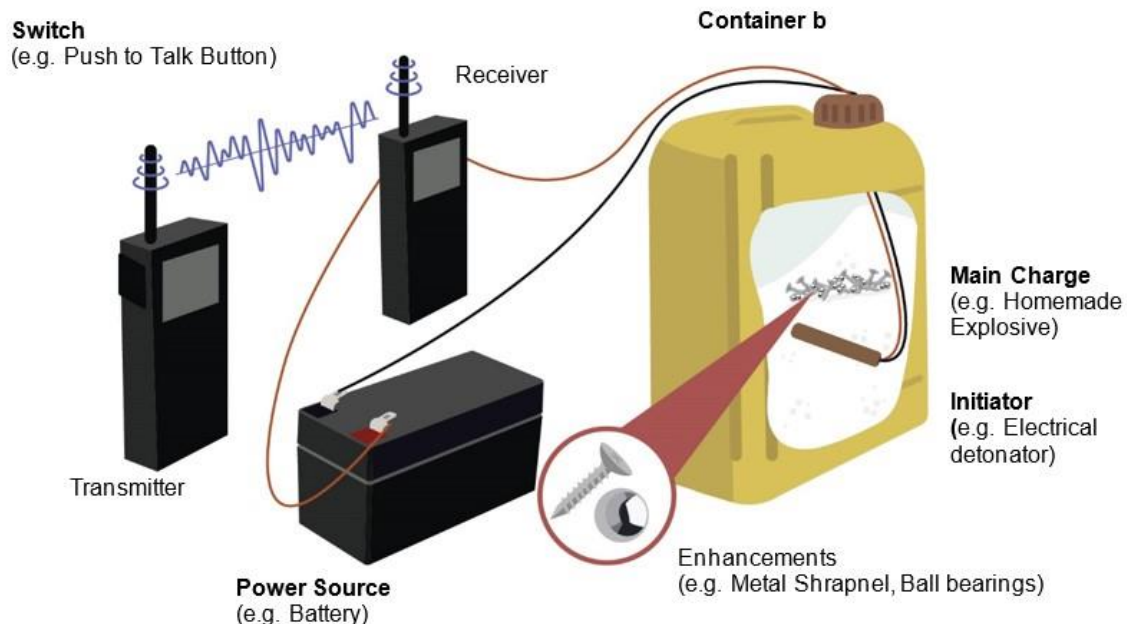
Image: UN IED Threat Mitigation Handbook 2024

As mentioned, there are two main types of command IED – those that use a physical and those that use a non-physical link. The most common form of non-physical link is the use of a radio or other electro-magnetic signal. These are referred to as remote control or RC IEDs. These use a transmitted which send an electro-magnetic signal to a receiver. This receiver then closes a circuit and initiates the IED. This can be either a short transmission using a car alarm key which can be as little as 20m, or it can use a radio signal which can be many hundreds of meters, or it can use a mobile phone signal which could be from anywhere if the firing point can see the target at the contact point.
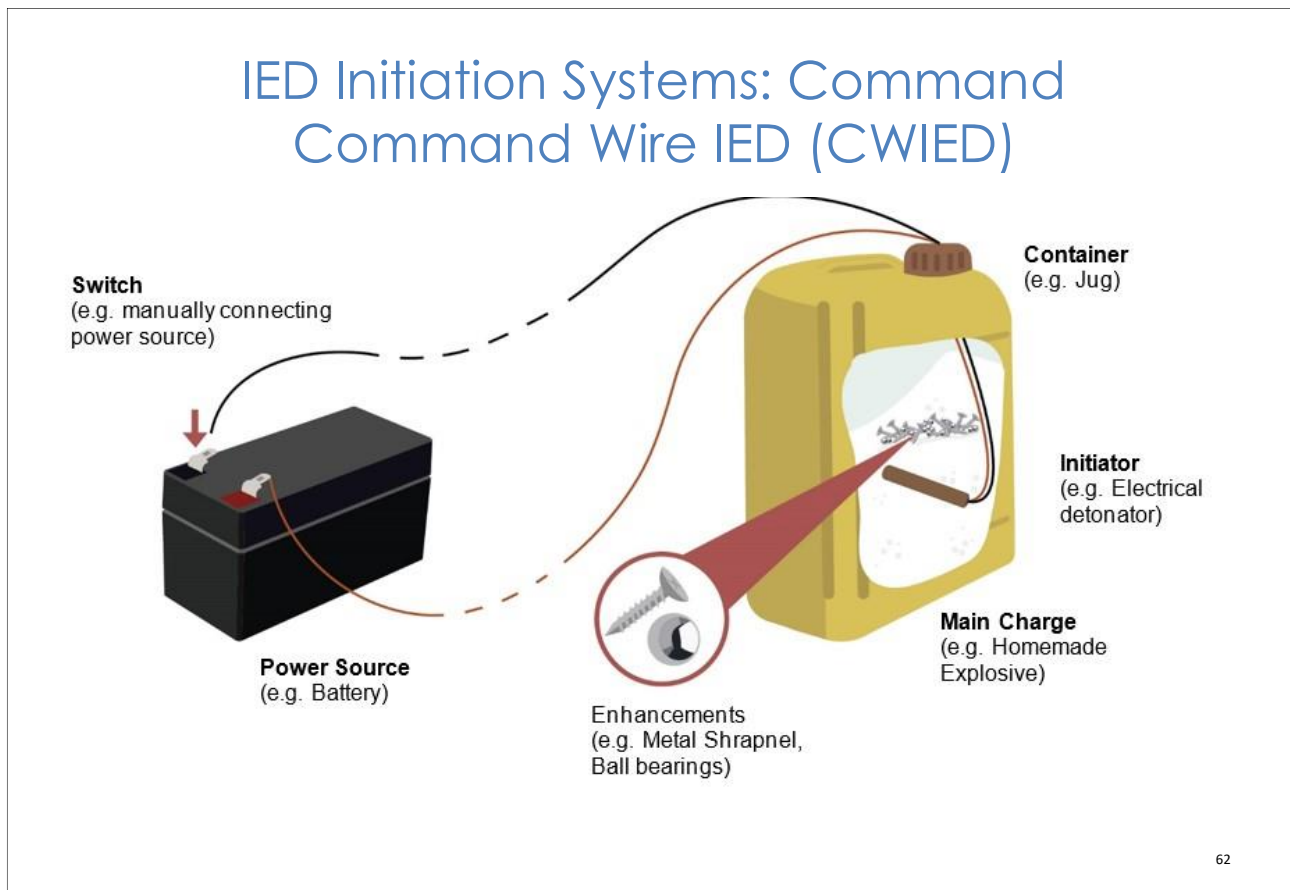
Image: UN IED Threat Mitigation Handbook 2024

The most common form of physical command IED is using a command wire or CW IED. A Command Wire IED is a simple physical electrical cable linking the triggerman to the explosives. The battery may be at either end or the physical act of completing the circuit acts as the firing switch. CWs can be detected during search operations. They are also significant in that often-aiming markers are present and triggerman location cannot move once the IED is placed. Domination of high ground can provide a deterrent to the triggerman.

IED Initiation Systems: Command Suicide

Usually refers to an individual wearing explosives and detonating them in order to kill others including themselves.

The bomber will conceal explosives on and around their person, commonly using a vest and will use a timer or some other trigger to detonate the explosives.

The logic behind such attacks is the belief that an IED delivered by a human has a greater chance of achieving success than any other method of attack

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Image Source- of UK MOD.

IED Initiation Systems: Time

- Time initiated is the method by which an IED self-initiates at a predetermined time or delay.

- The relies on accurate predictions by the aggressors of the intended target's time at a specific location.

- Used for targeting static, predictable targets.

Types of timed IEDs

- Mechanical

- Chemical
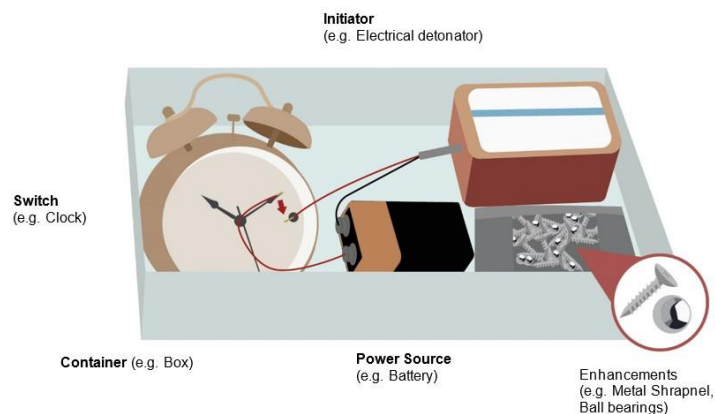
- Electronic

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Image: UN IED Threat Mitigation Handbook 2024

Time initiated is the method by which an IED self-initiates after a predetermined delay. This is achieved using mechanical, electronic and non-electric timers. The effectiveness of a time initiated IED relies heavily on accurate predictions by the aggressors of the intended target's time of presence at the emplacement location. These types of IEDs are used for targeting specific targets in static locations which have a predictable pattern. There are generally 3 types of timed IEDs – Mechanical, chemical and electronic timers.

IED Initiation Systems: Time

Advantages
- Allows time to evacuate
- Allows time to escape
- Can be placed long before known event

Disadvantages
- Difficult to attack a specific target
- Can be stopped by trained IEDD/EOD team
- Once set the terrorist loses control

65

IED Initiation Systems: Time

Mechanical   Chemical   Electronic
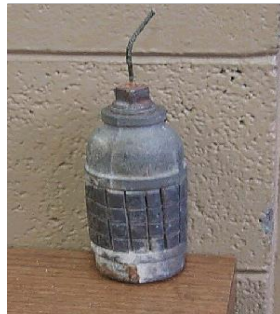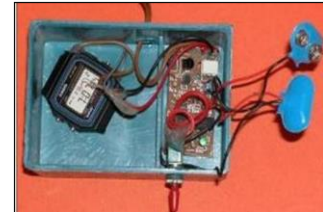
Image source unknown.

These are some examples of time IEDs. Mechanical timers use a physical mechanism to close a switch. In this case these use the hand of a clock or a microwave timer. A simple chemical timer could be a burning fuze. Electronic timers are slightly more complex and use digital watches or electronic circuits to initiate a device.

IED Initiation Systems: Victim

A switch that is activated by an unsuspecting individual.
These switches rely on the intended target to carry out some
form of action that will cause it to function.

Methods Of Operation
• Pull
• Release (including Anti-Lift)
• Pressure
• Movement
• Environmental Changes

Images Source- of UK MOD.

A switch that is activated by an unsuspecting individual. These switches rely on the intended target to carry out some form of action that will cause it to function.

There is various method in which a victim operated will function. The most common being pressure in the form of improvised pressure plate.

Methods Of Operation

Pull – the action of pulling a chord or connector which initiates an IED. this can initiate a chemical timer such as a grenade or immediately function an IED by closing a circuit.

Release (including Anti-Lift) – Anti-lift devices are using placed under attractive items. When the victim picks up the item, the IED functions.

Pressure – the act of applying physical pressure which closes a switch. Most common is pressure plates.

Movement – Use of Passive Infra-Red (PIR) sensors. These sensors are commonly found on outdoor security lights.

Environmental Changes – use of light sensitive devices which initiate when a victim changes the environmental condition. E.g. a small solar panel could be buried and when uncovered it is exposed to light and initiates an IED.

Image source unknown.

Medium metal switches have wooden planks that has a sheet of metal or wire attached to one of the horizontal planks with a small spring at one end. A malleable sheet of metal is insulated but one end, to the side of the spring, is left bare without insulation. The metal is adjusted to avoid contact to the spring by twisting it slightly upwards. The other ends of the two metal sheets relate to wires to the battery and initiator. The switch can be waterproofed by use of polythene paper to avoid uncontrolled detonation in case of rains. The wooden plates are secured together by thin sheets of metal nailed to them.

When pressure is applied on top of the plate, contact of the insulated sheet of metal and spring is established at the end points and hence completion of the electrical circuit which then initiates the device.

Assessed to be designed to target vehicles rather than personnel owing to the pressure required to active the device.

Quiz

1.　　Name the components of an IED

   – *Switch, Initiator, Main Charge, Power source, Container, Switch and Enhancements (optional)*

2.　　Name sources of explosive used to make IEDs ?

   – *Military, commercial and Home Made Explosive.*

3.　　Name type of switches

   – *Command, Time, Victim operated*

4.　　Give examples of containers

   – *Plastic containers, small metal boxes, MILORD, vehicles, machined containers, vests*

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Instructor to confirm students understanding by asking class questions.

Questions?

UNMAS

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Lesson

1.2

MISSION SPECIFIC IED THREATS

The Lesson

Time. This lesson requires approximately 45 minutes to teach. .

Performance Statement. At the end of this lesson, participants will be able to describe the IED threats in relation to specific missions or theatre of operations.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

(1) Mission Specific IED Threat Brief

(2) IED impact (to be tailored to the specific theatre of Operation).

  (a) Impact of IEDs on delivery the mandate of the Peace Support Missions

  (b) Impact of IEDs on loss of Human life

  (c) Impact of IEDs on Political situation

Methodology. This module will be introduced through the lecture method combined with class discussions and Q&A sessions.

Infrastructure. Classroom with projection facilities.

Instructor Guidance. This lesson requires the Instructor or training institution to develop up to date threat briefs. **This is a member state responsibility**.

IED TM Lesson 1.2: Mission Specific IED Threats

1

Find guidance inserted in the note section of each slide.

Slide 2

Terminal Learning Objectives

At the end of this lesson, participants will be able to describe the IED threats in relation to specific missions or theatre of operations.

2

Slide 3

Overview

1.2.1 Mission Specific IED Threat Brief

1.2.2 IED Impact

3

1.2.1 Mission Specific IED Threat Brief

4

Placeholder Slide

Prior to the commencement of the course, the instructors are required to update a mission specific brief based on the theatre of operation relevant to the course.

This is a member state responsibility.

Instructors should use a variety of resources that will vary depending on the member state and mission area. Some resources that could be used are:

- UNMAS Focal Point
- Member State Intelligence Services or EOD Units
- Intelligence officers from mission areas
- Open Source information

5

Important Note

This slide is a placeholder for the Member State to develop its own content/training material for the specific IED threat which they will face on their deployment.

Prior to the commencement of the training, the instructors are required to update a mission specific brief based on the theatre of operation relevant to the training.

This is a member state responsibility.

Instructors should use a variety of resources that will vary depending on the

member state and mission area. Some resources that could be used are:

- UNMAS Focal Point
- Member State Intelligence Services or EOD Units
- Intelligence officers from mission areas
- Open-Source information

Slide 6

1.2.2 IED Impact

6

IED Impact on Peace Support Missions

- Equalizing effect of IEDs
- Freedom of Movement
- Morale
- Threat to the peacekeepers
- Protection of civilians

7

IEDs impact the delivery of mandated peacekeeping, and peace enforcement missions in a number of ways.

Primarily, IEDs have an equalizing effect which means poorly equipped and trained armed groups can match up to well trained and equipped UN troops.

Due to both the physical and psychological effect of IEDs, they are able to deny freedom of movement to UN troops. This inability to freely move, prevents UN troops from being able to effectively implement the mandate. IEDs can also affect the freedom of movement of troops for physical reasons. Dismounted troops in an IED environment often have to carry heavy CIED equipment which limits how far and fast they can deploy on foot.

IED also have a devastating effect on troop morale. This lack of morale can further impact freedom of movement due to an unwillingness to deploy out of base locations.

IEDs undeniably pose a threat to peacekeeper. Often in an IED environment, it is the peacekeepers who are targeted.

Protection of civilians is often the priority objective of mission mandates. Denial of peacekeeper freedom of movement and intentional or accidental targeting of civilians with IEDs can be seen as a failure to enforce the mission mandate.

IED Impact on Peace Support Missions

Somalia

Mali

DRC

C.A.R.
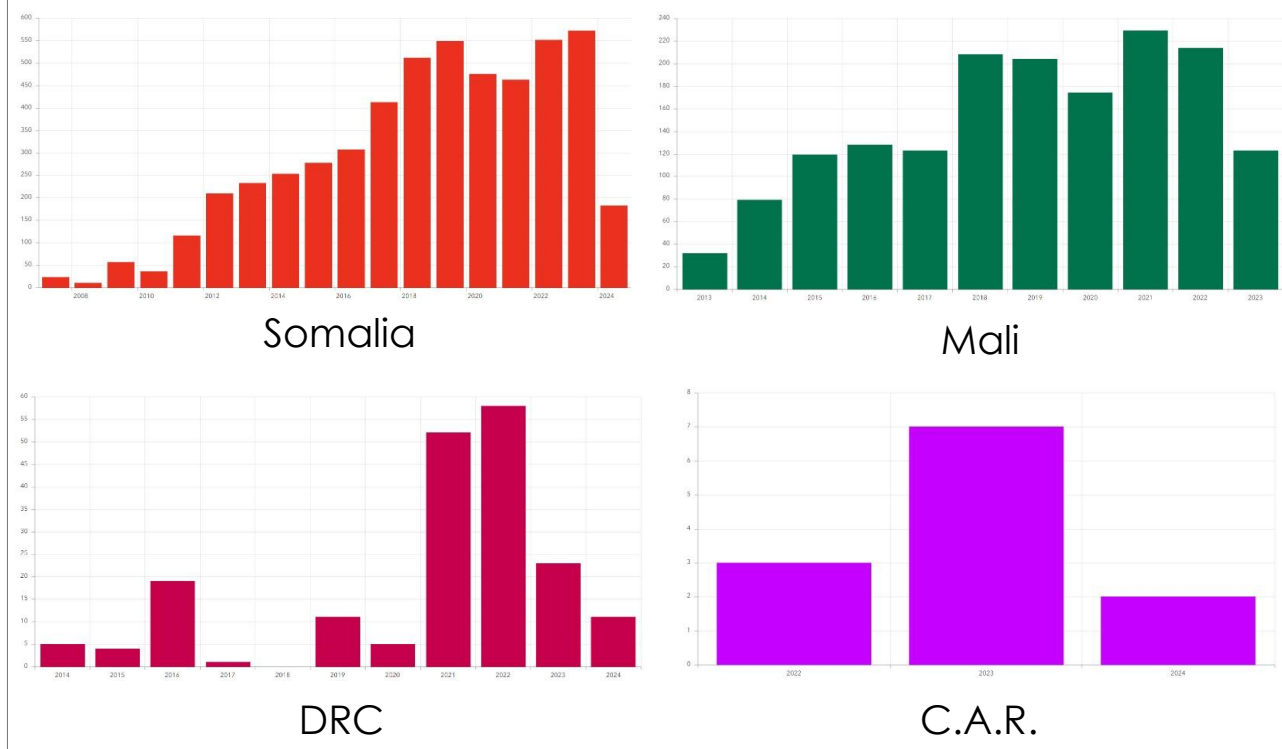
Between 2016-2021, IED general trend is upwards

Understanding nature of threat is critical.

MINUSMA has highest EO threat targeted at the Mission, with incidents climbing steadily based on an understood and quantifiable threat.

The EO threat in CAR is least understood or identified due to lack of site exploitation; likely to increase

The IED threat in DRC is better identified where targets and locations are focused in Eastern Congo; likely for the incidents to go up.

IED Impact on Peace Support Missions

The UN Resolution to counter the threat posed by IEDs.

IED The Global Threat – Peacekeeping

UN Resolutions

UN Member States noted the impact of IEDs during the 70th session of the General Assembly through the adoption of two resolutions. On 7 December 2015, the General Assembly adopted a resolution on countering the Threat Posed by IEDs (A/70/46)3 whereby Member States expressed concern over IED attacks on UN personnel and the impact these attacks have on freedom of movement, and the ability to deliver on mandates. On 9 December 2015, the General Assembly adopted the resolution on Assistance in Mine Action (A/70/80)4, which recognized the humanitarian threat posed by IEDs in post-conflict situations. Impact of IEDs and the urgent need to address this issue is also highlighted in the Report of the Secretary-General (A/71/187) of 25 July 2016 'Countering the threat posed by improvised explosive devices'5.

The UN mitigates the threat of IEDs through activities designed to enhance the safety and security of personnel, assets and facilities and to enhance mobility of UN personnel, each of which, support the implementation of the mandate and are within the UN's right to self-defence.

IED Impact on Human Life

This slide shows media images of some of the most prolific IED incidents of the last few years. Whilst there is a political impact of many of these incidents such as 9/11, the one common impact of all IEDs is the impact on human life.

Slide 11

IED Impact on Human Life

Between 2010-2020*:

- About 170,000 people were killed or injured by IEDs.
- Of all the injuries and deaths as a result of explosive weapons, 47% were as a result of IEDs.
- About 136,000 of these injuries and deaths were civilians – about 80%.
- General trend in declining incidents over the 10 years.

In 2023**:

- 2,953 civilian casualties, 4,520 armed actors.
- Between Jan-June 2023 there were 117 civilian deaths in Somalia alone.

Casualties from IED attacks, 2011-2022
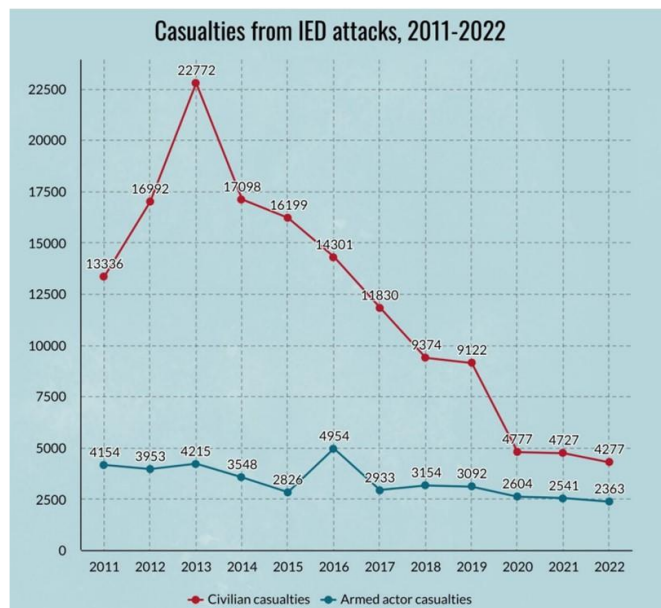
- Figures taken from the NGO Action on Armed Violence report "IEDs: Past, Present and Future".
- **Figures taken from AOAV 2023 Report.
- Graph – AOAV Report on Improvised Explosive Device (IED) Incidents
- for January – June 2023

INSTRUCTOR NOTES

Prior to the lesson the instructor is to obtain updated figures for the specific theatre of the target audience.

IED Impact on the Political Situation
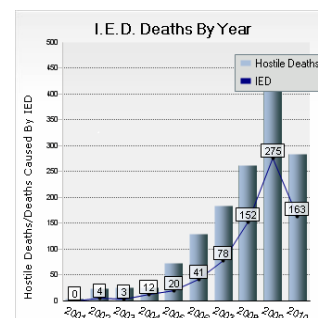
IED attacks can impact on political processes when they are used to attain power, claim territorial control, disrupt elections and target individuals and institutions, including the United Nations.

Aside from the political situation in the mission, the deadly effect of IEDs can effect the politics of the Troop Contributing Countries. IED result in both the increased loss of life, as well as increased spending required to protect peacekeepers. Both of these factors contribute to diminished appetite for Member States to support missions with uniformed personnel.

Attacks on humanitarian personnel can either be direct or take the form of sequential attacks on first responders after they have arrived on the scene of an incident.

Such attacks affect the delivery of humanitarian and food-related assistance and the safe return of internally displaced persons and refugees, as well as the socioeconomic recovery of affected nations.

IEDs that remain undetonated on urban or rural terrain can block humanitarian access to vulnerable populations and vital infrastructure, and hinder reconstruction efforts.

Over the last decade, hundreds of humanitarian workers have been killed or injured by IEDs. Nearly one third of the incidents occurred in Afghanistan, where one quarter of non-governmental organizations have had staff that were killed or injured by IEDs;

and one third of those organizations have pulled entire operations from specific areas owing to IED threats.

Humanitarian organizations spend increasing amounts of their budget on their own security in order to ensure adequate protection for their personnel.

Slide 13

Questions?

UNMAS

Module

2

THREAT ASSESSMENT AND MITIGATION

Module 2 at a Glance

Training Objective. To enhance participants' knowledge and skills on threat assessment processes and mitigation techniques.

Lesson 2.1 – C-IED Mission Enabling Assets. At the end of this lesson, the participant will be able to understand the mission-enabling assets available and their responsibility to manage and employ them. (3x45 Periods)

Lesson 2.2 – IED Threat Mitigation concepts. At the end of this lesson, the participant will be able to describe the operational processes and resources required to combat the IED system and their responsibility. (2x45 Periods)

Lesson 2.3 – Threat Mitigation TTPs. At the end of this lesson, the participants will be able to demonstrate an awareness of the friendly force TTPs that are currently employed to mitigate threats from IEDs. (3x45 Periods)

Lesson 2.4 – Threat Assessment. At the end of this lesson, the participant will be able to explain the threat assessment process and interpret a threat summary. (2x45 Period).

Lesson 2.5 – Movement in IED AO. At the end of this lesson, participants will be able to plan and conduct convoy plans in an IED threat environment. (2x45 Periods)

Lesson 2.6 – Integration of Information. At the end of this lesson, participants will be able to identify the sources of information and intelligence to enable threat assessment, and be able to integrate counter-IED considerations into the mission planning process. (1x45 Period).

Lesson 2.7 – Static Force Protection in a IED Environment. At the end of this lesson, the participant will be able to describe practical measures to reduce the threat of IEDs whist in static locations (Forward Operating Base) in an operating environment affected by IEDs. (1x45 Period)

Lesson

2.1

C-IED MISSION-ENABLING ASSETS

The Lesson

**Time**. This module is allocated 2 x45 periods.

Performance Statement. At the end of this module, the participant will understand the mission-enabling assets available and their responsibility to manage and employ them.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

(1) Roles and responsibilities of Headquarters (IED Threat Mitigation Handbook Ch 3).

(2) Common incident management requirements.

(3) C-IED Capabilities

    (a) Air Sp/ISR

    (b) Search

        i. Search Team and Advisor

        ii. Explosive detection dog

        iii. Search and Route clearance package

    (c) Disposal

        i. EOD Teams

        ii. IEDD Teams

    (d) Exploitation

        i. Weapon Technical Intelligence (WTI)

        ii. Post-blast investigation

    (e) Force Protection Engineering (FPE)

    (f) CIMIC / Engagement Platoon

    (g) Electronic Counter Measures (ECM)

Methodology. This module will be introduced through lecture method combined with participatory approaches, experience sharing and question and answer (Q&A).

Infrastructure. Classroom with projection facilities.

IED TM Lesson 2.1: C-IED Mission Enabling Assets

1

Find guidance inserted in the note section of each slide.

Slide 2

Overview

2.1.1 Roles and responsibilities of the HQs

2.1.2 Common Incident Management Requirements

2.1.3 C-IED Mission Enabling Assets

2

Terminal Learning Objectives

At the end of this module the participant will understand the mission enabling assets available, and their responsibility to manage and employ them.

3

Slide 4

2.1.1 Roles and Responsibilities of the HQs

4

Roles and Responsibilities of Headquarters

As per Chapter 3 of the IED Threat Mitigation Handbook 2024

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IED Threat Mitigation Handbook
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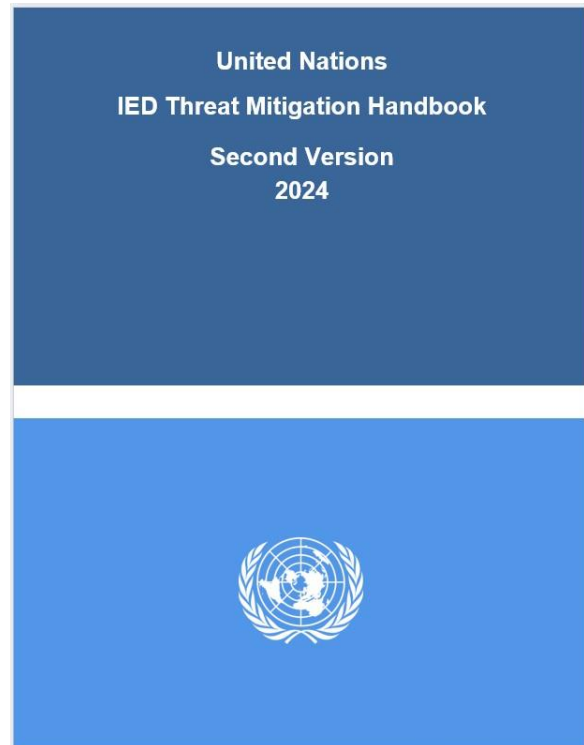
The content of this section is drawn from Chapter 3 of the UN IED Threat Mitigation Handbook. This section will provide a brief overview of the key roles and responsibilities and functions of within a generic Military component HQ in a Peacekeeping or peace-enforcing mission. Those deploying should consult this handbook for further detail as well and following mission specific directives. Police deploying to a PKO should consult relevant UN PKO Police guidance.

Roles and Responsibilities of Headquarters

Generic Sector HQ Responsibility
- Synchronize and coordinate the IED TM activities.
- Plan and control the employment of the IEDD unit or teams.
- Analyse the IED threat in the area and provide input to the F/PHQ.
- Disseminate IED threat reports and alerts to under command-units.
- Organize continuous in mission training of all units.
- Coordinate evidence collection and its secure transportation for exploitation.
- Plan and organize IED awareness training for all under command units and UN personnel in the sector.
- Initiate regular Peacekeeping-Intelligence and operational reports and returns.

6

Whilst there is specific IED threat mitigation roles within various level of HQ, there are some generic function of Sector HQ, most of which apply to lower levels of command. These include:
- Synchronize and coordinate the IED TM effort in the sector under the IED focal person.
- Plan and control the employment of the IEDD unit or teams against the IED threat.
- Analyse the IED threat in the area and provide input to the F/PHQ.
- Disseminate IED threat reports and alerts to under command-units and the Police component.
- Organize training of units and teams and facilitate training evaluation by the F/PHQ.
- Coordinate evidence collection and its secure transportation for exploitation.
- Plan and organize IED awareness training for all under command units and UN personnel in the sector.
- Initiate regular Peacekeeping-Intelligence and operational reports and returns.
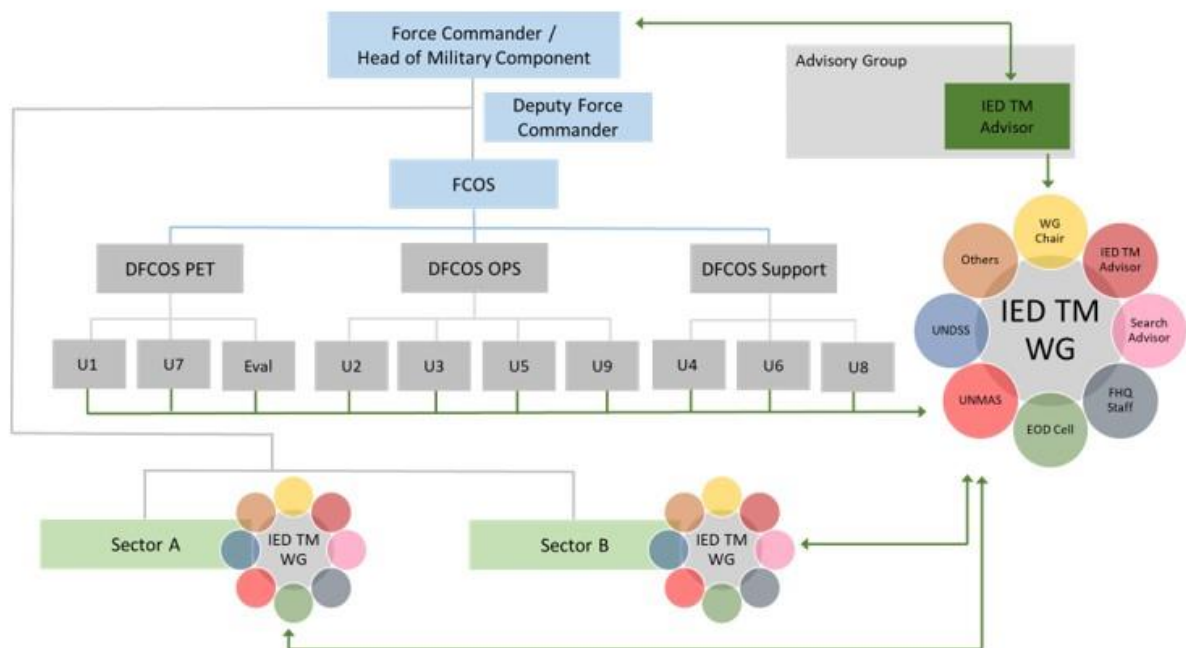
Figure 3-1: IED Threat Mitigation Organization

This slide shows the generic organizational chart of a Military component in PKO with all the key functions listed from U1-U9 and well as the relevant military formations (in this case represented by Sector A and Sector B). At each level of command, the force is supported by an IED Threat Mitigation Working group which contains CIED subject matter experts. Chairing this WG and advising the commander at all levels (Force Commander down to Battalion Level) is the IED Threat Mitigation Advisor.

Figure 3-2: IED TM Working Group

Regardless of the current threat, each commander should establish an IED threat mitigation working group (IED TM WG), comprising of senior mission management to develop an IED mitigation strategy to accord with the mission mandate and will use this to direct, focus and manage IED threat mitigation efforts within the mission. The IED TM WG supports decision-making, oversight and good governance ensuring a Mission-wide approach.

All commander from Unit up to force level should establish an IED TM WG. This image shows what at IED TM WG would look like at the Force Level. At the unit level, many of the functions can be performed by an EOD Cell or the Search Advisor.

Roles and Responsibilities of Headquarters

Commanders

Image – Gen Santos Cruz, Source- of Diego Bresani

All commanders at all levels play a critical role in IED Threat Mitigation. They must ensure that the appropriate priority is given to IED TM. They must ensure high standards in terms of how preparatory trainings, in mission trainings, reporting, etc. are conducted and ensure the correct attitude of the subordinates with the right mind set. All commanders must be aware that this is one of the most challenging tasks in the operational area, because the danger is difficult to identify and to fight.

Roles and Responsibilities of Headquarters

IED Threat
Mitigation Advisor

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The IED TM Officer/Advisor (military and police) is a singular function within the staff at Force Headquarter and Sector Headquarter level, sourced with a subject matter expert with appropriate training regarding IED TM, ideally trained as Search Advisor, EOD, or as IEDD operator.

The task of the IED TM Officer/Advisor, can be either an individual or an Advisory and planning cell, depending on the size of the mission and the threat. Ideally an IED TM advisor is sourced for all levels, starting from unit level up to FHQ to facilitate a coordinated approach throughout. Where availability of suitable personnel and other limitations don´t allow to source that function at all levels, this function could be doubled headed with the EOD Cell.

Some of the tasks of the IED TM Advisor include:
• Advise and assist the commander on all IED TM matters.
• Control and coordinate IEDD operations in the mission area.
• Advise on the appropriate physical force protection measures to be taken.
• Advise on FP ECM matters.
• Control proper reporting of incidents and if necessary, provide additional training to ensure all contributors will meet the standards.

Roles and Responsibilities of Headquarters

Search Advisor

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Search Advisors are Specialist staff at all levels of command, who provide advice and assist in planning of search related activities. The Search Advisor must be current on all policy and doctrine to ensure that the correct advice can be provided to the FC, Sector or unit commander they report to and their respective staffs on all search related matters, at all staff levels. Where possible the Search Advisor role should be dedicated within a UN Mission.

Under certain circumstances, the role can be double headed, performing the tasks of the IED TM Advisor and the Search Advisor. Alternatively, a Search Advisor may be a role that a suitable qualified person is given. A Search Advisor must be qualified for Specialist search and have appropriate experience in providing search advice on staff level.

Some of the Search Advisors Tasks/Responsibilities include:
A Search Advisor is responsible for:
- Advice to Force Engineers or unit commanders, on search capacity and deployment, depending on the level they are operating at.
- Prioritizing and coordinating search matters with supporting Host Nation and non-governmental organizations (NGOs), where appropriate.
- Synchronizing and aligning available Search capabilities and responses across the AO.
- Supporting the intelligence and exploitation cycle through search specific threat assessments and the identification of adversary TTPs.
- Determining which search assets are most appropriate for a task by understanding the capabilities, responsibilities, and support requirements of search assets.

• Conducting an estimate and planning for search, based on threats, perpetrator intent and capability, before preparing orders for a search commander and/or search teams.
• Providing support and advice to the search team commander conducting search activities

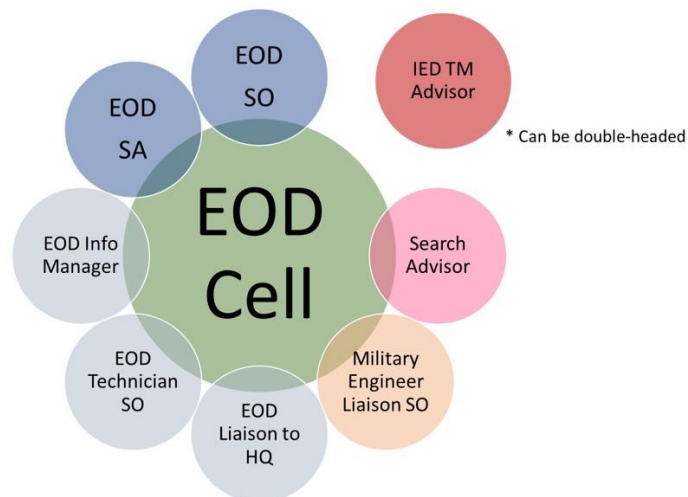# Roles and Responsibilities of Headquarters

EOD Cell

Figure 1-5: Staff Integration and EOD Cell

The EOD Cell is the designated entity which provides operational control, planning, and administrative services related to EOD operations for assigned EOD units in a designated geographical area of responsibility. It is the force tasking authority for all EOD and IEDD tasks, receiving notification of an EOD incident from any unit, and completed incident reports from all EOD units in the area of responsibility. They provide scheduling and control of disposal operations in the area of responsibility.

An EODD Cell should be established at Force Headquarter and Sector Headquarter level. Depending in the mission size this could be either one person or a team of EOD qualified personnel.

Slide 13

Questions?

Instructor to confirm understanding of lessons by clarifying any questions from the students.

2.1.2 Common Incident Management Requirements

This section of the lessons seeks to explain some of the incident management processes common to most IED related incidents. This is to allow those in HQ functions either as commanders, staff or CIED specialist to be able to support the requirement for managing an IED find or strike.
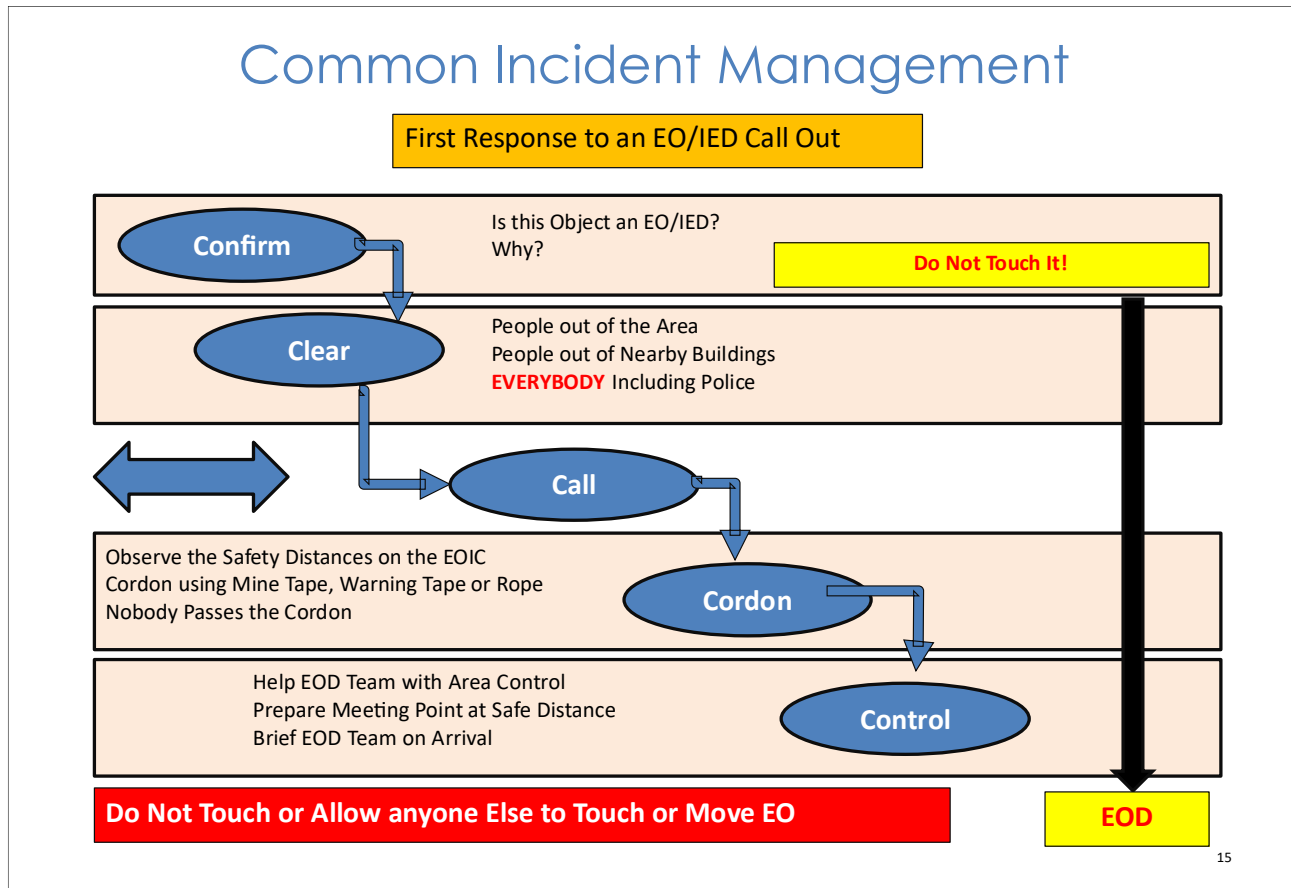
In most cases, if an IED is discovered either by being found or by a strike, once a unit has conducted its immediate action drills, it should commence a 5 C' Operation. It is important that both the supporting HQ and the deployed Units fully understand the 5Cs and follow the same process. This is for two reasons: to ensure common understanding of the situation and to allow the HQ to anticipate the needs of the Unit and support then as necessary.

Instructor to explain the 5Cs Process

1. Confirm – following the immediate action drills the Unit is to confirm in the find or strike is indeed and IED.
2. Clear – if confirmed as an IED everybody should be cleared of the area to a safe distance.
3. Call – following a situation report or a contact report, a full EO 10-Liner should be send by the Unit. The HQ must anticipate the need of the Unit so should be prepared to support the Unit with necessary assets including EOD, CASEVAC or MEDEVAC, additional security, vehicle recovery etc.
4. Cordon. The unit should then place a physical cordon to prevent access to the threat area or contamination of the scene.
5. Control – the Unit should then control the scene preparing a suitable meeting point to brief EOD and first responders. It is important to note that whilst the EOD specialist will provide authoritative guidance, command of the scene will be managed by the local commander.

In addition to the 5Cs:
- ICP should have own cordon in place
- Unknown persons must be escorted
- ID checked and search if required
- Witnesses should be searched
- Check baggage and equipment close to ICP
- Procedures apply to mounted and dismounted responses

Ref: *UN Landmine, ERW, IED Safety Handbook*

Common Incident Management

- An IED find or strike/explosion is an EOD task

- EOD team control the specific EOD task, but they do not command the scene.

- EOD advises on-scene commander.

- Command and Control is critical

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Image source unknown

IED Incident Management is an EOD task whether it be a find or an explosion. Although it is an EOD task, the EOD team will not normally be in command of the entire scene. This is very important to understand as, local commanders cannot handover total responsibility to the EOD team, they must be focused on their specific task.

The EOD/IEDD supervisor and/or operator is responsible for advising the incident commander or clearance site manager on all aspects of explosive safety during the conduct of an IEDD task.

Overall safety at IEDD tasks is ensured by the creation of a cordon where personnel, under the oversight of an incident commander or clearance site manager, are positioned at appropriate intervals around the IED to ensure that no persons can inadvertently stray into the danger area.

Common Incident Management

Command and control (C2) considerations

- Priority of the task vs the mission.
- Secondary threat.
- Concurrent activity
- Anticipation
- EOD operates in conjunction with:
  - Security/Force Protection
  - Search

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Whilst every incident will be unique, there are some common C2 considerations for both the local commander and the HQ. The first should be to determine the priority of the mission vs the necessary EOD tasks following a find or an explosion. This would determine the level of resource and time that should be allocated to the EOD task. For example, if a patrol was tasked to clear a route and found an IED, it may be willing to expend a lot of time and resources on securing the route and removing the IED threat. Compare this to a QRF who is deploying to protect a vulnerable group of civilians who are being killed by an armed group but find an IED on route. In this case they may simply make forces to mark, avoid and bypass the scene.

During an IED incident the local commander must also consider the secondary threat. Either from additional IEDs which could target first responders or from a follow up direct attack. Security consideration must be made for both.

Concurrent activity should take place to speed up the response to an incident. Whilst the 5Cs is a process, phases can be done concurrently to speed up the process.

Instructor to confirm understanding of lessons by clarifying any questions from the students.

2.1.3 CIED Mission Enabling Assets

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Roles and Responsibilities of Headquarters

As per Chapter 4 of the IED Threat Mitigation Handbook 2024

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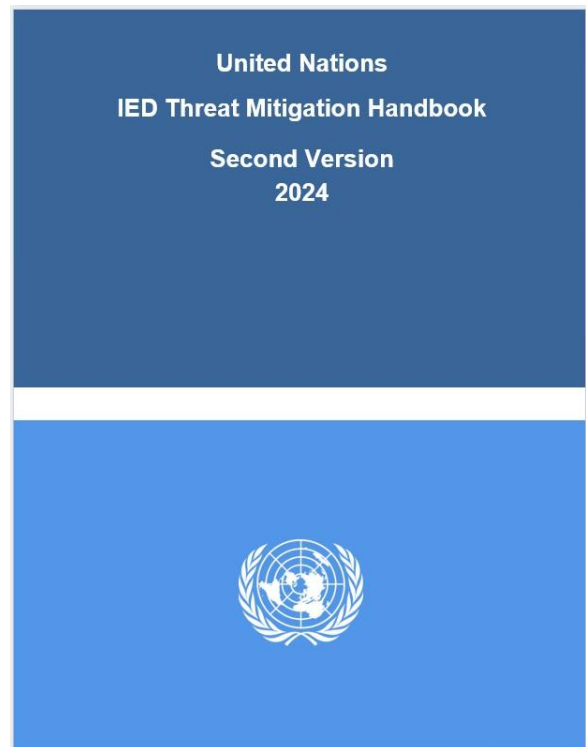
The content of this section is drawn from Chapter 4 of the UN IED Threat Mitigation Handbook. This section will provide a brief overview of the key mission enabling assets that can be used to counter the threat form IEDs.

C-IED Mission Enabling Assets

Air and Aviation Support

- Fixed Wing
- Rotary Wing (helicopters)
- Unmanned Aircraft Systems (UAS)

- May have a specific ISR role or employed for other purpose but able to support C-IED effort.
- Capabilities vary between platforms.
- Its not just about the platform – the sensors they carry are critical.
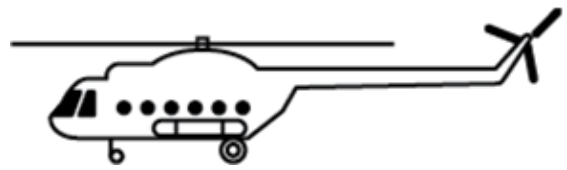
21

Depending on the specific assets available within each Mission, the Force may have access to a variety of air platforms that have potential to assist with the overall mitigation of IED threats by improving situational awareness of peacekeepers. These platforms could comprise both crewed aircraft (rotary-wing and/or fixed-wing) as well as Unmanned Aircraft Systems (UAS) of varying size. These may be specifically equipped to carry out a Peacekeeping-Intelligence, Surveillance and Reconnaissance (PKISR) role, or they may be primarily employed for other purposes but still capable of providing information that may contribute to the overall C-IED effort. How each air asset can best contribute will depend on various factors such as the capabilities of the platform, the types of sensors it carries, the nature of the IED threat, and the needs of the supported ground forces. The PKISR and/or UAS team within the Force U2 should always be the first point of contact for personnel wishing to fully understand the options available in each Mission, but some generic planning considerations are presented below.

C-IED Mission Enabling Assets

Air and Aviation Support – Fixed Wing

- May have specific surveillance and intelligence role or alternative role.
- Long range
- Can travel very fast and high to avoid threat
- Require a runway and cannot remain static over a target

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Image Left – UN Photo

Image Right – Source- US DOD

As a general rule, fixed-wing aircraft will be faster than rotary-wing aircraft, have greater operating ranges, can fly at greater altitudes to reduce their vulnerability to threats from the ground, and (depending on size) are likely to be able to carry larger and more capable sensors. Conversely, they always require some form of rough or prepared runway to operate from and are unable to remain static over a location in the way that rotary-wing aircraft can.

C-IED Mission Enabling Assets

Air and Aviation Support – Rotary Wing

- May have support/logistics role, surveillance and intelligence role or attack role.
- Shorter range and duration than fixed wing
- May have specialized sensors
- Have the ability to loiter and do not require large landing strips
- Can be used both as a sensor or to move troops (either specialist CIED or generalist troops to support CIED effort)

Image Left – UN Support helicopter. This mainly used in a logistic and transport role. UN Photo

Image Centre – UN QRF helicopter in Mali. UN Photo

Image Right – UN Attack helicopter in DRC. These high-tech helicopters are likely to carry specialist sensors as well as weapons to target triggermen. UN Photo

Rotary wing or helicopters are commonly found on UN peacekeeping missions. Like fixed wing, they are highly varied in both role and capability. As a general rule, these have shorter range and flying duration than fixed wing aircraft. Depending on the role of helicopter, it may have highly specialized sensors, or it may have no sensors other than the pilot's eyes. Unlike fixed wing, helicopters also have the ability to loiter which enables then to be able to focus sensors in specific areas for a longer duration. Importantly, helicopters do not require large real estate to land or take off meaning they can be deployed into challenging terrain. Rotary wing aircraft can be employed in more ways than simply employing its sensors to counter the IED threat, they can also be used to deploy troops. This can either be deploying CIED assets such as search or EOD teams to respond to incidents, or they can be used to deploy force protection troops to secure terrain such as routes, high ground. Due to the large distances and scarcity of EOD teams, during operation in Mali, EOD teams would routinely be deployed by support helicopter to deal with IED Finds. Search Teams would identify a device then clear an HLS. Once EOD had conducted their task, they would return to base via helicopter or be re-tasked.

C-IED Mission Enabling Assets

Air and Aviation Support – UAS

- UAS assets vary considerably in size. This affects range, endurance and sensors.
- Can be either fixed or rotary wing.
- May have specialized sensors.
- Depending on size it may have significant support requirements, or it can be carried and operated by one person.
- Sensitive to severe weather conditions.

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Image Left – UN Fixed wing UAS in DRC. UN Photo

Image Centre – UNICEF UAS. UN Photo

Image Right – Micro UAS that can be deployed very quickly and carried by almost any troops. Image Source- of Spectral Aviation.

UAS assets vary considerably in size, from Class I systems that can be carried by one person and operated from almost any location, up to Class II and Class III systems that can be a similar size (and have similar support requirements) as a crewed aircraft. The lack of a human occupant may make a UAS the preferred asset to employ in situations where a high threat of surface-to-air fire exists, or in other situations where the risk to a human crew is deemed unacceptably high. Smaller UAS will also be less visible and much quieter than fixed-wing or rotary-wing aircraft, making them potentially better able to conduct observation of the ground without alerting hostile actors to their presence. However, UAS may be more vulnerable to severe weather conditions than crewed aircraft.

C-IED Mission Enabling Assets

Air and Aviation Support – Sensors

Image Left – EO/IR from UN drone in DRC. UN Photo

Image Centre – example of SAR image, not it is unaffected by cloud cover. Photo Source- of Sandri National Laboratory

Image Right – Image Source- of FLIR.

Both crewed aircraft and UAS can carry a variety of different sensors, which (like the platforms themselves) will have specific strengths and weaknesses regarding IED threat mitigation. In all cases, consideration must be given to how the information that is acquired will be analysed, what timeframe it is required in, and how it will be of greatest use to the relevant decision-maker.

The most common sensor found on UN air assets is an Electro-Optical/Infra-Red (EO/IR) camera, often colloquially referred to as a day/night camera. This sensor type offers full-motion video (FMV) / still imagery capture and is the most flexible sensor type to employ due to the relative ease of interpretation. EO/IR sensors could assist ground forces in identifying a variety of potentially IED-related indicators such as ground signs (disturbed earth, command wires, roadside markers, etc.), suspicious behaviour (such as covert observation of UN personnel or apparent prepared ambushes), or simply potentially vulnerable points along a route (blind corners, bridges, culverts, chokepoints, etc.)

Synthetic Aperture Radar (SAR) sensors offer the ability to detect changes or disturbances to ground surfaces, which has the potential to provide indications of IED-related activity. However, SAR sensors required specialized equipment and

highly trained analysts to properly interpret and exploit and will still require ground forces to investigate suspicious sites to confirm or deny the presence of an IED.

Thermal imaging or TI can be used in much the same way as EO/IR however it has the potential to identify heat sources e.g. humans, day or night and in a wide variety of terrain. This would be particularly useful for identifying potential IED placers or triggermen at firing points.

C-IED Mission Enabling Assets

Search

- Locating specific Targets
  - Terrorist resources
  - IED Components
- Offensive Search
- Defensive Search

Figure B-1-2: Search Capabilities (1)
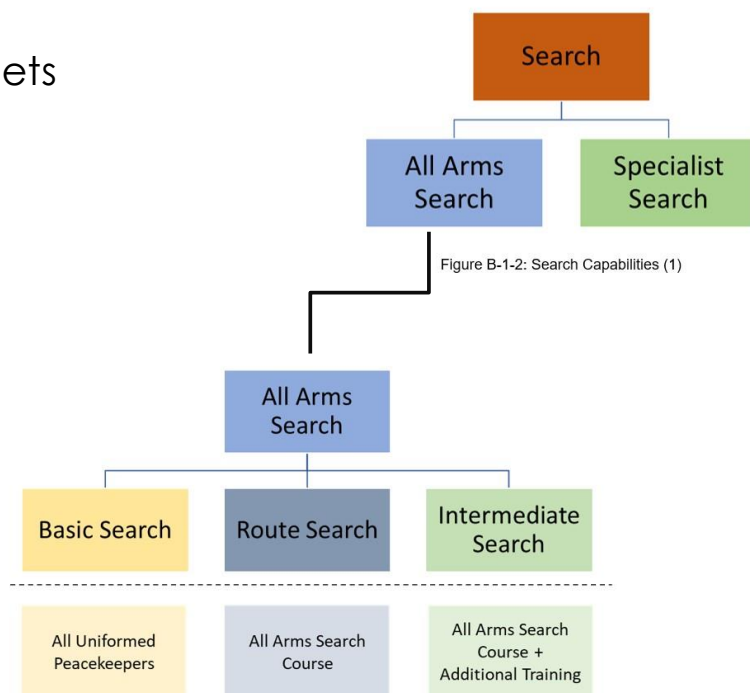
Figure B-1-3: Search Capabilities (2)

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Search is the capability to locate **specific targets** using **intelligence assessment, systematic procedures** and **appropriate detection techniques**. The specific targets can vary but these are usually Terrorist Resources and IED component. Not only are they searched for when deployed but also:

- In manufacture
- In transit
- In storage
- And when deployed.

Search is a key enabler, providing the means to shape and control the environment in which military assets are active or where there are security interests across the operational framework. Search can be broken down into two distinct elements offensive and defensive

Offensive Search:

- Acquire intelligence
- Deny Threat resources
- Gain evidence for prosecution

Defensive Search:

- Force Protection
- Protection of events
- Protection of infrastructure

In its broadest terms search can be broken down into all arms search capabilities and specialist search capabilities.

- **All Arms Search**. Search capabilities employed by non-specialist members of a unit. There are different levels of all arms search capabilities.

• **Specialist Search**. Search capabilities employed by advanced search personnel trained, equipped, and qualified to do so. Information regarding Specialist Search is contained in the UN Military Engineer Unit Manual. Examples of specialist search operations include defensive building search, Confined spaces search, Hazardous environment search, aircraft search or support to EOD.

Within All Arms Search there are three levels of search capability, namely:

Basic Search – This is a skill all peacekeepers should have which gives them an awareness of search and basic search TTPs.

Route Search – Route search is a team skill for conducting assessed parts of routes for the presence of EO and IEDs.

Intermediate Search – Intermediate search includes route search skills with the addition skills such as Area Search, and compound searches.

C-IED Mission Enabling Assets

Search Team – Route +All Arms

- Operate as a team.
  - Team Commander
  - 2IC
  - 4 Searchers (6 for ATMIS)
- Distinct function to EOD
- All mobility Units must have 1-2 teams
- Specially equipped with detectors and ECM
- Planning Considerations – Time
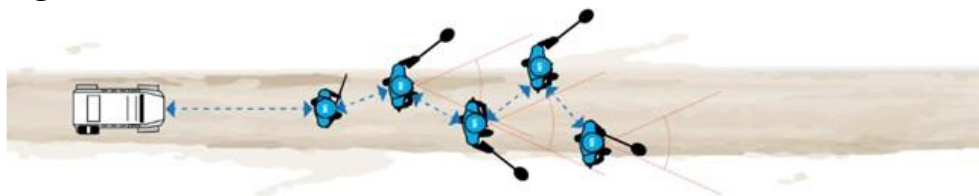
27

Image Right – Bangladeshi Search Team on operations in Mali.

Image Bottom – an example of how a route search team operate as a team. More detail will be covered in subsequent lessons.

In the UN mission setting the success of the IED TM effort is largely dependent on information-based operations against IEDs and precursors. All mobility units are to count with All Arms Search Teams (AAST) comprised of trained searchers, equipped with precision search equipment and ECM, capable to conduct basic search procedures.

More detail will be covered later in the training, but it is worth highlighting at this stage that commanders and planners must consider the time it takes to conduct search operations. For example, a point VP (e.g. a road culvert) will typically take an hour to search assuming no IED is discovered. Advice on the time for search operation should be sought from the Search Advisor or search team commander.

C-IED Mission Enabling Assets

Search – Explosive Detection Dogs

- Explosive Detection Dogs (EDD) trained to locate and correctly indicate explosive substances
- Target active threats
- Considerations:
  - Handler + Dog
  - Special support required
  - Early planning

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Explosive Detection Dog (EDD) refers to a dog specifically trained to locate and correctly indicate, the presence of vaporized molecules of defined explosive substances. EDDs are used in many different roles within security risk mitigating operations and, as such, complement an existing security framework. EDDs are well suited for activities such as, Entry Control Point (ECP) deployment (vehicle and luggage/cargo verification), facility security verification, open area verification and IED incident response.

EDD training and deployment are significantly different from those of Mine Detection Dogs (MDDs). EDDs target an "active threat," which is the main reason why the prevention of "false indications" during assessment procedures is more important for EDDs than for MDDs. Additionally, EDDs operate in search areas where control of surroundings (environmental control) cannot always be achieved, which increases the demands on their ability to operate in different environments with disturbances, as well as on environmental stability.

Planning Considerations:

- EDD is the dog and the handler
- EDD require climate-controlled living spaces, break areas and vehicles. EDDs may also require a specific diet that is not available in the host country. Additional equipment, and support requirements may vary dependent on troop contributing nation. If deploying an EDD, the vehicle space for dog and handler, as well as air conditioning, food and water must all be factored.
- EDD Logistics support, limitations and capabilities should be addressed early in the mission planning process, if EDDs will be used.

C-IED Mission Enabling Assets

Search – Explosive Detection Dogs

- Limitations:
  - Time
  - Wind
  - Rain
  - Heat

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Just like humans, EDD cannot work indefinitely. They need to be used for a limited specific time periods before being rested. This time will depend on the environmental conditions such as the temperature. It is also worth noting that EDD rely on their sense of smell. Factors such as strong wind and rain will severely affect the dog's ability to identify a target.

C-IED Mission Enabling Assets

Route Clearance Package (RCP) or Mission Enabling Unit (MEU)

- Identify and remove IED and explosive hazards
- Provide Freedom of movement
- Specifically Equipped
- Capability varies based on contributing countries

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Image – Source unknown

Route Clearance Packages or Mission Enabling Units are specially equipped teams with the equipment designed to aid in identifying IEDs and explosives hazards along routes of travel and to within the mission area. They may also be equipped to be able to remove obstacles and open/improve by-pass routes. These can either be formally established as part of the mission (as in ATMIS) or they can be put together Ad-Hoc for specific tasks. Generally, these include Search Teams, and EOD Team and engineer equipment.

C-IED Mission Enabling Assets

EOD
- Detection
- Identification
- On-site evaluation
- Rendering safe
- Recovery
- Disposal
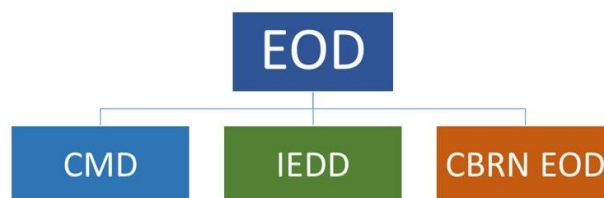
Figure 1-1: The three branches of EOD

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Explosive Ordnance Disposal (EOD) includes the detection, identification, on-site evaluation, rendering safe (making the EO/IED safe by specific techniques), recovery and disposal of explosive ordnance, including IEDs.

EOD Units will be assigned the mission of search, disposal and component recording and recovery to effectively mitigate EO threats in support of Force Protection (FP) and Protection of Civilians (PoC).

The term EOD is a broad term which covers 3 distinct fields, Conventional Munitions Disposal (CMD), IED Disposal (IEDD) and specialized EOD which includes maritime and CBRN EOD. It's important to understand the different role of CMD and IEDD so they are employed correctly. As planners, if an EOD unit is attached, you must understand what specializations the EOD unit has.

Slide 32

C-IED Mission Enabling Assets
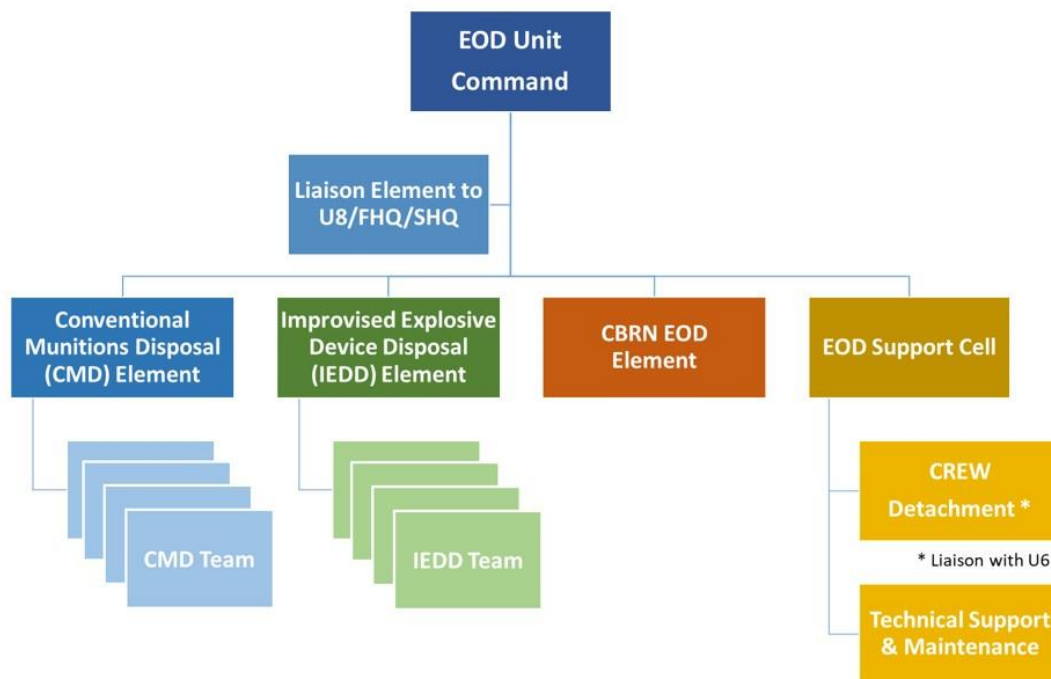
Figure 3-1: Generic EOD Unit structure

The diagram on the slide is a generic military EOD unit structure containing a HQ element with CMD, IEDD and support cell components.

Capabilities. The core capabilities of a military EOD unit include:
- CMD activities.
- IEDD activities.
- Support to mission partners.

Note: EOD Units must always be scalable in size, modular in function and mission tailored. The EOD unit size and composition depend on the mission size, composition and requirements it supports and the physical characteristics of the mission area.

Note: Generic UN EOD model does not include integrated Search Teams. This function is carried out by all arms.

C-IED Mission Enabling Assets

EOD Unit Tasking
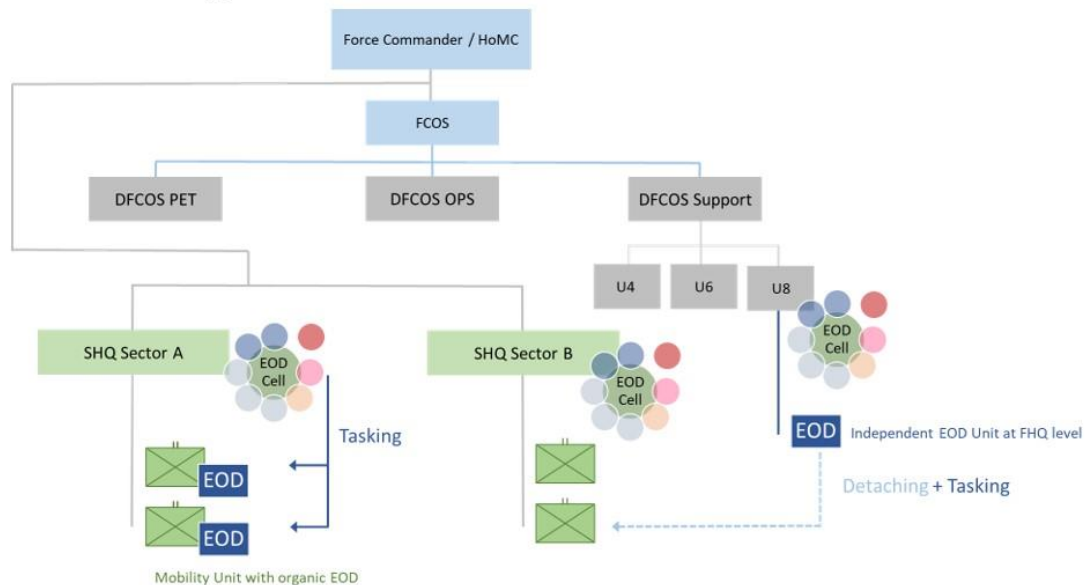
Figure 1-3: Detachment/Attachment of EOD Units and Tasking

EOD units can deploy as an individual unit and be tasked by the FHQ to serve as general area support, or dedicated unit or mission specific support. In this case, EOD Units or sub-units will be commander and controlled by the U8 section and will be assigned specific missions and tasks to support a specific unit within another part of the Force. E.g. an EOD Unit tasked to another TCC Infantry Battalion. EOD units may also deploy as a dedicated and organic enabler to a larger force, such as an Infantry or Engineer company or battalion or e.g., Combat Transport units to serve as route reconnaissance/route clearance for logistic convoys. These EOD forces will be solely dedicated to that contingent, supporting only their specific missions and cannot be tasked or detached by the U8. Understanding this relationship is important to enable effective use of EOD units.

C-IED Mission Enabling Assets

Conventional Munitions Disposal (CMD)

Some of the roles of CMD include:

- Mine clearance operations.

- Dispose of ERW discovered

- Dispose of deteriorated or damaged ordnance

- Not all CMD operators are trained to the same level and they must operate within the limits of their training.

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CMD refers to any EOD operation conducted on ammunition that is used as a conventional weapon. CMD activities may be taken as follows:

1. As part of mine clearance operations, upon discovery of Explosive Remnants of War (ERW).

2. To dispose of ERW discovered outside hazardous areas (this may be a single item of ERW or a larger number inside a specified area).

3. To dispose of items of conventional ordnance which have become hazardous by deterioration, damage, or attempted destruction.

C-IED Mission Enabling Assets

IEDD

- IEDD component of EOD
- Operator specific selection and training
- IEDD capabilities driven by assessed threat
- Not all IEDD operators are trained to the same level and they must operate within the limits of their training.

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IEDD Teams are EOD (CMD) Teams that have additional advanced training. IEDD is the collective term referring to the following EOD procedures, intended to result in the final elimination of an IED, including detection, location, access, identification, evaluation, hazard mitigation, rendering safe, component recording and recovery and final disposition.

C-IED Mission Enabling Assets

Technical Exploitation:

- Carried out by specialists

  - EOD operators trained in Post/pre-Blast Investigation

  - Specialist Weapons Technical Investigators.

  - Device must be rendered safe before any exploitation

- 3 Levels of Exploitation:

  - Field Exploitation

  - In Country Exploitation

  - Out of Mission Area Exploitation

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Image – Buried IED blast in 2007 in Iraq. By http://www.flickr.com/photos/soldiersmediacenter/, via Wikimedia Commons

Valuable technical intelligence to support CIED can be derived from the exploitation of captured information and materiel, but may be limited by the mission mandate, resources or expertise available.

Technical Exploitation is carried out by Trained EOD operators and specialist weapons technical investigators. It is important to note that any exploitation of an IED must be done after it has been rendered safe and it must be treated as forensic evidence. Beyond this, all commanders have a role to play in exploitation through accurate recording and reporting of IED incidents, whether FIND or STRIKE.

Exploitation activities are classified by level according to the assets available and the amount of potential data that can be exploited. The exploitation levels are:

Level 1 (field exploitation). This captures the IED incident context (scene and events) and preserves, recovers and identifies physical artefacts. That is normally conducted by specialists such as EOD teams, 'high-risk' search teams or 'sensitive-site exploitation' teams. It may include an immediate assessment of aggressor TTPs and capabilities and provide support to FP vulnerability assessment. Level 1exploitation reports should focus on FP and be disseminated to tactical elements to enhance FP.

Level 2. **(In country)** If available, Level 2 exploitation is conducted by specialists and scientists in a deployed laboratory or one provided by host nation capabilities within the mission area. This level focuses on the detailed technical and forensic examination of evidence to determine the source of components and the nature of IED construction and to identify the individuals associated with it. That in turn further informs FP, intelligence analysis and efforts to degrade the aggressor's network.

Level 3. **Out-of-Mission area** exploitation is conducted by 'national level' laboratories of Member States using reach back capabilities. The analysis often feeds back into the strategic arena, focusing on degrading the strategic and operational elements of the aggressor's network.

Biometric data is identified using technologies that measure and analyse human body characteristics such as fingerprints, eye retinas and irises, voice patterns, facial patterns, and hand measurements for identification purposes. Biometric data is distinctive for each person. Aggregated biometric signature collection and exploitation provides an unprecedented capability to identify and track persons of intelligence and security interest.
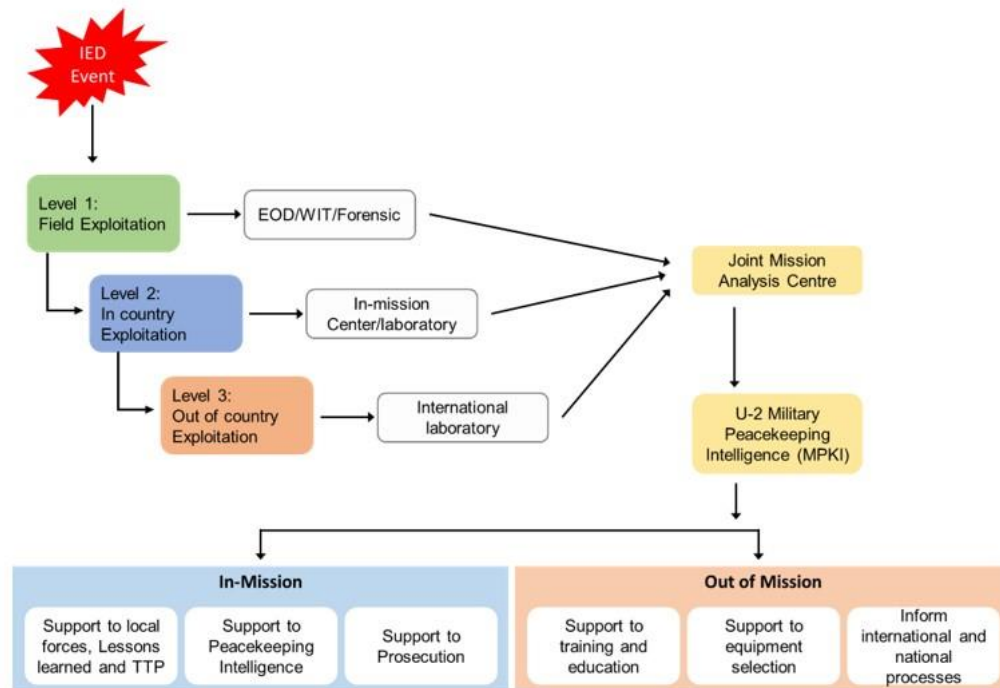
Figure 4-9: Levels of Exploitation, Responsibilities and Effects

This slide shows who conducts each level of technical exploitation and how this supports the joint mission analysis centre. As you can see, the outcome or product of technical exploitation supports a number of different lines of effort such as seeking prosecution or targeting of those in the IED system, to changing training and equipment selection to adapt to the evolving IED threat. As commanders and planners at all levels you must recognize that you are an enabler of this process. Level 2 and 3 exploitations cannot be carried out if level 1 exploitation is not conducted. As a commander and planner this may require you to provide the time and resources to enable EOD/WIT teams to conduct exploitation, conduct accurate reporting and proving logistical support to enable the transport of forensic material to in-mission laboratory.

C-IED Mission Enabling Assets

Military Engineers

- Combat Engineers
- Construction or General Support Engineers
- EOD
- Specialist Engineers (support to mission partners)

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Images Source- of US DoD and UK MOD.

The core capabilities of the UN Military Engineer Unit include Combat Engineering, Construction Engineering, EOD and Support to Mission Partners. A detailed list of tasks, conditions and standards can be found at the respective Military Unit Manual.

Image Left – HESCO Bastion elevated sentry position. Source- HESCO.

Image Right - UNMISS Engineers build a road in South Sudan.

Force Protection Engineering is not only a conventional protection measure, but also an effective capability in reducing the threat of IEDs. Firstly, it can be used as a measure to reduce the effectiveness of an attack. This can be achieved through the construction of barriers or anti-vehicle ditches to create stand-off, or through building blast resistant barriers. Force protection may also be a tool to decrease the likely hood of an IED attack. This may be done through construction of elevated watchtowers to provide better visibility, improving roads to allow faster travel, or increasing the number of routes to increase our freedom of movement and make peacekeeper less targetable. Force protection engineering is not just a tool to protect peacekeepers but also may be used to protect civilians and critical infrastructure.

C-IED Mission Enabling Assets

CIMIC / Engagement Platoon

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Image – Source- KAIPTC.

The Head of Military Component/FCs and Police Component/PC are responsible for conducting outreach and engagement with the local population. Interaction with local leaders, influential actors in civil society and vulnerable sections of the population is part of the overall Force and Mission communications strategy. Securing local and host nation support is an essential element of Force and Mission success and is a key strength of the UN in mitigating the IED threat. CIMIC also requires interaction with UN civilian partners, UN agencies, non-governmental organizations.

Effective Civil Military Cooperation (CIMIC) systems will enhance FP. CIMIC is necessary to develop a robust interface with the local population and develop trust and respect for the military force. This interface with the local population will assist in the generation of a safer environment for the military force.

C-IED Mission Enabling Assets

Electronic Counter Measure (ECM) - Protective measure designed for use against threat of Remote Controlled Improvised Explosive Devices (RCIED)

Electronic Counter Measures (ECM) uses the electromagnetic spectrum to support Force Protection (FP) by mitigating the risk from RCIEDs. IED jamming systems provide a degree of protection against RCIEDs. Effective ECM can mitigate a perpetrator's effective use of the electromagnetic spectrum (EMS) through using electromagnetic energy. However, it is only a supporting measure to mitigate the threat and does not guarantee protection against an IED threat in general, only to a limited extend against Radio Controlled IEDs (RC IEDs).
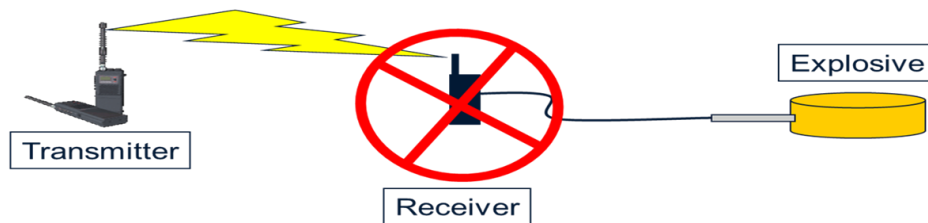
The purpose of electronic warfare is to deny the opponent the advantage of, and ensure friendly unimpeded access to, the electromagnetic spectrum.

ECM Units generate jamming from Antennas and block any signal in designated frequencies.

According to the waveform's programme the jamming creates an area of protection which prevents triggering of RCIED.
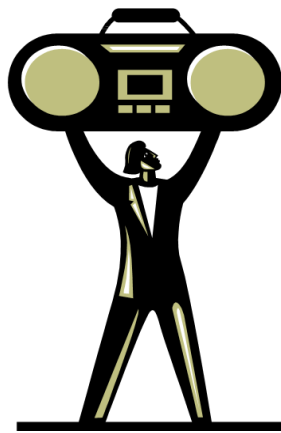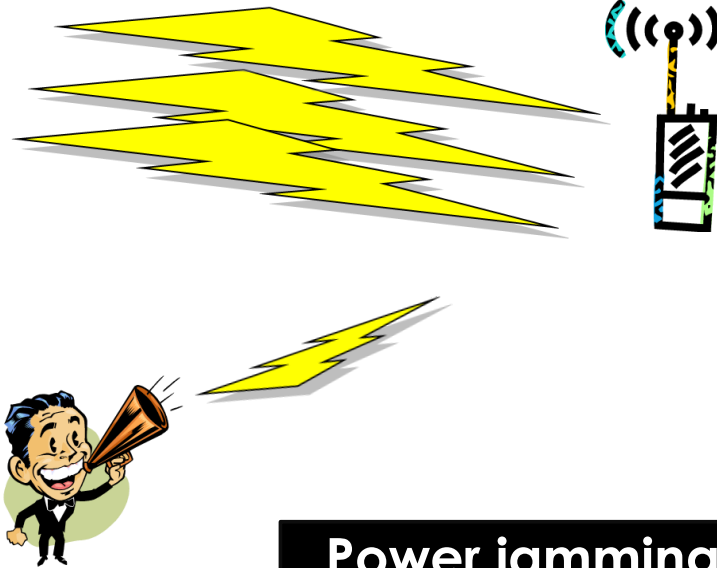
ECM works in two ways.

1. Power jamming. ECM emits a very strong signal which essentially overpowers the triggerman signal, preventing from initiating the device.
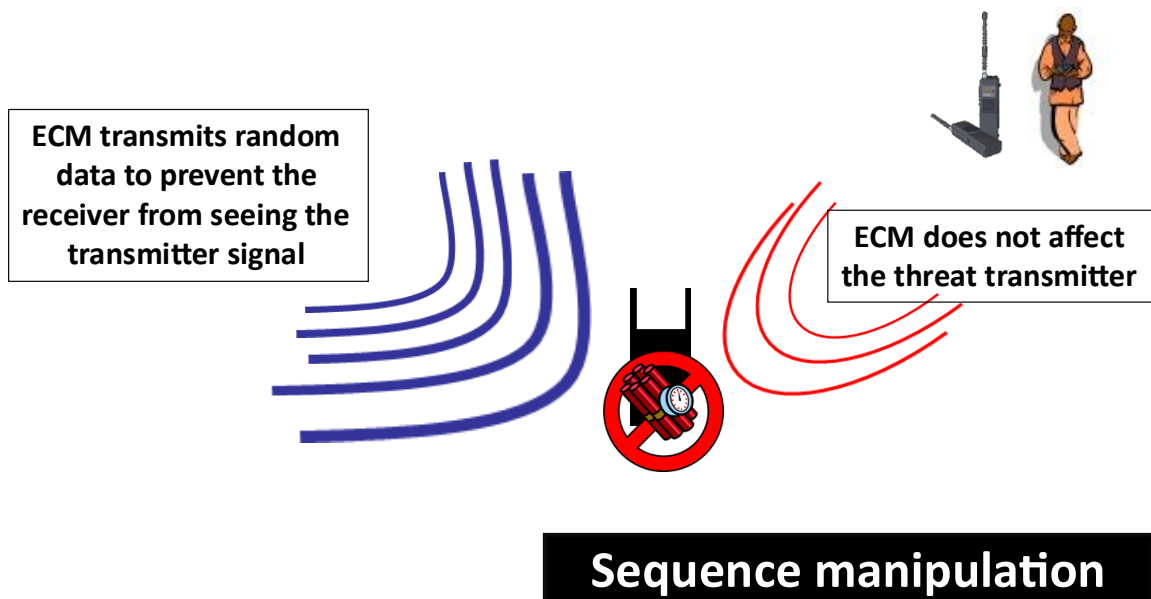
ECM works in two ways.

2. Sequence manipulation. The ECM Unit transmits random data that confuses the receiver and prevents the command signal from being understood.
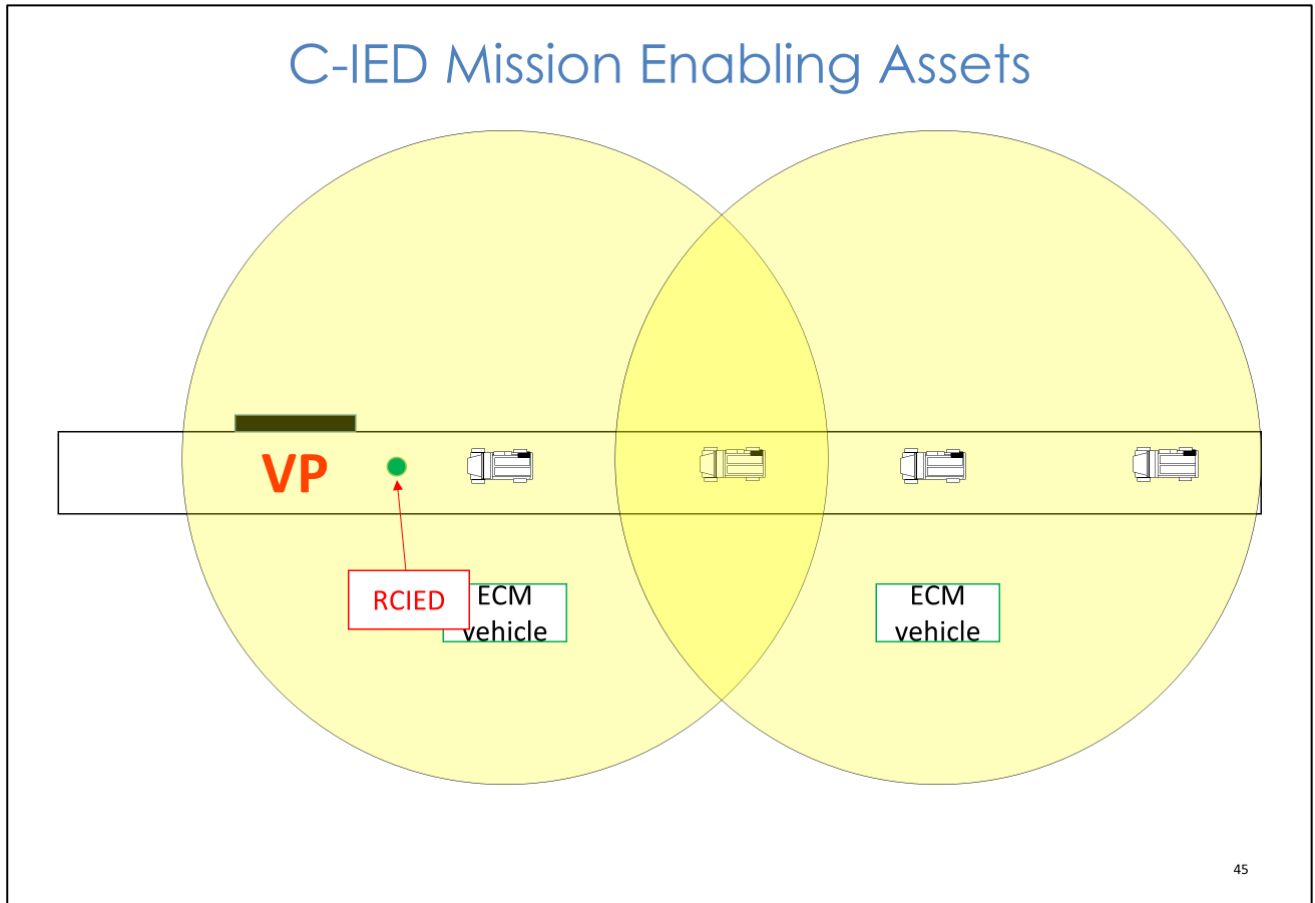
There will rarely be enough ECM or all vehicles and personnel. ECM must be employed in the most efficient manner possible.

Considerations

- Convoy spacing should overlap effective ECM range
- Front and rear vehicle covered
- Spacing should vary according to terrain
- Check with your ECM manager to confirm systems do not interfere with each other
- Conduct 5/25m checks at halts and before turning ECM off
- Ensure preventative maintenance and testing has been carried out

Instructor to confirm understanding of lessons by clarifying any questions from the students.

Lesson

2.2

IED THREAT MITIGATION CONCEPTS

The Lesson

Time. This lesson requires approximately 90 minutes to teach.

Performance Statement. At the end of this lesson, the participant will be able to describe the operational processes and resources required to combat the IED and understand their responsibility.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

(1) IED Threat System

    (a) Key IED system activities (Planning and Resource, Execution and Exploitation)

    (b) IED Threat Actors

    (c) Upstream and downstream C-IED measures

(2) Fundamentals of IED threat mitigation

    (a) Comparison of IED Threat Mitigation vs C-IED

    (b) Objectives of IED Threat Mitigation

        i. Force Protection

        ii. Protection of Civilians

        iii. IED threat reduction

(3) Countering the IED – The military approach

    (a) Pillars of C-IED

        i. Prepare the Force

        ii. Defeat the device

        iii. Degrade the network

    (b) Key operational activities

        i. Predict

        ii. Prevent

        iii. Detect

iv. Dispose

v. Mitigate

vi. Exploit

Methodology. This module will be introduced through lecture method combined with participatory approaches, experience sharing and question & answer (Q&A).

Infrastructure. Classroom with projection facilities

Instructor Guidance. This is a critical lesson for this training. The instructor must take the time to fully understand the concepts prior to delivering this lesson.

IED TM Lesson 2.2:
IED Threat Mitigation Concepts

1

Find guidance inserted in the note section of each slide.

Slide 2

Overview

2.2.1 IED Threat System

2.2.2 Fundamentals of IED Threat Mitigation

2.2.3 Countering the IED – The Military Approach

2

Slide 3

Terminal Learning Objectives

At the end of this module the participant will be able to describe the operational processes and resources required to combat the IED and understand their responsibility.

3

Slide 4

2.2.1 IED Threat System

4

IED System

What is Counter-IED?

The collective efforts to defeat the **IED System** in order to reduce the effect of IEDs on our ability to conduct Missions.

5

The term Counter IED refers to the collective efforts to defeat the IED System in order to reduce the effect of IEDs. To be affecting in C-IED, we must first recognize that the IED is part of a wider IED System. This system is all of the actors, processes and equipment that are involved in the employment of an IED as a weapon.

Slide 6

Images clockwise from top right
IED Components – IED TM Handbook
Al-Shabab militants. Source- of BBC.
IED attack – IED TM Handbook
Black market US Dollars. Source- of the Guardian.
Boda Boda (motorcycle taxi).
Source- of www.worldhighways.com

The IED system is defined as the personnel, resources and activities necessary to resource, plan, execute and exploit an IED event. It is important to recognize that the IED or IED incident is just one part of the process.

IED System

- May or may not be structured

- Involves multiple activities

- Requires planning

Plan and Resource

Exploit

Execute
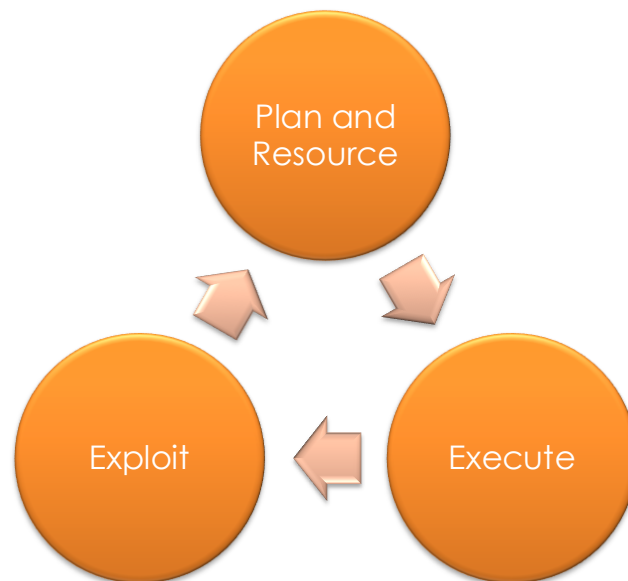
7

The IED system adopted by aggressors or non-state actors may or may not be structured. It involves multiple actions from the collection and procurement of material for IED manufacturing to the placement of the IED at the point of attack. It can require elaborate planning and resources including personnel, technical expertise and IED making material. The actual IED attack is just one part of the whole system.

IED systems are most effectively categorized according to three recurring phases: resource and plan, execute and exploit.

IED System

Resource and Plan:

- Finance and technical support

- Recruiting and training

- Material collection

- Manufacturing

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This involves obtaining financial and technical support, recruiting and training, material collection, and manufacturing of the IED. Usually, an IED is made at a remote location to prevent premature detection. After preparation of the IED, a specific plan for its placement is prepared and here local support is critical.

IED Threat System

Execute:

- Transport

- Target location

- Reconnaissance

- Timing
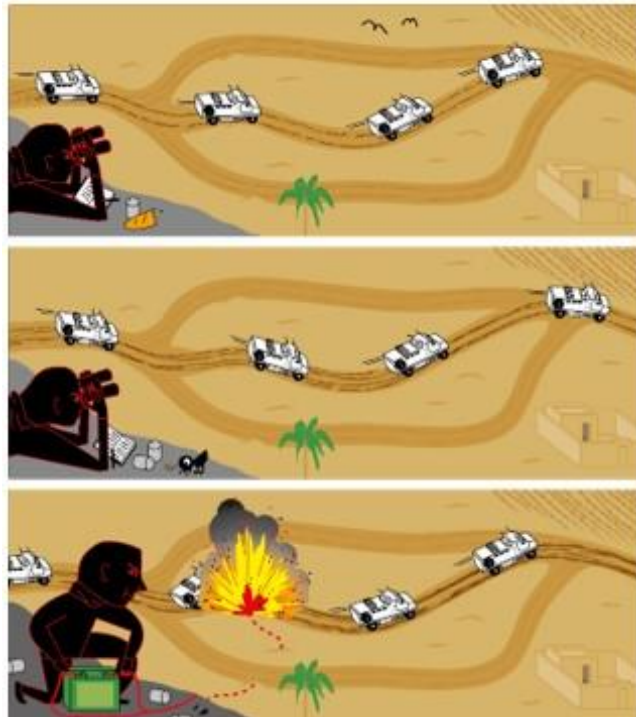
Prepared IEDs are transported near the anticipated target location. After carrying out reconnaissance of the targets, the precise attack plan is prepared (time and point of attack) and rehearsals are sometimes carried out. At a suitable time, the IED is placed at the target location, usually at night or early in the morning to avoid detection. The placement of IEDs is usually guided by following principles:

> Achieving maximum effects

> Avoiding detection

> Defying neutralization

The IED placer usually stays close to the target area and waits for the best time to detonate the IED in order to create maximum damage. After detonation, the placer usually attempts to escape and report to the planners. There is usually a lookout man to confirm the effects of a PBIED. VOIED may or may not be kept under watch.

IED Threat System

Exploit:

Two phases:

- Assessing results

- Projecting success

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Source- Brookings Institute.

Just like the military, the IED system actor will seek to exploit both their success and failures. They will tend to do this in two ways.

Assessing Results

Success or failure of the IED attack is ascertained through observation. It is measured through its results, which may be in casualties, in the fear created within the general population, by the reaction of security forces or by the response at national and international levels. Observations of the attack and of the responses of victims and locals also provide lessons learnt to the aggressors to overcome any mistake and to consider an increase in the lethality of future IED attacks. the objective of this phase is:

1. To measure the technical success of the IED against the target and apply those observations to manufacture of subsequent devices.
2. To observe and record the targets responses and incorporate this into their training.

Projecting Success

IED attacks are important elements of the aggressor's information strategy. Images and other details of successful IED attacks are usually recorded and released to the targeted population, either directly or via the media. This is to boost support, to lower the morale of security forces and locals and to create an image of security failure. Image. ISIS propaganda. Many terrorists' groups will use photos or footage from IED incidents to project success through propaganda.

Slide 11
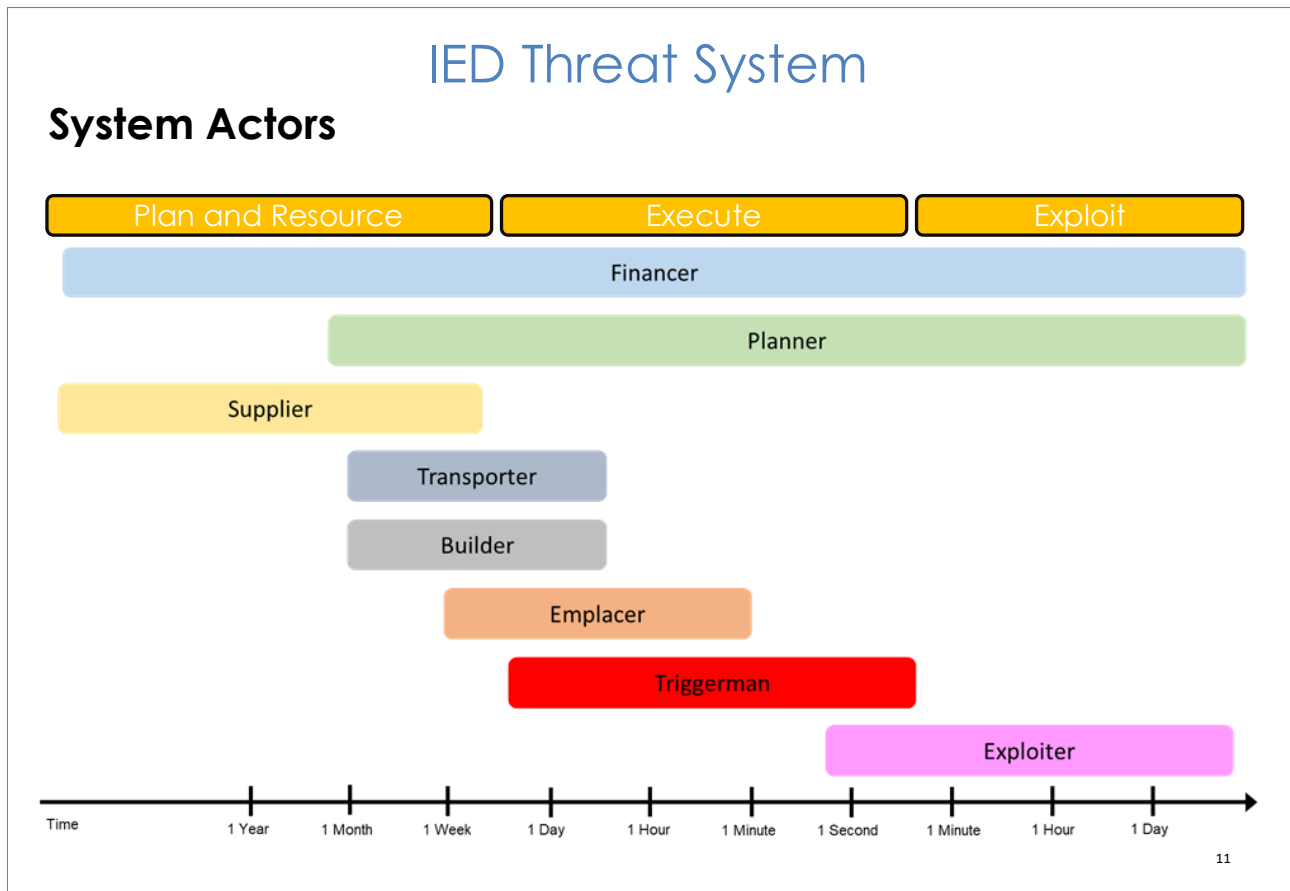
This graphic representation depicts the actors with the IED System in terms of a timeline before and immediately after an IED attack. To mitigate the threat of IEDs it is not always necessary to find and neutralize the device itself. The engagement of political leadership of a UN PKO with local authorities or even perpetrators themselves might lead to the identification and neutralization of one of the actors and degrading the network.

The distribution of tasks is not always strictly separated and can overlap in that, for example, one person performs several activities that follow each other or at various times in the process.

Slide 12
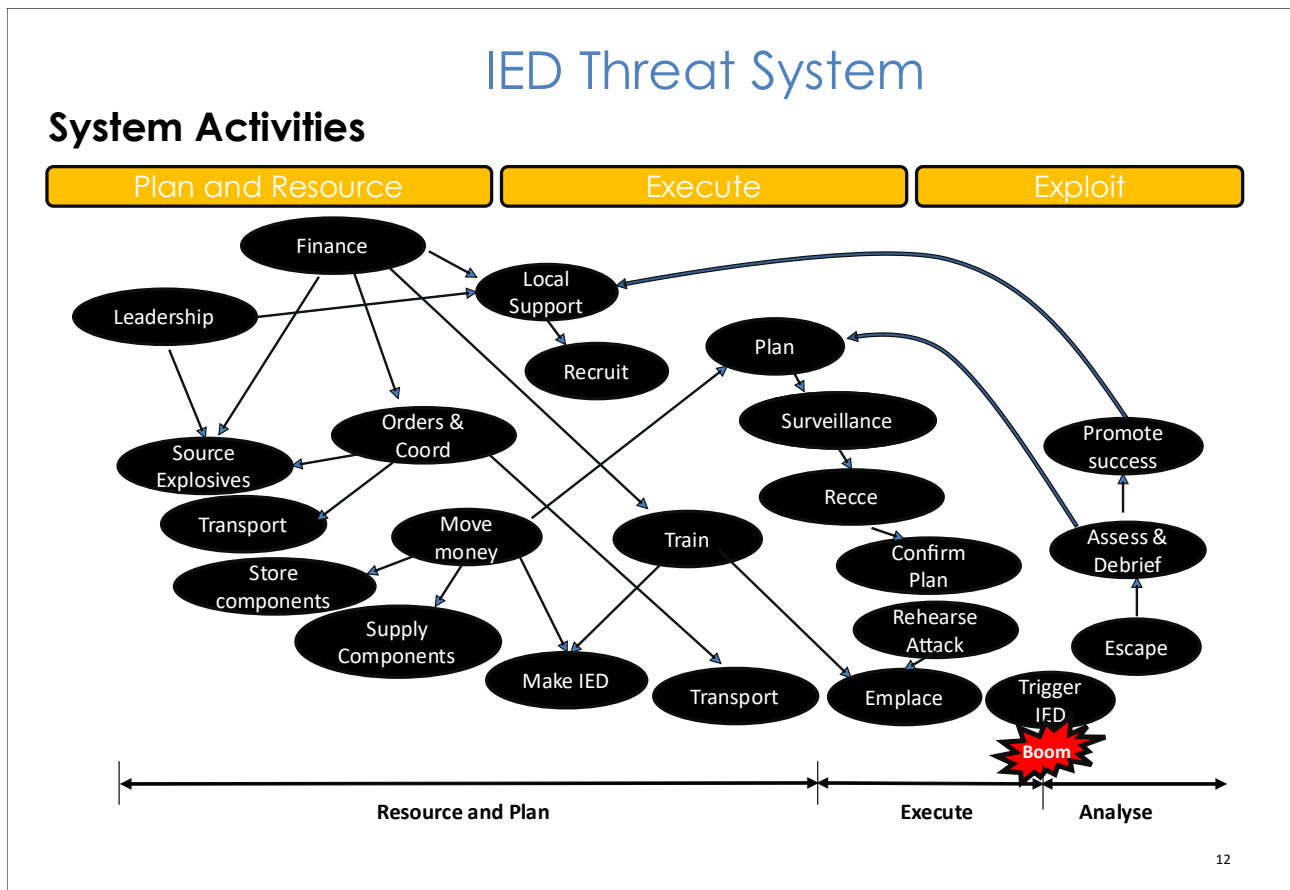
This slide shows a depiction of IED system activities. It should be noted that this is a schematic of a complex system where priorities and the importance of activities is constantly changing.

In reality the system is more complex – even this slide over-simplifies it, but more importantly it describes IED system activities – not personnel. As well as targeting or influencing the IED system actors, a number of the different IED system activities may also be affected.

Slide 13
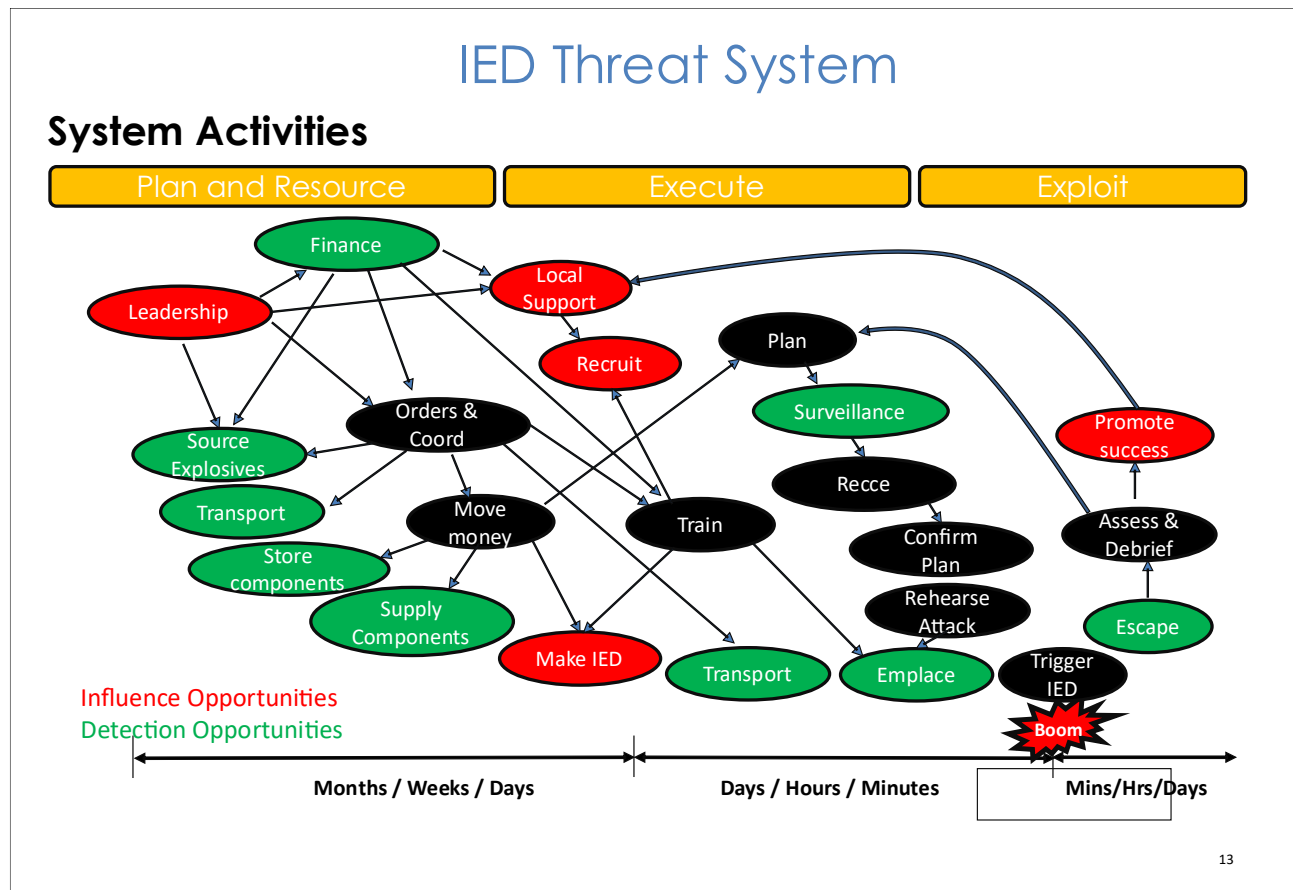
These are all the same activities, but they can be seen as multiple opportunities to disrupt or impact the IED system.

RED - Some activities we may be able to influence using indirect operations (info ops, CIMIC etc.)

GREEN - Some activities we may be able to detect if we look in the right place, at the right time.

BLACK - Some activities will always be difficult for us to influence or detect, but we must try and identify the critical activities and aim to disrupt them.

The key takeaway here is to understand the IED is a system with many different actors and activities. By recognizing this, we can take a proactive approach to countering the IED system which instead of a reactive approach to dealing with the IED once it has been laid.
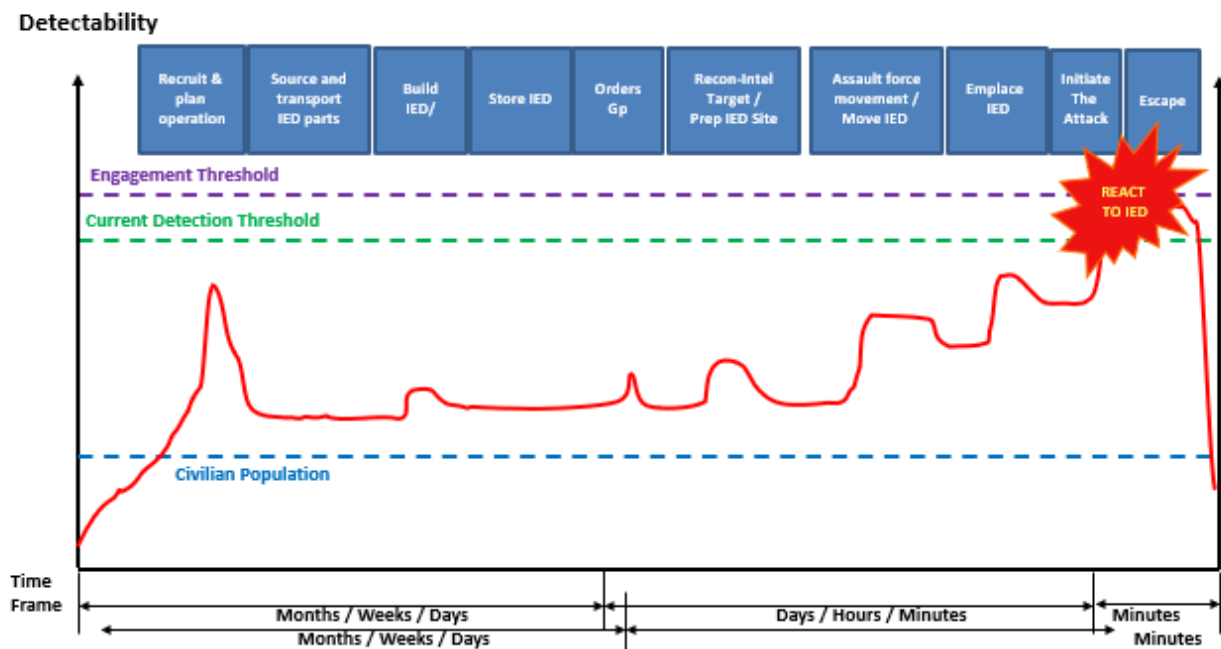
This diagram illustrates why we find it hard to detect IED activities.

Before an attack the IED system has to undertake the activities in the blue boxes.

When the Adversary is not undertaking these activities he looks just like the civilian population – Blue Line.

When he is undertaking these activities, he will look different, and this can be detected – Red Line.

BUILD SLIDE

Typically, our problem is that our detection capabilities are not able to detect these activities. This means the only point at which we can detect the IED System is when we are attacked with an IED. This is a REACTIVE approach, which is not effective.

IED Threat System
Proactive CIED System operations
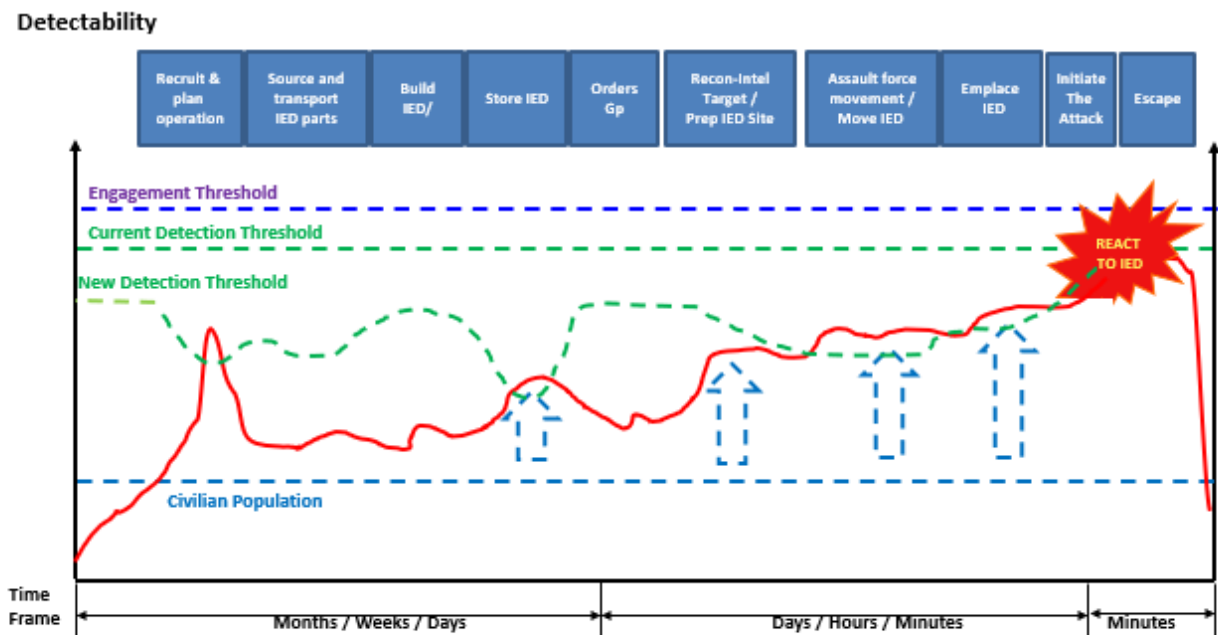
For PROACTIVE CIED we need to increase the gap between the civilian society and the IED system activities. i.e., distinguish between the normal local population and IED System activities. This is normally done by the use of influence operations, rather than direct targeting. This can be shown by the Blue Arrows.

What we then need to do is focus our detection capabilities on other areas of the IED System, not just the IED. This increases our ability to detect IED system activities. This can be shown by our new detection threshold (Green Line) meeting the IED System activity at multiple points. This means we are providing ourselves with the opportunity to detect and disrupt the system at multiple points (where the New Threshold meets the Red Line), instead of waiting for an IED incident.

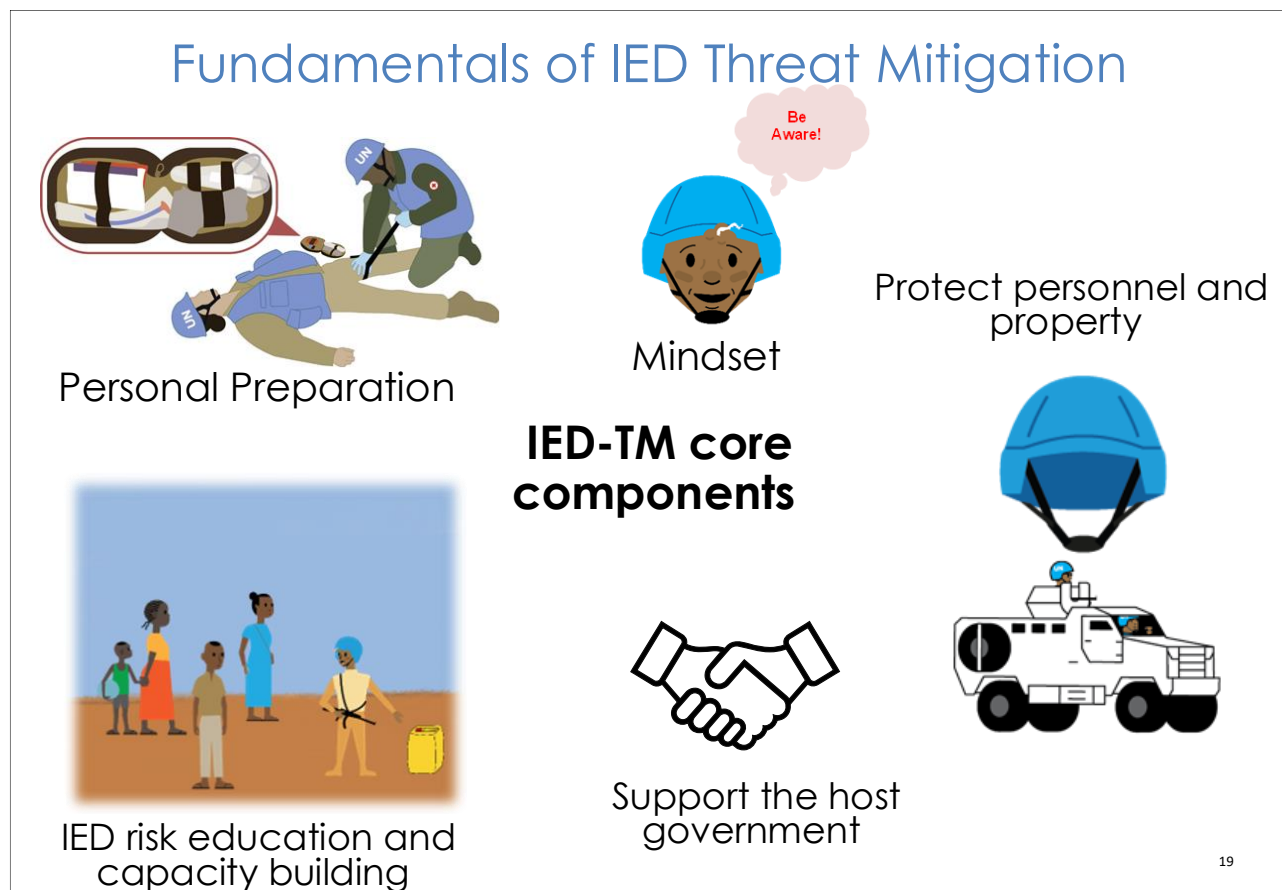# Questions?

2.2.2 Fundamentals of IED Threat Mitigation

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Fundamentals of IED Threat Mitigation

C-IED vs IED-TM

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IED-TM can be viewed as the UN approach which focuses on the physical, procedural, and/ or training responses which can collectively be applied to mitigate the threats posed by IEDs. This does not focus on the kinetic, offensive tactics associated with attacking IED networks which are the hallmark of military strategies. This term is preferred by the UN rather than Counter-IED (C-IED) given the specificity of the military concept of the term which is not comprehensive enough to the UN approach.

C-IED is generally accepted to be the military approach which focuses on the three pillars of train the force, defeat the device and attack the network. This approach does indeed focus on an active engagement to dismantle the IED system. While we will cover the concept of IED Threat Mitigation in the next slides, as this training is aimed at military and police staffs, this lesson will focus more on the C-IED approach.

Fundamentals of IED Threat Mitigation

Personal Preparation

Mindset

Protect personnel and property

IED-TM core components

IED risk education and capacity building

Support the host government

IED threat mitigation is a whole of UN approach to reducing the threat posed by IED to peacekeepers, civilians and the host nation. It requires consideration long before a mission starts up and must be thought of all the way to draw down. The concept of IED threat mitigation has some core components.

Firstly, it is about establishing the right mindset. Every uniformed peacekeeper, as well as UN staff, can make a valuable contribution. To create and maintain this common mindset, all commanders in particular are called upon to give the threat appropriate importance and priority in the day-to-day management of tasks.

Beside the right mindset, it is necessary to have a basic understanding of what injuries and damage an IED can cause and how to protect against it. The correct procurement and use of personal protective equipment can and does save lives. Both contingent owned and UN owned equipment needs to be considered to ensure they adequately support and protect UN peacekeepers. Importantly vehicles with suitable mine protection and IED mitigation design features as well as electronic counter measures need to be employed.

Personal preparation off all TCCs and PCCs through explosive hazard awareness training and appropriate first aid training helps to mitigate the IED threat and the consequences of an IED attack.

Against the background of the threat posed by IEDs to the civilian population, but also with a view to greater efficiency in long-term approach, appropriate IED risk education and capacity building are required in addition to the preparation of uniformed peacekeepers. The term improvised explosive device risk education (IED RE) refers to activities that seek to reduce the risk of death and injury from IEDs, by raising awareness and promoting safe behaviour.

Host Government´s (HG) participation in IED Threat Mitigation may range from a full operational capability to an extremely limited operational capability. In the first case, HG may exert full responsibilities while in the second case UN will need to provide the appropriate support.

2.2.3 Countering the IED – The Military Approach

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Countering the IED

The C-IED Framework
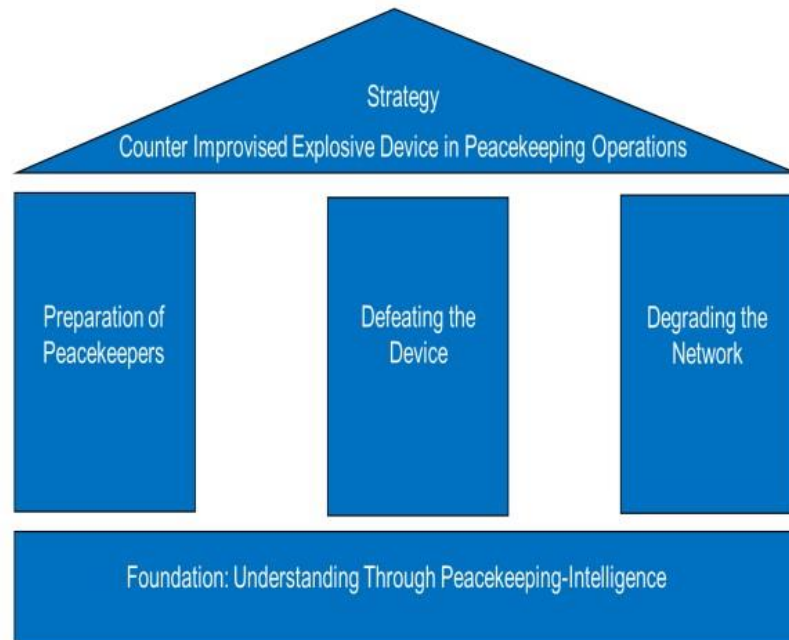
The framework for C-IED for peacekeeping and peace support operations is underpinned by the UN C-IED strategy. This strategy sets out that peacekeeping missions will adopt a C-IED approach which consists of the three pillars of C-IED: Preparing the Force (peacekeepers), Defeating the Device, and Degrading the IED network. This is built on a foundation of common understanding established through peacekeeping intelligence.

Countering the IED

Preparing the Force

Preparing the force or preparing peacekeepers is an integrated process that ensures that when peacekeepers arrive in a mission, they are prepared to deal with the threat posed by IEDs. The two main areas of preparing the force are through training and equipping peacekeepers. Training ranges from basic EHAT for the whole force to specialist IEDD trainings. Most training will be conducted as pre-deployment training, but in-mission training is also required to maintain skills and adapt to changes. Equipping the force ranges all the way from ensuring peacekeepers have suitable PPEs to the selection of blast resistant vehicles.

Countering the IED

Defeating the Device

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Image Source- of UNMAS Somalia

Defeating the device is a term used to describe a defensive (reactive) line of operation undertaken as part of IED Threat Mitigation activities (tasks). This includes all actions designed to decrease the likelihood and reduce the impact of IED on peacekeeping operations. These actions include mitigation, detection and disposal and will be described in subsequent slides.
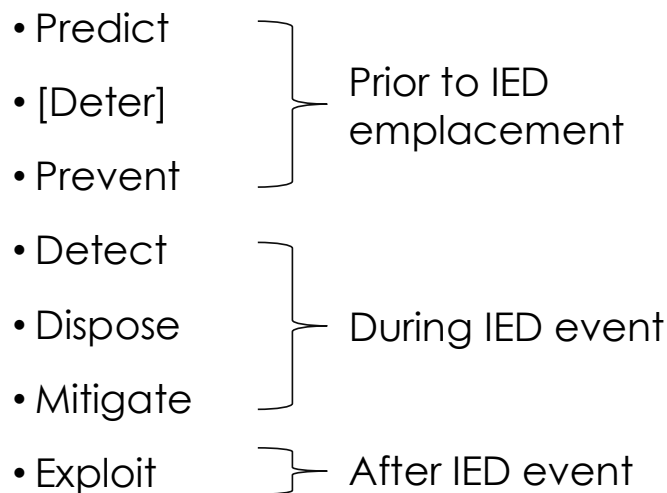
Countering the IED

Degrading the Network

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Degrading the network is a line of effort that seeks to target the IED system activities and actors to prevent them from being able to employ IEDs. The UN Department of Peace Operations (DPO) encourages joint operations through the integrated employment of military, police and civilians. Accordingly, host nation, coalition and other allied forces present in the area of UN peace operations should be encouraged by Peacekeeping Missions to collaborate in degrading IED networks through mechanisms such as information sharing, proactive and reactive measures to mitigate IED threats, performing integrated operations to defeat IEDs and undertaking punitive and aggressive actions against perpetrators of IED attacks. According to the DPO PoC Policy 20198, "military and police operations may extend to pre-empting and neutralising the source of the threat in accordance with the mandate, Rules of Engagement (ROE) and Directive on the Use of Force (DUF)". Hence, DPO should ensure that the ROEs/DUFs specify proactive and responsive actions to be taken against the employment of IEDs by perpetrators.

Image – Ugandan Counter Terror Police conduct an arrest of IED maker.

Source- The Independent Uganda Counter-terrorism police arrest suspected bomb maker (independent.co.ug)

Countering the IED

Key Operational Activities

- Predict
- [Deter]   ⎤
- Prevent   ⎦ Prior to IED emplacement

- Detect
- Dispose   ⎤
- Mitigate   ⎦ During IED event

- Exploit   ⎤ After IED event

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The three pillars of IED-TM are supported and resourced through the Key Operational Activities. These are the fundamental building block of all IED-TM training and operational activities. There are 7 Key Operational Activities, and we will deal with each one in turn during the presentation. It is important that we understand Key Operational Activities and how they provide a framework for all C-IED activity.

Deter is in brackets as it is not mentioned in the IED Threat Mitigation Handbook.

Countering the IED

Predict – Intelligence Operations

A product of knowledge / analysis of:

- Terrain
- Weather
- Activities
- Capabilities
- Doctrine
- Enemy / Adversaries Intentions

Predict line of effort is an analytical process which aims to predict where and when activities or actors of the IED system will be. It is mainly focused on identifying where IEDs will be placed.

Intelligence is key to the Predict activity it is critical for understanding the operational challenges and what will be necessary to achieve our desired outcome. Intelligence will assess the threat and should allow a commander to make informed operational decisions.

It is essentially the result of our knowledge and analysis of the terrain, weather, activities, capabilities, doctrine and intentions of the threat. This is essentially the end product of our Threat Assessment.

Countering the IED

Deter – Kinetic (hard) / Non-Kinetic (soft) Operations

Kinetic (Hard) Activity

- C-IED Ambush Operations
- Targeted Offensive Search
- Strike Operations

Non-Kinetic (Soft) Activity

- PSYOPS
- CIMIC
- Media Operations

Image Top Right – US Soldiers conduct a strike operation during of Fallujah in Iraq. This is an example of a kinetic activity. Source- US DoD.

Image Bottom – Kenyan Defence Force soldiers under AMISOM providing medical support to the civilian population in Somalia. This is an example of non-kinetic activity.

Image Source- Kenyan MOD.

Deter Line of Operation:

Deter is primarily an offensive activity but is an element of all IED-TM core activities Influence Activity (IA), including Kinetic (hard) and non-kinetic (soft). It needs to be carried out if deterrence is to be effective.

It must be coordinated with financial and political activities to separate the threat from the local population.

Activity in support of Kinetic (hard) effects may include:

- IED-TM ambush operations
- Targeted offensive search operations and
- Strike operations.

Non-Kinetic (soft) Activities include:

- Psychological Operations (PSYOPs)
- Stabilisation activities
- Media Operations

They must capitalise and complement the hard Kinetic Activities and can be exploited to separate the threat from the local population by explaining our actions, countering threat propaganda and removing some of the causes of discontent that contribute to the insurgency. It should aim to:

a. Discourage local population from supporting the Threat

b. Discourage local population from providing support and refuge for the threat

c. Discourage the threat from using IEDs

d. Highlight indiscriminate use of IEDs

e. Encourage local population to mark threats/pass information

f. Influence local/regional/national/international audiences

Countering the IED

Prevent

- Denying insurgent/terrorist freedom of movement.
- Strike Operations
- Targeted Offensive Search

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Image – AMISOM troops out on patrol in Somalia.

Source- African Union.

Prevent Line of Operation is closely associated with Deter. It involves the prevention of the IED system actors from being able to conduct activities on placing IEDs. This can include:

Offensive operations or posture to deny adversary freedom of movement. This activity will physically deny them the ability to place IEDs.

It may include strike operations and targeted search operations to deny the adversary resources to build IEDs. This supports the degrade the network line of effort.

Countering the IED

Detect

- Hand Held Metal Detector
- UAV/Aviation
- Search Dogs(EDD)

Ideally, we would always seek to deny the IED system form ever being able to place an IED. Unfortunately, some IEDs will be placed. Once they are placed, we need to detect them.

It includes activities designed to identify and locate personnel, activities, explosive devices (and their component parts), equipment, caches of IED components, weapons and infrastructure.

The Key mechanism for detecting a device is through

Use of Handheld Metal Detectors (HHMD). This done by a soldier on the ground systematically searching, using in service HHMD, Vulnerable Points and Areas supported by his or her ground sign awareness.

Aviation, air and UAV assets can also be used to detect IED activities, particularly on routes.

Search Dogs can be trained to search for IEDs, component parts, chemical pre-cursors or conventional weapons. These are assets that provides high assurance and a standoff. It is important to understand the different types of dogs and their associated strengths and weaknesses.

Countering the IED

Dispose

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Once an IED is discovered actions need to be taken to prevent uncontrolled detonation. IEDs must be disposed of safely through a deliberate detonation, disruption or neutralization. Disposal enables peacekeepers and the local populace to operate safely in and around the emplacement site. Specialist EOD assets are required for the rendering safe of IEDs.

If Predict, Prevent, and Detect fail, minimizing the effects of an IED event is an important follow-up activity. Mitigating the effects of IEDs falls into two categories.

- Reducing the chances of being compromised by a device, and
- Reducing the effects upon contact with a device.

It goes without saying that the best way to reduce the effects of an IED is not to encounter them, and there are things we can do to aid this, however if units do experience an IED contact, each individual can take steps to ensure the effects of the device are minimized.

Countering the IED

Mitigate

1. Reducing the chance of an IED strike – Avoid setting patterns.
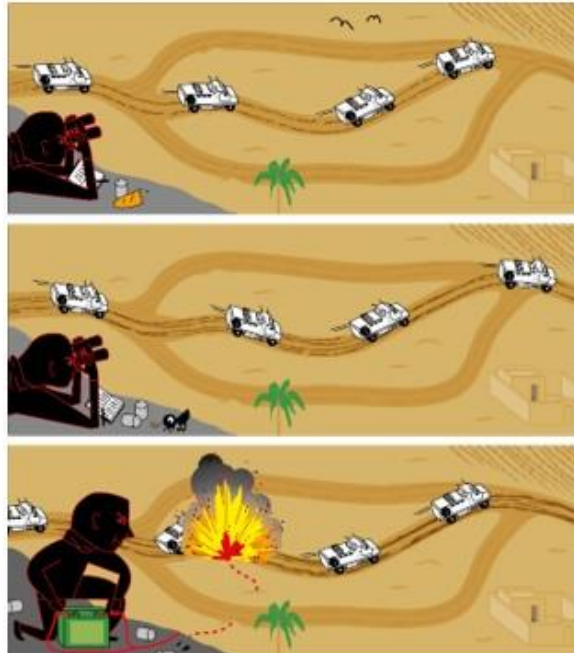
The most effective means to mitigate the effect of an IED is to avoid the chance of a strike in the first place. The simplest way to do this is the avoidance of setting patterns of behaviour. Patterns of behaviour such as using the same routes, stopping in the same place, conducting activities at the same time each day, make us predictable. Predictable behaviour is targetable.

Countering the IED

Mitigate

1. Reducing the chance of an IED strike – ECM.
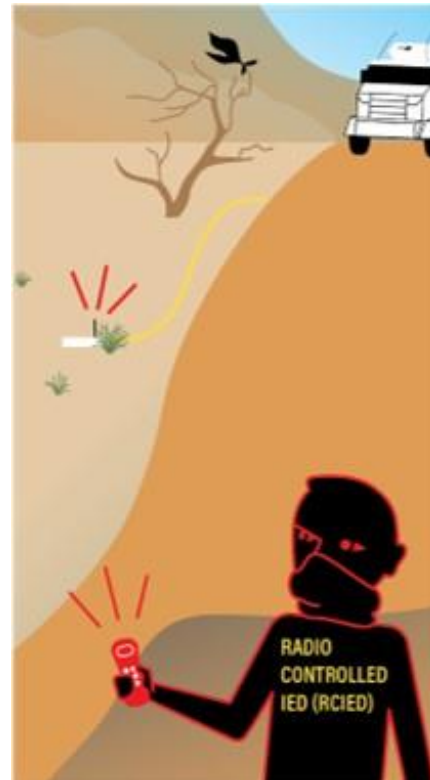
The employment and correct use of ECM is an effective way to mitigate the chances of a radio controlled IED function. It is important to remember that these are only effective against RC IEDs, and they are only effective if employed correctly.

Countering the IED

Mitigate

2. Reducing the effect of an IED strike. – Equipment and vehicles

Reducing the effect of an IED can be conducted in a number of ways. Use of correct personal protective equipment can significantly reduce the effect of an IED, both while dismounted and while in a vehicle. The use of vehicle with blast or mine protection can also have a significant impact. It is important to note that the initial blast from a vehicle is not the only hazard to occupants. The subsequent roll over of secondary fragmentation within the vehicle is also a risk. There are numerous cases of occupants within a mine protected vehicle (MPV) surviving the blast but only to be injured/killed because of the secondary effect of the blast. This is why wearing of PPE within the vehicle, use of seat belts and tying down loose objects in the vehicle is important. One area as commanders that we can have an impact upon is to educate and ensure all those under command understand these risks. Ensuring that MPV have both air conditioning and seat belts is critical.

Allow the students 2 minutes to study the poster.

Countering the IED

Mitigate

2. Reducing the effect of an IED strike – Infrastructure.
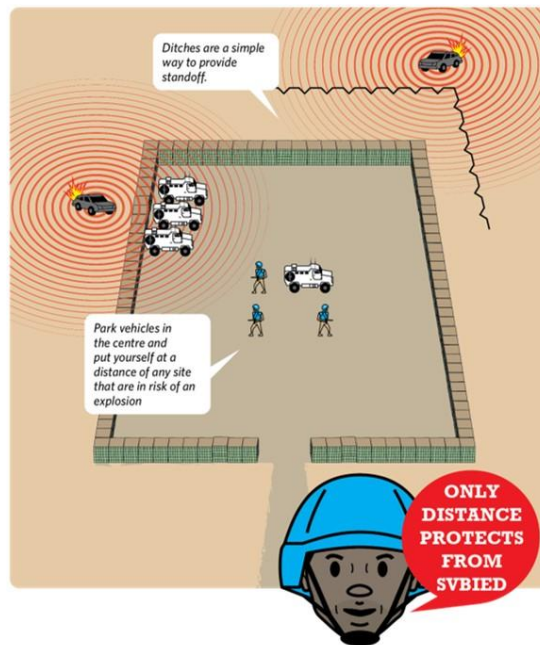
Correct design and build of infrastructure are an effective means of mitigating the effects of IEDs. Most relevant to us is the concept of standoff. The creation of distance between where an explosion takes place and peacekeepers is key to reducing the effects. A simple way of increasing the stand-off is through the use of anti-vehicle ditches and blast walls.

Countering the IED

Exploit:

- Understand IED makers TTPs

- Gather forensic intelligence to enable prosecutions (disrupt the networ)

37

Exploit is the process through which event and associated physical materials are recorded and analysed. The objective is to understand the aggressor's methods of operation and relationships, and the device's capabilities. Exploitation takes place at any stage within the IED system, though every effort must be made to conduct exploitation as early as possible to restrict the aggressor's IED activities. Generally, exploitation is conducted by IEDD operators or Weapons Intelligence Technicians. As commanders, we need to provide the time and space for this activity to take place. The two key outcomes of this process are:

- To understand how the IED was employed. This will enable us to adapt our own TTPs to prevent further attacks.
- To gather forensic evidence to enable subsequent degradation of the IED system.

Slide 38

Questions?

UNMAS

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Lesson

2.3

THREAT MITIGATION TACTICS, TECHNIQUES AND PROCEEDURES

The Lesson

Time. This lesson requires approximately 90 minutes to teach.

Performance Statement. At the end of this module, the participants will be able to demonstrate an awareness of the friendly force TTPs that are currently employed to mitigate threats from IEDs.

Important Note. It is important to note that this module is not aimed at teaching the practices and procedures of threat mitigation TTPs. The aim is to make commanders and planners aware of the various TTPs and their planning considerations to ensure they are being employed.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

(1) Ground Sign Awareness (GSA)
    (a) Overview of GSA
    (b) Importance/use of GSA

(2) Personal Threat Assessment – CAGES

(3) Counter IED checks - 5/25s

(4) Search Procedures
    (a) VPs check – Low Threat
    (b) Route Search – High Threat
    (c) Person Search
    (d) Vehicles Search
    (e) Planning Considerations (planning yardsticks, gender considerations etc).

(5) 5Cs Operations and Use of 10 Liner.

Methodology. This Module will be introduced through the lecture method.

Infrastructure. Classroom with projection facilities, sandpit, and outside areas.

Equipment. As this lesson is an overview, no equipment is required.

IED TM Lesson 2.3:
IED Threat Mitigation TTPs

1

Find guidance inserted in the note section of each slide.

Slide 2

Overview

2.3.1 Ground Sign Awareness

2.3.2 Personal Threat Assessment

2.3.3 Counter IED Checks

2.3.4 Search Procedures

2.3.5 5C's Operation

2

Terminal Learning Objectives

At the end of this module, the participants will be able to demonstrate an awareness of the friendly force TTPs that are currently employed to mitigate threats from IEDs.

3

Important Note

It is important to note that this module is not aimed at teaching the practices and procedures of threat mitigation TTPs. The aim is to make commanders and planners aware of the various TTPs and their planning considerations to ensure they are being employed.

4

2.3.1 Ground Sign Awareness

5

Ground Sign Awareness

6

The ability to identify and interpret ground signs is an element of tracking however it is a basic fieldcraft skill that all soldiers should possess. Soldiers should be able to use any means to gain as much information about the threat' methods and where possible identify changes to the environment that can provide a combat indicator to pre-empt a dangerous situation.

Through the use of Ground Sign Awareness all soldiers should be able to interpret signs left by a threat. It can be adapted for use in any theatre and is especially effective when used in the CIED environment.

As commanders and planners, you do not need to be an expert in GSA, but you need to understand its utility and therefore ensure that this skill is being taught and maintained throughout your deployment.

Image Source- Jordan Sorabjee

Ground Sign Awareness

Why it is important ?

7

Why is GSA important? The vast majority of IEDs (in some estimates as much as 80%) that are found, are discovered not through the use of specialist equipment, but through sight alone. It is not the sighting of the IED itself, but the change it imposes on the environment resulting in the ground sign being visible. So why is this important? This means the single greatest tool for finding IEDs is through the use of GSA. More importantly, it is a tool that does not require any specialist equipment, and it can be easily taught to all troops and police.

Ground Sign Awareness

Definition: Any evidence of change inflicted upon the natural state of the environment by the passage of man, animal or machinery.

GSA has six characteristics:
- Disturbance
- Regularity
- Discardable
- Flattening
- Transference
- Colour changes / Discolouration

8

GSA is described as any evidence of change inflicted upon the natural state of the environment by the passage of man, animal or machinery.

GSA generally has six characteristics. These are:
- Disturbance
- Regularity
- Discardable
- Flattening
- Transference
- Colour changes / Discolouration

We will now look at each characteristic in some more detail.

Ground Sign Awareness

Disturbance

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Image – Disturbed soil at the base of electricity pole.

Source- UK MOD.

Disturbance is any evidence of change or rearrangement from the natural state caused by passage of target. When an IED has been placed by digging, it causes a disturbance to the natural pattern of the earth.

Ground Sign Awareness

Regularity

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Image Left – Regular patterns of a shoe print. Source- UK MOD

Images Right – straight line caused by digging in of command wire.

Source- UK MOD

Regularity is an effect caused by straight lines, arches and other geometric shapes. It's hard to find straight lines occurring naturally.

When the IED placer places and tries to conceal an IED some things will look out of place compared to the surrounding area.

These lines may not necessarily appear to be only straight but could also be circular rectangular or square shaped which may reveal the outline of the IED.

Ground Sign Awareness

Discardables

11

Images Source- UK MOD

These items maybe intentionally or unintentionally left behind at the emplacement site of an IED. Common items left behind are wire ends, or bits of tape when connecting the power source of the IED.

Slide 12

Ground Sign Awareness

Flattening

12

Images Source- UK MOD

Flattening is the general levelling or depression, identified by comparison with immediate surrounding.

Ground Sign Awareness

Transfer

13

Image source unknown

Transfer is the transit of material from one environment to another.

Slide 14

Images Source- UK MOD

Difference in colour or texture from an area that surrounds it.

Ground Sign Awareness

Your Role in Enabling GSA Training

- Ensure all soldiers and police under command have received GSA training during PDT.
- Identify GSA instructors (EHAT Trainers)
- Ensure in theatre training (tuning in)
- Ensure regular in mission training

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As a commander and planner, you may play a role in pre-deployment training. In this case, all TCCs and PCCs deploying on PKO must undergo EHAT. This training must include an element of GSA. Key to enabling this process is to identify GSA instructors, these should be the UN trained EHAT instructors. When deployed in mission, it is important to recognize that it takes time to adapt to a new environment, this applies equally to GSA. By ensuring GSA training is conducted when arriving at a theatre, it will enable new arrivals to tune into their new environment. Throughout the deployment, commanders should ensure regular GSA training is conducted, especially when new patterns or indicators of IEDs are identified.

2.3.2 Personal Threat Assessment

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Personal Threat Assessment

- IEDs are not placed at random
- They are placed at points which advantage the adversary
- These are known as **vulnerable points**.
- The use of a personal threat assessment can help to alert a peacekeeper that they might be approaching a vulnerable point.

Despite being cheap and easy to manufacture, IEDs are still an limited resource to an adversary. As such, they are not deployed randomly everywhere. They are placed by an adversary in a location which afford an advantage to the adversary and where they IED can have the best chance of achieving its effect. These locations at which an IED can be effectively employed are known as Vulnerable Points. VP analysis should also be done as part of mission planning by commanders and staff. This can include route and historical/trend analysis and should be included as part of pre-mission and convoy briefs. A personal threat assessment can also be used by the soldier on the ground to help them identify Vulnerable Points and alert them to the risk of an IED attack.

Further descriptions of vulnerable points and vulnerable areas will be covered in detail in a subsequent lesson.

Personal Threat Assessment

Channelling

Aiming Markers

Ground (Terrain)

Environment

Setting Patterns

18

There are five key indicators to continually look out for by proactively looking at the surrounding when operating in an IED threat environment. CAGES is a tool that can be used for IED indicators:

- **Channelled**
- **Aiming marker**
- **Ground**
- **Environment**
- **Setting Patterns**

This is a tool that taught on the EHAT. Like GSA, this is a skill that should be held by everyone who deploys, regardless of rank.

Personal Threat Assessment – Channelling

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While operating in an IED threat environment, it's important to constantly assess whether the ground is channeling you, either by natural or manmade obstacles or features? If freedom of movement is restricted, vulnerability is increased.

Personal Threat Assessment –
Aiming Markers
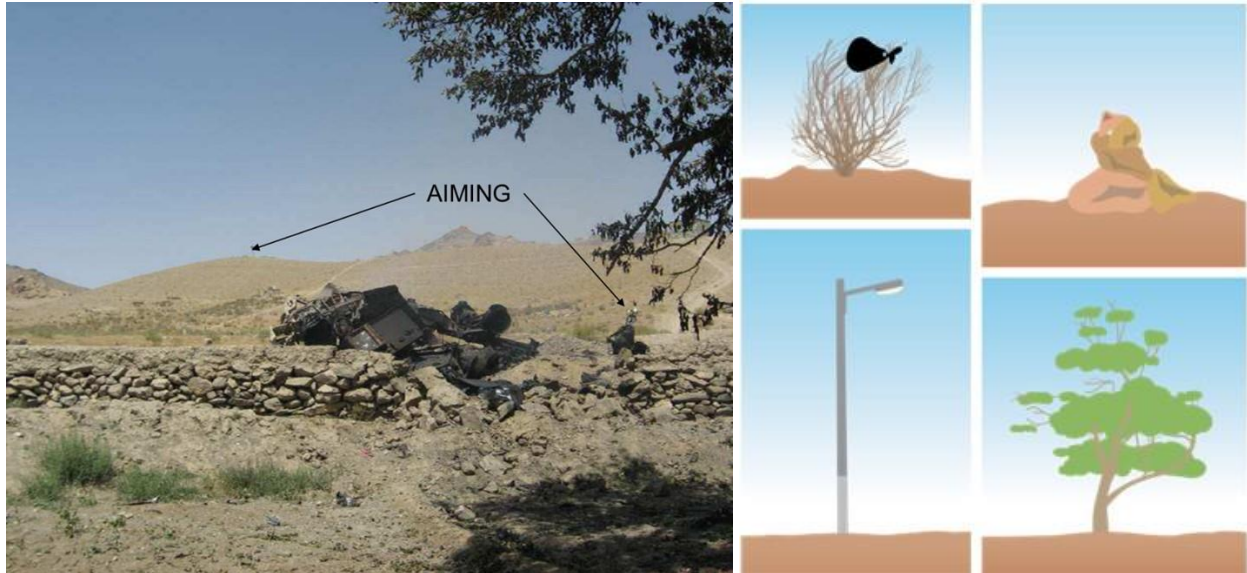
AIMING

20

An aiming marker is a **local feature** or **artificial item** located between a **firing point** and **contact point of a command IED** used to **optimise the moment of initiation.**

Aiming markers are used to assist in aiming and initiating a command IED at the optimal moment.

It's positioned in front or behind the location of the IED with respect to the location of the firing point.

Personal Threat Assessment – Ground

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Does the ground or terrain lend itself to an attack? If you are the threat is this the kind of place that you would carry out an attack? Ground can also be used to refer to ground sign.

Personal Threat Assessment – Environment

*"absence of the normal and
presence of the abnormal"*

22

Environment is also referred as atmospherics. It is a description of the mood or feeling created by awareness of the environment. It's synonymous with expression "absence of the normal and presence of the abnormal".

Examples

- Presence of fewer people in a locality than normal.
- Presence of more people in a locality than normal.
- People acting suspiciously or paying undue attention.
- Lack of traffic when it would normally be present.
- Sequence of persons, possibly spotters, using mobile phones while watching security forces.

Personal Threat Assessment –
Setting Patterns

Previous attack locations and rest areas
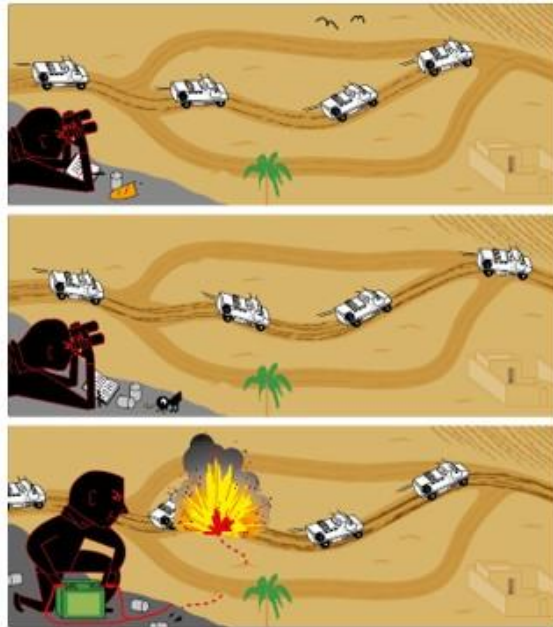
Pattern setting

Setting Patterns. Have you or your team been setting patterns? Have you used this route before? Have you been conducting activities at the same time every day? If you have set a pattern, you could be targeted. Two very common examples of pattern setting include using the same routes while patrolling or stopping on patrol in the same locations. In the majority of IED strikes, there has been some kind of targetable pattern that has been set by friendly forces.

Personal Threat Assessment

Your Role in Enabling Personal Threat Assessment

- Ensure all soldiers and police under command have received training during PDT.
- Identify EHAT Instructors
- Ensure regular in mission training
- Empower junior soldiers to be able to speak up when they recognize a threat.

24

As a commander and planner, you may play a role in pre-deployment training. In this case, all TCCs and PCCs deploying on PKO must undergo EHAT. This training must include an element personal threat assessment. Key to enabling this process is to identify UN trained EHAT instructors. Throughout the deployment, commanders should ensure regular training is conducted, especially when new patterns or indicators of IEDs are identified. Finally, as commanders we should empower junior soldiers to be able to speak up when they recognize a threat. They are the eyes and ears on the ground.

2.3.3 Counter IED Checks

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Counter IED Checks

The 5 and 25m Drill:
- Conducted during every halt.
- It is a basic search drill
- Reduce risk
- Promote situational awareness
- Deter insurgents.

Check for abnormalities, disturbed earth, suspicious objects, IED indicators.

If necessary and if possible, exit vehicle and close door to protect occupants from potential blasts and sniper threat

Search under the vehicle, look for suspected TAGs activity, triggerman, observer.

25 m

5 m

5 m check for short halt, 25 m check for long halt
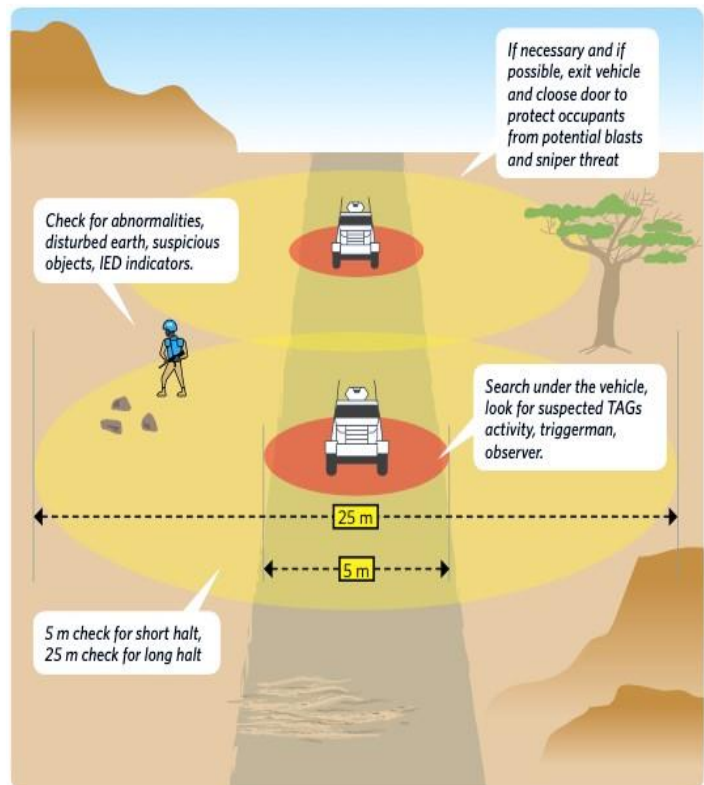
The 5 and 25s dismount drill provides a level of assurance that there are no IEDs present when soldiers arrive at an unsecured destination. The drill is designed to:
- Reduce risk from IEDs.
- Promote situational awareness.
- Demonstrate an alert attitude to discourage adversary from placing IEDs.

Counter IED Checks

Sequence:
- Select location to stop.
- Post top cover sentry
- Searchers exit the vehicle
- 5 m search.
- 25 m search
- Search completion.
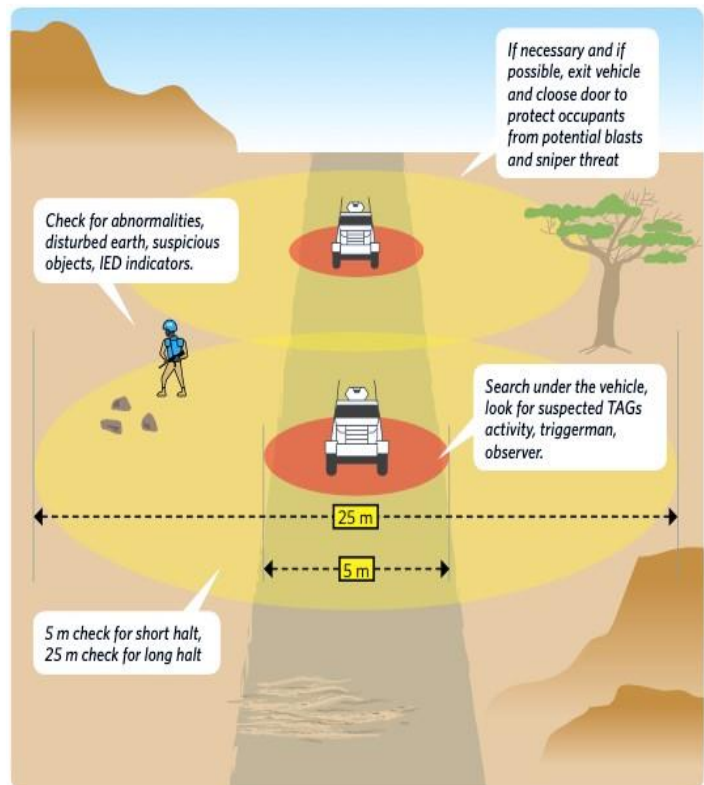
Sequence:
1. Select location to stop.
2. Post top cover sentry.
3. Searchers exit the vehicle.
4. 5 m search.
5. 25 m search.
6. Search completion.

Counter IED Checks

General points

- Look for ground sign
- Look up as well as down
- Overlap areas
- Communication
- Spacing
- Overwatch
- Actions on a find

5 & 25m Checks

Procedure – General points

- Observe for ground signs and other IED indicators. Revise
- Regularity, Flattening, Transfer, Colour Change, Disturbance, Discardable
- Remember to observe omnidirectional; up, down and all around.
- Overlap areas of responsibility – view the ground from different angles
- Communicate and tell each other what you see – two pairs of eyes are better than one
- Maintain 10m spacing
- Maintain over-watch
- If ground sign or suspicious items are identified conduct a 5Cs operation. The confirmation part of the 5Cs may involve requesting assistance from the S&D team however personnel should move to the correct distance prior to this activity.

Counter IED Checks

Your Role in C-IED Checks
- Ensure this drill is taught during PDT (EHAT)
- Ensure the drill is being conducted at every halt.

As a commander, whether Platoon commander or Battalion Commander, ensuring this drill is taking place during every halt is very important. It doesn't need you to command this drill but if it is not taking place then commanders and planners should instruct that this takes place. Where there is a lack of awareness of this drill, EHAT should take place locally.

2.3.4 Search Procedures

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Search Procedures

Search

- Locating specific Targets
  - Terrorist resources
  - IED Components

Figure B-1-2: Search Capabilities (1)
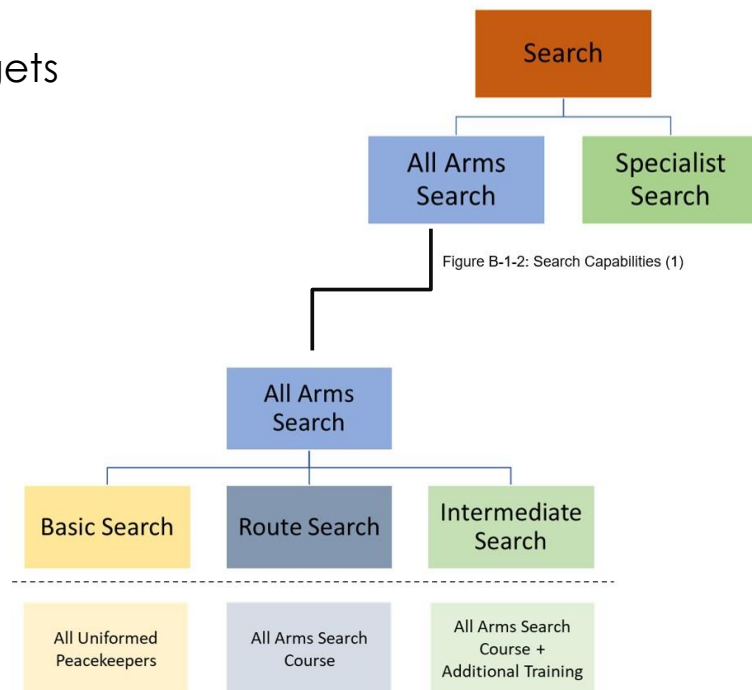
Figure B-1-3: Search Capabilities (2)

31

As briefed in the previous lesson, Search is the capability to locate **specific targets** using **intelligence assessment, systematic procedures** and **appropriate detection techniques**. The specific targets can vary but these are usually Terrorist Resources and IED component. Not only are they searched for when deployed but also:

•In manufacture
•In transit
•In storage
•And when deployed.

In its broadest terms search can be broken down into all arms search capabilities and specialist search capabilities.

- **All Arms Search**. Search capabilities employed by non-specialist members of a unit. There are different levels of all arms search capabilities.

- **Specialist Search**. Search capabilities employed by advanced search personnel trained, equipped, and qualified to do so. Information regarding Specialist Search is contained in the UN Military Engineer Unit Manual.

Within All Arms Search there are three levels of search capability, namely:

Basic Search – This is a skill all peacekeepers should have which gives them an awareness of search and basic search TTPs.

Route Search – Route search is a team skill for conducting assessed parts of routes for the presence of EO and IEDs.

Intermediate Search – Intermediate search includes route search skills with the addition skills such as Area Search, and compound searches.

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Figure B-1-3: Search Capabilities (2)

Search Type	Basic	Route	Intermediate
Search Aware (5/25m)			
VP Check			
Person			
Vehicle			
Route			
Area			
Compound			
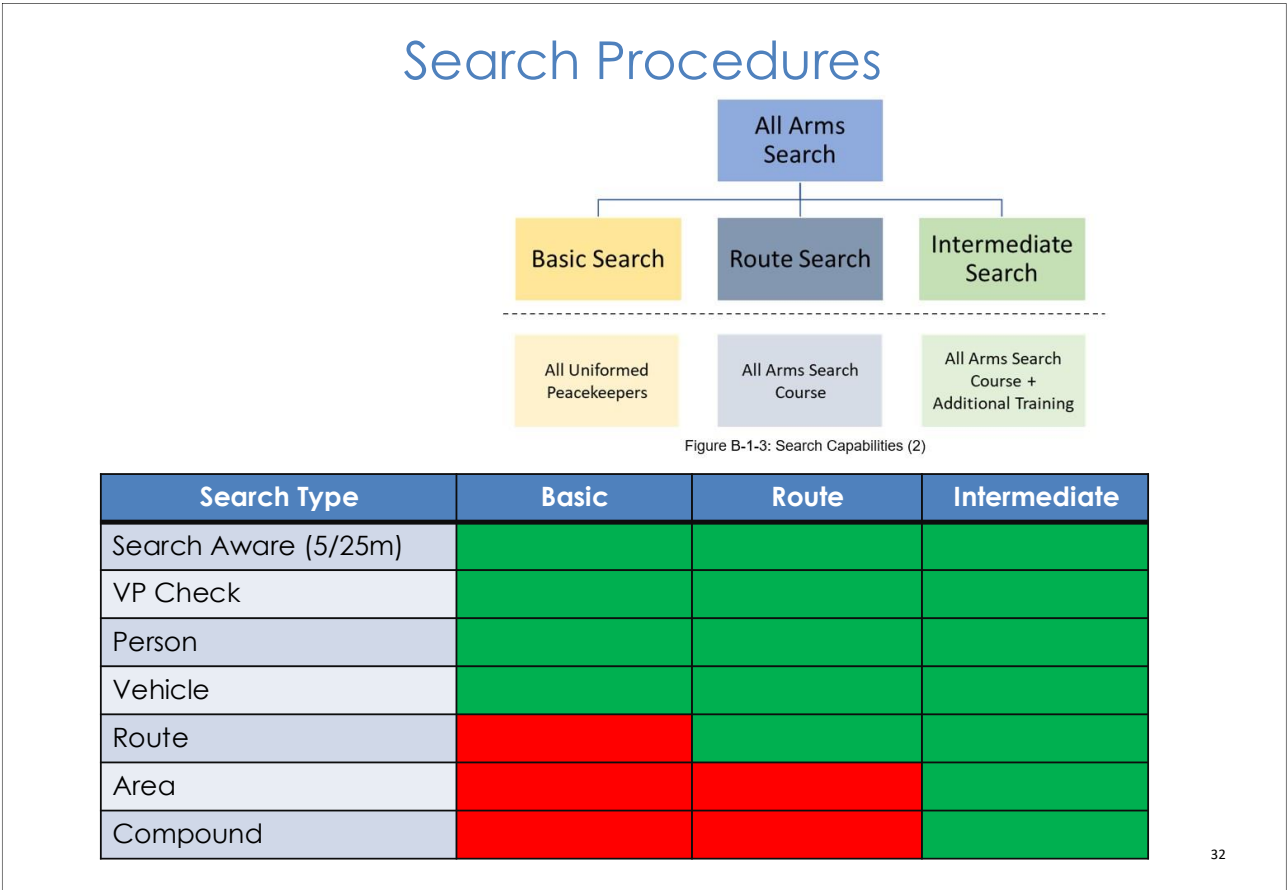
As planners and commanders, it is important that you understand that differing levels of search. This will enable you to employ the capability correctly.

Search Procedures

Basic Search – Person Search

Search of a person to detect components, weapons, ammunition, or any other exploitable intelligence that a person may attempt to conceal.

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Search of a person to detect components, weapons, ammunition, or any other exploitable intelligence that a person may attempt to conceal. The correct person search procedures are taught during the EHAT.

Search Procedures

Basic Search – Person Search

Intimate

Covered in EHAT

Initial

Detailed

Under no circumstances should un-trained, un-qualified or un-authorized persons undertake Strip or Intimate searches!

Increasing level of:
- Threat
- Time
- Training
- Rules/legal
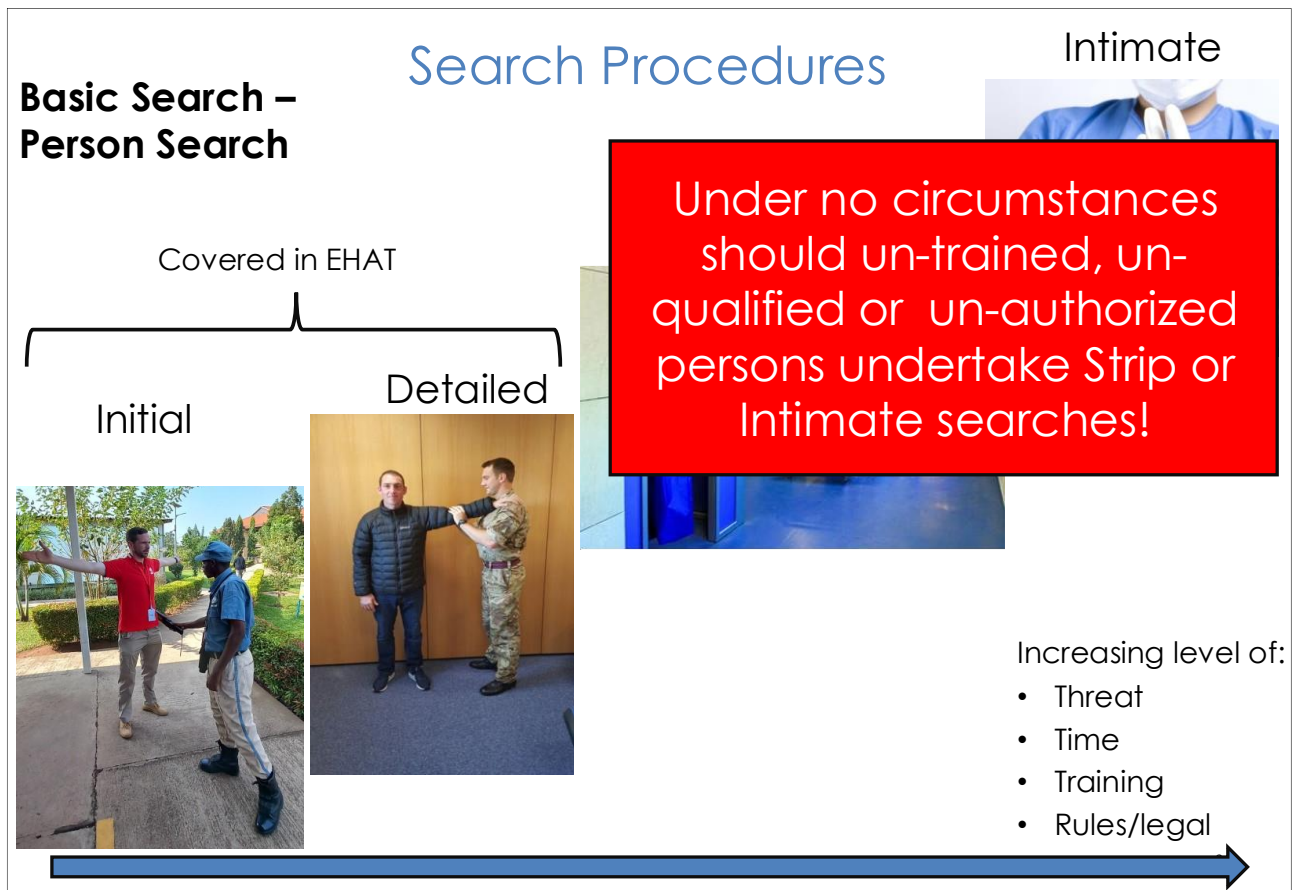
There are four levels of Person Search. Initial, Detailed, Strip and Intimate. Only Initial and Detailed are covered by the EHAT. An initial search is a very quick search which is used to screen or deter hostile actors from entering a location or carrying components. It is the kind of search you might expect when entering a shopping centre. For the purpose of speed, it usually entails the use of hand held or fixed scanners. A detailed search is used where suspicion is raised, following an initial search. It should take no longer than 2 minutes. Under no circumstances should un-trained, qualified or legally authorized persons to undertake Strip or Intimate searches. If after conducting an initial or detail search, there remains suspicion of a person, the person should be handed over to the relevant policing authority. This is subject to mission rules and policy.

Search Procedures

Basic Search – Person Search

Considerations

- Legal considerations
  - Mission specific permissions
  - International Humanitarian Law
  - Restraints
- Avoiding allegations of harassment and violence
- Sex
- Safety of searchers
  - 2 searchers (protection and searcher)
  - Not crossing the line of fire
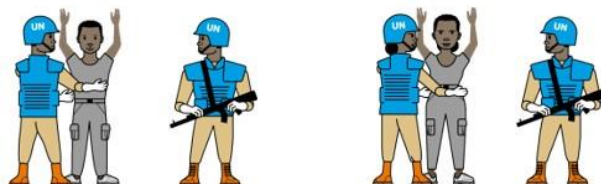
35

Certain considerations must take into account when those under your command conduct person searches. First and foremost, as commander we must ensure that those conducting persons searches are following the mission specific rules. Regardless of mission, no search regardless of risk, may be in contradiction to international humanitarian law. The use of restraints while conducting a search must be based on the situation and according to the local directives.

Secondly, searches must be carried out in the view of the public (unless for cultural reasons) and must be conducted with professionalism and respect for the subject. Remember that the vast majority of those who are searched are innocent civilians. Any interaction with them must be a positive engagement. This serves both to improve the image of UN troops but also avoids unnecessary allegations of harassment and violence.

Linked to avoiding harassment, the sex of searchers and subjects must be considered. Wherever possible and subject to the tactical situation, men should search men, and women should search women.

Finally, the safety of UN troops conducting the search must be taken into consideration. Amongst other procedures, any person search should be conducted by a minimum of two; one person to carry out the search, the other to provide protection. Whilst conducting the search, the searcher should never stand between the person providing the protection and the person being searched.

Search Procedures

**Basic Search –
Person Search**

Your Role
- Ensure the correct person search procedure is taught during PDT or that additional training is conducted in theatre.
- Understand the mission rules on search.
- If you see a search being conducted in-correctly, take action.

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As commanders and planners, you should ensure the correct person search drills are taught during PDT. This is covered in the EHAT. As commanders, regardless of rank, you need to understand the mission rules on searching to ensure that those under command are following the policy. Where you see this being done wrong either because it is not effective or because it contravenes laws or policies, you must take action to address this.

Search Procedures
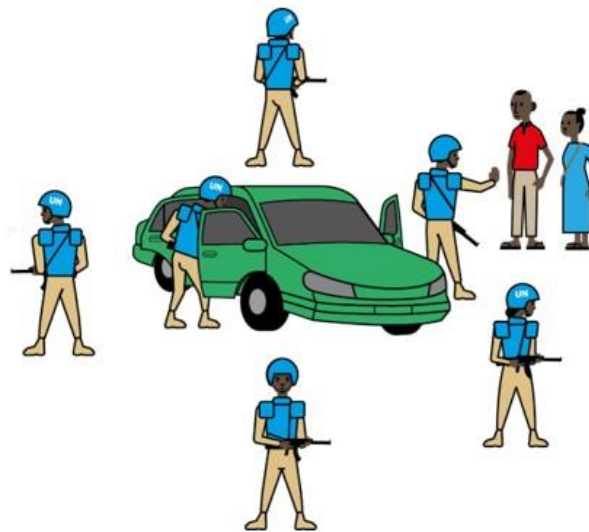
Basic Search – Vehicle

The search of a vehicle to detect vehicle-borne improvised explosive devices (VBIEDs), IED components, weapons, ammunition, or any other object that a perpetrator has attempted to conceal.

37

The search of a vehicle to detect vehicle-borne improvised explosive devices (VBIEDs), IED components, weapons, ammunition, or any other object that a perpetrator has attempted to conceal. A vehicle search involves an initial check of persons and their vehicle, from which an assessment can be made as to whether any further search is required. Vehicle search within basic search involves initial checks and can involve primary searches.

Search Procedures

Basic Search – Vehicle

Secondary -
Conducted by specialist

Covered in EHAT

Primary

Initial

Increasing level of:
- Threat
- Time
- Training
- Rules/legal
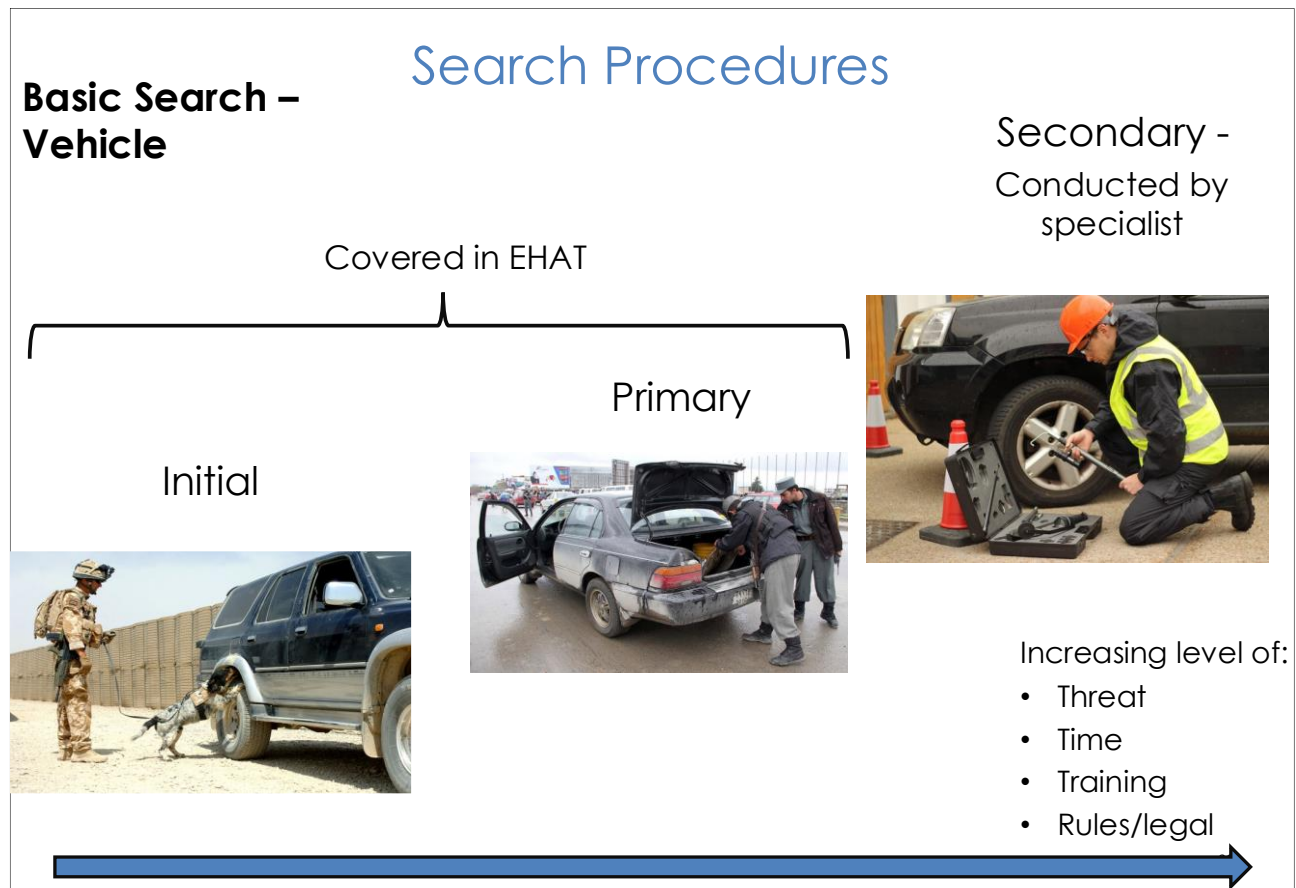
Image Left – Initial searches something involves the use of explosive detection dogs. Image Source- UK MOD.

Image Centre – Afghan National Police conducting a primary search. This type of search is normally done in pairs.

Image Source- of UK MOD.

Image Right – Specialist conducting vehicle search.

Image Source- NIC Equipment.

There are three levels of vehicle search. Initial, Primary and Secondary. An initial search is usually conducted at entry to venues or at checkpoints. This is a very quick search which does not require the occupants to get out the vehicle. It is done to screen other vehicles for further search and to deter potential threats. If after an initial search, suspicion is raised a primary search will normally take place. This will involve the occupants getting out the vehicle and being searched. This usually takes about 10 minutes. If something is found or there is further suspicion a secondary search could be conducted, but this is done by a trained specialist – usually the police.

Search Procedures

Basic Search – Vehicle

Initial Check

- Normally a search pair will perform the checks

- Normally requires about two minutes per vehicle

-

- One searcher to question driver

- One searcher checks the vehicle

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An initial check is a very basic check. It is used as a deterrence and to help screen vehicles which require further searching. Generally, it does not require occupants to get out the vehicle and can be conducted by 2 persons; 1 who questions the driver and occupants and the other who looks around the vehicle for anything that seems suspicious. This usually takes less than two minutes.

Search Procedures

Basic Search – Vehicle

Primary Search

- Is carried out on vehicles that have been selected during the initial check
- Search should be as detailed as time and conditions allow
- Search must be systematic
- Takes approximately 10 minutes
- Ideally carried out by a pair

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If during the initial checks, a vehicle is highlighted for further searching due anything suspicious, a primary check will be carried out. A primary check may also be carried out where a higher degree of security is required and where there is a low number of vehicles than need checking. This check needs to be as detailed as the time or tactical situation will all and it must be done systematically by trained persons. This search can take up to 10 minutes and is usually carried out by a team of 4. 2 of whom will search the vehicle while the other pair are required to carry out a person search of the occupants or provide security.

Search Procedures

Basic Search – Vehicle

The search should be divided into three main areas:
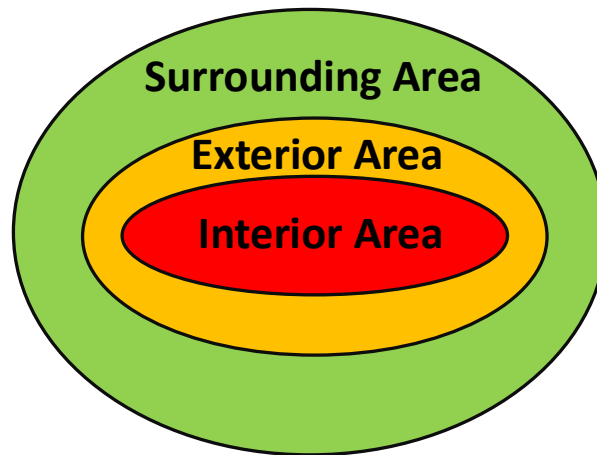
41

A vehicle search can be conducted in many ways, but it must be systematic. One way of conducting a search is to divide into areas. Surrounding area, Exterior and Interior.

Search Procedures

Basic Search – Vehicle

Surrounding Area

- Signs of activity

- Something unusual

- Additional threats

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Some signs of activity would be unfamiliar or suspicious people in the area.

When searching; you're looking for anything out of place.

Noticing things that were never there before.

Search Procedures

Basic Search – Vehicle

Exterior

Can be broken down into four areas:

- Front

- Side

- Rear

- Underside

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The exterior of the vehicle is broken down into four areas while doing a vehicle search.

Front, side, rear, underside.

Search Procedures

Basic Search – Vehicle

Interior:

- Under dash

- Under seat

- Engine compartment

- Boot

44

Inside the vehicle is very important.

- Many things can be hidden underneath the dash and under the seat.
- Look at the carpet to see if it has been pulled out. If it has, take a look underneath it. You may see wiring, but that doesn't mean that there is an explosive in the vehicle. Look for any modifications that may be done to the wires.
- The engine compartment is very compact and would be difficult to store a large size bomb in there. However, you are searching for wires and possible switches that look out of place.
- The under baggage and boot is usually where main explosives would be stored. If you first see anything in the boot that looks like explosives, evacuate the area and call the authorities immediately.

Search Procedures

Basic Search – Vehicle

Considerations
- Volume of traffic
- Level of threat
- Time
- Impact on civilian daily life
- Actions on find
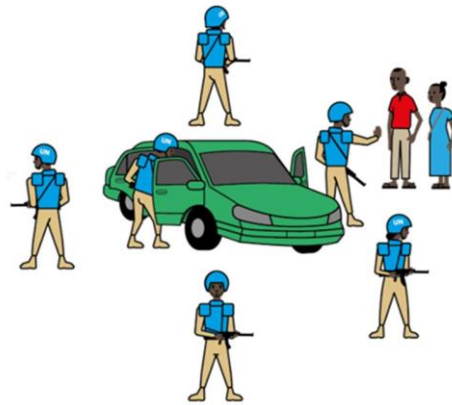
45

As commanders and planners there are a few areas we must consider when directing vehicle searches. Firstly, we should consider the volume of traffic that requires checking and ensuring we allocate the necessary resources. If we expect many vehicles, we cannot expect a single search team to carry out the job. Secondly, we need to understand the threat. If there is a high threat of vehicle bourne IEDs we need to consider force protection measures as well as seeking advice from specialists. Time considerations need to be factored in. An initially check may only take 1-2 minutes per vehicle but a primary check will take at least 10 minutes. Remember that the vast majority of vehicle will be civilians just trying to go about their daily lives. Vehicle checks should minimize impact on civilian life, whilst balancing the need for conducting the searches. Finally, considerations must be made for actions on find, either explosive or non-explosive. Coordination will be needed with other agencies including police who may be required for conducting an arrest. If explosive is found, EOD may be required and so coordination should take place in advance.

Search Procedures

Basic Search – VP Check

A VP check is a basic search drill conducted in a low threat IED environment where a patrol or convoy does not have access to trained search team, but has no alternative that to pass through a VP.

- No specific IED threat
- Conducted with or without specialist equipment
- Acts as a deterrence
- Reduce probability and impact of IED strike

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A VP check is a basic search drill conducted in a low threat IED environment where a patrol or convoy does not have access to trained search team but has no alternative that to pass through a VP. The drill is sometimes referred to as a VP 360 domination drill.

The drill is generally conducted in areas where there is no specific IED threat. If you are operating in a high threat IED environment, VPs must be searched by trained teams. Generally, this drill is conducted without specialist equipment such as detectors, but if they are available they may be used. The main purpose of this drill is to act as a deterrence for IED placers/triggermen and to reduce the likelihood and impact of IED strikes.

Search Procedures

**Basic Search –
VP Check**

- Phase 1. Arrival: 5 and 25m Checks
- Phase 2. Domination
- Phase 3. Isolation
- Phase 4. VP Search

This drill is taught in detail during the EHAT. This will be a brief overview of the drill to enable commanders to understand how the drill should be conducted and why it should be implemented.

VP Check Procedure Phases
1 – Arrivals and 5 and 25m checks
2 – Domination
3 – Isolation
4 – VP Search

We will now discuss these in more depth.

Search Procedures

**Basic Search –
VP Check**

Phase 1.

Arrival: 5 and 25m Checks
- Lead vehicle stops in an assessed safe location.
- Distance from VP is not fixed but should be 75m-150m.
- Top cover conducts all around 360 check.
- 5 and 25m checks conducted.

Phase 1. Arrival 5 and 25m checks.

The VP Check Drill can be executed by any different number of troops, as long as adequate protection is in place for the situation and ground.

At a suitable location before the VP (usually 75-150m before) the lead vehicle will stop short. 5 and 25m checks are conducted. Domination troops are also deployed at this stage. Ground domination should position themselves to be able to identify likely firing and contact points. Once in position the Isolation parties can form up.

Phase 1. Arrival: 5 and 25m Checks
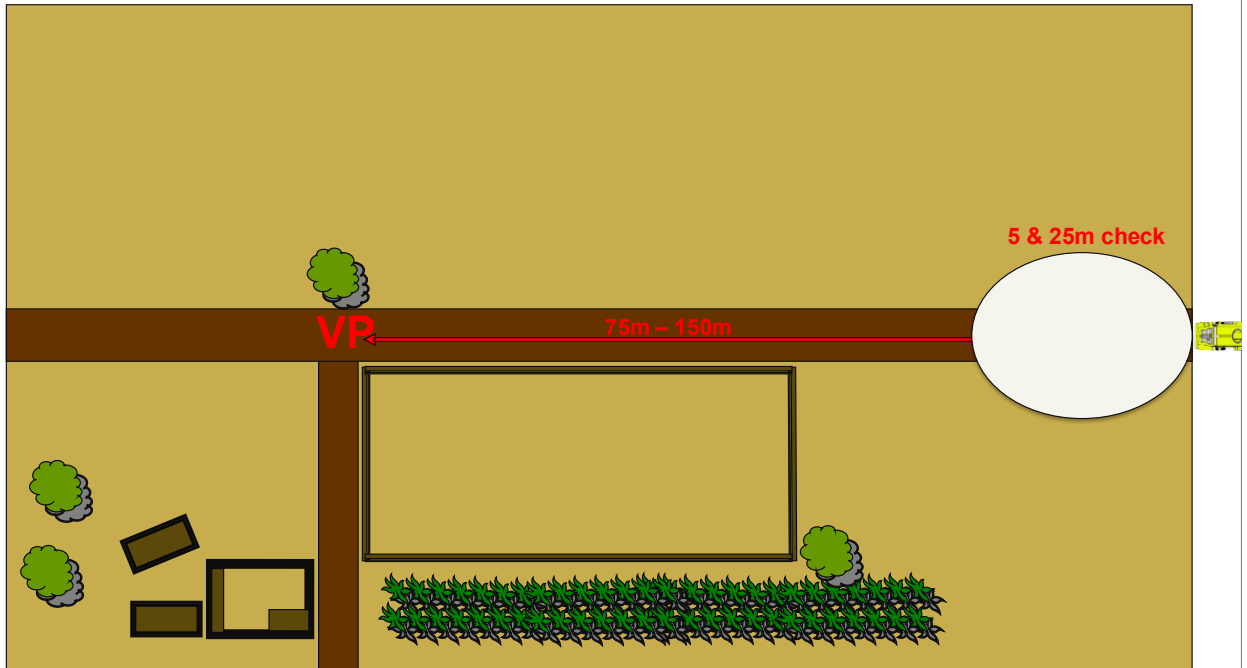
Phase 1. Arrival: 5 and 25m checks

The slide shows the Incident Control Point (ICP) selection with the lead vehicle 75-150 metres from the assessed VP. 5 and 25m checks conducted to establish the ICP.

Search Procedures

**Basic Search –
VP Check**

Phase 2 – Domination

• Utilize available troops to dominate the ground around the VP.

• Deploy flanking patrols in vehicles or on foot to likely firing points for Command IEDs.

  – Must remain a safe distance from the VP.
  – Must conduct 5 and 25m checks at over-watch positions.

• All personnel must have weapons and ammunition.

Phase 2. Domination

Available troops should be deployed to dominate the ground, high ground and lines of sight to the VP.

Depending on available manpower Flanking troops in vehicles or on foot can deploy to likely firing points for command IEDs. However, they must remain at a safe distance from the VP and conduct 5 and 25s at their overwatch position.
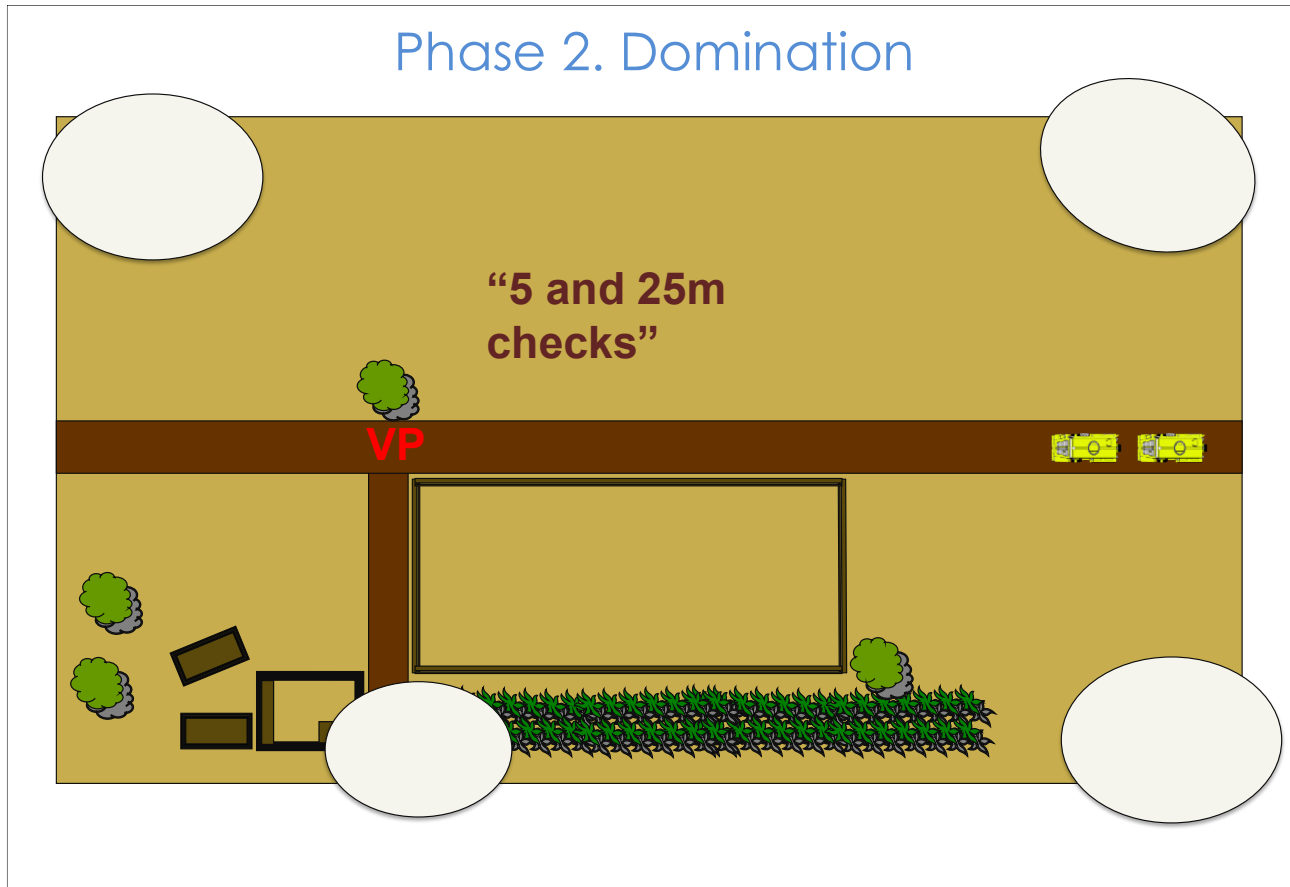
Phase 2. Domination

The slide shows troops moving into position so as to dominate the ground. This will possibly deter/flush-out triggermen. 5 and 25m checks must be carried out when in position.

Search Procedures

**Basic Search –
VP Check**

Phase 3 – Isolation

- The isolation looks for command wires and command pull devices running into the VP.

- The isolation also seeks to look into the VP to identify ground sign.

- Team can be any size but usually a team of 4-8 is suitable.

- Team kit must be checked prior to the isolation.

Phase 3. Isolation

The isolation is used to ensure there are no Command wire/pull devices running into the VP. The isolation party also serve as another view into a VP who are able to identify ground sign from distance.

Composition of the team can vary but usually 4-8 is suitable. The equipment will be dependent on what is available but as a minimum the team should carry
- •Hook
- •Binoculars
- •Radio
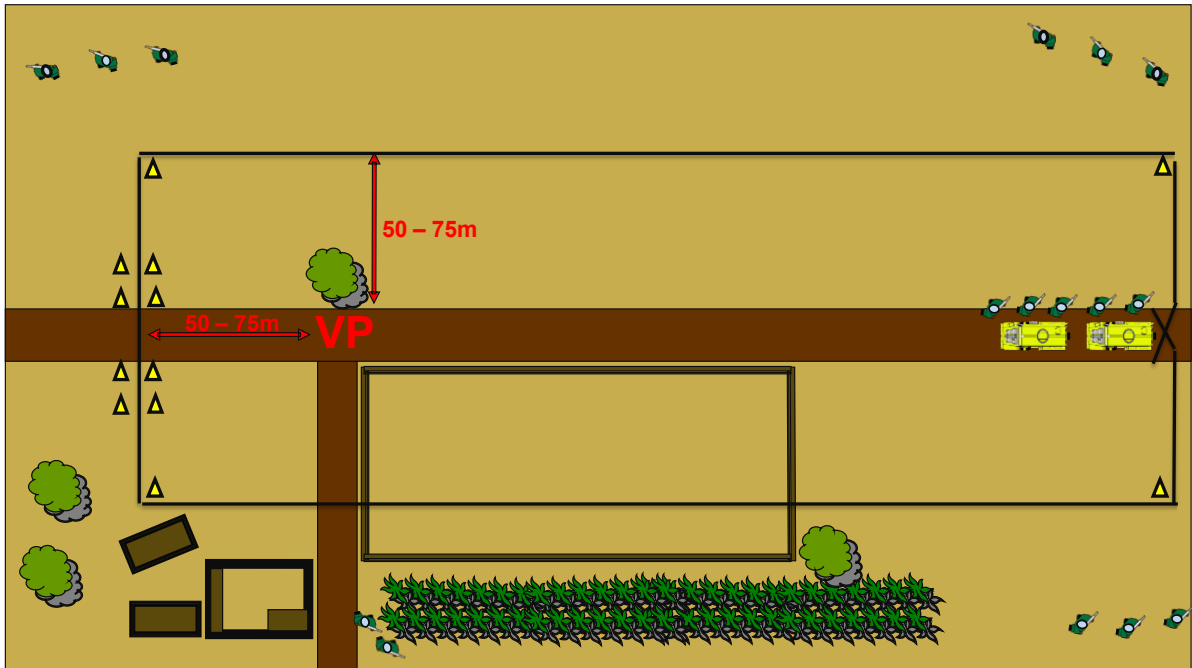
Phase 3. Isolation
The slide shows the conduct of the isolation.

Search Procedures

**Basic Search –
VP Check**

Phase 4 – VP Search

- If no threat of indication of IED found.
- A dismounted patrol through the VP.
- Conducted without equipment unless available.

Phase 4. VP Search

If no threat or indication is found during isolation, the final phase is to conduct a search of the VP. In simple terms, this is a dismounted patrol through the VP using ground sign awareness to identify any potential IED. It is generally conducted without specialist equipment but if there are detectors available and there are trained persons, then they should be employed here.

**Basic Search –
VP Check
Configuration**

Search Procedures

Outer Rd Person 1

Inner Rd Person 2

Commander

10m Min

10m Min

10m Min

10m Min

Inner Rd Person 1

Outer Rd Person 2

Minimum 10m Between troops
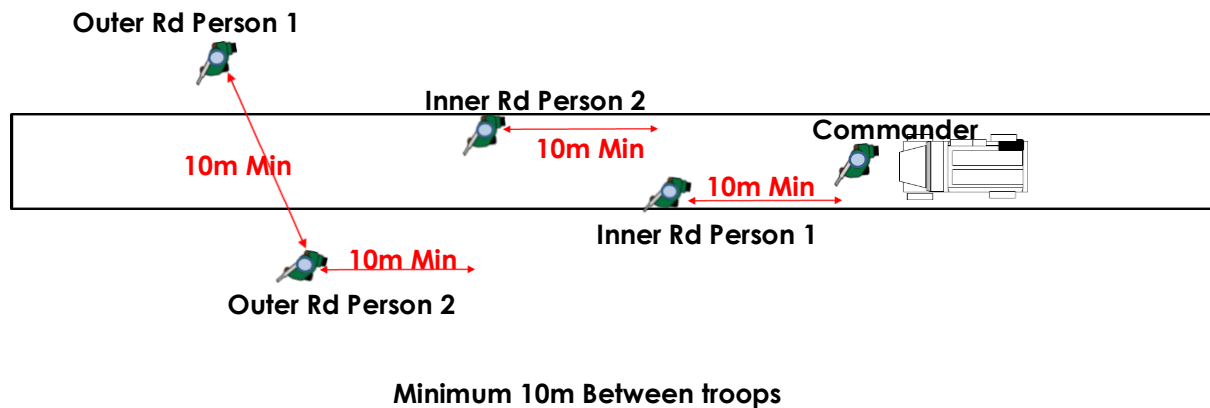
**Phase 4 – VP Search
Configuration**

Explain set up of VP Search Team.

- Note the 10m distance between all personnel; this is to be maintained throughout.

Basic Search – VP Check

Search Procedures
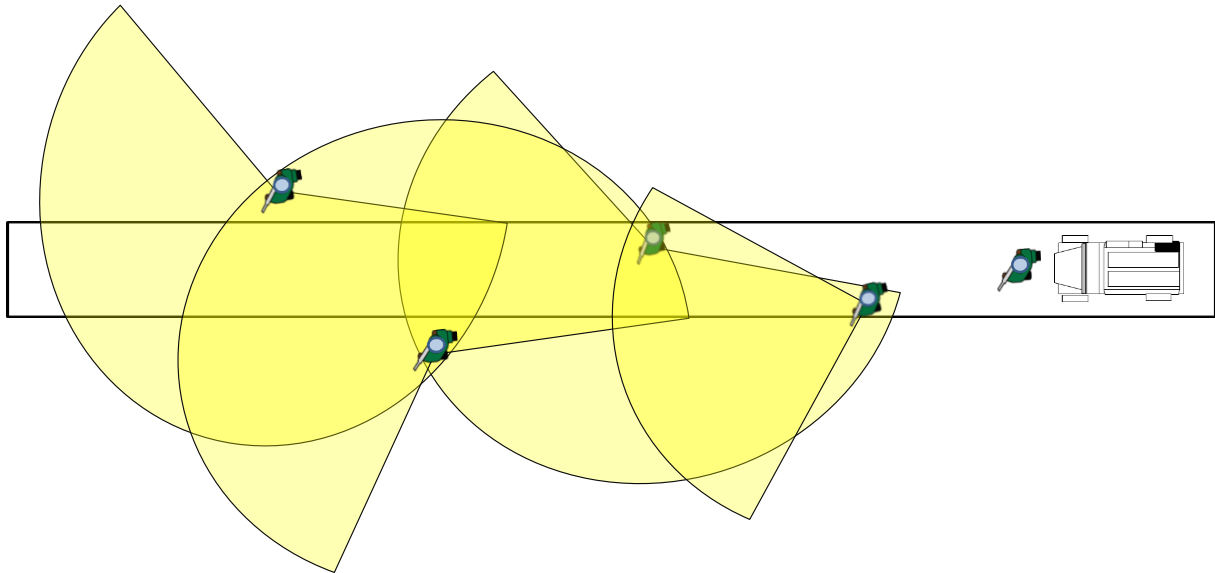
Areas of Responsibility

ORP – Wide arcs of view out to the flanks and into the route. This includes looking not only forwards but also back down the route into the areas where the IRP will search (Different perspectives will often show ground sign more clearly).

IRP – Narrower arcs of view required but maintain a look out to the flanks and visuals down the route.

On the last animation (All search areas visible) highlight how extensively searched the area has been.

Phase 4. VP Search
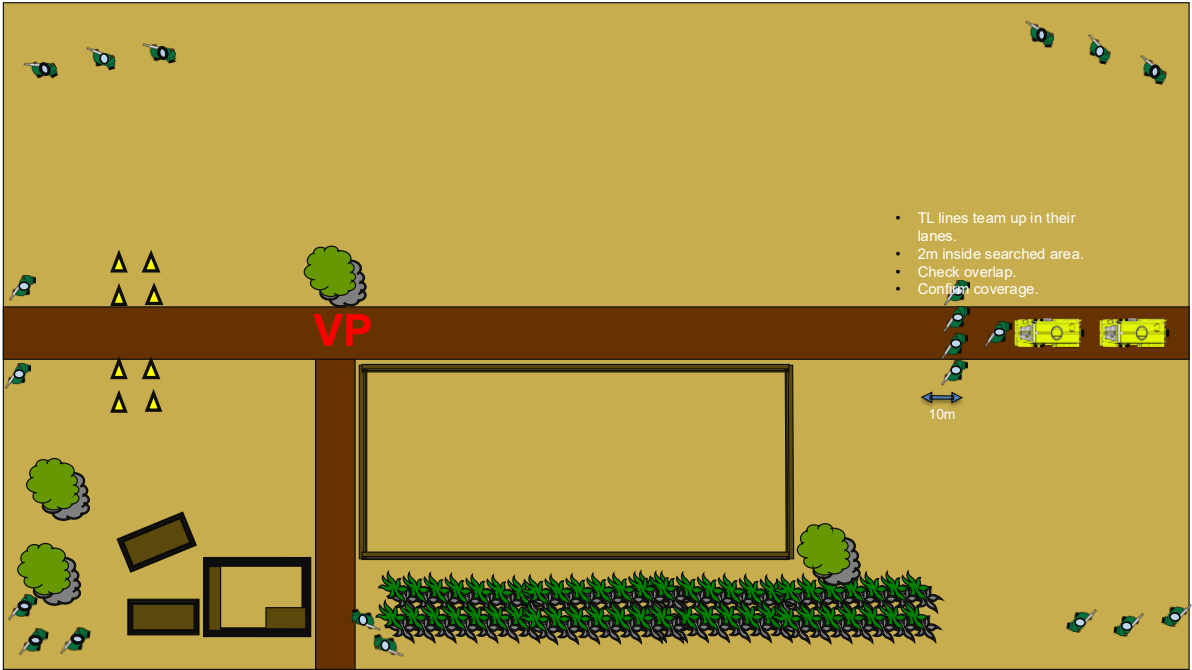
Phase 4. VP Search

This slide shows the procedure of the VP search

Search Procedures

**Basic Search –
VP Check**

If at any stage, an IED is suspected or identified, the drill should be halted and a 5Cs operation should commence.

If at any stage, an IED is suspected or identified, the drill should be halted and a 5Cs operation should commence. This will be covered in more detail later.

**All Arms Search –
Route Search**

Search Procedures

Intermediate or All Arms Search Teams essentially conduct the same drill as the VP Check. However, they are trained to a **higher standards**, they use **specialist equipment** and are trained to operate in **high IED threat environments**.

Intermediate or All Arms Search Teams essentially conduct the same drill as the VP Check. However, they are trained to a higher standard, they use specialist equipment and are trained to operate in IED threat environments.

Considerations
• High level of assurance.
• Highly trained search team.
• Use specialist equipment.
• Takes a significant amount of time.

1. **Arrival and Short Stop Point (SSP)**. Lead vehicle stops in an unpredictable and assessed safe area 75–100m from VP (SSP). Top gunner conducts 360-degree visual search. 5&25m checks conducted.

2. **Dominate the ground** around the VP. Deploy flanking patrols in vehicles or on foot to likely firing points. Conduct 5&25m checks at over watch positions

3. **Isolation.** A physical 360-degree search out to a distance of 50–75m around the VP is conducted to locate any command wires or other physical links (Command Pull) running into the VP.

4. **Search through.** Under the direction of the commander search the route in a "V" formation from the halt location through the assessed VP to locate the presence of any IED's. Overlap of detector search heads must be maintained to avoid gaps within the searched area.

As you can see from the slide, the phases of a route search follow the same general framework. Although specific TTPs will vary, the phases will follow the same process. The key difference here is the level of assurance in which the search is conducted. In short, a search team will provide a very high level of assurance that there is no IED threat once the task is complete. As commanders and planners, we should consider that this task is conducted by specially trained teams who use specialist equipment such as detectors and ECM. This means we need to plan how they are incorporated into our mission plan. Additionally, it must be noted that the level of assurance, and the threat, means this is a task that takes time. It usually takes 1 hour to search a simple VP and a VA of 800m could take most of the day. This must be considered when planning road moves.

Search Procedures

Planning Yardsticks

Search	Personnel	Equipment	Time
Person – Initial	2	Handheld detected	Less than 1 minute
Person – Detailed	2	Nil	2 – 5 minutes
Vehicle – Initial	2-4	Nil. EDD and mirrors may be used.	1 minute
Vehicle – Primary	4 (2 for vehicle, 2 person)	Nil.	10+ minutes
VP Check	4-8	Nil.	30 minutes to 1 hours
Route Search	6	Detectors, ECM, hook/wire detector	Simple VP - Min 1 hour. 800m VA – 2-8 hours. Addition 1 hour per find.

Understanding how long CIED activities take will assist when conducting mission planning. This is an example of a planning yardstick table for Search Operations. This table is only indicative and will vary from mission to mission. Accurate information should be sought from the local Search Advisor.

2.3.5 5C's Operation

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5Cs Operation

The
5Cs

1 - Confirm
2 - Clear
3 - Call
4 - Cordon
5 - Control

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The 5Cs Operation is a common TTP that should be employed whenever there is a suspected or confirmed IED incident. The drill is first at foremost to provide protection to friendly troops and civilians, but it also served to set the conditions for the EOD teams. It also serves to preserve evidence which may be later used for criminal prosecution. The 5Cs consists of 5 phases – Confirm, Clear, Call, Cordon, Control.

The first step in the '5Cs' drill is to confirm that there is sufficient likelihood of an IED being present to justify a specialist operation.

The definition of 'confirm' can be no more prescriptive than 'when the observer is satisfied it in an IED.'

Avoid the natural curiosity of wanting to 'over-confirm'. This can be risky. It is also natural that the local commander will want to see the suspect IED for himself to justify any decision that will initiate a clearance operation. However, this should be resisted if there is risk of the local commander becoming a casualty.

Images Source- AU Transition Mission in Somalia

5Cs Operation

Clear

- Clear all personnel (friendly and civilian) to safe distance.
- Safe distance will be determined by size of device and line of sight

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Images Source- AU Transition Mission in Somalia

Having confirmed the presence of a probable IED, the next step is to clear people away to a safe distance.

What makes for a 'safe' distance depends on the size of the IED main charge, any enhancements, cover provided by the surrounding environment, and how much risk can be tolerated.

IEDs cause casualties by blast over-pressure, fire, fragments, and falling debris from buildings, e.g. glass and roof tiles.

The severity of injury from a fragment also reduces with distance. So, the risks of injury fall very quickly with distance from an IED explosion.

5Cs Operation

Call

- Use EOD 10 liner.
- Alternatively use a situation or contact report.
- The important thing is to report the issue and call for assistance.

Line	Item	Sub item	
1	DTG	A	Date-Time-Group (DTG) DD, hh mm, Time Group, MMM,YY
2	Reporting Unit	A	Unit / Unit identifier
		B	Name
		C	Rank
3	Location	A	Link-up location
		B	Additional location information
		C	Avenue of safe approach
4	Communication	A	Link-up communication method and contact
5	Type and description of EO	A	EO/IED Type
		B	How many items were found
		C	Position
		D	Color
		E	Markings
		F	Size estimate
		G	NRBC or Toxic Industrial Materials
		H	Pictures taken
6	Location of the EO/IED	A	
7	Tactical Situation	A	Hostile Activity
		B	Fire hazard
		C	Unstable infrastructure
		D	Dangerous terrain
		E	Other Hazards
8	Damage	A	Collateral Damager
		B	What asset / resource is threatened?
		C	Impact on Mission
9	Protective Measures taken	A	Markers placed
		B	Evacuation Distance
		C	Other protective actions taken
10	Recommended Priority	A	Immediate Urgent Routine No Threat

When the presence of a probable IED has been confirmed, the local commander should inform his higher headquarters of the situation and request assistance. The EOD 10-liner should be used for reporting IED incidents. As a minimum a situation report or contact report should be sent. The key here is to report the issue to allow the HQ to provide support.

5Cs Operation

Cordon

- Prevent unauthorised entry.
- Ensure the safety of all persons .
- Prevent tampering/removal of the item.
- Prevent/deter Command IED or other direct attacks.
- Preserve forensic evidence.

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Having cleared an area around the probable IED, the local commander should create a cordon to control assess. Civilians would not normally be allowed into the cleared area. A robust cordon is an essential element of the operation in order to:

- Prevent unauthorised entry.
- Ensure the safety of all persons.
- Prevent tampering/removal of the item.
- Prevent/deter Command IED or other direct attacks.
- Preserve forensic evidence.

Images Source- AU Transition Mission in Somalia

5Cs Operation

Control

- Stop unauthorized access to the cordon.
- Facilitate access to EOD team.

Selection of ICP criteria:
- In a safe and unpredictable location.
- At a safe distance from the incident, dictated by the ground.
- ICP location must be checked.
- A secondary ICP location should be considered.
- Never use the same ICP location twice.

Images Source- AU Transition Mission in Somalia

Stop all personnel or vehicles from entering the cleared area. Do not allow anything to disturb the area near the suspected explosive device.

Facilitate the passage of lines of the EOD team to conduct the intervention on the suspected explosive device. Local security patrols can be organized. Designate and search the helicopter landing area if needed. Maintain observation of the area surrounding the suspected explosive device.

An Incident Control Point (ICP) should be established by the Incident Commander on the scene.
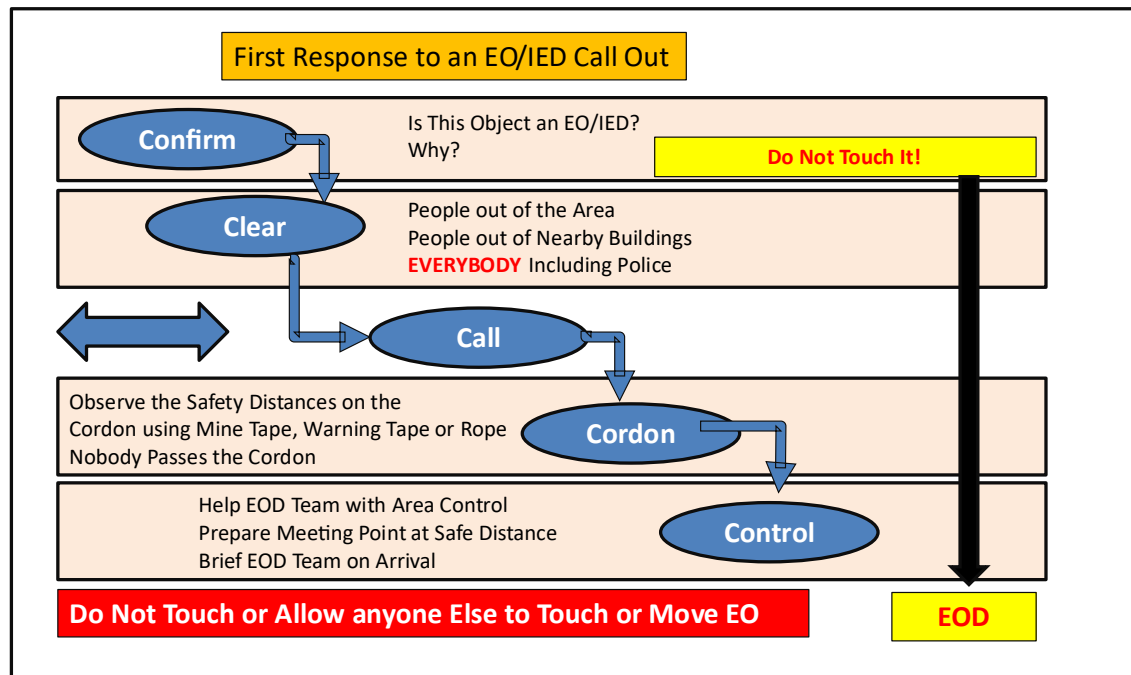
Slide 69

Source: *UN Landmine, ERW, IED Handbook*.

Slide 70

Questions?

UNMAS

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Lesson

2.4

THREAT ASSESSMENT

The Lesson

Time. This lesson requires approx. 135 minutes to teach.

Performance Statement. At the end of this module, the participant will be able to explain the threat assessment process and interpret a threat summary.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

(1) Introduction to Threat Assessment

(2) Sources of information and intelligence, for example:
   (a) Maps
   (b) Historical data
   (c) Threat intelligence
   (d) Human terrain analysis
   (e) Personnel who can help in a HQ (IEDD, Search, U2, CIMIC, UNMAS Fd Programme).

(3) Threat intent
   (a) Why an aggressor is using IEDs.
   (b) Understanding the type of aggressor (Professional, Opportunist, Fundamentalist)
   (c) Aggressor intent towards uniformed peacekeepers.
   (d) Aggressor intent towards the civilian population.

(4) Threat capability
   (a) What types of IEDs can an aggressor use.
   (b) Linking capability with intent.

(5) Threat Opportunity to use IEDs
   (a) Vulnerable Points and Vulnerable Areas.
   (b) Terrain and situation-oriented VPs.

(6) Issuing a threat summary

Methodology. This module will be introduced through lecture method combined with plenary discussions and Question and Answer (Q&A).

Infrastructure. Classroom with projection facilities

Slide 1

IED TM Lesson 2.4: Threat Assessment

1

Find guidance inserted in the note section of each slide.

Slide 2

Overview

2.4.1 Introduction to Threat Assessment

2.4.2 Source of information and Intelligence

2.4.3 Threat Intent

2.4.4 Threat Capability

2.4.5 Threat Opportunity to Use IEDs

2.4.6 Issuing a Threat Summary

2

Terminal Learning Objectives

At the end of this module the participant will be able to explain the threat assessment process and interpret a threat summary.

3

Slide 4

2.4.1 Introduction to Threat Assessment

4

Intro to Threat Assessment

C-IED Threat Assessment is a simple process that allows us to combine intelligence with knowledge of the local environment and an understanding of an adversary to determine the **most likely** location, time and type of an IED attack.

Introduction. C-IED Threat Assessment is a relatively simple process that allows us to fuse the output Intelligence analysis with knowledge of the local environment and also knowledge of Threat Force (TF) IED capability. This allows us to assess of the potential IED threat posed during any given operation or operational phase.

The process was developed by specialists involved in IEDD and High-Risk Search operations, however the significant IED threat associated with current operations earned it a place within the generic operational planning cycle.

C-IED Threat Assessment, therefore, affords commanders with an 'IED specific' tool of planning which will inform the wider planning cycle. The process can be conducted at any level, so it is as relevant at the Fire-Team level as it is within Formation Headquarters. In the context of this RTP however we will focus on its application during pre-patrol planning at the lowest tactical level.

C-IED Threat assessment can be conducted at any level, even when presented with an extremely limited amount of information. In contrast it can also be extended into an enduring and extremely detailed process, should this be required/appropriate
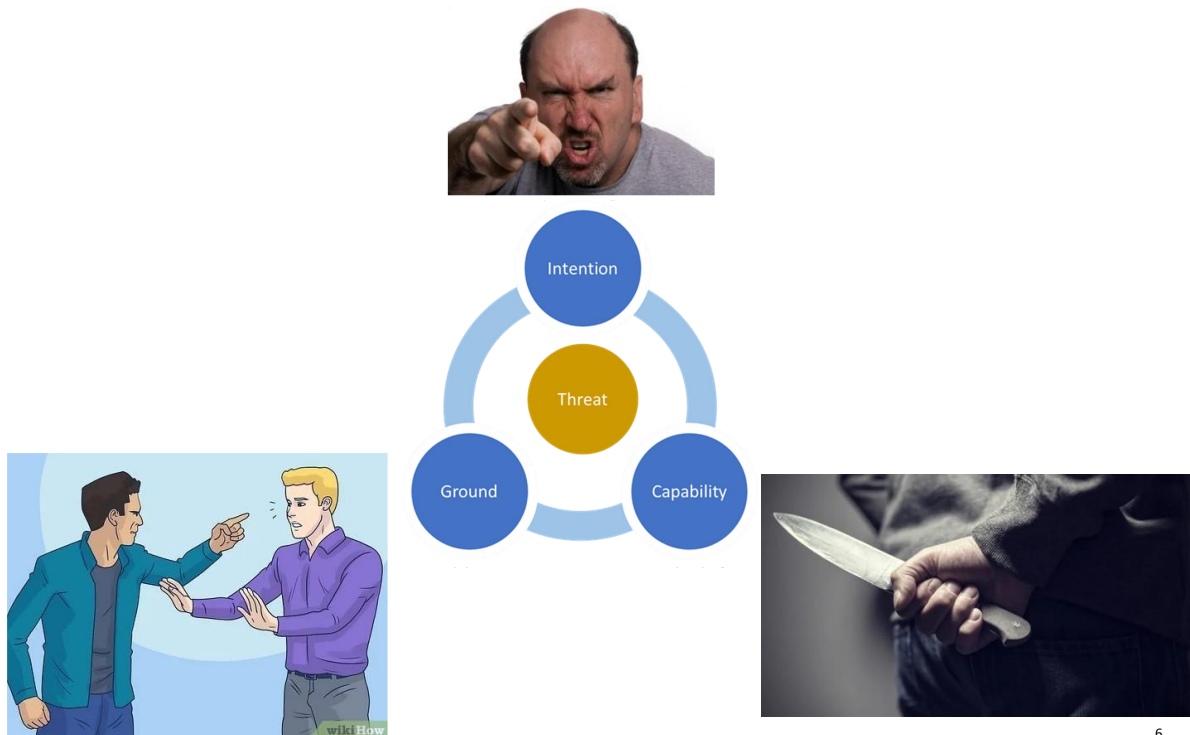
Slide 6

Image top Source- Dreamstime
Image right Source- Getty Images.
Image left Source- WikiHow.

The concept of a threat assessment is based on the theory that for **any** threat to exist, there must be three key ingredients. These are intent, capability and ground (sometimes referred to as opportunity). Without any one of these components a threat cannot exist.

[build slide] Intent. Intent is the foundational component such that for any threat to exist, a person or group must intend to cause harm. Let's use an example. Let us assume you have a long-running feud with someone from your village. If your feud is relatively minor and the person with whom you disagree does not wish to settle the argument with violence, you could say, s/he has no Intention to harm you and therefore there is no threat. If, however, your argument is with someone who has no regard for the law and wants to inflict physical harm to you, then there is a threat.

[build slide] Capability. This refers to the tools with which a threat or aggress will use to inflict an attack. Taking our example further, if the person you have an argument with wishes to harm you but is physically weak and has no weapon, you could say there is still no threat. If on the other hand the person is stronger than you or possesses a weapon such as a gun or a knife, you would say there is a threat.

[build slide] Ground. Ground refers to a place or time in which a threat actor who intends to harm you, can use their weapon (capability) to inflict damage. It is sometimes referred to as "opportunity". Taking our example further still. Let us

assume the person with who you have a clash intends your physical harm, and has a weapon such as a knife, but has no means to get close to you because you are no longer in the village, then we would say there is no threat. On the other hand, if the person was stood in front of you with intention and knife in hand, we would say there is a very clear threat.

Slide 7

Intro to Threat Assessment
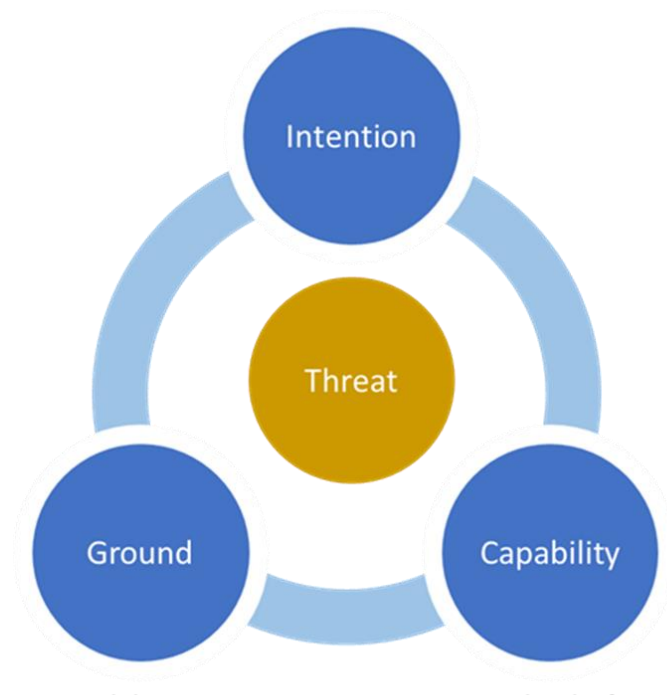
This concept of a threat assessment applies equally regardless of whether it's a threat of a knife attack from your neighbour or an IED attack by an illegal terrorist group. Before we move to the process of conducting a threat assessment, we will discuss what sources of information can be used to source information.

2.4.2 Source of Information and Intelligence

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Sources of Information and Intelligence
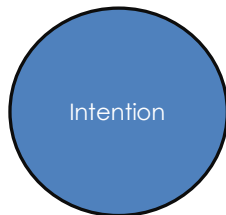
Intention
- Intelligence Reports
- J2/S2 Cell
- Engagement

Capability
- Historical data
- Recent incident reports
- IED trends
- EOD Cell
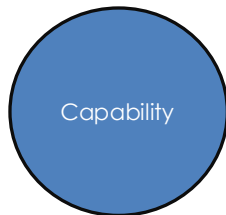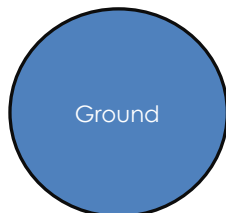
Ground
- Military Maps
- Open source maps – Google
- Patrol traces
- Hotspot Maps
- Human Terrain Analysis

To understand the intention of an adversary, the first source of information is Threat Intelligence. In all cases, the first point of contact will be the J2/S2 Intelligence Cell. Alternatively, we can look at old situation reports and incident reports to determine who the threat was targeting and what they were trying to achieve. Other sources of information could be the engagement platoon or open-source intelligence reports.

Adversaries who use IEDs form habits, just like us. Where an IED has been used successfully, they often try to use the same tactics again. This means we can look at historical data to assess what an adversary will do again in the future. There are a number of sources we can use to gather this information. This includes recent IED incident reports, Significant activity reports, daily SITREPs or routine IED trend reports. If you are able to communicate with the EOD cell, they will be able to support you in this area.

Previously we discussed Vulnerable Points and Vulnerable Areas. These are places in which a threat will find it advantageous to use an IED. Identifying VP/VA is a critical component of understanding the ground. The most important source of information for conducting this analysis is maps, which can be military or civilian, hard copy, or

digital. A valuable open source of information is with online platforms such as google maps. Another key source of information is patrol traces. These are maps which show where all the recent patrols have been, this allows us to identify areas which we routinely use and have therefore become targetable (setting patterns). The final source of information is through Human Terrain Analysis.

This is a summary of the attitudes and behaviours of the local population. It will help us understand which areas are Permissive, Semi-Permissive and Non-Permissive which allow us to understand how the local's populace will interact with the threat. This information can be sources through the S2 cell or through the engagement platoon.

2.4.3 Threat Intent

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Threat Intent
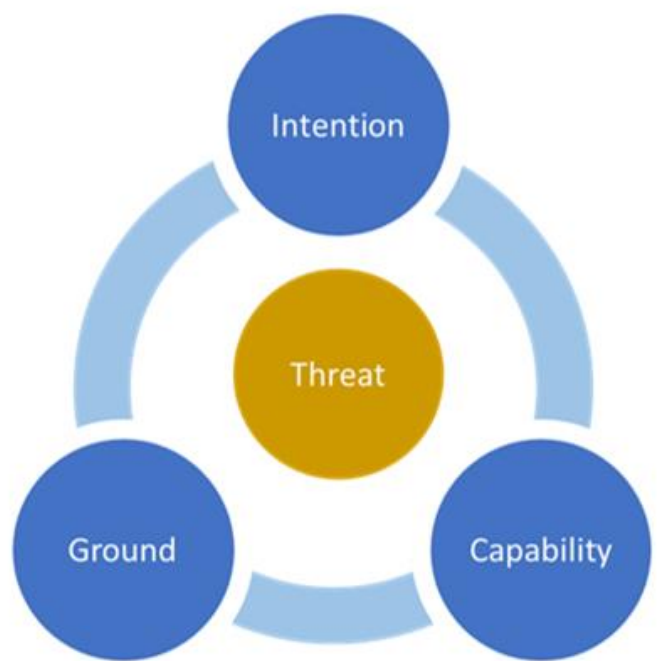
Threat Intent
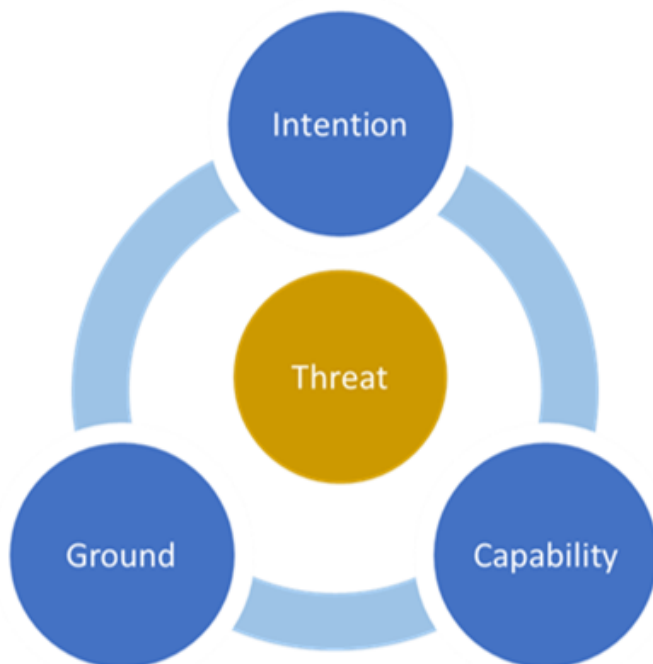
Build our understanding of the aggressor to determine the likelihood and type of attack.

- **Who** is the enemy or adversary?
- **What** are they trying to achieve?
- **Who** are they targeting?

Now that we have identified the different sources of information, we can now begin to build our understanding of the threat or aggressor. Understanding the threat intent, will help us determine the likelihood and type of attack. This is done by essentially answering three questions:

- **Who** is the threat or adversary?
- **What** are they trying to achieve?
- **Who** are they targeting, and who are they not targeting?

Image Top – "little green men" during the invasion of Ukraine 2014, Source- Reuters News Agency
Image right – Islamic State Propaganda
Image left – Taliban fighters, Source- Reuters News Agency

Understanding what kind of adversary, we are facing will help us to shape our understanding of what intentions they may have.

Professional:
The professional is likely to use in-service weapons and weapon platforms in an efficient and directed way, most probably in the manner for which these weapons were originally designed. Attacks may be controlled and coordinated at a higher level as part of a campaign.

Opportunist:
The opportunist may exploit a transient opportunity to attack. This may occur when a weapon or a means of attack becomes available or when a force exposes a weakness. Such an adversary may use novel tactics with conventional weapons.

Fundamentalist:
Fundamentalists are motivated by religious or ideological aims. Attacks are characterized by scant regard for self-preservation or the lives of others, including non-combatants: suicide attacks are the most extreme example.

Threat Intent

What is the threat trying to achieve?

- What is the adversary stated goals? (At a macro and local level)

- What is their attitude towards us as a peacekeeping force?

- What have they been trying to achieve to date?

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 This question is Intelligence focused. Current and recent Intelligence Reports will provide us with detail of recent IED attacks and an assessment of likely future attack scenarios. We should consider what the adversary is trying to achieve both locally and at the country level. We should consider the adversary attitude towards us as a peacekeeping force. Finally, we can look at what the group has historically tried to achieve as a predictor of future actions.

Threat Intent

Who is the threat targeting?

Friendly forces?

- Foot patrols

- Mounted patrols

- Logistic convoy

- Attacks on FOBs

- Attacks on targetable patterns

Infrastructure?

Other armed groups?

Civilians? Or specific civilian group?

Government institution or process

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If the answers to the previous questions indicate a threat, we now ask who the threat is targeting? We can best assess this by looking at who they have targeted before. Have they targeted Friendly forces?

- Do they target foot patrols, or have they been targeting mounted patrols?

- Are logistic convoys targeted, and do they target specific vehicle in the convoy?

- Do they conduct attacks on FOBs?

- Are our actions creating targetable patterns?

Has Infrastructure been targeted? Such as phone masts, bridges or railway lines.

Are there other armed groups who are also targeted?

Do the aggressors target Civilians? Or do they target a specific civilian group?

Do they have Government institutions such as government offices or local security forces? Do they target government processes such as local elections?

Threat Intent

The Local Population

Image – Al-Shabab propaganda.

It is important to understand how the threat is trying to influence the local population. Each conflict, and each region in a conflict will have different dynamics between the local civilians and an aggressor. Understanding this dynamic will help us determine the likelihood of an aggressor employing IEDs and help us determine what type of IED is likely to be employed. For example, in an area where an adversary group is trying to win support with the local population, they are less likely to employ VOIEDs at the risk of harming civilians. If they were to employ VOIEDs they would likely warn the civilians so we may see an increased use in warning markers or a change in civilian pattern of life. Suppose the adversary group had no care for the civilian population. In that case, they may have more freedoms in the types of IEDs they employ.

Looking at the image you can see an example of Al-Shabab providing aid to local communities' whist trying to promote themselves. They are clearly trying to win the hearts and minds of the locals. In this case they may choose to employ IEDs in a way that doesn't affect the locals.

2.4.4 Aggressor Capability

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Threat Capability

What type of device will the aggressor try to use and how will it be initiated?

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Now that we have tried to identify who the threat is trying to target, we now need to consider what capability the group must carry out an attack. This is done by essentially answering the questions: What type of device will they try to use, and how will it be initiated? We can answer this by considering:

- What has the aggressor already successfully used?
- What is he capable of using, i.e. how advanced is his ability to make IEDs?
- What resources does he have access to?
- Is he concerned by civilian casualties?

Threat Capability

Consider Type of Device and Means of Initiation:

- Time IED
- Command IED
- Victim Operated IED

What has the aggressor successfully used?

- Remember your key sources of information.

Friendly force activity will also determine what type of IEDs will be employed.

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When considering the threat capability, we are essentially considering what **Type** of Device and **Means** of Initiation i.e. Time, Command or VO IEDs.

The threat will often use tactics that have been successful in the past so we can look at previous events. Remember the key sources of information are:

- Historical data
- Recent incident reports
- IED trends
- EOD Cell

Determining the type of IED that the threat will employ is also determined by our activity

Threat Capability

Command IEDs

- Favourable for targetable patterns in **space** and **time**.
- Able to attack specific targets and avoid others.
- Require favourable terrain.

Considerations:

- Are you presenting frequent and trackable targets
- Think of your posture – are you high profile and fairly inflexible in the routes you use?
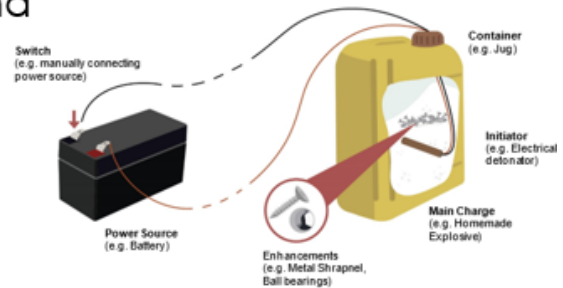
20

Command IEDs are often used when we are presenting a targetable pattern in both time and space. Command IEDs also offer the threat the opportunity to attack specific targets, while ensuring others are avoided. Command IEDs do however need favourable terrain for both attack and extraction of the triggerman.

Are you presenting frequent and trackable targets (either mobile, on foot or static targets) that EF can easily engage with command IEDs? Think of your posture – are you high profile and inflexible in the routes you use? Consider the Command IED attack options, which are in line with EF capability, intent, and resources.

Threat Capability

VO IEDs

- Favourable for targetable patterns in **space** but **not** time.
- Indiscriminate
- Require favourable terrain.

Considerations:

- Are you setting patterns on patrols?
- What is the aggressor attitude towards civilians
- Has civilian pattern of life changes

Switch
(e.g. Pressure Plate)

Container
(e.g. Jug)

Main Charge
(e.g. Homemade Explosive)

Initiator
(e.g. Electrical detonator)

Enhancements
(e.g. Metal Shrapnel, Ball bearings)

Power Source
(e.g. Battery)
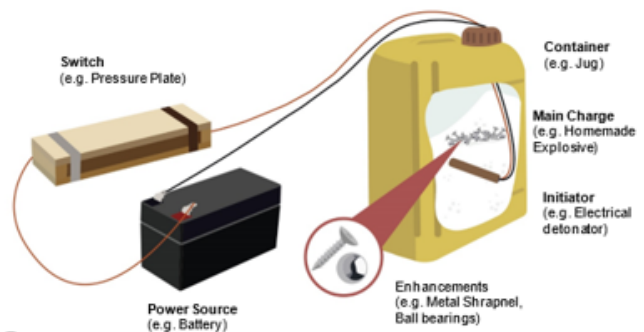
21

Victim-operated improvised explosive devices (VOIEDs) are used when the activity of an intended target is more predictable in space rather than in time. Therefore, the use of a time delay is inappropriate. An adversary must carefully select the location for VOIEDs if unintentional third-party initiation is to be avoided.

Threat Capability

Time IEDs

- Favourable for targetable patterns in **space** and very specific **time**.
- Indiscriminate
- Aggressor loses control once deployed.

Considerations:

- Does your daily routine afford the use of an IED attack?
- Does your base have poor security procedures?
- Who has access?
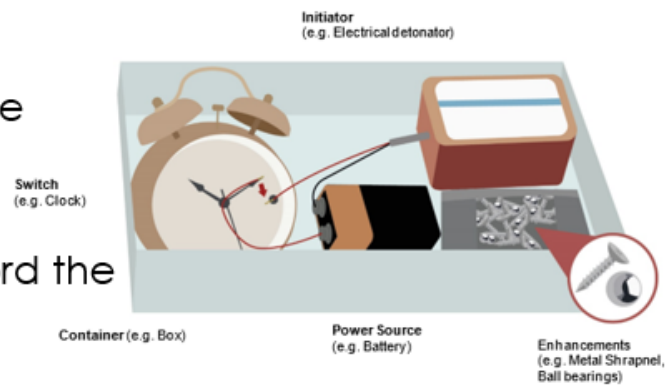
22

Time-operated improvised explosive devices (VOIEDs) are used when the activity of an intended target is highly predictable in space and in time. These devices are best employed when the aggressor can exploit poor security procedures such as access or lack of observation. Remember that when a timed IED is employed, the aggressor loses control of the device, and so it can be indiscriminate.

2.4.5 Threat Opportunity to Use IEDs

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Threat Opportunity

Where will the device be located and **when** will it be employed?

- How will the enemy employ the ground to achieve best effect.

- Identification of **Vulnerable Points** and **Vulnerable Areas**.

Having developed an assessment of how the threat intend to employ IEDs and also what type of IED/s he is most likely to use, we now ask: "Where will the device be located, and when will it be employed?"

Different types of devices are used to achieve different types of attack and will lead to a different use of the ground.

The output will be a list of geographical locations where you have identified an increased likelihood of IED Attack. These locations can now be listed and plotted as Vulnerable Points (VPs) and Vulnerable Areas (VAs).

Threat Opportunity

VPs and VAs

A **Vulnerable Point** (VP) is a **specific point** where it is particularly advantageous to target friendly forces with an IED and/or Small Arms Light Weapons (SALW), ambush or both. They are typically characterized by prominent or restrictive feature

Vulnerable Areas (VA) are those areas where the ground/terrain lends itself to IED or SALW attack.

25

A Vulnerable Point (VP) is a specific point where it is particularly advantageous to target friendly forces with an IED and/or Small Arms Light Weapons (SALW), ambush or both. They are typically characterized by prominent or restrictive features, e.g., limitation of speed, movement, or visibility due to terrain, or choke point on the ground. They could also be based on patterns established by Peacekeepers, using the same entry to camps, patrolling the same roads and villages, using the same lookout, etc.

Vulnerable Areas (VA) are those areas where the ground lends itself to an IED or SALW attack.

Threat Opportunity

VPs and VAs

Terrain Oriented VA/VP

A terrain orientated VP/VA is where the ground offers a particular advantage

Situationally Oriented VA/VP

An adversary may use friendly forces patterns or predictable actions/responses to mount an attack at a specific point. It may be difficult to fully understand the adversary's intent during planning; where this is the case, Advanced Search assets should be tasked or advice sought from a Search Advisor.

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It is important to note the VAs, and VPs may be further categorized as Terrain or Situationally oriented VA/VPs. This is to say that VA/VPs may be determined both by the physical terrain or by or actions. The definitions of both are:

This is an example of a Terrain Orientation VP.

 Instructor Notes: Build the slide describing the hashed areas as restrictive terrain. This leaves a specific area which is channelled that would be classed as a VP. It is a VP because the terrain has forced us to be channelled.

Threat Opportunity

Situation Orientation
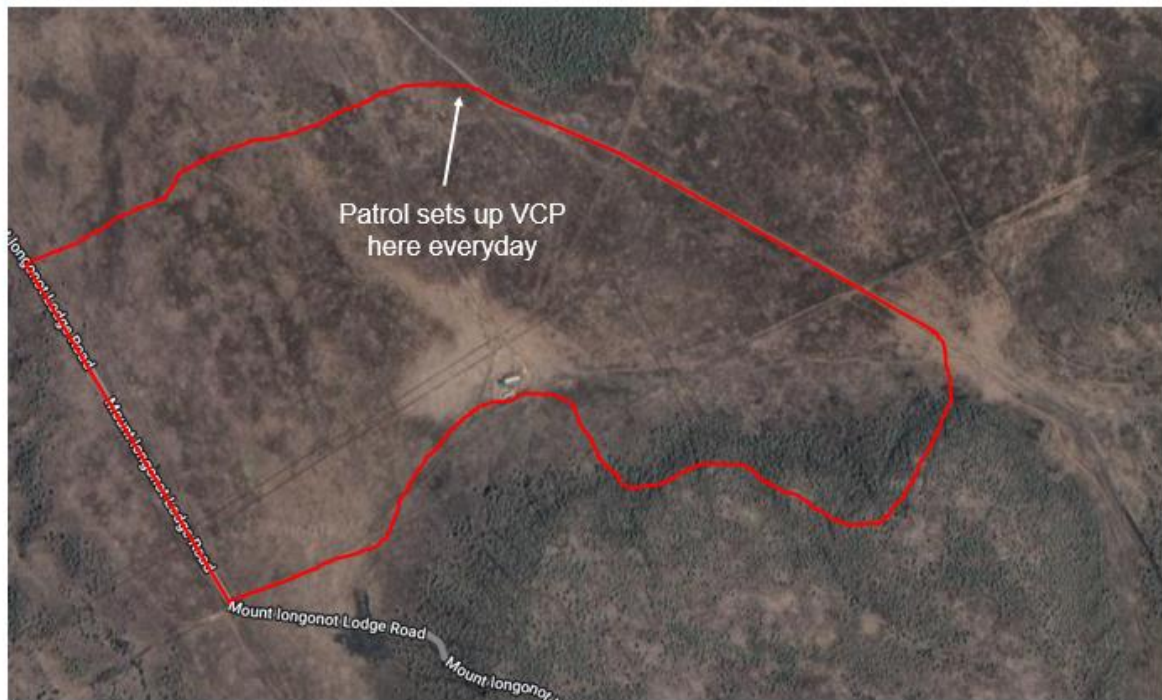
Red line is an example of a patrol route. The patrol goes out at the same time every day, follows the same route and sets up a VCP at the same place every day. This route is now a situational VA, and the checkpoint is a situational VP.

Slide 29

```
┌─────────────────────────────────────────────────┐
│               Threat Opportunity                 │
│                                                  │
│  Vulnerable Points                               │
│     •  Obvious road junctions or bends in roads  │
│     •  High banked roads, culverts or bridges    │
│     •  Choke points                              │
│     •  River, stream or Wadi crossings           │
│     •  Previous patrol routes.                   │
│     •  Previous and likely ICP locations and cordon positions │
│     •  Frequently used/obvious approaches to SF base │
│        locations                                 │
│     •  Potholes or other known obstructions on roads, tracks or │
│        paths                                     │
│                                                  │
│                                             1    │
└─────────────────────────────────────────────────┘
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When deciding where to place an IED to target you, the Threat will consider the location where they think they will have the greatest chance of success. Points where your movement is forced to slow down or is channelled by the environment will increase the Threat's chance of success and therefore it is more likely that you will be targeted in these locations.

When identifying where you might be targeted (VPs) consider the following;

Obvious road junctions or bends in roads – i.e. obvious slow down points.

High banked roads, culverts or bridges.

All evident channels/choke points, e.g. alleyways, cul-de-sacs, routes flanked by walls, buildings or water etc.

River, stream or Wadi crossings.

Previous patrol routes. (Check honesty traces).

Previous and likely future ICP locations and cordon positions.

Frequently used/obvious approaches to SF base locations.

Potholes or other known obstructions on roads, tracks or paths.

Threat Opportunity

Vulnerable Points – Previous Attack Sites

A previous IED attack at a particular location is evidence that all necessary conditions were present at that time. This is why aggressors may have chosen and continue to use them.

When a number of IED attacks occur at the same location, they are often referred to as "IED Hotspots".

The analysis tool of heat mapping using different colours to visually depict areas of higher IED activity in an area of consideration is very useful.

Slide 31
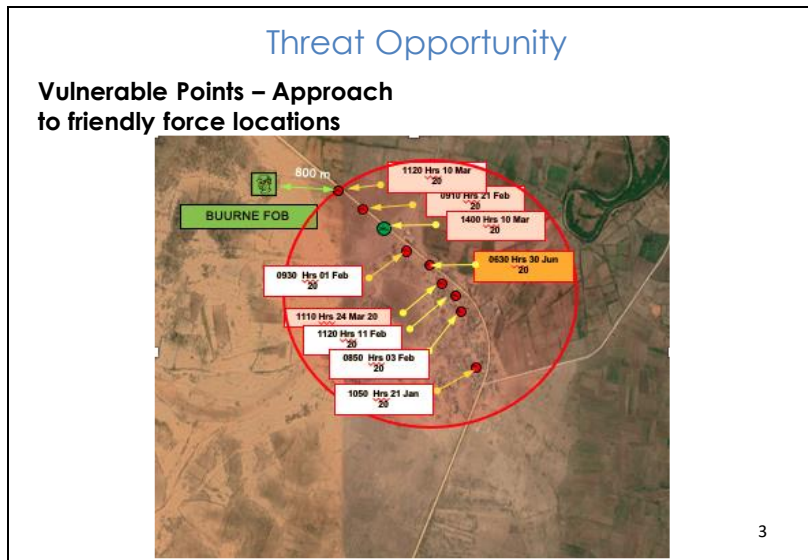
Whenever a base location is established, it is necessary for logistical resupplies and operational deployment to enter and exit the base.

•There are limited number of approaches to a base.

•Aggressor can place an IED on these approaches as they are routes of **heavy or normal use**.

•The vulnerability of such approaches can be reduced by increasing the number of approaches and entry points a base has and randomly varying their use.

•However, additional security requirements as an increased number of entry points require additional assets to protect them from attack.

Slide 32

Threat Opportunity

Vulnerable Points – Previously occupied locations

No	Year	Incident in Host Nation FOB	IED
1	2017	25 June, conduct a pre-dawn attack and briefly occupies the FOB	
2	2018	7 June, conduct a pre-dawn attack and briefly occupies the FOB	YES
3	2018	25 August, conduct a pre-dawn attack and briefly occupies the FOB	
4	2018	15 October, conduct a pre-dawn attack and briefly occupies the FOB	YES
5	2018	1 December, Host Nation vacate the FOB due to political issues allowing to occupy the position	
6	2019	17 August, conduct a pre-dawn attack and briefly occupies the FOB	
7	2020	25 March, conduct a pre-dawn attack and briefly occupies the FOB	YES
8	2020	5 August, conduct a pre-dawn attack and briefly occupies the FOB	YES

Not all positions used by security force personnel are manned continually. Some are abandoned for periods of time and then reoccupied, e.g.

•Defensive positions out from a main base location that is only manned at certain times e.g. first light and last light

•Check Point (CP) only occupied for periods of high security e.g. Vehicle Check Point (VCP) at key urban points.

•A previously occupied position is abandoned due to aggressor action and later retaken. It is common practice to boobytrap such positions by retreating forces i.e. place IEDs.

You can see from the table an example where friendly forces continue to re-occupy a disused FOB. Note the number of IED incidents.

Culverts are an example of a VPs they force us to slow down and become canalized.

Threat Opportunity

Vulnerable Points – Bridges

Songobia Bridge, Mali

Bridges are built across rivers because surrounding area is impassable. River crossing points and bridges over rivers, wadis ditches and valleys force those using them to use pre-defined routes i.e. *canalized routes.*

At crossing points where there is no solid surface such as non-bridged wadi, stream and river crossing points the surface will be soft making emplacement easier and possibly the wetness will allow for lower ground signs of IED emplacement.

Stream beds are good to place IEDs in low water or rocky areas.

Threat Opportunity

Vulnerable Points – Intersections and Junctions
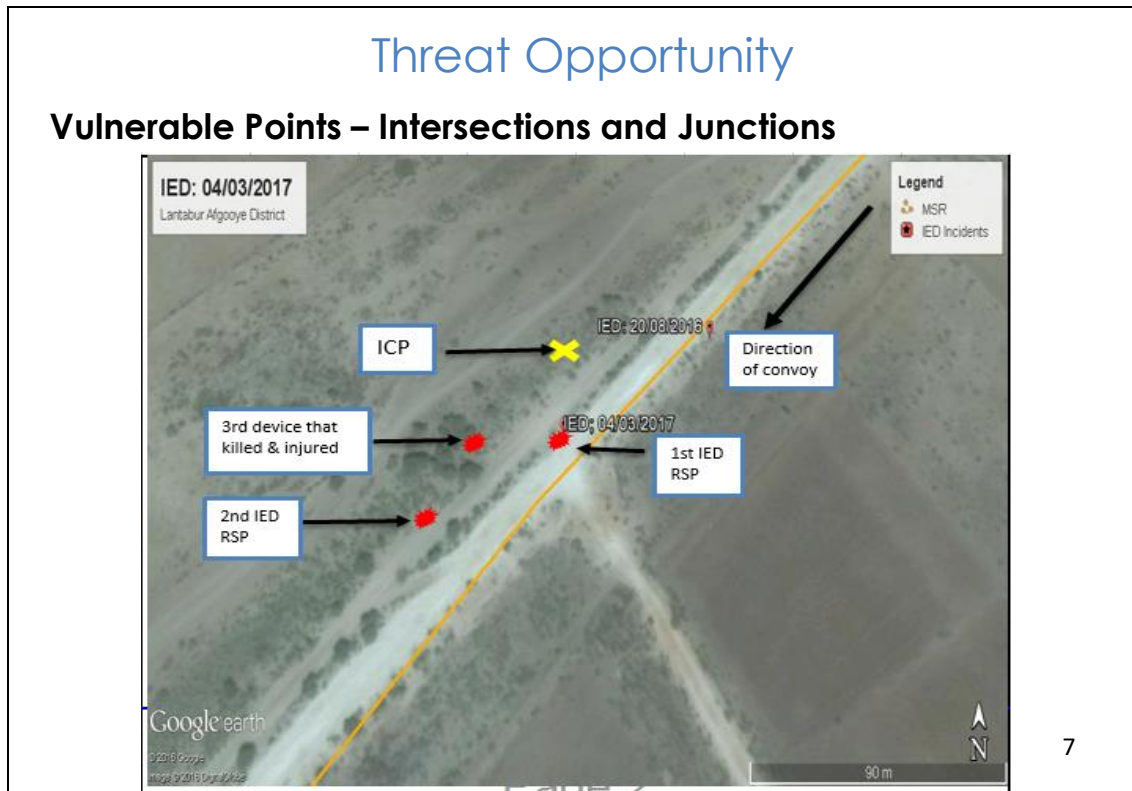
Intersections is a point on a route at which vehicles are forced to *slow down or stop* due to traffic, signage, or other changes to the route.

Such VP offer an aggressor

•Slow moving or static target

•Compacted targets

• Predictable target actions at this location

Sharp turns on routes are points where vehicles are forced to **slow down** to avoid coming off the road or turning the vehicle over, making target engagement easier for an aggressor.

Threat Opportunity

Vulnerable Points – Choke Points

IED on a choke point in Timbuktu Mali

Choke points are locations in which the terrain or an obstacle does not allow the free movement through it and requires the use of pre-defined route i.e. they are points of *canalization* which an aggressor can exploit.

Movement being restricted to a specific route through manmade or natural obstacles in your way.

Examples of areas of canalization include:

•Rocks, fallen trees, tires, debris or broken-down vehicles on the route

•The entry / exit to a valley or pass

•A gap in a wall

Threat Opportunity

Vulnerable Areas

Common characteristics of vulnerable areas include (mnemonic **POLICE THESE**):

- **P**reviously used tracks & patrol routes
- **O**ften used positions
- **L**inear features
- **I**nterior of buildings
- **C**analized routes
- **E**xtended long stretches of road

- **T**actically important areas
- **H**igh ground dominated areas
- **E**scape routes into and out of areas
- **S**uccessive VPs in close proximity
- **E**xit or entry of areas of urban / rural interfaces;

38

Common characteristics of vulnerable areas include (mnemonic POLICE THESE):

- **P**reviously used tracks & patrol routes
- **O**ften used positions
- **L**inear features
- **I**nterior of buildings
- **C**analized routes
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- **T**actically important areas
- **H**igh ground dominated areas
- **E**scape routes into and out of areas
- **S**uccessive VPs in close proximity
- **E**xit or entry of areas of urban / rural interfaces

Threat Opportunity

Vulnerable Areas – Examples

Long sections of channeled terrain

A series of VPs close together

Terrain dominated by high ground

Urban rural interface

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These are examples of VAs.

•Long Sections of Channelled terrain force our travel to become predictable.

•A series of VPs which a close together can be considered as a single VA.

•Terrain dominated by high ground which affords the threat an advantage of attack.

•The rural urban interface is a classic VA as it allows the threat to have freedom of movement in the urban terrain whist our movement into the urban area is predictable.

Threat Opportunity

VP's and VA's

Remember CAGES!

- **Channelled**: Are we channelled? Is the terrain forcing us to slow down and travel through a specific point?

- **Aiming Markers**: Are there Aiming Markers or Warning Markers?

- **Ground**: Does the terrain lend itself to an attack

- **Environment**: Atmospherics?

- **Setting Patterns**: Have we set targetable patterns?
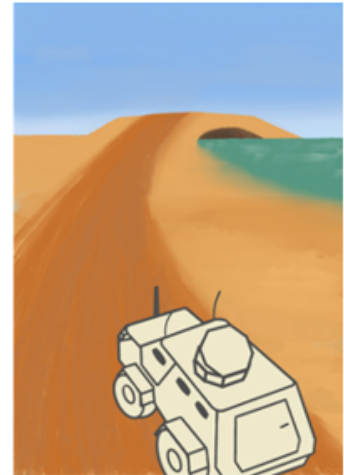
40

If in doubt, remember the individual threat assessment tool: CAGES. Although this is for dynamic personal threat assessment, it will serve as a useful guide to identifying VPs and VAs.

Channelled: Are we channelled?

Aiming Marker: Is there an aiming marker (observe likely Firing Points (FP) or OP locations)? Remember that Aiming Markers can either be improvised (on the left) or in-place objects, such as post/pylons etc. (on the right).

Ground: Is the ground disturbed in any way? Does the ground lend itself to an attack? Have we been over this ground regularly? Has a buried command wire has clearly left ground sign?

Environment - What are the atmospherics? Is the area eerily quiet or crowded. Is the local population acting strangely?

Threat Opportunity

VP's and VA's

On going threat assessment

- Maintain Situational Awareness – continuously employ CAGES

- Are you on a route of own choosing?

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Threat assessment is not just an activity conducted within base locations. It is everyone's responsibility to remain vigilant and maintain awareness to counter the IED threat when on patrol.

Situational Awareness:

Be mindful of "The absence of the normal, or the presence of the abnormal". This can be applied to the behavior of local nationals, or to changes is the ground such as ground-sign, or to other elements within the physical environment such as obstacles which channel movement.

Route of own choosing:

It is essential to consider whether you are being forced down a particular route or direction when moving or patrolling. It is possible to avoid VAs and VPs with careful route selection of a random route of your own choosing. Random routes that break targetable patterns are very difficult for the threat to target with IEDs. However, it is not always possible to simply avoid VAs or VPs, but it is vital to

recognize when you are not on a route of your own choosing and adopt appropriate C-IED drills accordingly.

It is also worth noting that what you consider to be a random route may have been used previously and therefore is not random at all and is, in fact, a targetable action. This highlights the importance of pre-patrol preparations to determine previous routes.

2.4.6 Issuing a Threat Assessment Summary

6

Issuing a Threat Summary

Threat Assessment is the consolidated answer to the following questions:

- **Who** is the enemy or adversary?
- **What** are they trying to achieve?
- **Who** are they targeting?
- **What** type of device will the aggressor try to use and how will it be initiated?
- **Where** will the device be located and **when** will it be employed?
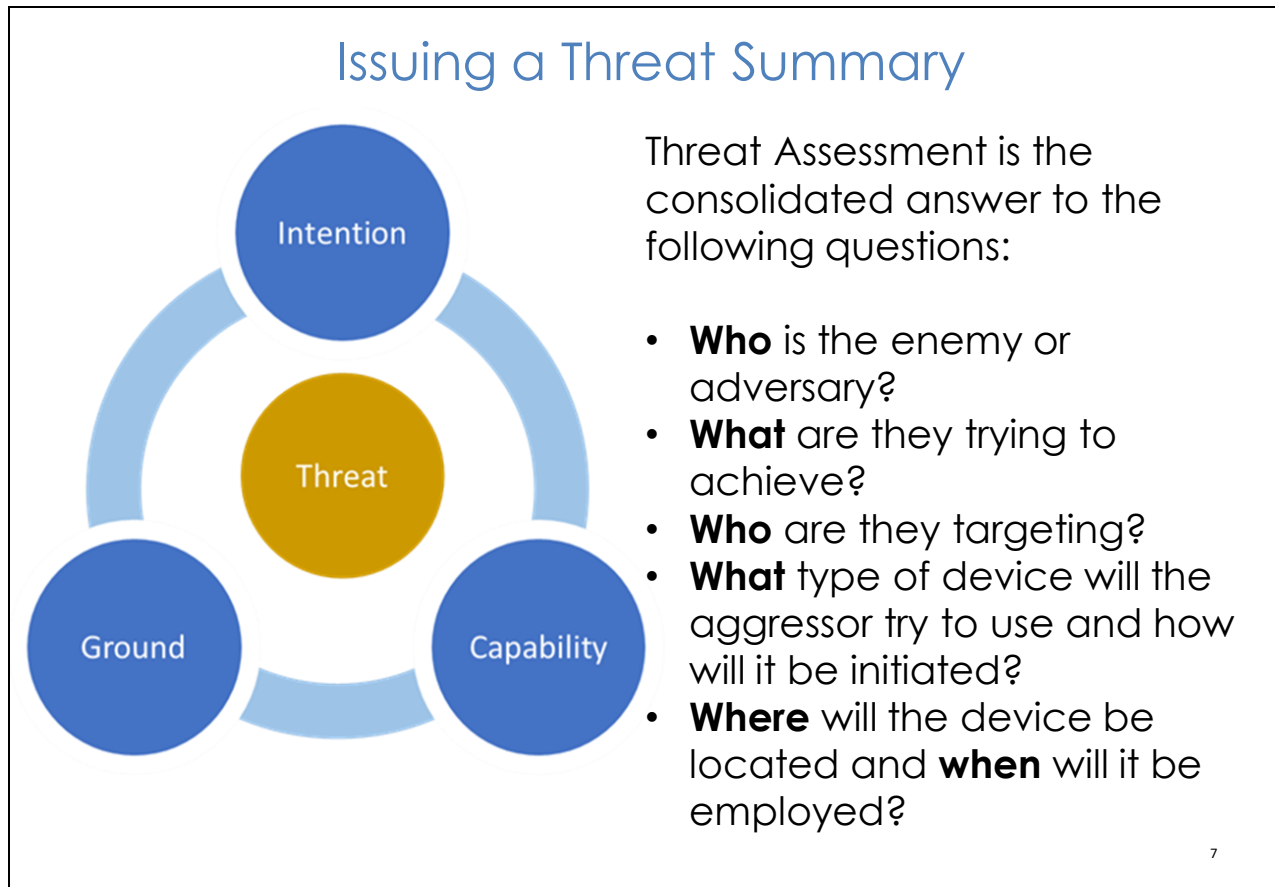
A threat assessment is the product of answering a series question to determine intention, capability and opportunity. These questions can be simplified into:

• Who is the threat or adversary?

• What are they trying to achieve?

• Who are they targeting?

• What type of device will the aggressor try to use and how will it be initiated?

• Where will the device be located and

• When will it be employed?

It is important to note that these questions are a simplification of a significant amount of analysis, staff time and products.

The narrative of answering these questions can be described as a Threat Assessment Summary.
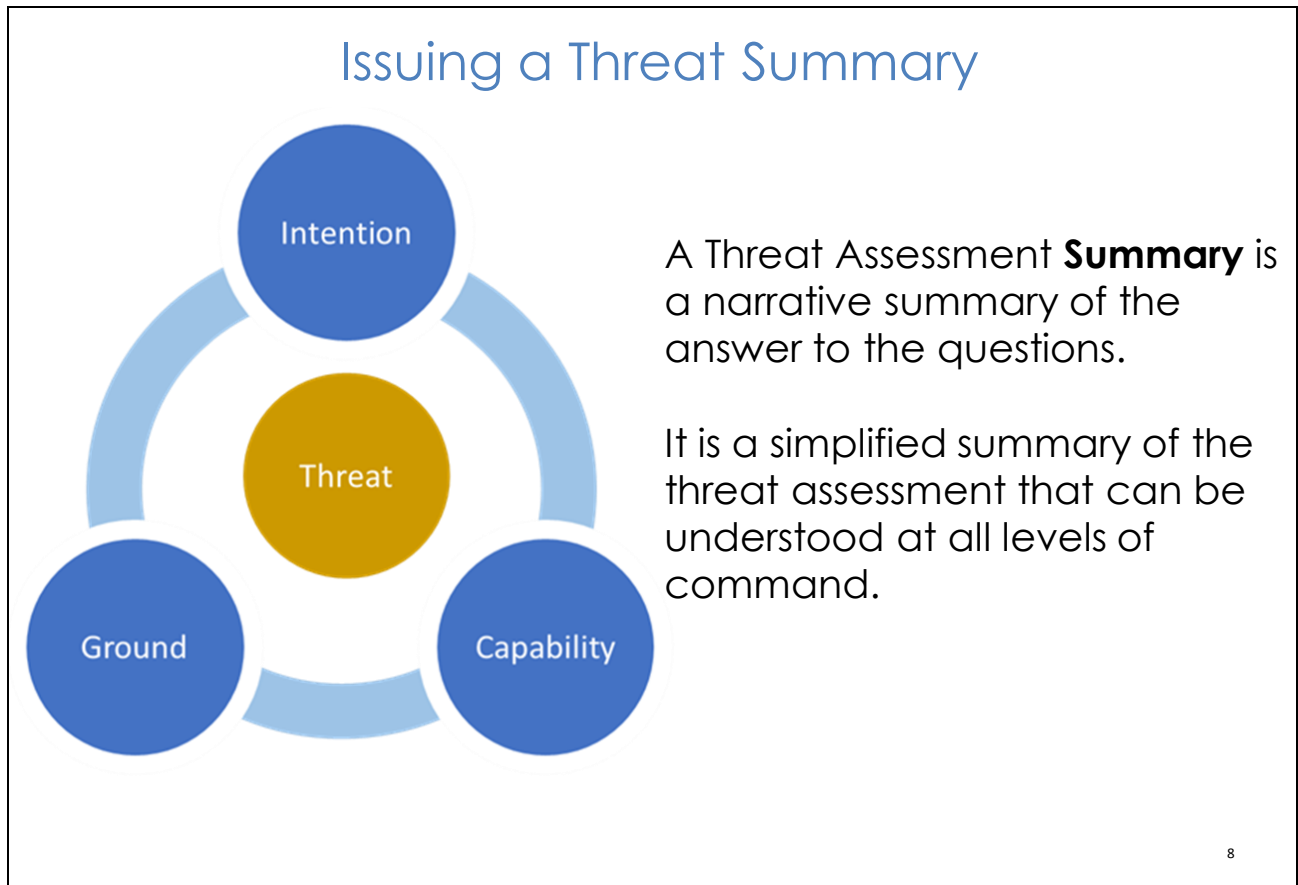
The narrative of answering these questions can be described as a Threat Assessment Summary.

As previously mentioned, the threat assessment will be developed following a significant amount of analysis. The threat summary provides a simple narrative that can be understood and applied at all levels of command to enable those mitigation measures to be applied.

Threat assessment summary is complimented by maps to highlight areas of high and low threat.

Issuing a Threat Summary

Who are the aggressor: An IED cell from the Combattants Indépendants du Sud Carana (CISC).
Who are they targeting: Local security forces but also willing to target UNAC patrols.
What is their intended outcome: Reduce the local security force patrols to give the CISC better freedom of movement.

What is being used: They are capable of using all types of IED but they prefer to use command IEDs to avoid civilian casualties.

Where will they be targeted: Generally on VPs where there is significant slow down points with good lines of sight and opportunity extract.
When will they be targeted: During local security force patrols.

9

This is an example of an over simplified example of a threat assessment summary.

Issuing a Threat Summary

The most likely threat is from the local IED cell of the CISC who is known to operate from the local town of GALASI where they have local support. The cell is known to target local security forces who tend to operate in soft skin vehicles. They also opportunistically target UNAC vehicles, preferring to target convoys, specifically soft skin, logistics vehicles. Their key objective to deter local security forces and UNAC patrols which will afford the CISC greater freedom of movement and opportunity to gain local political support.

They are capable of using all types of IED but they prefer to use command IEDs to avoid civilian casualties. Generally the CISC have preferred the use of Command Wire IED to eliminate the effect of ECM which UNAC are known to employ. Generally, they will follow up attacks/IED explosion with small arms fire but they rarely become engaged, instead choosing to use the SAF to enable quick extraction.

At VPs on the rural/urban interface where urban areas can overwatch VPs. Extremists aim to target convoys at these slow down points where they have good line of sight and linear features to hide command wires before extracting using the cover of the urban area and blending into the civilian population.

10

This is another example of a threat assessment summary. If you were given this as a commander, would you be able to use it to reduce the threat from IEDs during patrols?

Questions?

Lesson

2.5

The Lesson

Time. This lesson requires approx. 60 minutes to teach.

Performance Statement. At the end of this module, participants will be able to integrate CIED considerations to aid in planning, decision-making and situational awareness.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

(1) Integrating CIED into Mission Planning.
    (a) Revision of the UN Mission Planning Process.
    (b) How Threat Assessment and CIED considerations are integrated into mission planning process.

(2) Information Management.
    (a) Importance of recording IED incidents.
    (b) UN Information Systems (from IED TM Handbook)
    (c) Reversionary Situational Awareness - Honesty traces and spot maps.

Methodology. This module will be introduced through lecture method combined with plenary discussions and Question and Answer (Q&A).

Infrastructure. Classroom with projection facilities.

IED TM Lesson 2.5: Integration of Information

1

Find guidance inserted in the note section of each slide.

Slide 2

Overview

2.5.1 Integrating CIED into Mission Planning

2.5.2 Information Management

2

Terminal Learning Objectives

At the end of this module, participants will be able to integrate CIED considerations to aid in planning, decision making and situation awareness.

3

2.5.1 Integrating CIED into Mission Planning

4

Revision of UN MPP

The following slides are taken directly from the UN Specialized Training Material (STM) for UN Staff Officers.

The UN Mission Planning Process (MPP) will be used as a generic framework for explaining how CIED considerations are implemented into mission planning.

Where Member States or Troop Contributing Countries employ an alternative mission planning process (such as MDMP, 7 Questions, Combat Estimate etc), these slides will need to be adapted to suit the process.

5

Revision of UN MPP

Definition of the Military Planning Process

A methodical process that relies on joint efforts of commanders and staff to seek optimal solutions and to make decisions to achieve an objective in a dynamic environment

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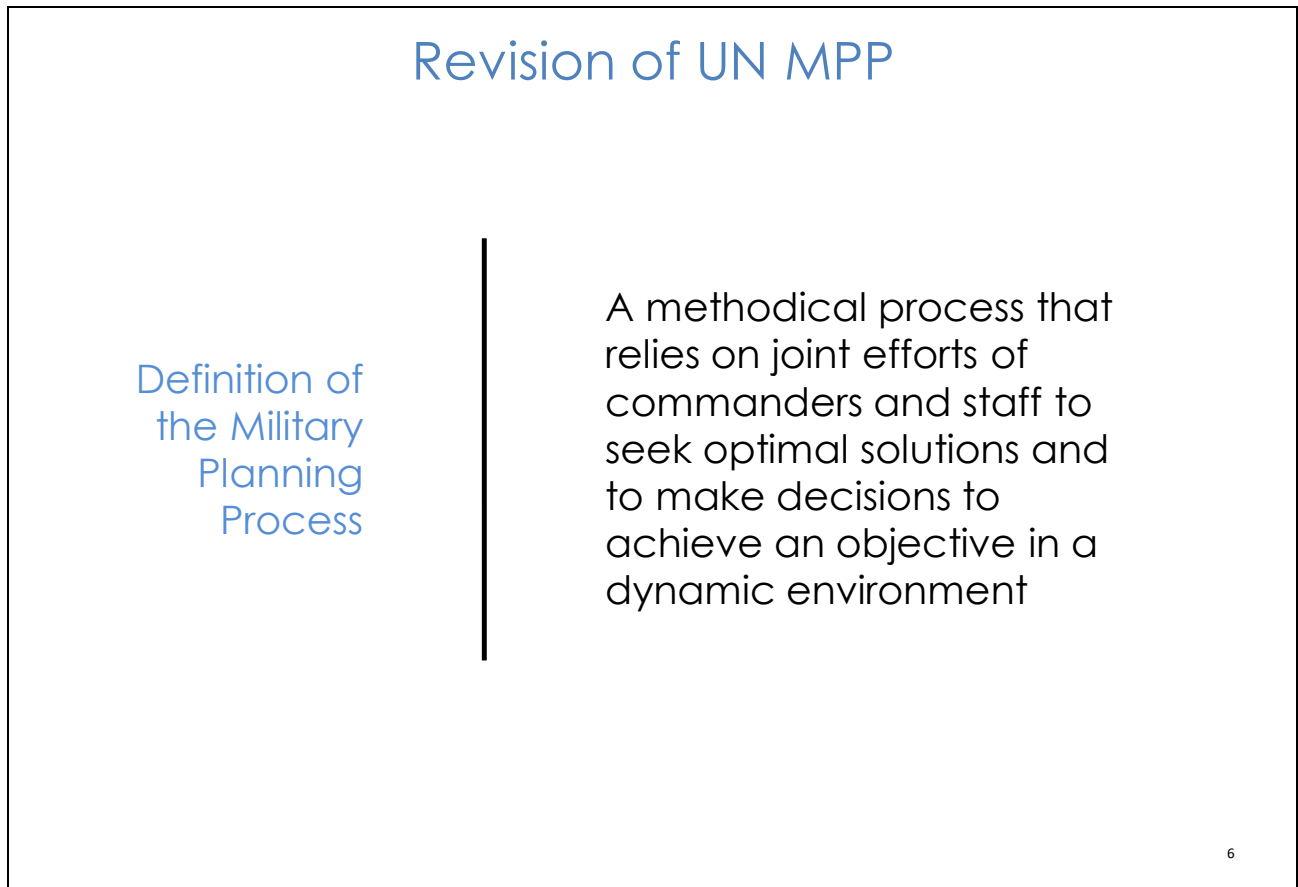
Ask participants what they think the Military Planning Process entails. Who is part of this process? At what level does this take place?

Answers should include what is the mission, commander's intent, resources required, budget constraints, etc. This happens at the Strategic Level all the way through the Tactical levels.

Key Message: The Military Planning Process is a methodical process that relies on the joint efforts of commanders and staff to seek optimal solutions and to make decisions to achieve an objective in a dynamic environment. In a traditional military operation, the planning process will determine resource requirements – troops and equipment required to achieve the task.

Revision of UN MPP

Principles of Planning

- Comprehensive
- Efficient
- Inclusive
- Informative
- Integrated (with long term goals)
- Logical
- Transparent

7
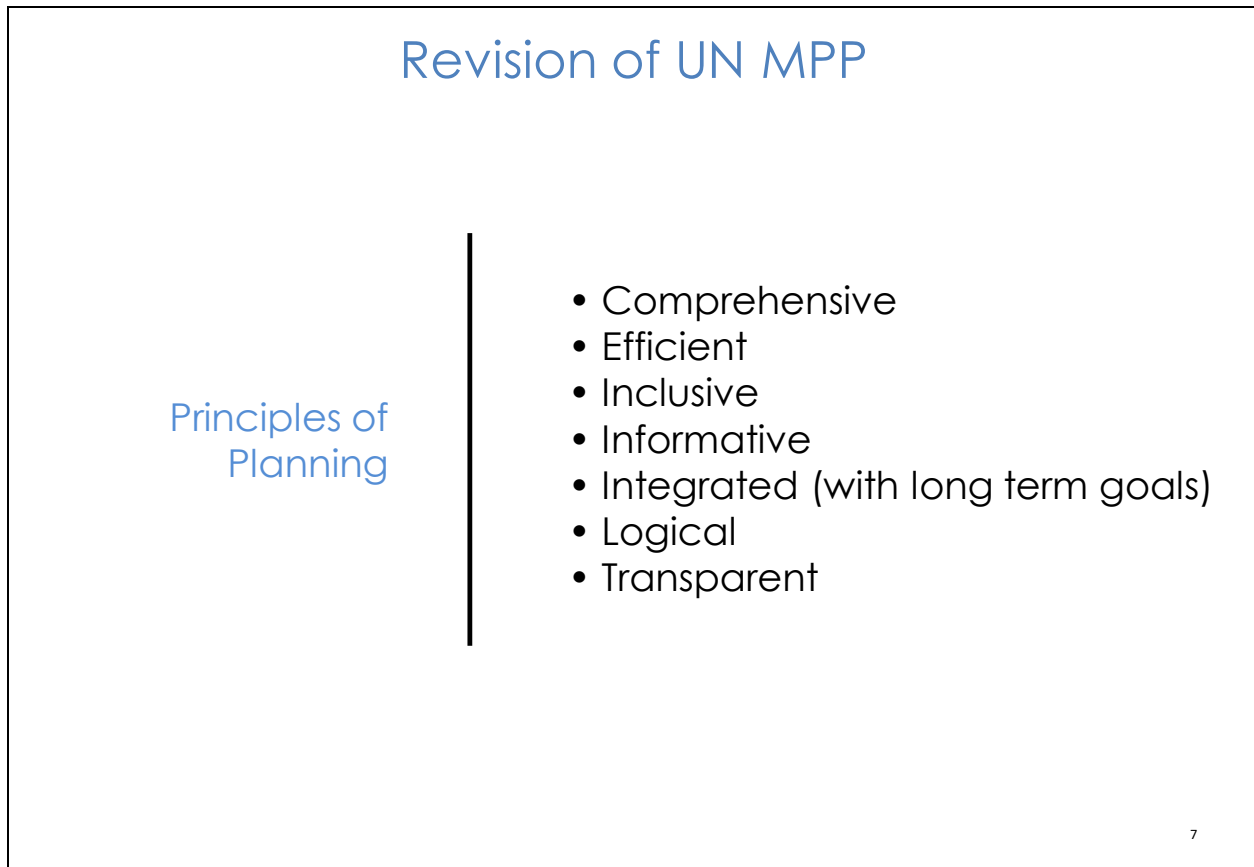
Key Message: Good planning requires a methodical process that clearly defines the steps that lead to optimal solutions.

A basic principle of good planning is that individual short-term decisions should support strategic long-term goals. This requires comprehensive situational analysis by staff officers and guidance and direction from leadership to manage the process effectively. This process should reflect the following Principles of Planning:

• **Comprehensive**: All significant options and impacts on the work of other components are considered.

• **Efficient**: Efficient use available resources.

• **Inclusive**: All components affected by the plan have opportunities to be involved.

• **Informative**: Results are understood by stakeholders (people affected by a decision).

• **Integrated**: Individual, short-term decisions should support strategic, long-term goals.

• **Logical**: Each step should lead logically to the next.

• **Transparent**: Everybody involved should not only be aware of the desired end-state but also understand their roles in each step of the process.

Note to Instructor: It is important for all to understand these basic principles of planning and be able to apply them as they are common themes across all aspects of military operations.

Revision of UN MPP

Themes of
Planning

• Identify problems and objectives
• Gather information
• Generate options to achieve those goals
• Decide on the way ahead and then execute it
     Who?
     What?
     Where?
     When?
     How?
     Why?

8

Themes of Planning

• Determine the nature of the problem and what is to be achieved.

• Gather information.

• Generate options to achieve those goals.

• Decide on the way ahead and then execute it.

    Who, What, Where, When, How, why?

Even though planning skills are used in everyday military life, participants should be aware that, in a peacekeeping operation they will be engaging with civilian mission components and many agencies and organizations that may not be familiar with the military planning process but will possibly have a process of their own. The military staff officer must be flexible enough to combine these processes especially in an integrated mission.

Revision of UN MPP

Likely Consequences of Hasty or Incomplete Planning

- Inefficient use of resources
- Potential loss of life
- Ultimately mission failure

Successful military operations rely on commanders and staff understanding and employing a common and comprehensive process

9

Successful military operations rely on commanders making correct decisions that are developed into feasible plans and executed in a timely and appropriate manner. The usual non-linear nature of Peacekeeping Operations imposes many command and control challenges for peacekeepers. Unit and sub-unit commanders who are remotely deployed or who face rapidly changing situations should be able to take decisions in line with the mission's overall objective. They would therefore need a clear understanding of their higher commander's intent and total comprehension of their assigned task/role and its purpose in the higher commander's plan to enable them to make timely and appropriate decisions. Hasty and incomplete planning will likely result in the inefficient use of resources, potential loss of life, and ultimately mission failure. Mastery in planning and decision-making is achieved by the commander and staff understanding and employing a common and comprehensive process.

Revision of UN MPP

Phases of Military Planning Process in UN Peacekeeping

1. Analysis of the Operational Environment.

2. Mission Analysis.

3. Course of Action Development.

4. Course of Action Analysis and Decision.

5. Production of Operations Orders.

10

There are five distinct phases of MPP:

• Analysis of the Operational Environment.

• Mission Analysis.

• Course of Action Development.

• Course of Action Analysis and Decision.

• Production of Operations Orders.

Note that Phase 1 is ongoing throughout the process, and that each Phase is reviewed as the process progresses.
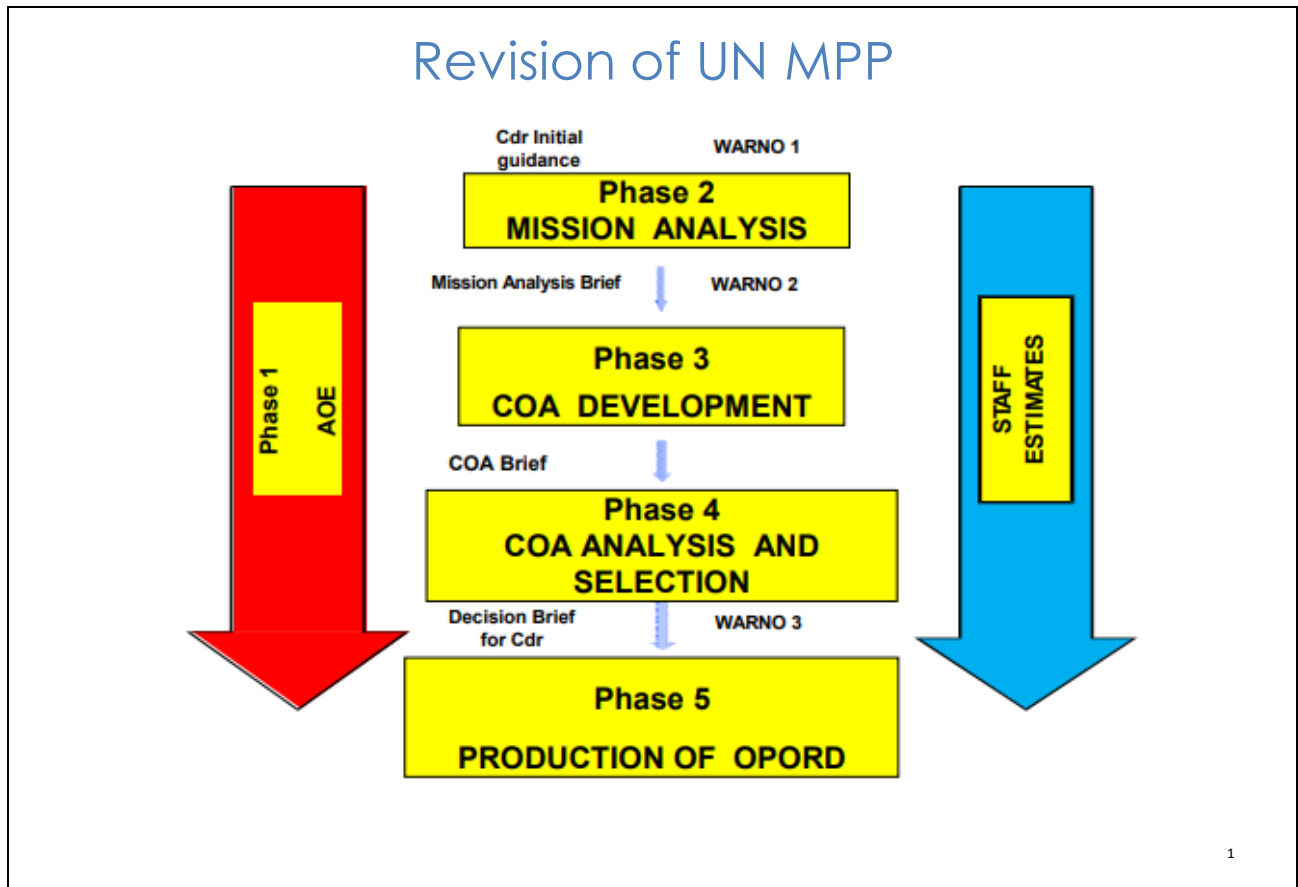
Key Message: It is critical that planners follow the process sequentially, understand the risks associated with the assumptions they make, and refrain from shaping their analysis to suit a predetermined course of action.

This slide shows the MPP in a sequential manner with the Phase 1 running throughout as well as the staff estimates (such as Engineer, Log, etc.) ongoing and integrating into the MPP as it develops. In the next section we will look at how CIED planning may be integrated into the MPP. Please note the other inputs and outputs from each phase such as the Warning Orders (WARNO) and key briefs.
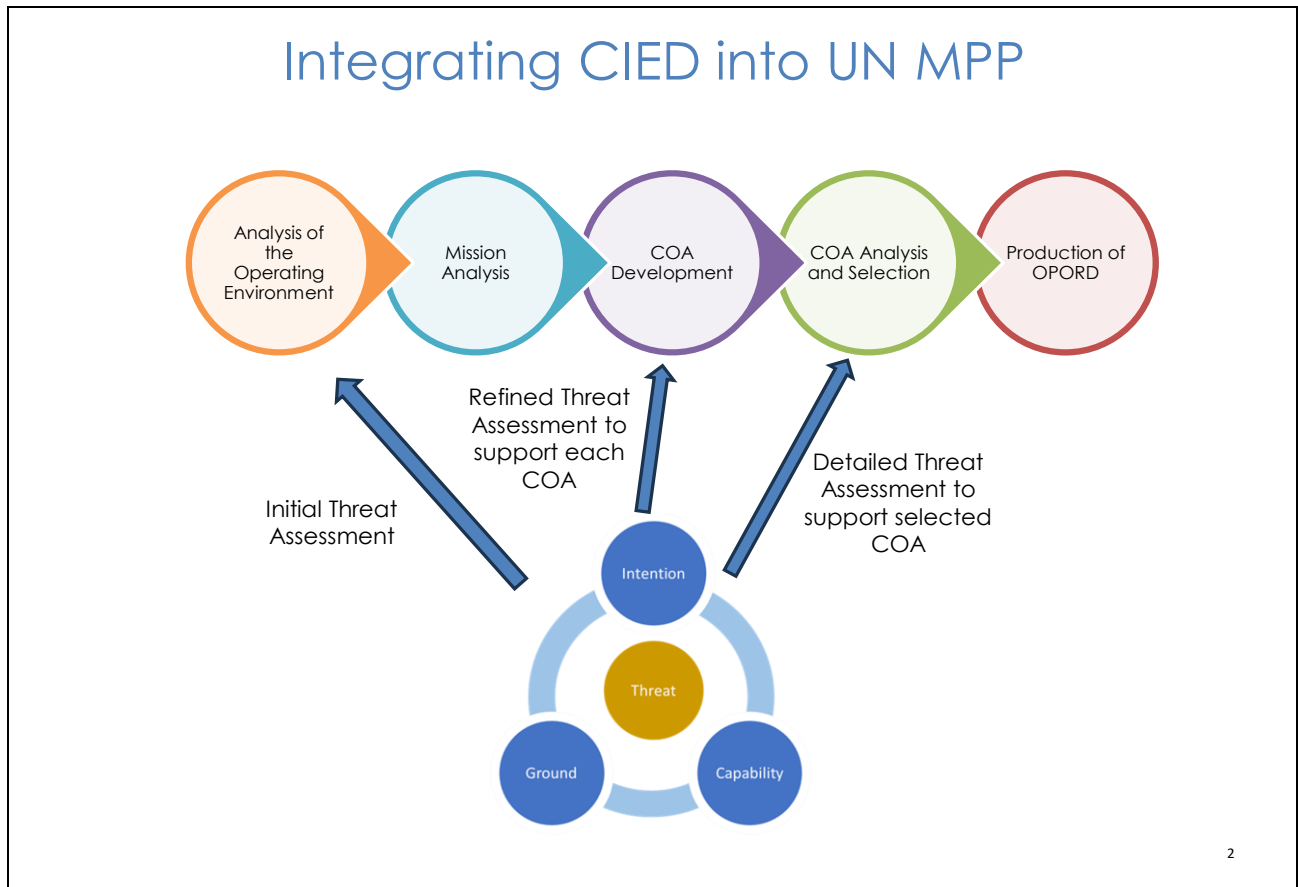
For the purpose of simplicity, the MPP phases have been depicted as a linear process. As a CIED officer in a HQ the threat assessment underpins all planning and advice to the MPP. [**build slide**] In the first instance an initial threat assessment will be conducted to support the analysis of the operating environment. [**build slide**] This is done to ensure all the staff and the commanders are aware of the IED threat and that this is considered when analysing the mission. Once the commander has issued guidance, you will refine your threat assessment to inform all of the courses of action that are being developed. [**build slide**] This is done so that the courses of action that the commander is presented, all consider the relevant IED threat and include realistic plans to mitigate the threat. Finally, once a course of action is selected, you will conduct a detailed threat assessment to inform and develop the chosen course of action. [**build slide**] This is done to refine the IED mitigation measures to reflect the threat.
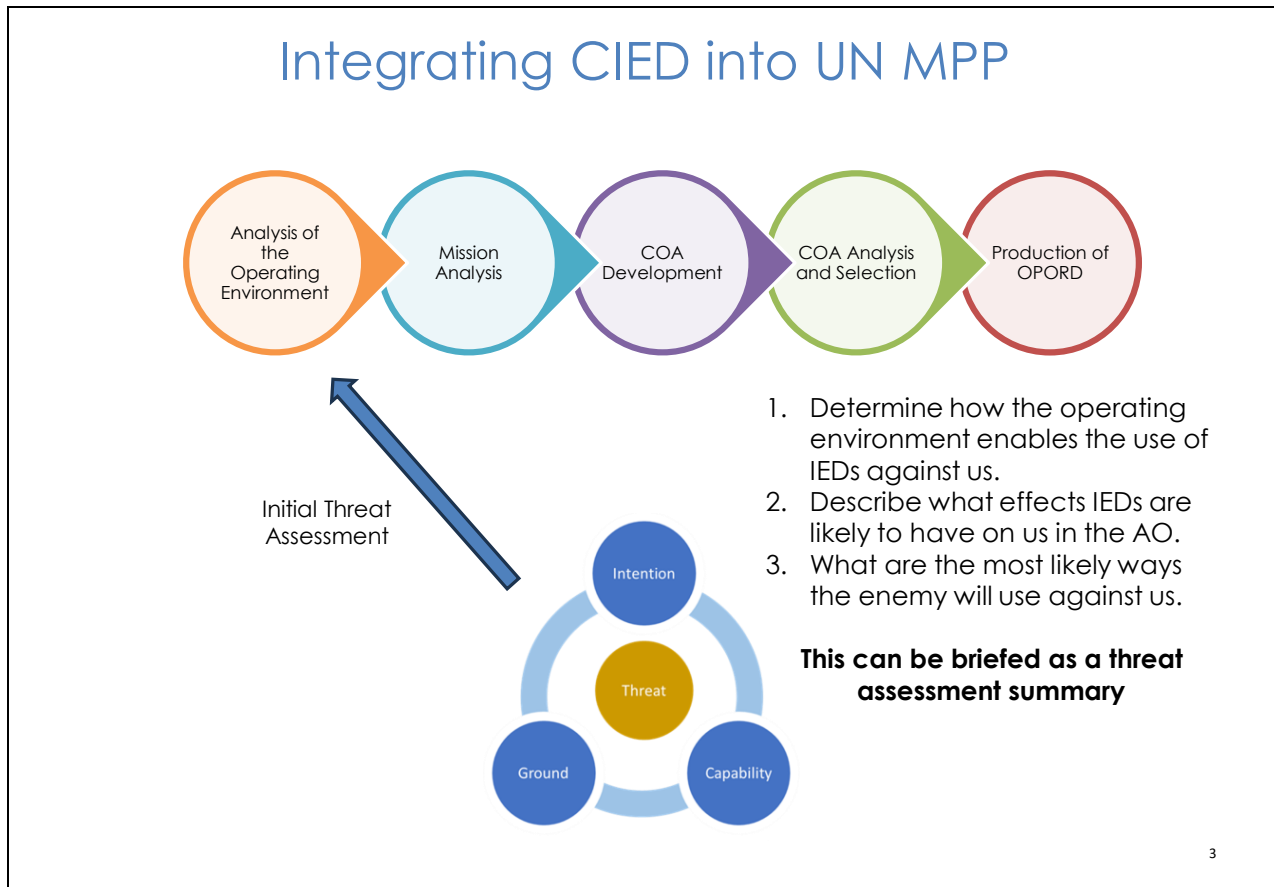
Now that we have shown how the IED threat assessment underpins the advice that a CIED officer provides during MPP, we will now move on to specifically explain how CIED considerations are implemented into the complete MPP.

We have already shown that the initial threat assessment supports the analysis of the operating environment.

The process that your threat assessment should support the other staff (usually the Intelligence Officer and Engineer) who lead this phase. In this phase you are trying to support the following sub-phases [**build slide**]:

1. Define the operational environment. Determine how the operating environment enables the use of IEDs against us.

2. Describe the operational effects. Describe what effects IEDs are likely to have on us in the AO.

3. Threat analysis and adversary COA. Determine what are the most likely ways the threat will use against us.

During the brief for this phase, you can use the threat assessment summary as a format for a brief.
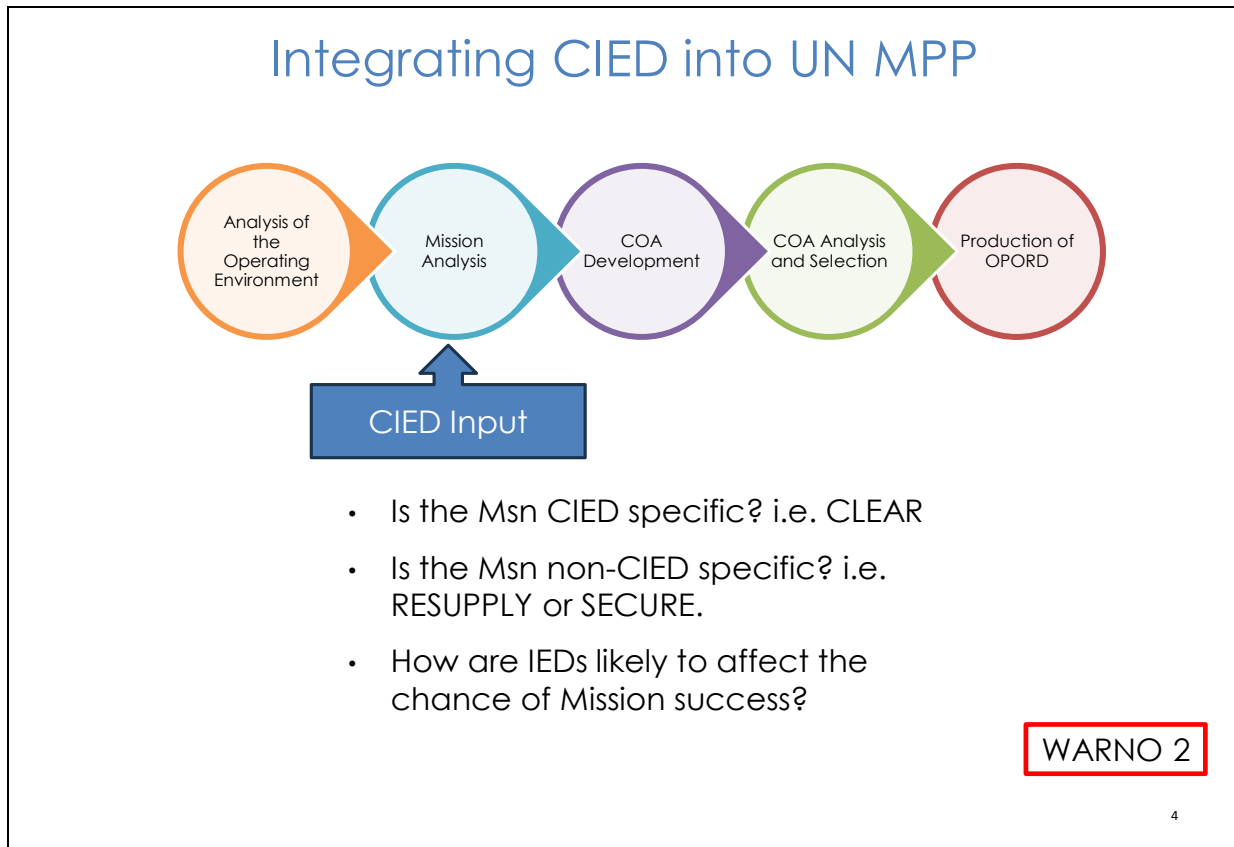
Mission Analysis is the next process in which the CIED considerations should be considered.

Mission Analysis is the principal decision-making tool that guides the planning process. It takes the higher-level guidance provided to the planners, challenges it against the facts and assumptions, and then refines it to better detail the mission and the planning requirements.

Early advice to the commander will help to inform his/her guidance to the staff as they go forward with planning. You as the CIED trained officer have a responsibility to support this process. You can achieve this by:

•Providing clarification on whether or not the mission is a CIED Specific Mission. Is the main effort a CIED task such as CLEARING a route of IEDs or, do CIED activities support non-CIED specific missions such as conducting RESUPPLYING, or SECURING a Forward operating base. This is important as it will help determine where the priority of effort and resources will be focused.

•Providing advice on how IEDs are likely to affect the mission. This is done through your Initial Threat Assessment.

•Help to provide advice on the broader implications of how IEDs can affect the plan.

Following the Mission Analysis brief, WARNO 2 is usually issued. If the mission is likely to involve CIED assets, this is a good opportunity to provide early warning to those assets.

Integrating CIED into UN MPP
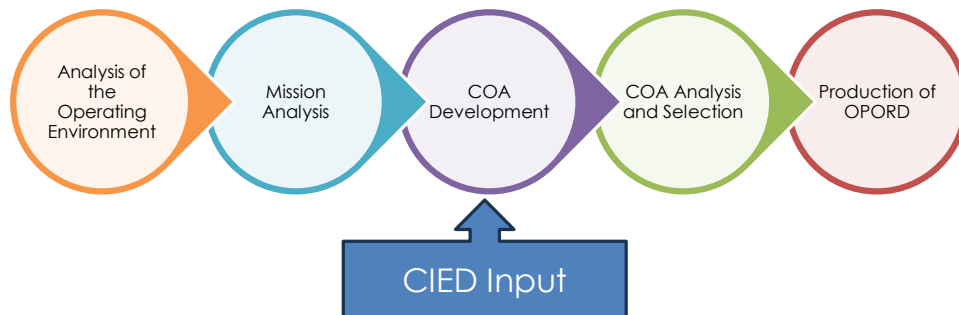
Analysis of the Operating Environment → Mission Analysis → COA Development → COA Analysis and Selection → Production of OPORD

CIED Input

- CIED/Threat mitigation concepts.
- What CIED resources are available or are needed for the mission
- Freedoms and constraints.

Having thoroughly analysed the requirements of the mission, and after receiving command guidance and approval of the proposed mission statement, the staff develops a number of possible COAs for achieving the mission. Each COA will be different and so CIED considerations will need to be specific for each COA. In this phase, CIED input will be specific tactical advice to enable each mission. While there are a number of sub-phases in this phase, we will simply discuss general CIED input into the COA development. The development should consider:

•CIED/Threat mitigation concepts.

•What CIED resources are available or are needed for the mission

•Freedoms and constraints.

Integrating CIED into UN MPP

CIED Concepts

- What can we do to Prepare the Force?

- What can we do to Defeat the Device?

- What activities will enable us to Degrade the IED system?

6

CIED Concepts can be incorporated into the mission planning. When considering what advice to offer the planning teams you can consider the following:

•What can we do to Prepare the Force? Are there activities that are required in order to enable this mission such as carrying out refresher training on CIED?

•What can we do to Defeat the Device? What assets other than our organic EOD and Search teams can we use to defeat the device? E.g. ISR

•What activities will enable us to Degrade the IED system? What activities can be carried out to disrupt the IED system both pre- and post-blast?

Integrating CIED into UN MPP

CIED Resources

- What resources are required/available?
- What effect will they have on the mission?
- What CIED assets should be employed in support?
- Does the CIED overlay match the threat assessment?

7

Next, we must consider what C-IED resources are available and how they can be used by each COA. At this stage you will need to offer advice to each COA Development team. Factors for consideration are:

•What resources are required/available? You should know what assets you have within your organisation but also what assets you can call upon from Higher HQ.

•What effect will they have on the mission?

•What CIED assets should be employed in support? How can each asset be employed? Be realistic.

•Does the CIED overlay match the threat overlay? Does the use of each asset match your threat assessment? There is no point in forcing the deployment of ECM if there is no RC IED Threat.

Integrating CIED into UN MPP

CIED Constraints
- Task duration/task length/scope
- Capability, degradation, availability – equip/assets/night ops
- Prioritisation
- Extra Force Protection requirements – cordon troops
- Local Population co-operation
- Terrain Integrity – overwatch of cleared areas

8

Whilst offering advice to the COA development teams, be sure to be clear on what constraints your CIED assets have. Many people do not understand the capabilities and limitations of CIED Assets. Consider:

•Task duration/task length/scope – how much time does your task take compared to the available time for the operation.

•Capability, degradation, availability – equip/assets/night ops

•Prioritisation. How important is the CIED Task in relation to the operation as a whole.

•Extra Force Protection requirements – cordon troops

•Local Population co-operation

•Terrain Integrity – overwatch of cleared areas

Integrating CIED into UN MPP

Constraints – Planning Yardsticks

- VP Search – 1 Hour

- VA Search – 1 hour per 100m

- Person Search – 1 min initial, 5-10 min detailed

- Vehicle Search – 1-2 min initial, 10 min primary

- IEDD task – simple IEDD on route 1-2 hours (if IEDD team in the convoy)

- PBI/Sensitive Site Exploitation – 1 hour.

- ECM – will vary depending on model. Useful to know coverage, numbers, battery life etc.

9

It is important to add realism to planning at this stage to ensure events are accurately synchronised. How long a task will take will vary in each mission and will be different depending on terrain, threat and types of IEDs that are employed. The examples on the screen are only indicative and accurate advice will need to be sought from Search Advisors of EOD operators.

Slide 20

Integrating CIED into UN MPP

Constraints – Example of search yardstick

Procedure	Search Response	Target	Estimated duration	Assumptions
Person	Check	Person	2 mins	
	Search		10 mins	
Vehicle	Check	Vehicle	2 mins	
	Search		10 mins	1 x Search pair
Area	Rummage	Ref point	5 mins	
	Search	100 x 100m	120 mins	1 x Search Team
Building	Rummage	Room 5x5m	5 mins	
	Search	Room 5x5m	30 mins	Offensive Search 1 x Search Team Gardens & outbuildings classed as rooms

10

As a TM Advisor it will be useful to create quick reference cards to support the planning process.

Integrating CIED into UN MPP

Analysis of the Operating Environment → Mission Analysis → COA Development → COA Analysis and Selection → Production of OPORD

CIED Input
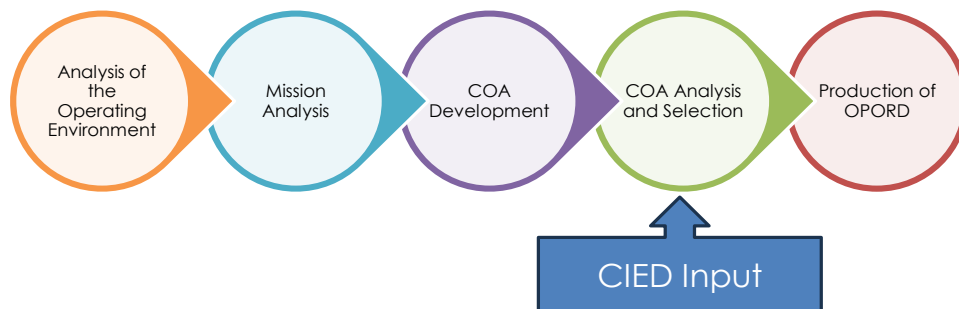
11

Once the COAs have been developed they will be subsequently analyzed by the staff and the commander will ultimately select a COA. This COA will often require additional refinement. Again, your input is required to ensure CIED activities as part of the COA are also refined.

Slide 22

Integrating CIED into UN MPP

Analysis of the Operating Environment → Mission Analysis → COA Development → COA Analysis and Selection → Production of OPORD

CIED Input
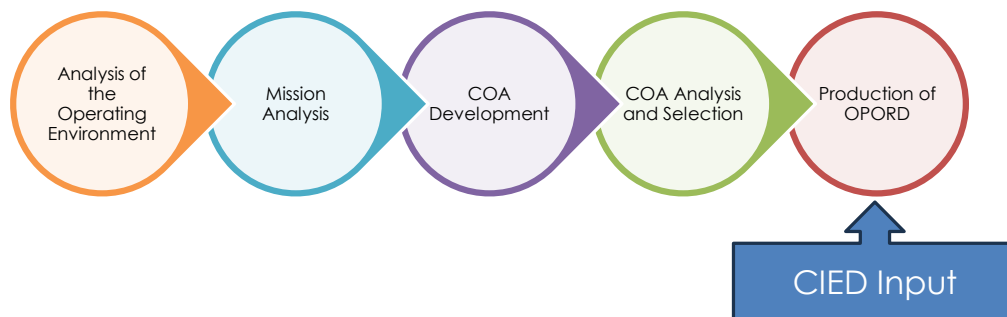
- Ensure CIED activities are captured in Orders.
- Clear missions and tasks for both CIED assets and those supporting CIED activities.
- Add detail such as threat assessment summary and threat overlay.

12

At the publication of orders, it is important to ensure that the plan that you have helped develop, details the CIED activities within the orders. This will include ensuring there are clear missions and tasks for both CIED assets as well as assets supporting CIED assets. Where appropriate, a threat assessment summary should be included in the orders, and where possible a threat overlay to inform commanders of areas of higher and lower threat.

Slide 23

Questions?

UNMAS

13

2.5.2 Information Management

14

Reporting all IED incidents regardless of if there are a strike, find, hoax etc. is extremely important.

•Firstly, it ensures there is a common understanding of the situation across the operational environment. This is important during an incident to ensure resources can be allocated to support where required but also to ensure other forces are aware of the potential impact on other operations.

•Secondly, accurate reporting ensures the mission area can monitor trends in IED use and our ability to respond. Understanding if there is a growing or reducing IED trend will help to indicate if our activities are having an effect. If there is a change in the trend in terms of finds vs strikes, it could give an indication of the effectiveness of our training.

•Accurate reporting also helps us understand changes in enemy TTPs in terms of both types of IEDs and how they are employed. Knowing this will allow us to react quickly and adapt our own TTPs.

•Finally, and very importantly, it helps us to determine high and low-threat areas. If we fail to report the incident, it could result in a patrol failing to identify a VP, resulting in casualties or fatalities.

Slide 26

Importance of Recording IED Incidents

This is an example of a routine IED incident report. As you can see, it provides a detailed summary of IED Incidents. These types of reports are highly valuable to planners and commanders. These products rely on accurate reporting to ensure they are useful. While this is an example for the whole mission, much more detailed reports can be produced for specific sectors.

UA SAGE

UNITE AWARE SAGE

- Situational Awareness tool
- Web based application
- All UN entities are required to use SAGE to report incidents

17
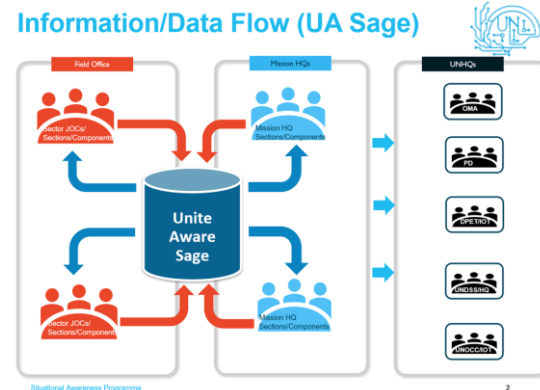
Unite Aware Sage (Basing on availability) is used by peacekeepers to report events, incidents, and activities to operation managers to establish and maintain situational awareness in UN Peace Operations. SAGE (Situational Awareness Geospatial Enterprise) is a simple and intuitive web application that offers an integrated field operational and situational awareness information management system. Sage enables mission components to collect, share and retrieve geo-coded and categorised data related to incidents, violations, events, and activities. All UN entities are to use SAGE to report any kind of incident, not only but especially also IED Incidents.

Reversionary Situational Awareness
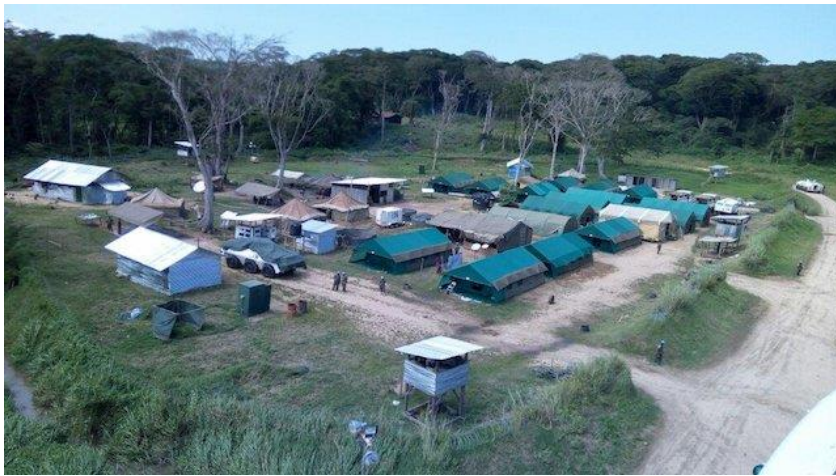
Digital situational awareness tools are a great help. But what if you are deployed in a remote area with no access to digital tools?

18

Whilst digital applications such as SAGE or Google Earth are effective tools for maintaining situational awareness, not all peacekeepers will have access. What if you are deployed to a remote location with no access to digital applications? In this case we need to maintain situational awareness as well as keep records that allow us to avoid setting patterns or become easily targetable. In the next slides we will cover examples of reversionary methods to avoid this.

Reversionary Situational Awareness

Honesty Traces

- Simple method of recording patrols
- Only requires map and clear sheet (talc/tracing paper/overlay paper)
- Each patrol **honestly** records where they have been.
- Helps to identify if we are setting patterns and if we are creating situation VPs and VAs.

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Image – Crown Copyright

Honesty traces were developed by the British during the troubles in Northern Ireland. The name comes from recording patrol routes onto tracing paper and then overlaying them onto maps to identify areas that were being continuously patrolled. Honesty traces only require fundamental equipment including a map and some kind of clear sheet such as talc or overlay sheet. Each patrol records onto the overlay where they have been. The key here is they must be honest about the patrol, hence the name. The building of traces over time will help us to develop an understanding if our activities are setting targetable patterns and creating situational VPs or VAs.

Reversionary Situational Awareness
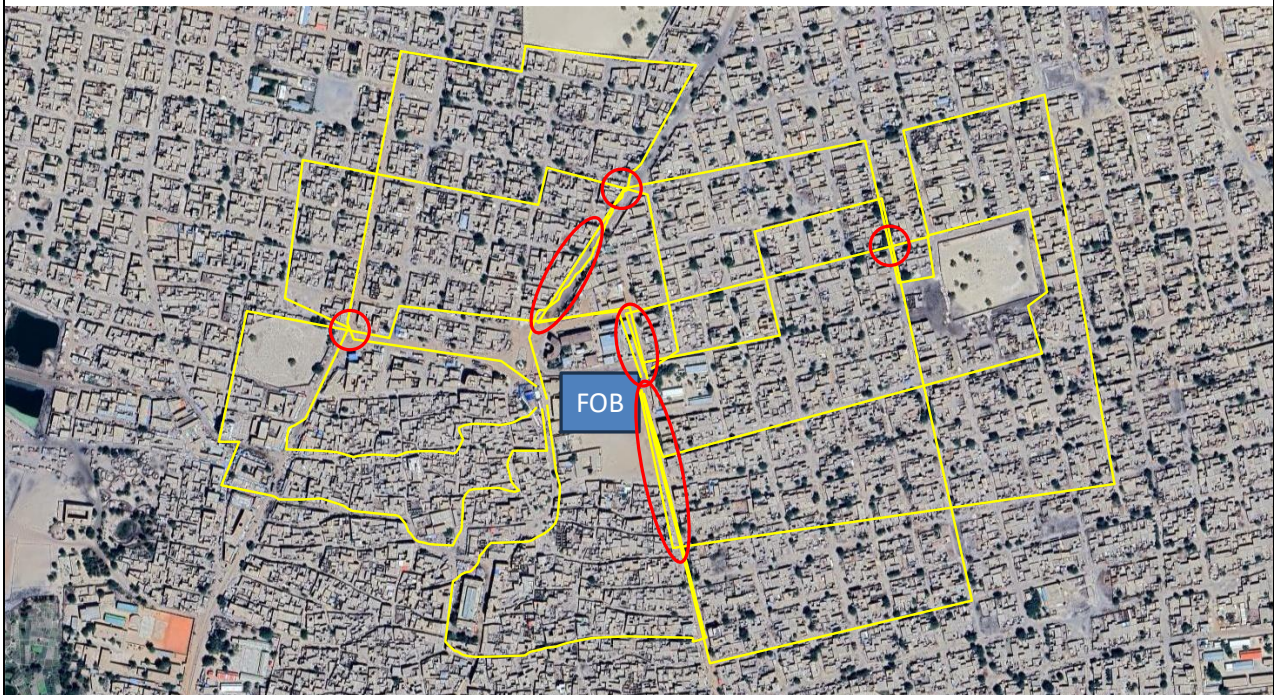
We will now try to represent digitally how an honesty trace can be used in an HQ. Let's imagine you are based in a FOB on a UN mission. Your company is required to carry out daily patrols to provide reassurance to the local population. Each time a patrol goes out, they try to use different routes to avoid setting patterns. The patrol upon return, reports to the HQ, and records on a map trace, where their patrol has been. [**build slides to show patrol routes**] You can now see where each patrol has been and how, despite efforts to avoid setting patterns, it is starting to repeatedly move over certain areas. [**build slides to show VPs and VAs**] You can now see for the behaviour of the patrols over time that they are either being channelled into terrain-based VPs or they are creating situational VPs. What could the HQ do to reduce the risk of becoming targeted?

Slide 31

Questions?

Lesson

2.6

INTEGRATION OF INFORMATION

The Lesson

Time. This lesson requires approx. 90 minutes to teach.

**Performance Statement.** At the end of this module, participants will be able to plan mounted route movements in an IED threat environment and apply C-IED measures.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

Play Route Movement video (22-minutes)

Route Analysis Process
  (a) Phase 1 – Identify Areas of Interest (AOI)
  (b) Phase 2 – Conduct information Gathering
  (c) Phase 3 – Determine VA's and VP's
  (d) Phase 4 – Establish Mitigation Measures.

  (2) Introduction to Convoy Planning and Procedures in the IED Environment
  (a) Movement planning
  (b) Deployment briefing for operation
  (c) Movement
  (d) Debriefing and reporting

b.   **Methodology.** This Module will be introduced through the lecture method combined with the participatory approaches and exercises/demonstrations.

c.   **Infrastructure.** Classroom with projection facilities, sandpit, and outside areas.

d.   **Equipment.** Model making material.

Lesson 2.6 – MOVEMENT IN IED AO – Model Exercise

A practical demonstration using a trained instructor in an improvised model in a sandpit or outdoor area.

Instructor is to construct a model of a fictitious operational area. The area should include a route with a number of possible VPs and VAs. The route should connect friendly force locations e.g. Patrol Base and Logistics Base.

Note. This model needs to be constructed ahead of time to allow quick transition between classroom lesson and this serial.

The model should have the following VPs/VAs included:

- Previous attack sites. The instructor should provide at least two previous attack sites; one should be historic and not be linked to the current operation which the students should be able to discount, the other should be recent which targeted a UN Patrol. The type of IED is the discretion of the instructor.
- Approach to friendly locations, e.g. FOBs.
- Re-occupation of previous locations. E.g. previous check point locations or overnight locations.
- Culverts.
- River crossing points and bridges
- Sharp turns
- Intersections
- Choke points
- Built up areas.

The instructor should brief the following scenario:

- Describe the model to the students.
- Provide an operational scenario briefing.

"You are an IED threat Mitigation Advisor working in a Battalion as part of the UN Mission in Carana (UNMIC). Your battalion was deployed as part of a peacekeeping force to help respond to the instability caused by adversary groups operating in CARANA seeking to overthrow the legitimate government. Your battalion is in a Forward Operating Base near the village of LUFTO. There is a Logistical supply base approximately 50km away from your FOB in the town of XALKSA. Your battalion routinely conducts logical and security patrols between the two locations. The route is also used very frequently by civilians who the adversary groups do not intend to harm.

The battalion is made up of the following: Bn HQ, 2 x Infantry Companies each with a trained search team equipped with Detectors and 1 x ECM unit, 1 Engineer Troop with an IEDD Team (2 pax), 1 x Logistics Platoon.

"A Friendly Force vehicle was moving from your patrol base to the logistics base. Shortly before arriving at the patrol base, the vehicle struck an IED leaving several soldiers injured who now need medical support. Before a force can deploy, you as the IED TM advisor need to conduct a hasty route analysis to identify all VA/VPs on the route and recommend mitigation measures that the rescue force can implement."

Instructor should break the students down into groups (no more than 5 students per group) and task them to:

1. Identify all VAs and VPs on the route. (ensure the students follow the process of Identify Areas of Interest > Gather Information > Determine if it is a VA/VP)

2. Qualify the VA/VP. i.e. explain why they are VA/VPs.

3. Recommend actions the rescue party could implement to mitigate the threat of IEDs.

Give the groups 20 minutes to carry out their assessment and then each group should provide a 5-minute brief.

Alternative Delivery Method. If no outdoor area is available, this scenario can be delivered as a map exercise with the same task description and activity. For this, the instructor will be required to source digital or hard copy maps and images that provide sufficient detail to enable the students to carry out the route analysis.

Slide 1

IED TM Lesson 2.6:
Movement in an IED AO

1

Find guidance inserted in the note section of each slide.

Slide 2

Overview

2.6.1 Route Movement Video

2.6.2 Route Analysis Process

2.6.3 Introduction Convoy Planning and Procedures in IED Threat Environment

2

Terminal Learning Objectives

At the end of this module, participants will be able to plan **mounted** route movements in an IED threat environment and apply C-IED measures.

3

2.6.1 Route Movement Video

4

Slide 5

Route Movement Video

2.6.2 Route Analysis Process

6
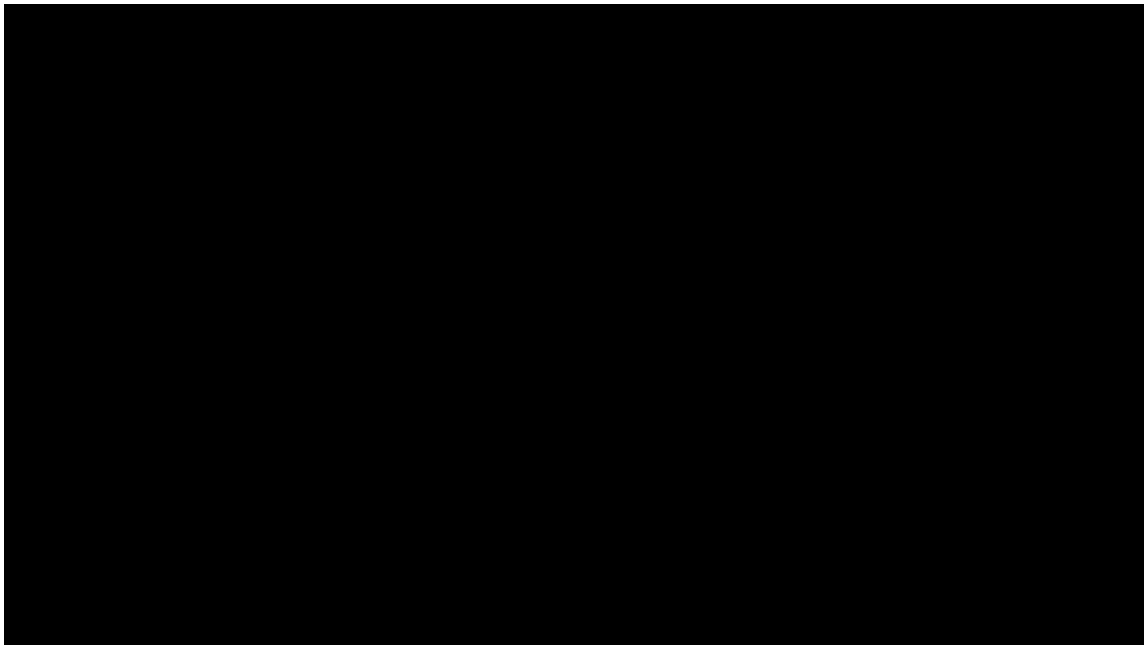
Route Analysis Process

What is Route Analysis?

Route analysis is a process of assessing a planned route to identify areas of higher and lower threat to enable the efficient application of mitigations measures.

It is a continuation of the threat assessment process.

Route analysis will support the mission planning process.

Route analysis is a process of assessing a planned route to identify areas of higher and lower threat to enable the efficient application of mitigations measures.

When we are conducting a road move in an IED threat AO, it would be ideal to have sufficient assets and time to search and clear every part of the route. This is of course completely unrealistic. In no scenario would we have either the time or sufficient assets to do this. The process of route analysis allows us to efficiently apply mitigation measures and C-IED assets to areas where there is most threat.

Route analysis is a simple extension of the Threat Assessment process.

Route analysis is normally part of route movement planning.
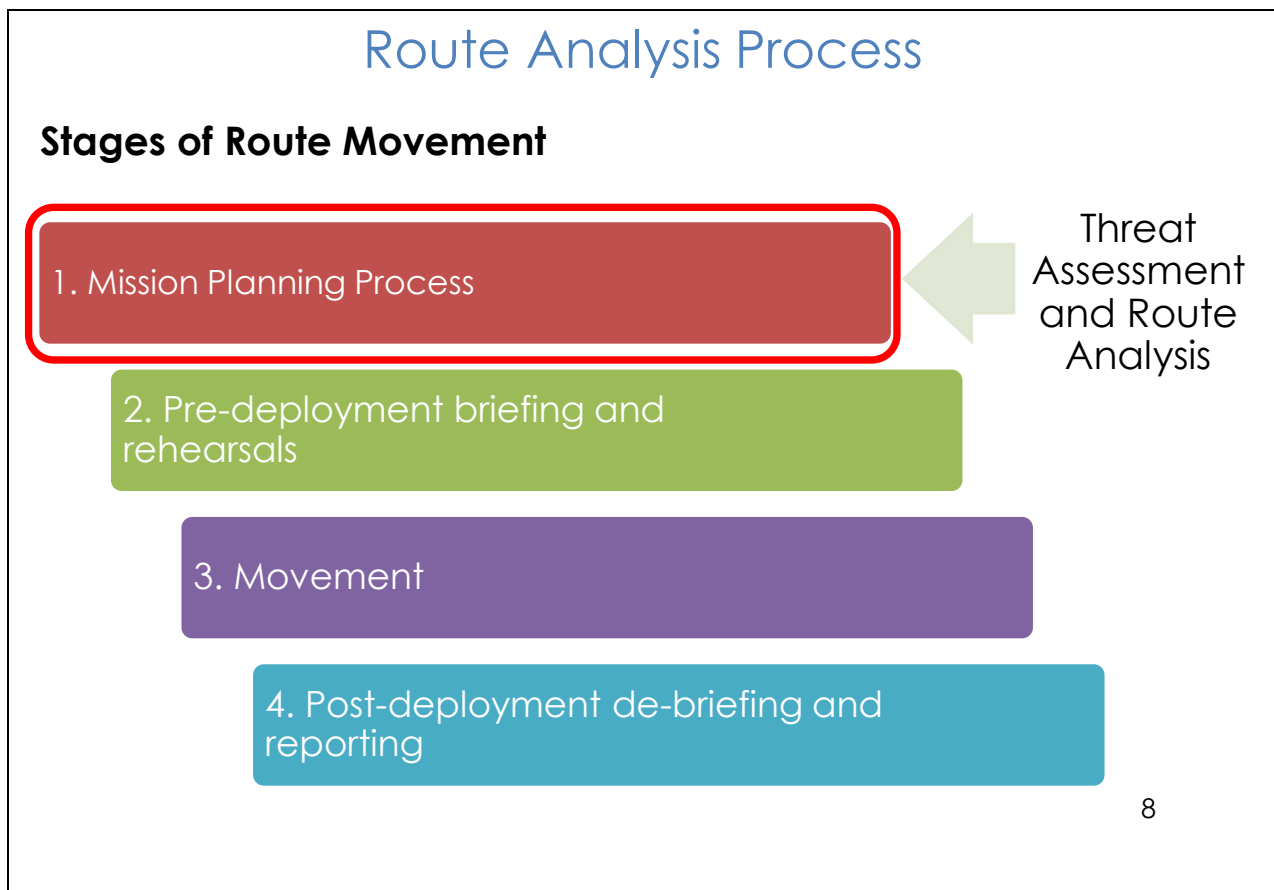
The process of conducting a mounted route movement will generally consist of these four phases. Like all military or police operations, the process for any operation begins with a mission planning process. This process could be the UN Mission Planning Process, the Combat Estimate, 7 Questions, the US Military Decision-making Process or any other planning process. The key here is this is that a mission planning process should be carried out before any activity. As discussed in the previous lesson, the threat assessment is a tool used to inform the mission planning process. If the mission involves a mounted patrol, road move of convoy movement, a route analysis should be a core product of the mission planning process.

An initial or on-going threat assessment should be carried out ahead of all operations. This has already been covered in previous lessons so will not cover in detail now.

Intelligence Preparation of the Environment is a process carried out in the first phase of the mission planning process. It consists of an analysis of the Threat, the Physical Terrain and the Human Terrain. If you are working at a battalion or brigade HQ, the IED threat assessment should be conducted in conjunction with this process.

Route Analysis Process

Route Analysis

- Phase 1 – Identify Areas of Interest (AOI)
- Phase 2 – Conduct information Gathering
- Phase 3 – Determine VA's and VP's
- Phase 4 – Establish Mitigation Measures.

Once preparation has been carried out, we can commence an analysis of the route. This consists of 4 phases:

- Phase 1 – Identify Areas of Interest (AOI)
- Phase 2 – Conduct information Gathering
- Phase 3 – Determine VA's and VP's
- Phase 4 – Establish Mitigation Measures.

Route Analysis Process

Route Analysis

Phase 1 – Identify Areas of Interest (AOI).
- Terrain or Ground.
- Previous Attack Locations
- Friendly force predictability

Vulnerable Point Identification Record

Route:

Start Point:

End Location:

AOI	Location	Feature	Information needed	Who can provide the information	Information	VP or VA	Mitigation Measures
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	SU 123456	River	Is the river seasonal? Are there existing bridges? Is there a bypass route?	Local Unit	River is seasonal. Can easily be bypassed in dry conditions but only 1 bridge when in flood.	Yes	TBC

Areas of Interest need to be initially identified. These locations are areas that we have interest in gathering further information to inform what areas are safe and where vulnerable point and vulnerable areas are. Features that are both advantageous to us **and** the threat should be considered.

To establish areas of interest, we can use the following:
- **Terrain or Ground**. This includes natural features such as rivers, hills, forested areas, channelled areas as well as manmade structures including bridges, towns, friendly force patrol bases and check points.
- **Previous Attack Location**. Like us, Terrorist Groups tend to set patterns. They will likely use locations where they have had previous successful attacks.
- **Friendly Force Predictability**. Understand what activities friendly forces have carried out on recent operations along the route is important. This allows us to establish situational vulnerable point. This is includes identifying previous patrol routes, locations of where patrols have conducted halts or where they have set up check points.

At this stage, it is important to start building a locally produced record chart. (Instructors talk through the example).

Route Analysis Process

Route Analysis

Phase 2 – Conduct information Gathering.
- Maps
- Photography
- Recce
- Reports
- Local Knowledge
- Honesty Traces
- Terrorist Analysis

Vulnerable Point Identification Record

Route:

Start Point:

End Location:

AOI	Location	Feature	Information needed	Who can provide the information	Information	VP or VA	Mitigation Measures
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	SU 123456	River	Is the river seasonal? Are there existing bridges? Is there a bypass route?	Local Unit	River is seasonal. Can easily be bypassed in dry conditions but only 1 bridge when in flood.	Yes	TBC

Now that Areas of Interest have been identified, the next phase focuses on gathering information about each area of interest. This will subsequently enable us to determine if those areas of interest are to be considered as VA/VPs and if mitigation measures need to be implemented. To do this we need to use different sources of information. This includes:
- Maps
- Photography
- Recce
- Reports
- Local Knowledge
- Honesty Traces
- Terrorist Analysis

Route Analysis Process

Route Analysis

Phase 3 – Determine VA's and VP's

- Remember use of CAGE or other common VP locations but remember to consider other friendly force actions.

Vulnerable Point Identification Record

Route:

Start Point:

End Location:

AOI	Location	Feature	Information needed	Who can provide the information	Information	VP or VA	Mitigation Measures
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	SU 123456	River	Is the river seasonal? Are there existing bridges? Is there a bypass route?	Local Unit	River is seasonal. Can easily be bypassed in dry conditions but only 1 bridge when in flood.	Yes	TBC

Now that information has been gathered, you need to determine whether each Area of Interest is or is not a VA or VP. This relies on the remember to use CAGE as well as common VP locations such as Bridges, culverts, sharp bends. Choke points etc. It is however important to remember what other friendly forces are doing in the AO. E.g. if there is a clear VP but it is overwatched 24hours a day by a nearby FOB, it may not be a VP.

Route Analysis Process

Route Analysis

Phase 4 – Establish Mitigation Measures.
- First determine if that VA or VP can be avoided. (note, new route needs analyzing.
- Understand friendly force CIED capabilities.
- Apply threat mitigation measures
- Request support

Vulnerable Point Identification Record

Route:

Start Point:

End Location:

AOI	Location	Feature	Information needed	Who can provide the information	Information	VP or VA	Mitigation Measures
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	SU 123456	River	Is the river seasonal? Are there existing bridges? Is there a bypass route?	Local Unit	River is seasonal. Can easily be bypassed in dry conditions but only 1 bridge when in flood.	Yes (river is in flood)	Conduct Search of the VP.
2	SU 345678	Channeled Route	Is there an alternative route?	Maps	There is an alternative route	Yes	Bypass

Now that VPs and VA's have been identified, mitigation measures need to be applied.

Firstly, we can determine if our planned route can avoid the VPs. It is important to note that if the route bypasses the VP, analysis on the proposed route needs to be conducted following all 4 phases.

Secondly, we need to understand what our friendly force capability is. Do we have ECM, Search Teams, IEDD teams etc.

Third, we need to apply the threat mitigation measures to the relevant VPs.

Finally, where we do not have the capability, we need to request support from other friendly forces or HQs.

2.6.3 Introduction Convoy Planning and Procedures in the IED Environment

15

Route Analysis Process

Stages of Route Movement

1. Mission Planning Process

Threat Assessment and Route Analysis

2. Pre-deployment briefing and rehearsals

3. Movement

4. Post-deployment de-briefing and reporting

16
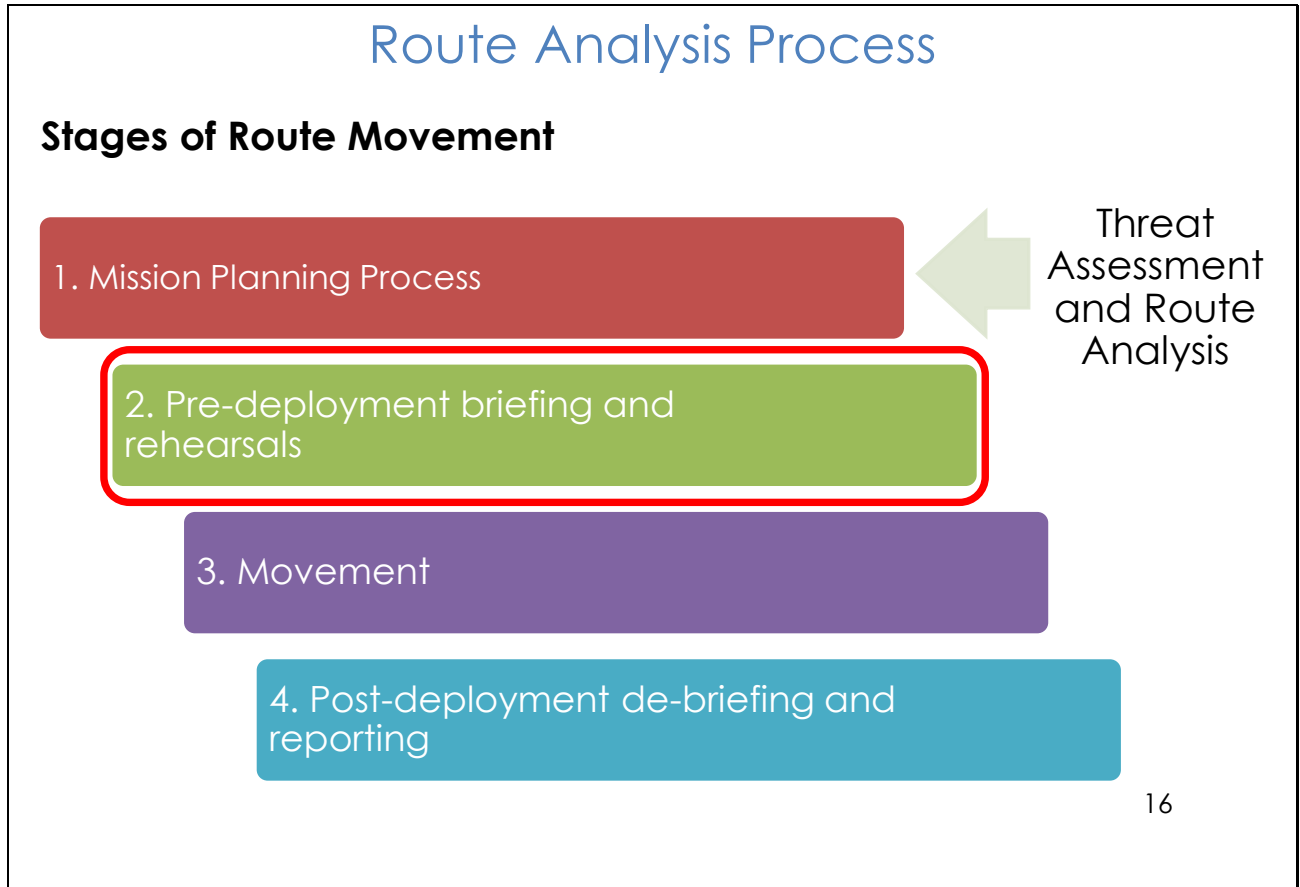
Once Mission Planning Process has been conducted and orders have been issued, the next phase is the conducting of pre-deployment briefing and rehearsals.

Convoy Planning

Pre-Deployment Briefing

- Use a standardized, simple briefing format.
- The briefing format consists of:
  1. Preliminaries
  2. Situation
  3. Mission
  4. Execution
  5. Service Support
  6. Command and Signals

For any commander and planner following the issue or receipt of written orders, it is standard practice to deliver verbal orders or a brief. It is important to ensure a standardized format that is simple to follow is used. An example of a standardized briefing format is displayed.

Convoy Planning

Rehearsals and Checks

- Actions on VPs
- Actions on IED Incident
  – IED find
  – IED explosion
  – Vehicle recovery
- Actions on Ambush / Complex attack
- CASEVAC Drill
- Actions on unplanned stops – 5 & 25m checks with 360° situational awareness
- Actions on all other assessed requirements – breakdown, tyre change & road traffic accident.
- Actions on Destination / Objective(s)
- Actions on Separation

18

"Fail to Prepare and Prepare to Fail!"

Rehearsals a critical component of any mission. When conducting mounted vehicle movement is an IED AO this is just important. "Actions On" should be made clear in the briefing phase, these must also be rehearsed. This list is not exhaustive but includes some of the key "actions on" that should be briefed and rehearsed prior to deployment.

- Actions on VPs. What is the planned action upon arrival at a VP (planned and identified on route)
- Actions on IED Incident. What are the planned actions on an IED incident?
  - IED find. What is the plan for EOD and the convoy?
  - IED explosion. What are actions on a strike?
  - Vehicle recovery. Do you have a vehicle recovery plan?
- Actions on Ambush / Complex attack. What are the immediate action drills in an ambush? Have they been practiced?
- CASEVAC Drill. What is the medical plan? Where are the med assets?
- Actions on unplanned stops – 5 & 25m checks with 360° situational awareness.
- Actions on all other assessed requirements – breakdown, tyre change & road traffic accident.
- Actions on Destination / Objective(s). What are the actions on arrival at objective or destination?
- Actions on Separation. What do you do if you become separated or lost?

Remember the saying: if you fail to prepare, prepare to fail!

Convoy Planning

Rehearsals and Checks

- ✓ Establish and maintain comms rear link to HQ.
- ✓ Establish inter-vehicle communications
- ✓ Test back up comms
- ✓ Check other comms and tracking equipment e.g. GPS Tracker
- ✓ Check ECM is loaded and active or ready to be activated
- ✓ Check medic / trauma bags and other medical equipment
- ✓ Spare water
- ✓ Maps and GPS (loaded if required)
- ✓ Warning signs – hazard triangle
- ✓ Tow ropes and spare Tyres with wheel jack and spare POL as required
- ✓ Spare Batteries for all above mentioned items

19

Planning a patrol or road move is complex. It is useful to have a check list to avoid the risk of forgetting a tasks. A list such as the one displayed may be a helpful tool for planners or commanders. This is of course not an extensive list and is simply an example.

Convoy Planning

Rehearsals and Checks

- Order of movement
- Location of security, command group, ECM, EOD team contract logistics
- Distance maintained between vehicles.
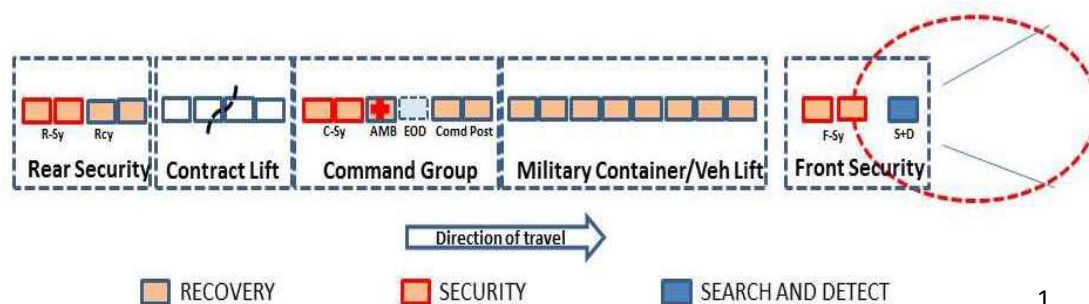
When conducting briefing and rehearsals it is key to ensure that the order of movement is made clear so that all vehicle commanders and drivers know where they should be in the patrol or convoy. Location of specific assets within the order of movement must be made clear. Consideration should be made for:

Security – Where is security forces distributed amongst the patrol. It may be important to include a front and rear security as well as a mobile security force for ground domination.

Command group – where will the commander be situated? Remember the commander must be in a position to control the convoy as well as be able to have good visibility but should not be the lead vehicle.

ECM – jammers need to be distributed to ensure full coverage of the whole convoy. If this cannot be achieved, ECM should be positioned to protect the most valuable assets or the least protected. Remember that the Search teams will require jammers for search operations.

Search and detect – these should be positioned near the front of the convoy to for actions on VPs. The decision to place search teams as the lead needs to dictate by the situation and the threat.

EOD – needs to be strategically placed to respond to IED finds/strike but should not be leading the convoy.

Other considerations should include what spacing should be maintained between vehicles whilst moving as well as during halts.

Route Analysis Process

Stages of Route Movement

1. Mission Planning Process

Threat Assessment and Route Analysis

2. Pre-deployment briefing and rehearsals

3. Movement

4. Post-deployment de-briefing and reporting

2
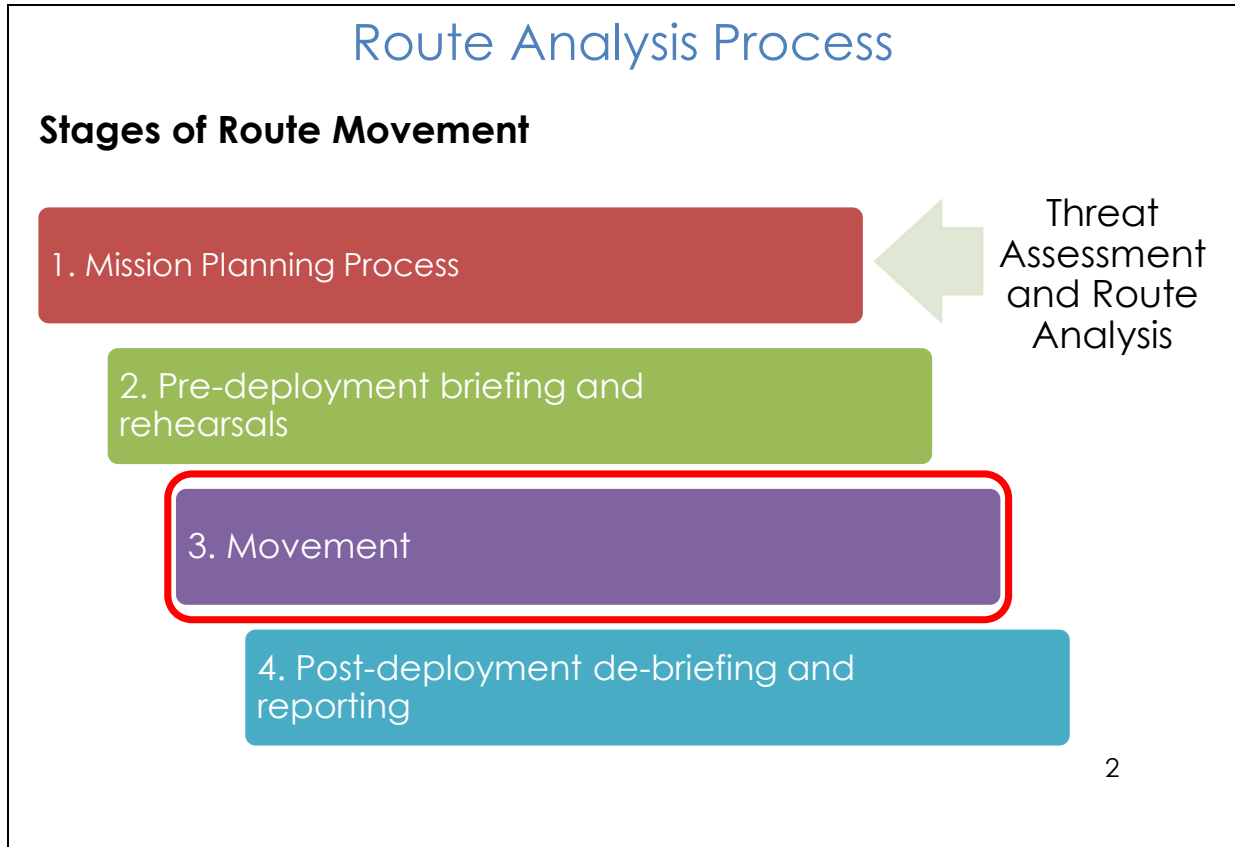
Once planning and rehearsal are complete, the actual movement or patrol can deploy.

Convoy Planning

Movement

For every movement, plan the time required for VA & VP checks

- Brief personnel on identified VA & VP locations on route
- Plan for extra VA & VP checks to break patterns or where unsure of area.
- Establish a safe stop short point and secure it with 5 & 25m checks
- Search team execute check with rest of personnel observing the surroundings
- Equipment
  Detectors
  Binoculars
  ECM if available

3

Convoy Planning

Movement

Actions during movement

- 5s & 25s if unsecure location
- Security and observation during movement.
- Estimate time spent at location and inform all personnel
  – RV / Emergency RV / Unplanned Stops
- ECM use during movement
- Communication with Rearlink HQ
- Civilian vehicles on convoy during movement

4

Once out on the ground, the following should be adhered to:
- 5s & 25s should be carried out at any unsecure location or at any temporary halt.
- Security and observation should be maintained during movement, particularly by top cover.
- As a commander you should estimate time spent at location and inform all personnel. This includes at RVs, Temporary halts and Unplanned Stops. This is to enable vehicle commanders to determine if 5s and 25s need to be carried out or if other administration may take place.
- ECM needs to be continually managed during movement. This is either to redeploy where required to ensure coverage or to swap batteries at low threat areas only.
- Communication must be maintained with Rear link HQ
- Civilian vehicles on convoy during movement may need to be managed especially if there is a threat of VBIED. This must be in accordance with mission SOPs/rules.

Convoy Planning

Movement

Route Back

- Vary route from route out – Do NOT set patterns
- Contact Rear Link HQ – request for any info updates.
- Brief all drivers and commanders.
- Operate in same manner for return as outward route.

5

The route back to your base should be treat with as much importance as your route out, if not more. You are much easier to target on your return journey. The first thing to remember is to vary route from route out – Do NOT set patterns. Many attacks happen to be returning vehicle movements. It is also to remember that if the same VP is searched that the stop short location and isolation routes must vary also to prevent the search team being targeted. Bypass routes must also be varied.

Before return communication should be made with the Rear Link HQ to request for any info updates or changes to the situation. This is particularly relevant for getting real time int / ops brief on new and emerging info prior to departing.

Once you have determined the route back all vehicle commanders and drivers need to be briefed, in the same manner as doe for the route out. Operate in same manner for return as outward route with route in sections and same actions taken.

Route Analysis Process

Stages of Route Movement

1. Mission Planning Process

Threat Assessment and Route Analysis

2. Pre-deployment briefing and rehearsals

3. Movement

4. Post-deployment de-briefing and reporting

6
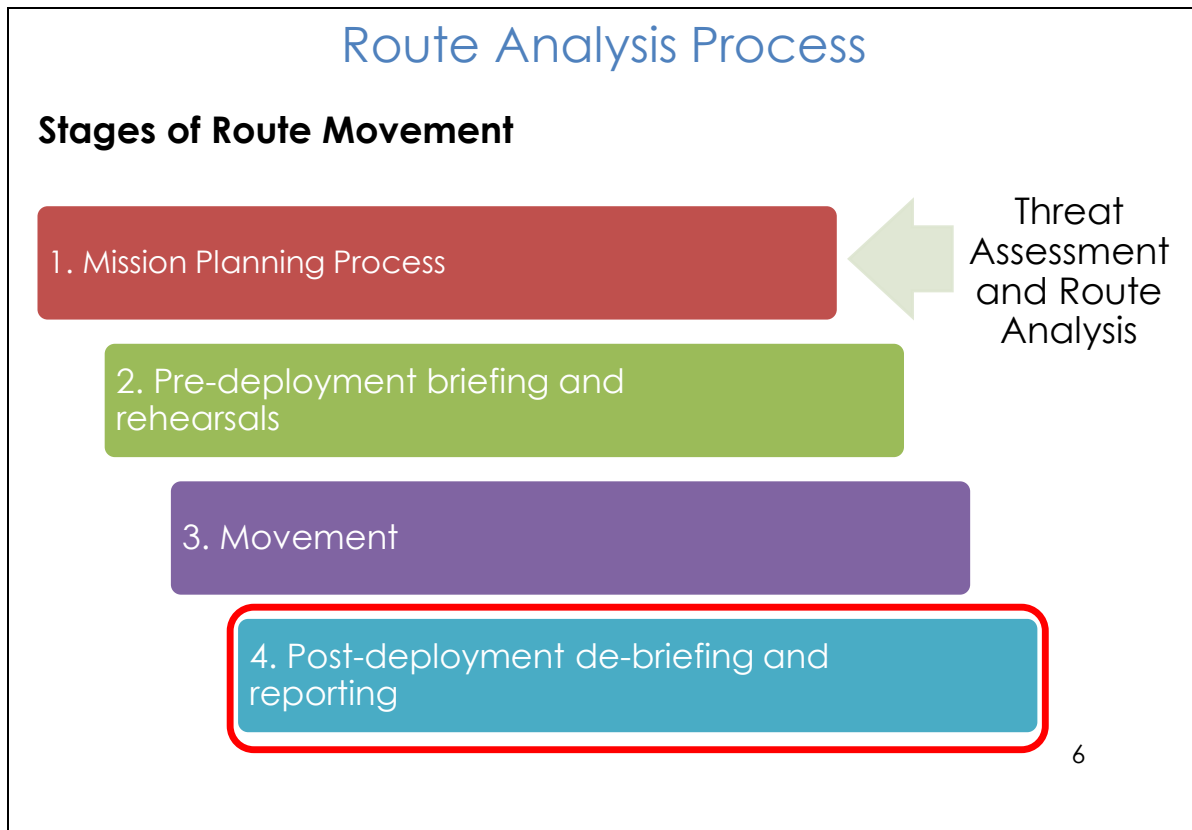
Once a convoy or vehicle patrol has returned to base, it is not the end of the task. Post deployment de-briefing and reporting must take place. This is firstly to ensure lessons are captured but also to ensure future patrols do not follow the same route and set patterns.

Convoy Planning

Post-Deployment Debriefing and Reporting

- Base Entry Drill
- Security and observation
- ECM Shut-Down Drill
- Communicate to Rear link HQ of arrival
- Unload Weapons
- After Action Review
  - Pre-deployment Issues
  - Incidents / events / suspicious activity route out, at objective(s) and route back
  - Recommendations for SOP, drills and actions on, equipment, route travelled etc.
  - Any information received that may be of interest
- Equipment and weapons service.

Commanders Encourage ALL Personnel to Speak Up During Debriefs

7

Remember to follow your base entry drill. Base Entry Drill will vary with each mission or AO.

Security and observation must be maintained until all vehicle as under the security of the base.

ECM Shut-Down Drill should be observed to ensure patrol base communications and UAS are not impacted.

Communicate to Rear link HQ that your patrol has arrived.

Weapons both personal and vehicle mounted must be unloaded in a safe manner to prevent accidents.

An After-Action Review must be carried out as soon as possible following return to FOB. This should include:

- Pre-deployment Issues
- Incidents / events / suspicious activity route out, at objective(s) and route back
- Recommendations for SOP, drills and actions on, equipment, route travelled etc.
- Any information received that may be of interest

Finally Return all Equipment and weapons must be serviced and prepared for redeployment.

Slide 27

Questions?

UNMAS

Lesson

2.7

STATIC FORCE PROTECTION IN AN IED AO

The Lesson

Time. This lesson requires approx. 90 minutes to teach.

Performance Statement. At the end of this module, the participant will be able to describe practical measures to reduce the threat of IEDs whist in static locations (Forward Operating Base) in an operating environment affected by IEDs.

Key Learning Points. The following main teaching points are contained in the delivery of this module:

1. Principles of Defence
2. Forward Operating Base Design
3. Entry Control Points
4. Developing a Surveillance and Target Acquisition Planning (STAP)

Methodology. This module will be introduced through lecture method combined with plenary discussions and Question and Answer (Q&A).

Infrastructure. Classroom with projection facilities

IED TM Lesson 2.7: Static Force Protection in an IED Environment

1

Find guidance inserted in the note section of each slide.

Slide 2

Overview

2.7.1 Principles of Defence

2.7.2 Forward Operating Base Design

2.7.3 Surveillance and Target Acquisition Planning

2

Slide 3

Terminal Learning Objectives

At the end of this module, the participant will be able to describe practical measures to reduce the threat of IEDs whist in static locations (Forward Operating Base) in an operating environment affected by IEDs.

3

During operation in both AMISOM and ATMIS in Somalia, the majority of casualties and fatalities were caused by IEDs on patrol. That said, a significant number of death of peacekeepers were as a result of FOB overruns. In most missions, hostile elements can conduct large scale FOB overruns against security locations. When successful FOB attacks can have high casualty rates, seizure of weapons, ammunition, vehicles and equipment. Most of these overruns involve the use of IED to initiate a complex attack. The incidents also carry significant propaganda value providing platform to demoralize security forces and use for recruitment. Many of these FOB overruns can be attributed to poor FOB designs and drills. This presentation aims to provide an overview of FOB design principles and TTP to reduce the threat of IED in static locations and ultimately reduce the risk of FO overruns.

Image – Al-Shabab propaganda video of a FOB overrun in Somalia which claimed the lives of over 70 AU peacekeepers.

2.7.1 Principles of Defence

5

Principles of Defence

Depth

All round defence

Mutual support

Reserves

Offensive spirit

Deception

These principle of defence are adapted from NATO doctrine which is largely focused on conventional warfare. Despite this, these principles have useful application when considering the defence of static location in a peacekeeping context.
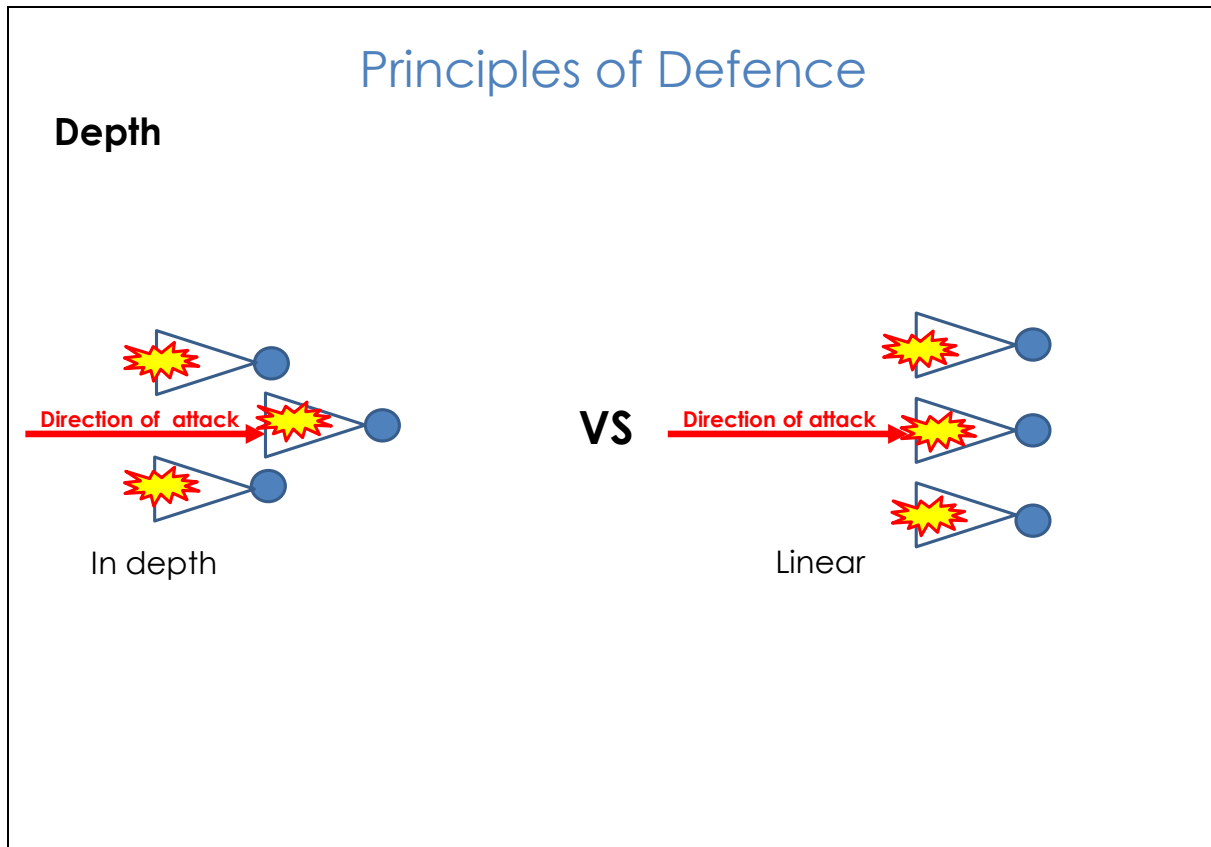
Positions in depth provide greater resilience against threat penetration by blocking, surprising and unbalancing the attacker as well as providing opportunities for counterattacks by reserves or striking force. Depth also enables the defender to conceal the extent of the position and size of the defending force.
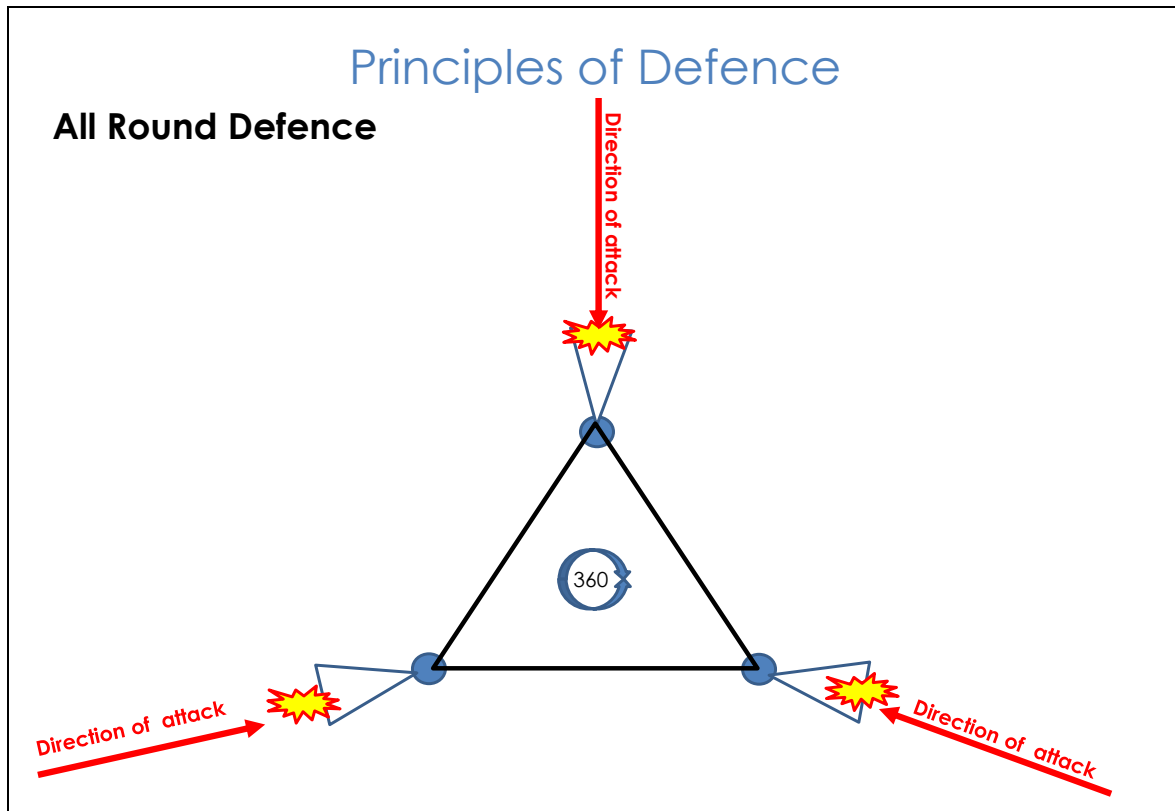
All-round defence is required in order to anticipate an attack from any direction. It will require reconnaissance, the preparation of alternate positions and may require guard forces to comprehensively counter a 360-degree threat. The defensive plan should be simple and flexible.

Principles of Defence

Mutual Support
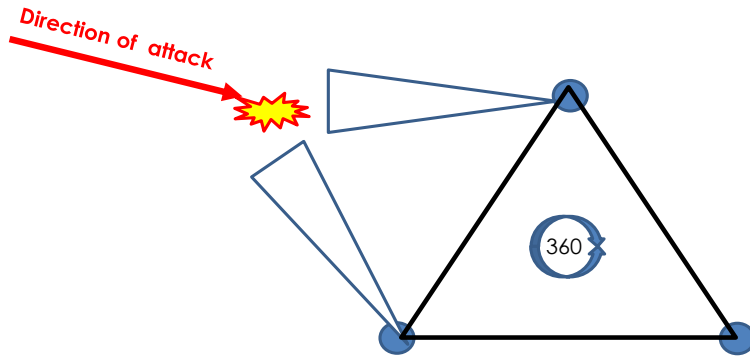
Mutual support is required to increase the strength and flexibility of a defence. By covering gaps between positions with interlocking and overlapping fire and having the ability to fire in support of neighboring forces, the strength of the defence is increased. Where there is a conflict between the need for depth and the demands of mutual support, depth is considered more important, and gaps must be covered by surveillance and indirect fire.
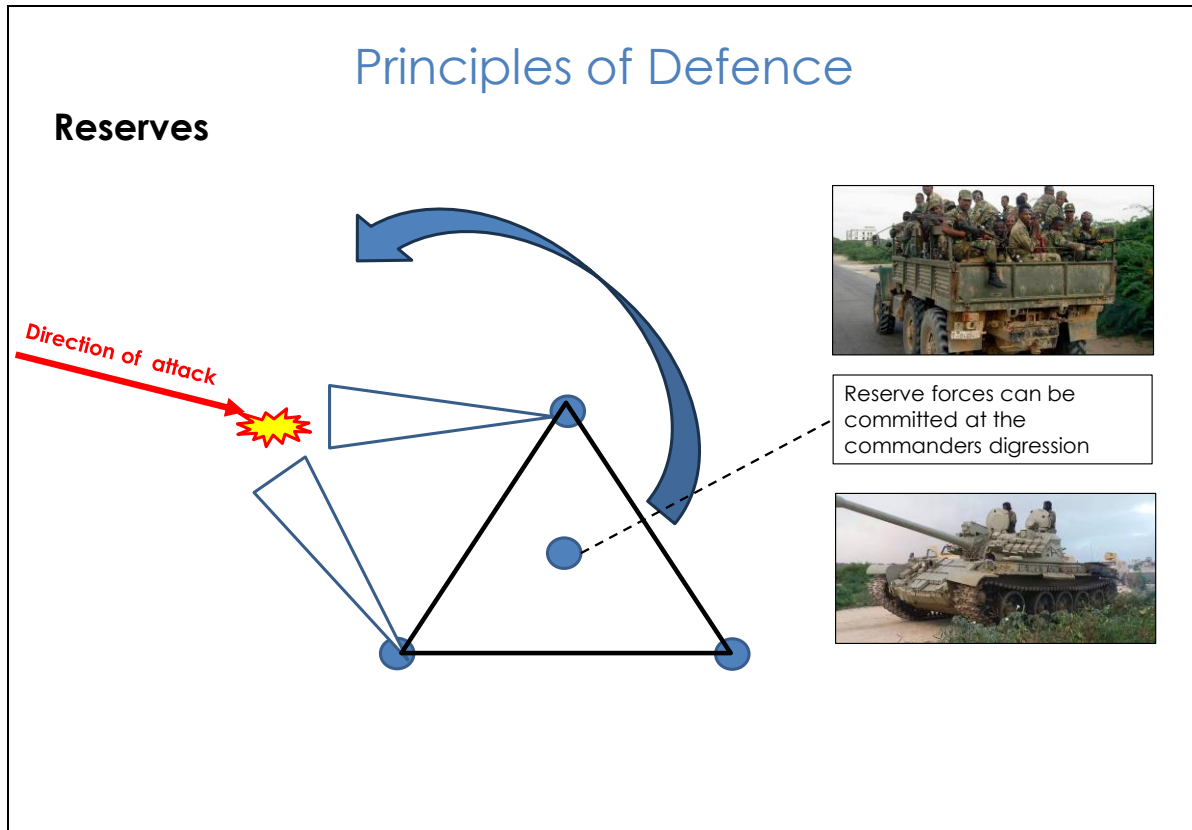
Reserves are required to meet the unexpected. They may be committed to exploit success to counter penetration or as a striking force in mobile defence. Reserves provide a commander with flexibility and balance. Once the reserve is committed, the commander must reconstitute another as soon as possible.

Principles of Defence
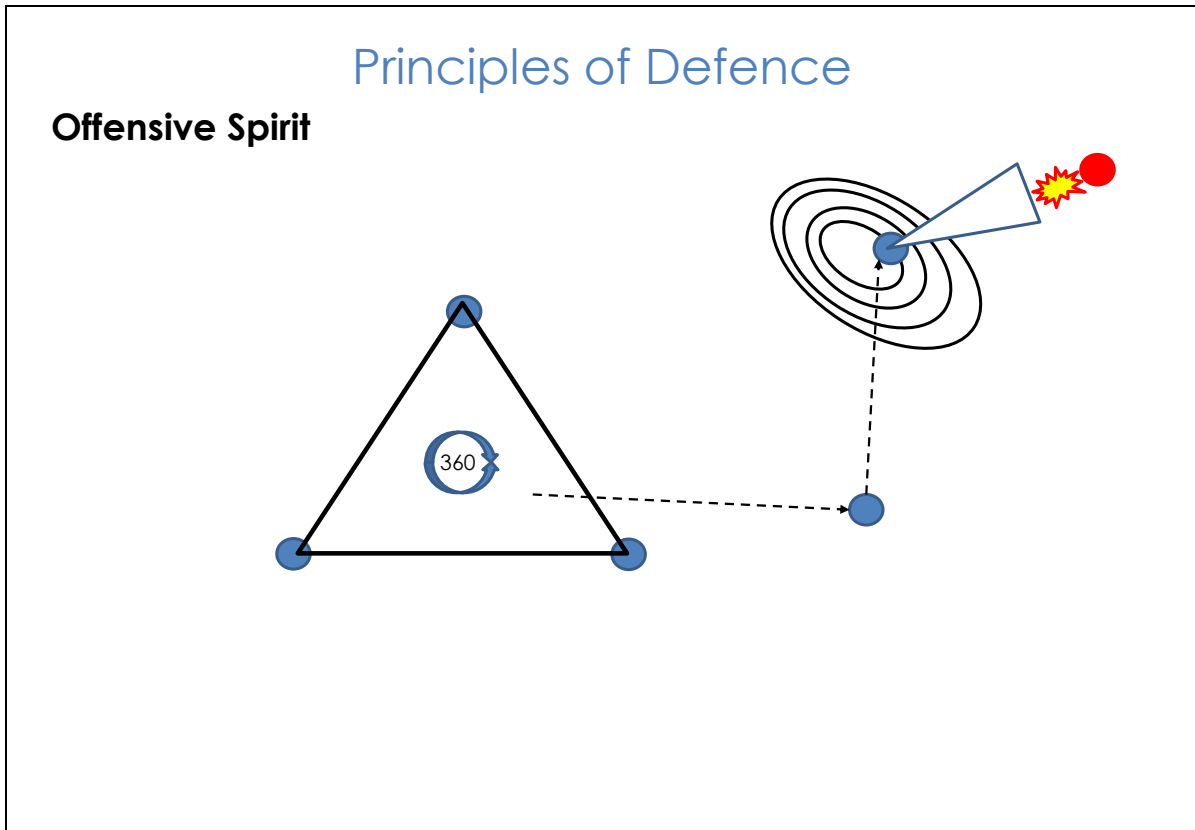
Offensive Spirit

When in defence, opportunities for offensive action may be limited, but they must be seized whenever possible. It requires the maintenance of an offensive mindset and spirit. Examples include spoiling attacks, counterattacks, ambush and aggressive patrolling. Without a striking force or reserve to conduct counterattacks, the commander has no means with which to wrest the initiative from the threat.

Principles of Defence

Deception
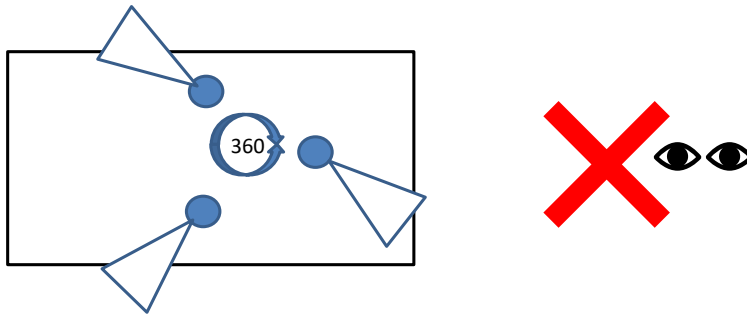
Credible and resourced deception activity can help to deny the threat the advantages of understanding, deny intelligence about the defensive plan and deny the initiative; done effectively it forces the threat to attack blind into prepared defences. Effective operations security (OPSEC) and countersurveillance measures must be in place and offensive activity must be conducted against threat reconnaissance. Local populations informing the threat of our intent must be used to our advantage or countered.

Principles of Defence

- Prevent
  - Denial
  - Deterrence
  - Detection
- Reduce the Impact
  - Effective Defence
- Increase Resilience
  - Dispersion
  - Duplication
  - Compartmentalization
  - Dealing with consequences
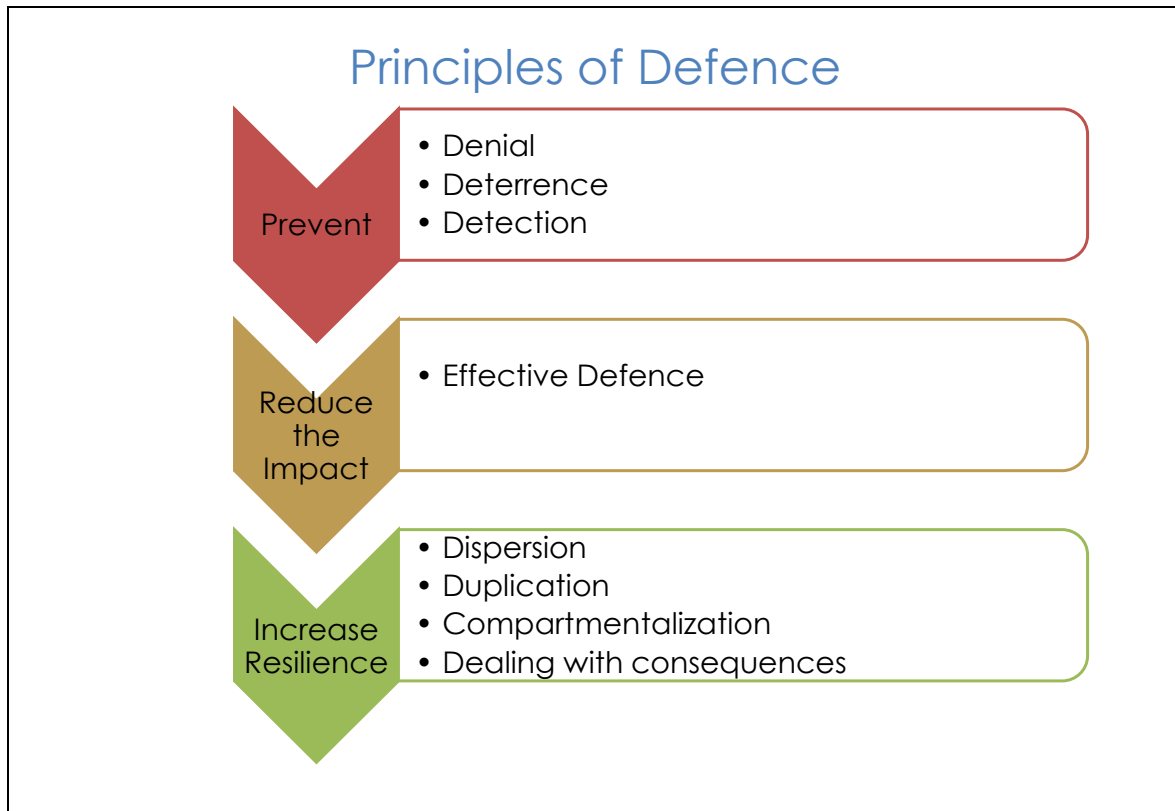
In addition to the principles of defence, there are principles from resilience doctrine that can serve as a useful guide when operating from a static location. These are Preventing the attack, Reducing the impact of the attack and finally increasing the resilience if an attack happens.

Principles of Defence

Prevent

- Denial
- Deterrence
- Detection
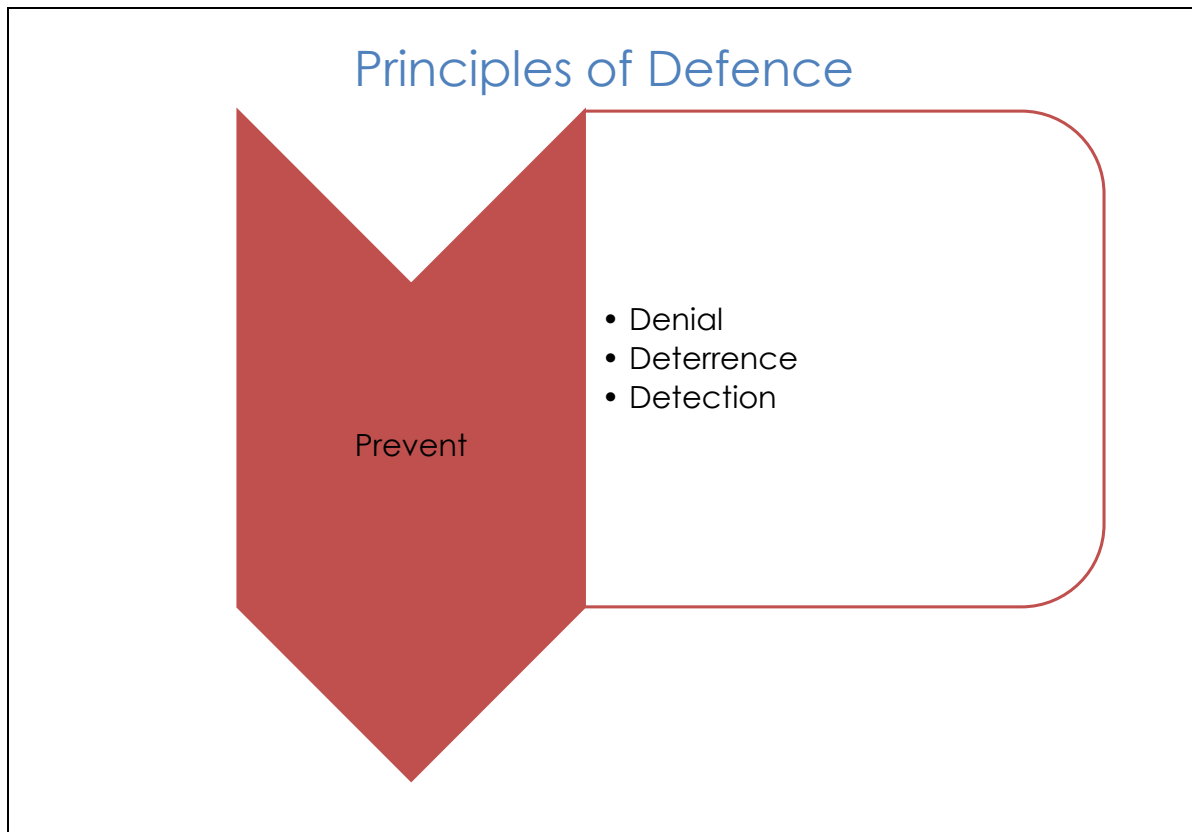
Preventing an attack should be the first consideration. This can be done by:
- Denying the adversary form getting close enough to carry out an attack. This is done by physical barriers that place distance between us and the hostile actor.
- Deterring the adversary through a professional and aggressive posture.
- If the adversary does decide to attack, we need to have a means of detecting this before they carry out the attack. We will cover this in detail later in this lesson under STAP.
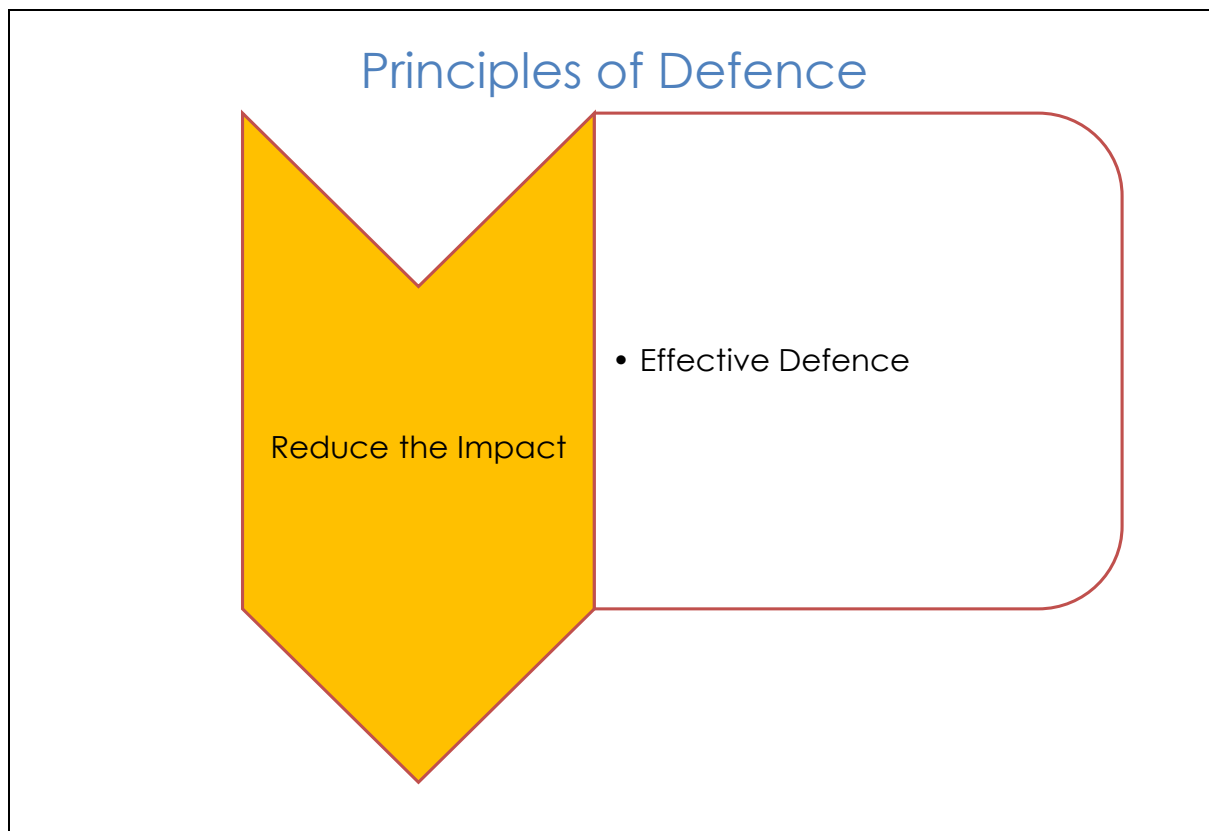
If an attack takes place, we need to reduce the effect by having a robust defensive plan using the principles of defence, DAMROD.

Principles of Defence

Increase Resilience

- Dispersion
- Duplication
- Compartmentalization
- Dealing with consequences
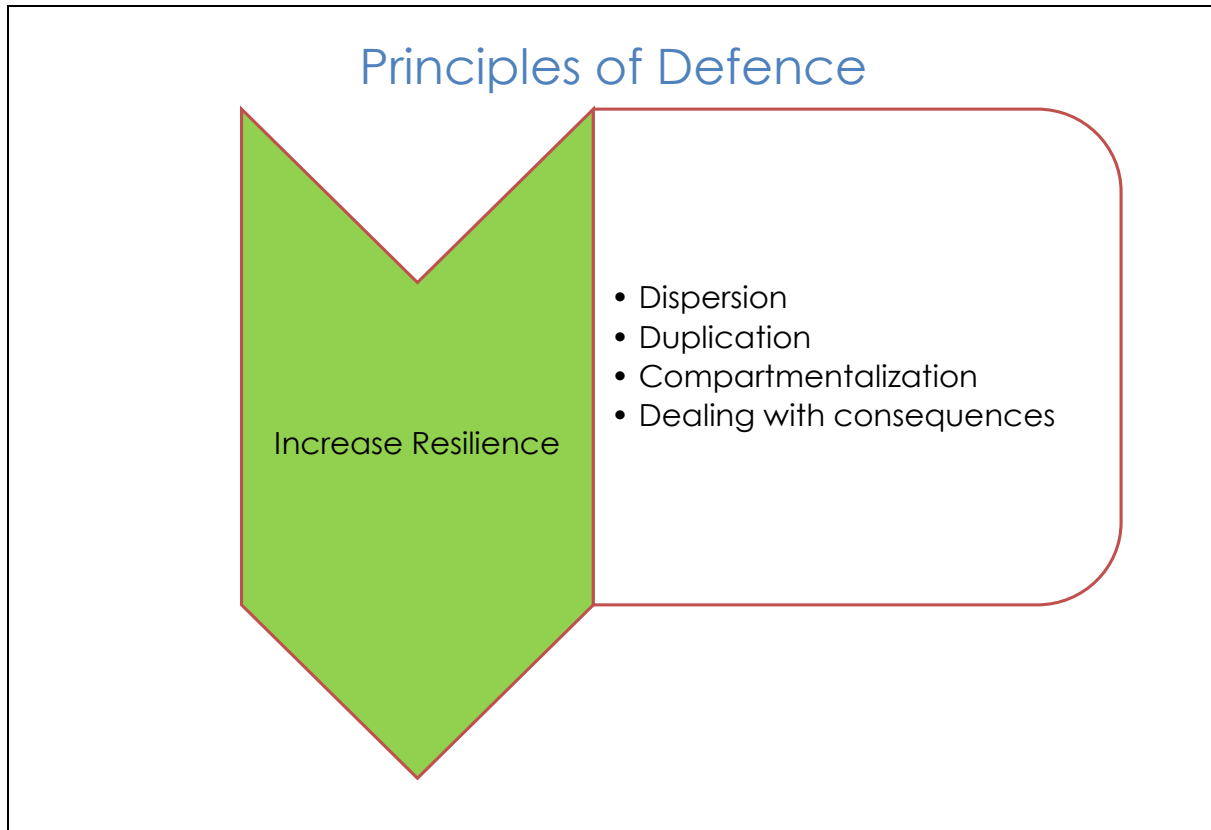
We can increase the resilience of our static location by:

- Dispersive personnel and equipment. This is particularly effective against explosive weapons.
- Duplication means if one asset is damaged another equivalent can replace it.
- Compartmentalization is where physical barriers are placed between people or assets so that if one is hit with an explosive weapon, the effect is limited only to that one area.
- Finaly, ensuring we have a plan if we are attacked. This is all about contingency planning and rehearsals.

2.7.2 Forward Operating Base Design

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FOB Design

Likely Types of Attacks

- Direct Fire

- Hand thrown weapons e.g. grenades

- Indirect Fire

- IED attacks e.g. PBIED, VBIED

- Complex attack- use of more than one method of attack

18

When considering how to design or improve our forward operating bases, we need to consider what threat we are facing. This will determine the effect of the weapon systems an adversary will use and help us design our FOB.

FOB Design

Big vs Small?

19

Instructor should ask the student if they think operating bases are better if they are big or small and allow discussion.

Notes. Although the answer is dependent on scenario and threat, generally there should be a balance. Big FOBs are harder to defend, require more personnel to be on duty at any one time, reduce situational awareness and require more resources to build. If a FOB is too small, creating dispersion is harder to achieve.
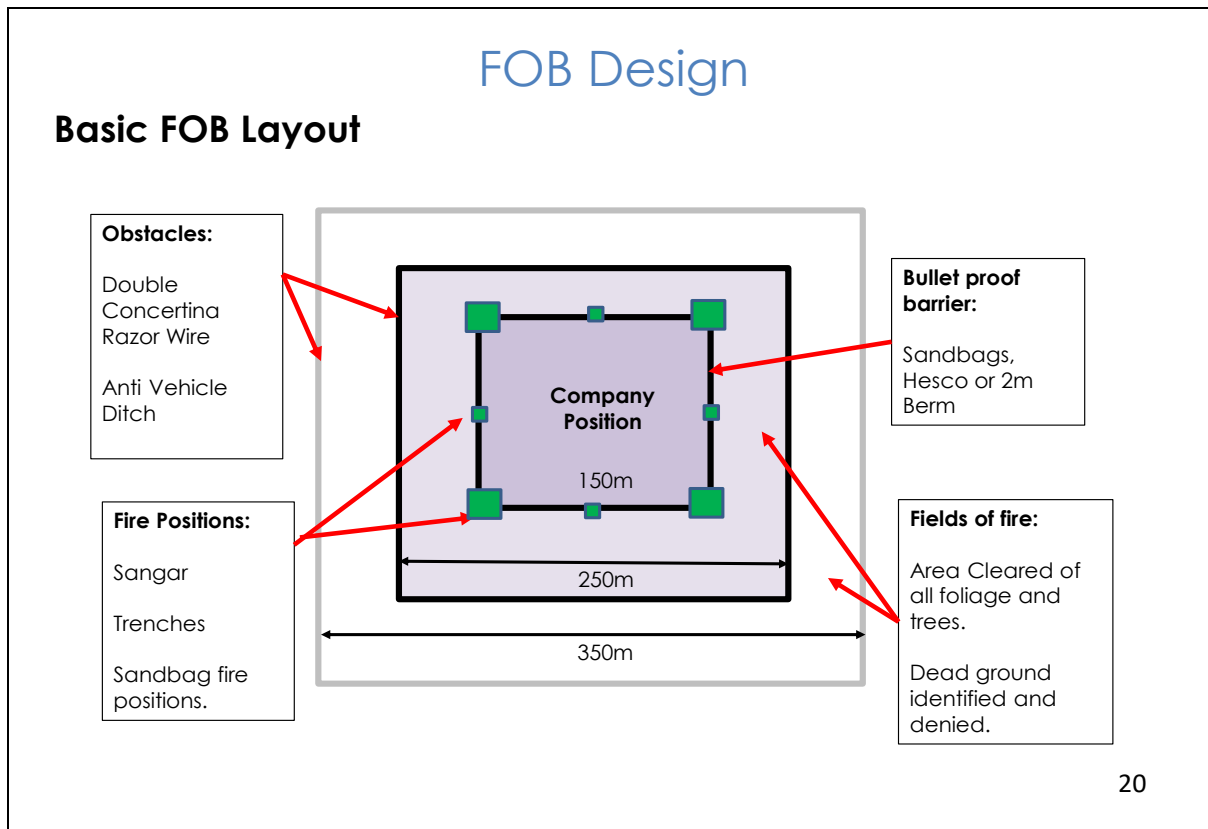
This is an example of a basic FOB layout for a company sized unit.
- Note the size, it is about 150 x 150m.
- The FOB itself needs to be with a barrier that protects against direct and indirect weapons. Generally, this will be HESCO or Sandbag, but anything can be used to improvise including a berm or concrete barrier.
- A layered approach to obstacles including anti-personnel barrier such as a fence and anti-vehicle barrier such as a ditch.
- Fire positions need to be mutually supporting and elevated to increase observation.
- The fields of fire should be to the limit of weapon range and where there is dead ground, it needs to be denied.

Slide 21

FOB Design

While setting up or improving a FOB, consider the following :

- **Perimeter** – what fencing material to be used ?
- **Accommodation** – Locating accommodation and material to be used e.g. tents, ponchos etc.
- **Defensive Positions** – Trenches and Fire positions.
- **Fields of View** – Clearing your arcs and securing dead ground.
- **Security** – Patrols, sentry positions and entry & exit points.

1

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•**Perimeter** – what fencing material to be used?

•**Accommodation** – Locating accommodation and material to be used e.g. tents, ponchos etc.

•**Defensive Positions** – Trenches and Fire positions.

•**Fields of View** – Clearing your arcs and securing dead ground.

•**Security** – Patrols, sentry positions and entry & exit points.

FOB Design

Perimeter

FOB Wall – HESCO, Sandbag, Berm?

Anti-vehicle – Ditch, barrier

Anti-personnel – Razor wire or fence.
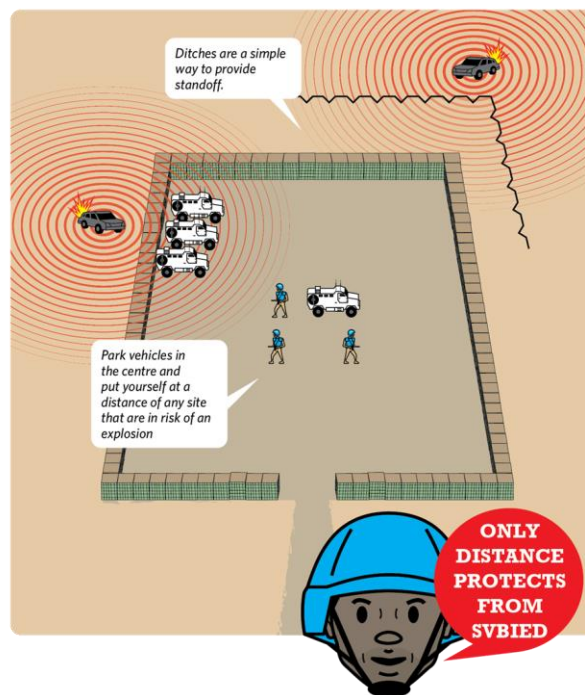
Perimeter – A perimeter needs to be established which is layered. The first perimeter is the FOB wall. Further out it should include both anti-vehicle and anti-personnel obstacles. These include wire fences and anti-vehicle ditches. Remember all obstacles need to be observed and within weapon range to be effective. If an obstacle is not observed, it is not an obstacle.

FOB Design

Accommodation

Technical accommodation, HQs or sleeping and eating areas.

- Dispersion
- Compartmentalization

Dispersion
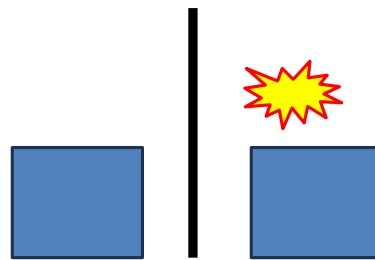
Compartmentalization

3

Accommodation – consideration needs to be made for where we operate, sleep, eat and store our equipment. Two key principles can be used:

- Dispersion is about spreading things out to create distance and therefore limit the effect of adversary weapons.

- Compartmentalization is about placing physical barriers between assets or people to limit the effect of weapons to a single location. This can be as simple as digging in or through constructing robust barriers.

FOB Design

Defensive Positions

Consideration needs to be made for where our defensive positions are sited and how they are constructed.

- Sentry Positions
- Trenches or individual fire positions

4

Defensive Positions – consideration needs to be made for where our defensive positions are sited and how they are constructed.

FOB Design

Defensive Positions – Sentry/Sangars

- Interlocking arcs or fire (mutually supporting).
- Construction.
- Elevation.
- Range cards.

5

Image – NATO sangar in Afghanistan. Crown copyright.

Sangars are positioned that they all have interlock arcs. A square FOB makes this easier.

Sangars are to be constructed with sandbags or HESCO, ensuring they are built correctly, well bonded, some form of overhead cover or protection and with apertures not to large, reducing the risk of being shot.

Sentry positions should be elevated to increase observation and fields of fire.

Range cards are to be produced showing distances of dead ground, buildings and features your soldiers can relate to, when issuing fire control orders.

FOB Design

Defensive Positions – Sentry/Sangars

6

Examples
Images:
Top Row – Source- UK MOD.
Bottom Left – ATMIS
Bottom Centre – unknown source
Bottom Right - ATMIS

Slide 27
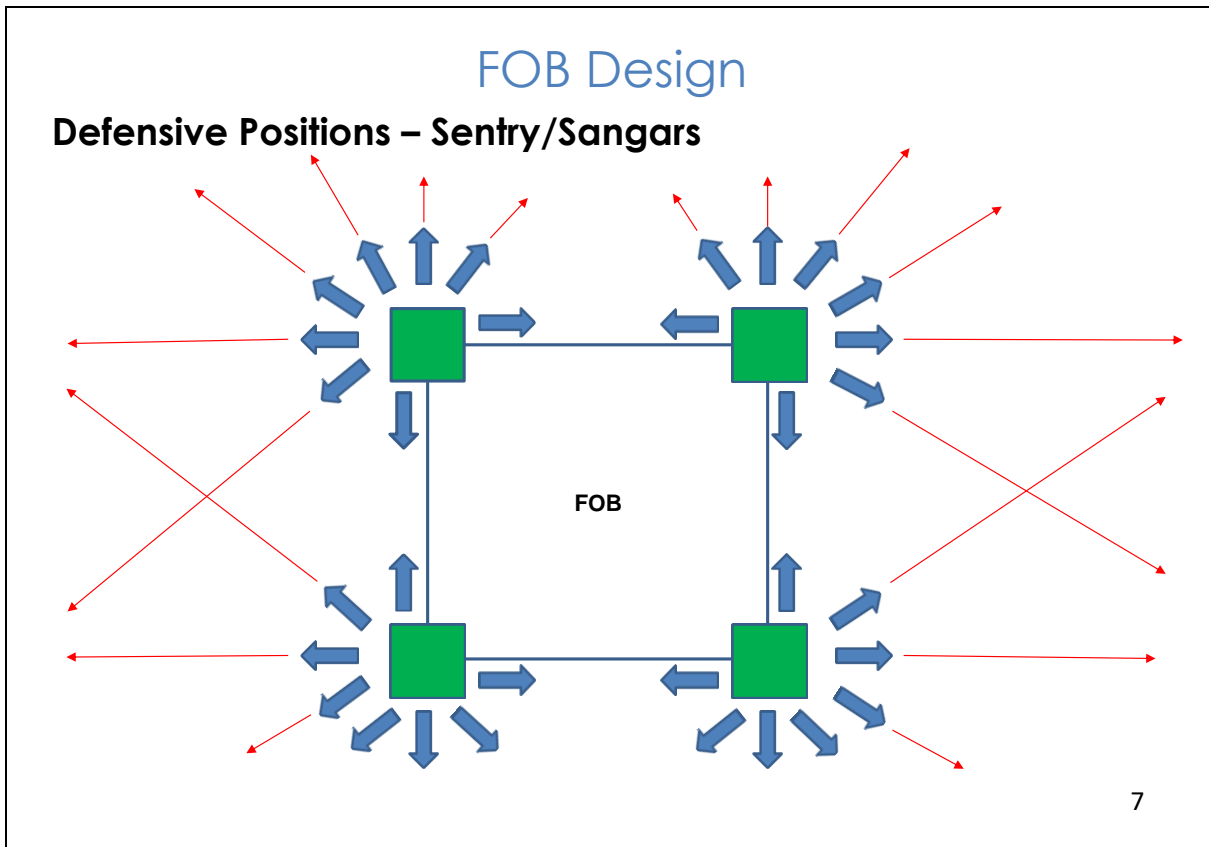
Square FOBs or FOBs with straight walls allow for fewer sentry locations, line of sight for communication and better mutual support.

FOB Design

Defensive Positions – Fire positions and Tenches

- Trenches are positioned between sangar positions, this allows resupply and communications to take place under cover, during a fire fight.

- Extra trenches can be constructed further back into the FOB to give depth positions.

- Subsequent fire positions are to be placed between sangars for dismounts and vehicle platforms. These can be sandbag fire positions, tank scrapes or vehicle ramps.

8

Trenches are positioned between sangar positions, this allows resupply and communications to take place under cover, during a fire fight.

Extra trenches can be constructed further back into the FOB to give depth positions.

Subsequent fire positions are to be placed between sangars for dismounts and vehicle platforms. These can be sandbagging fire positions, tank scrapes or vehicle ramps.

Slide 29

fire position to construct between sangar positions

Use the natural step of the HESCO configuration for fire positions.

Reveted trenches to be used for comms and resupply between sangars and fire positions

Fire positions built into the bund

9
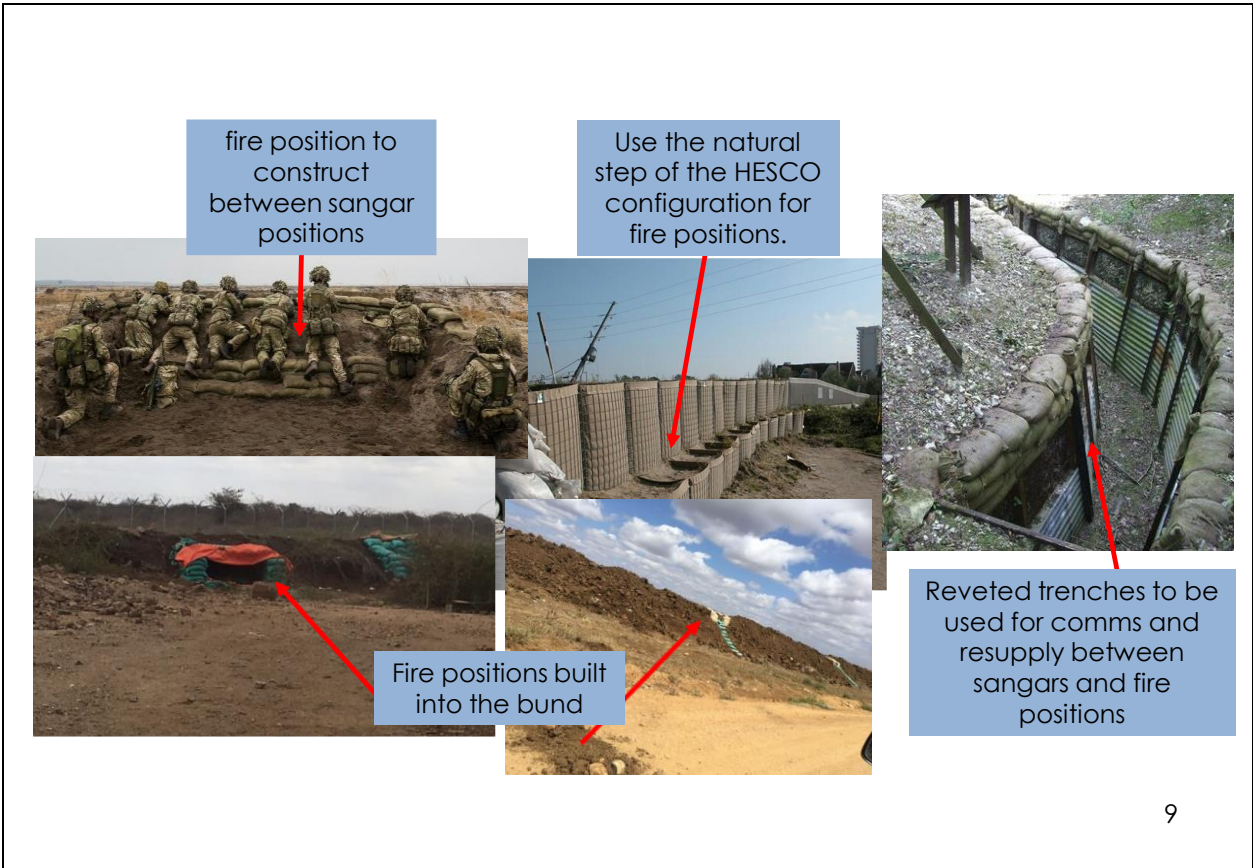
FOB Design

Fields of View

- Clear fields of fire are needed to enhance sentry positions and fire positions.

- Trees, hedge rows, bushes, grass and in some cases buildings must be removed to open up your fields of view.

- Dead ground must be marked and denied using obstacles. This prevents the hostile elements gaining the advantage.

10

Clear fields of fire need to augment perimeter fences, sangars, anti-vehicle ditches and fire positions.

Trees, hedge rows, bushes, grass and in some cases, buildings must be removed to open your fields of view.

Dead ground must be marked and denied using obstacles. This prevents the hostile elements gaining the advantage.

Discussion with the students. Instructor to ask the questions of the students about what they would do, and why. How will this reduce the threat of attack?

FOB Design

Security

- Security plan should be robust, well planned, rehearsed and regularly monitored.

- Adapt the plan with changing threat.

- Inspections should be carried out regularly.

- Maintain an offensive spirit.

12

Living in an FOB should be treated as an operation in its own right. It requires a robust, but sustainable security plan. This requires considered planning with rehearsals and it must be regularly monitored and updated based on changes in the threat. Operating from a static location does not mean remaining static in the FOB. Remember the offensive spirit. Routine clearance patrols and standing patrols should be deployed remembering not to set patterns.

FOB Design

Security – Main Entry Point/Entry Control Point

- The MEP is highly susceptible to VBIED attacks.

- Correct design, security and searching will prevent hostile elements from gaining entry into the FOB.

- Security measures at the entry point .

- Security forces at the MEP are to be vigilant, professional, thorough and not to set patterns.

1

The MEP is highly susceptible to VBIED attacks. Correct design, security and searching will prevent hostile elements from entering the FOB. Security measures at the entry point need to be robust and consider all threats.

Security forces at the MEP are to be vigilant, professional, thorough and not to set patterns.

This is an example of a Main Entry Point to an FOB. This is only an example, but it is to show that a MEP/ECP needs to be properly designed and constructed to be effective.

FOB Design

Security – Main Entry Point/Entry Control Point

Simple nail board placed across the road

Knife rest constructed with pickets or timber, wrapped in barbed wire
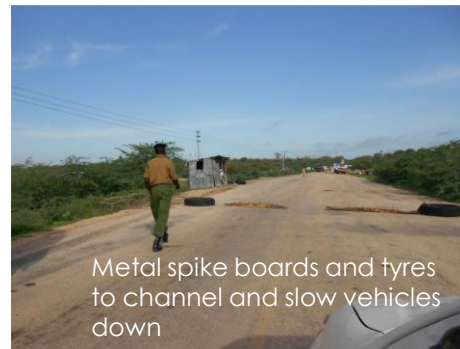
Metal spike boards and tyres to channel and slow vehicles down

Natural road block using local fill

Oil drums or used tyres filled with concrete

3

Whilst it is generally the engineers who are responsible for FOB construction, they are an asset in limited supply. Where they are not available, we may need to improvise to improve the design of the MEPs.

FOB Design

Security – Main Entry Point/Entry Control Point

Ask the students to look at the two images and discuss good and bad points for each.

Slide 37

FULL EXAMPLE OF A WELL-DESIGNED FOB

Slide 38

Questions?

UNMAS

6

Slide 39
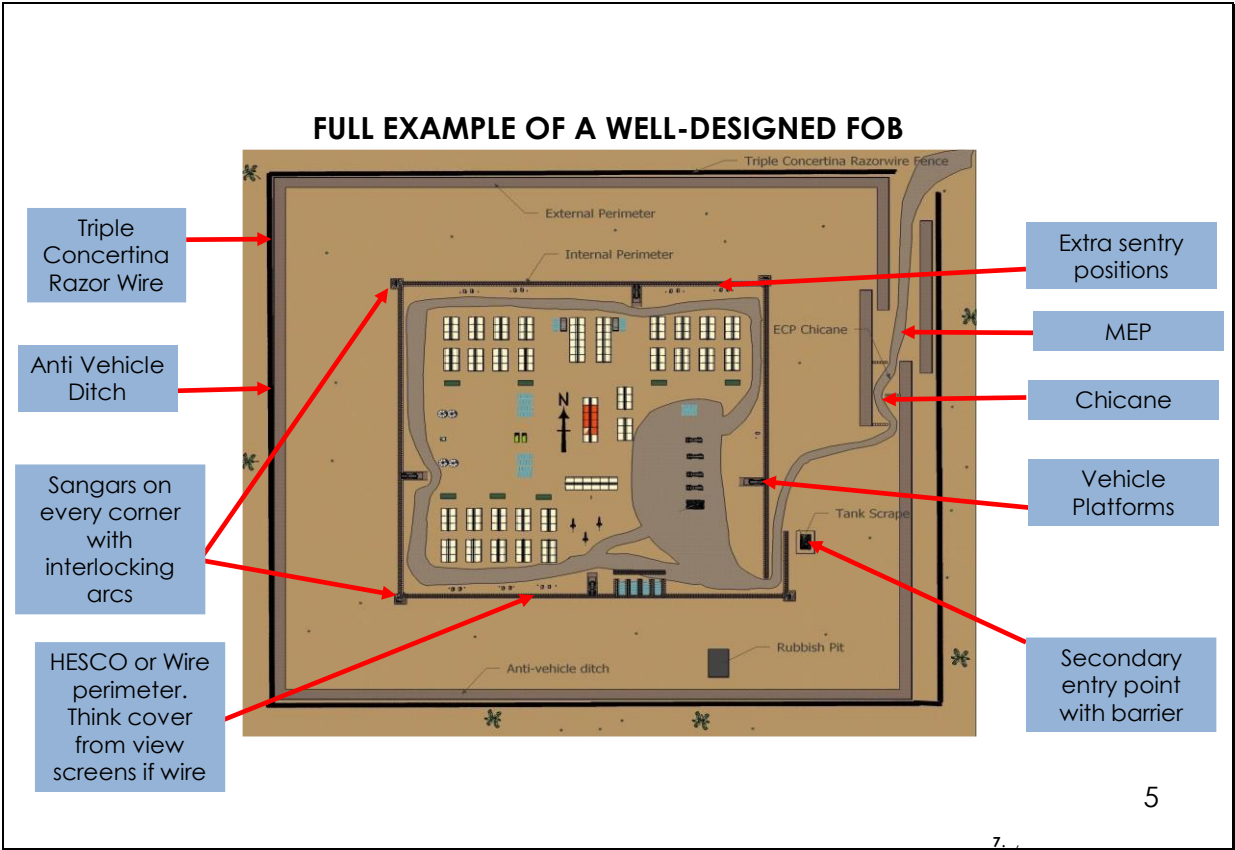
2.7.3 Surveillance and Target Acquisition Plan (STAP)

7

STAP

Introduction

- Surveillance - The systematic observation of an area. This includes by a person or through other means and includes by visual, audio or other electromagnetic means

- Target Acquisition - The detection, identification and location of a target to enable the employment of kinetic or non-kinetic effect.

This is a conventional military skill that can be employed to reduce the threat of direct attacks and IEDs while operating from an FOB.

8

What is STAP. This is a plan that helps us to identify potential threats from our operating bases which then allows us to act upon that threat (either with kinetic or non-kinetic effects). This is a conventional military skill that can be employed to reduce the threat of direct attacks and IEDs while operating from an FOB.

STAP

Developing a STAP

An effective STAP requires a STAP estimate:

1. Conduct an assessment of your operating environment.

2. Determine where you need to focus your surveillance.

3. Allocate resources to look at the areas that require surveillance.

4. Review and update (day, night, low vis etc)

9

Developing a STAP requires four simple steps. These are:
- Conduct an assessment of your operating environment. This is sometimes referred to as operating area evaluation.
- Determine where you need to focus your surveillance. This is sometimes referred to as developing a decision support overlay (DSO) and it involves determining named or target areas of interest (NAIs or TAIs)
- Allocate resources to look at the areas that require surveillance. Once we know where we need to look, we should allocate resources to those areas. This is sometimes referred to as a Decision Support Overlay Matrix (DSOM)
- Review and update (day, night, low vis etc). Finally, we need to ensure the STAP is current and useful in all weather and seasons.

Slide 42

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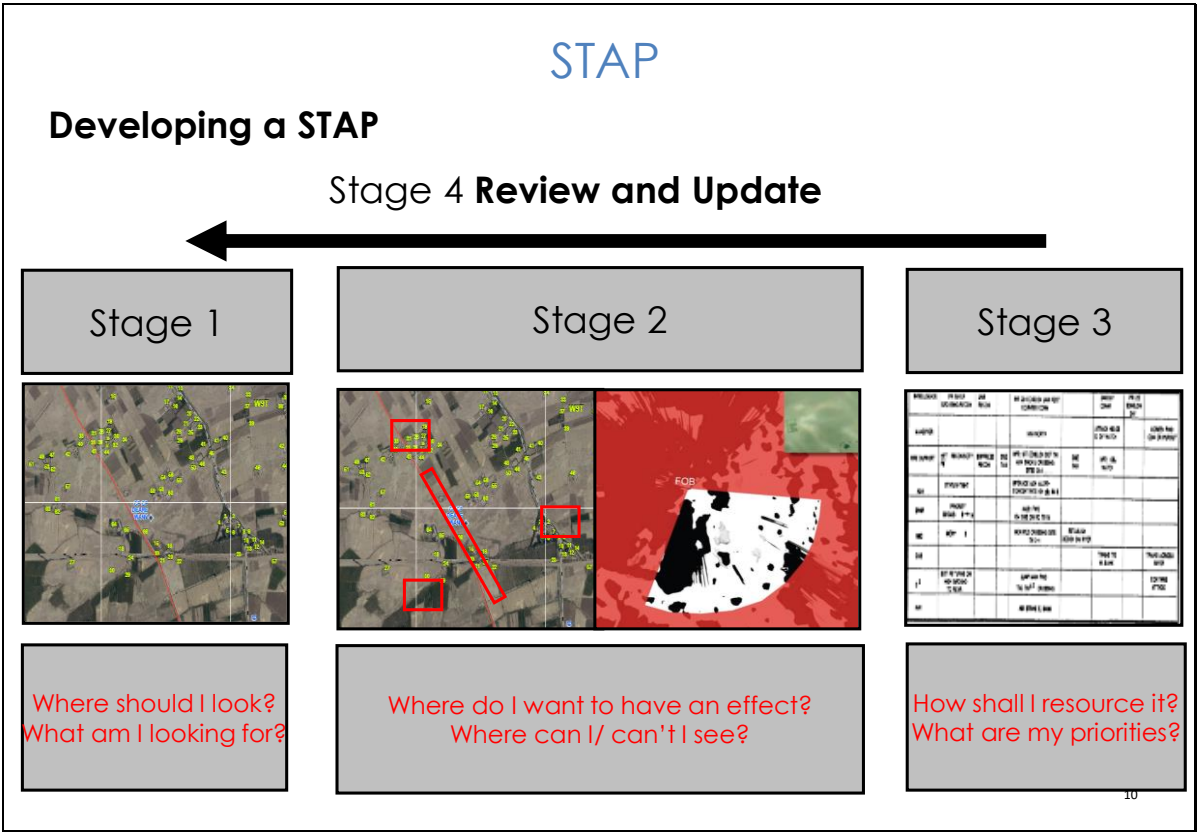
STAP

Stage 1 – Assess the Environment

Considerations.
- Terrain.
- Pattern of life
- Building of interest
- Roads/Routes
- VPs & Vas
- Dead ground
- Previous firing points

11

</div>

Terrain. What is the terrain around our FOB like and how can it be used by the adversary. Is there specific areas of key terrain such as hills that overlook our location.

Pattern of Life. What is the civilian pattern of life.

Building of interest. Are there any compounds or buildings that can be used to observe us or conceal an attack?

Roads/Routes. Are there any routes that can be used to approach our FOB at speed?

VA/VPs. Are there any VA/VPs near our FOB that could be observed?

Dead ground. Is there any terrain that we cannot see which will allow an adversary to approach our location.

Are there any locations which have previously been used for an attack?

STAP

Stage 1 – Assess the Environment

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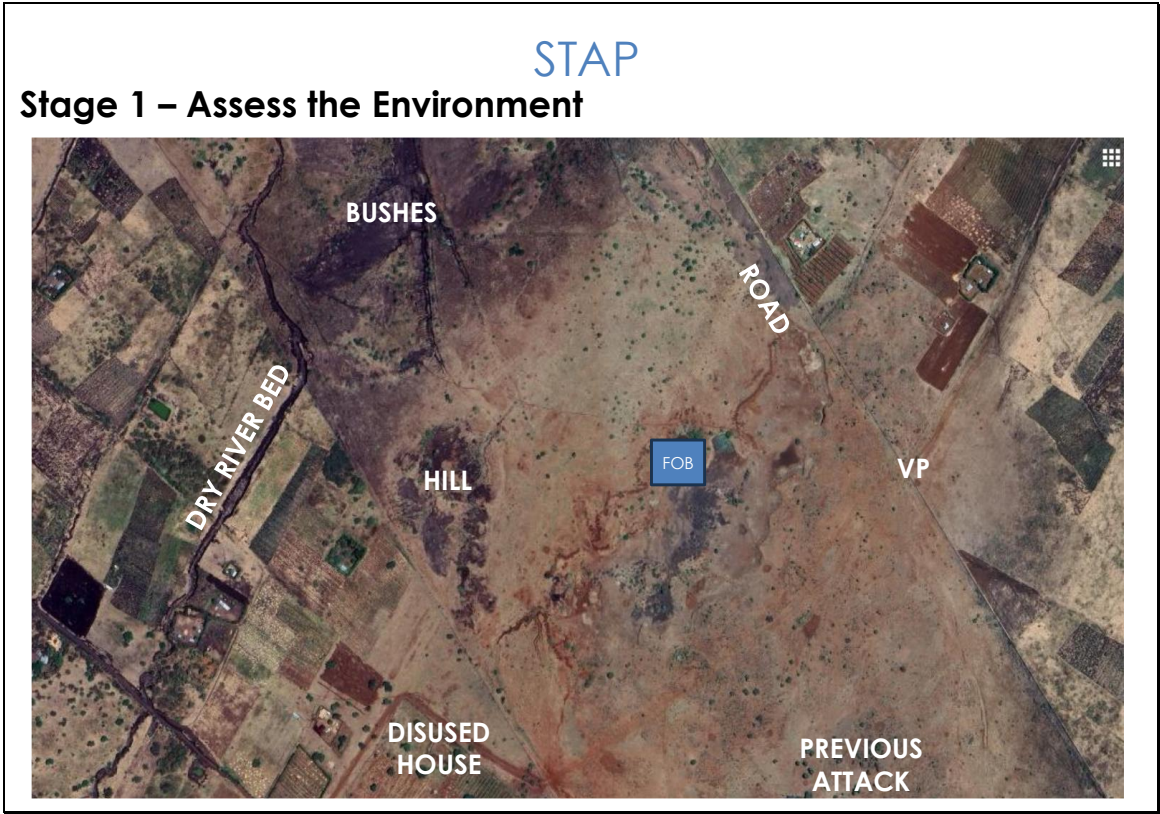
STAP

Stage 2 – Determine Where to Look

- Determining where to focus surveillance assets – we can't look everywhere!

- Designate areas of interest (AOIs/NAIs).

- Conduct intervisibility study.

13

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Once the area around your FOB has been assessed, you now need to determine where you want to focus your surveillance assets. This is about prioritization, we can't look everywhere. We do this by establishing areas of interest. These can sometimes be referred to as Named Areas of Interest (NAIs). We should then conduct a visibility study to determine what we can and cannot see from our FOB. It is important to decide where you want to look, regardless of what you can or cannot see.

Using our previous example we now determine the areas in which we want to focus our attention.

Slide 47
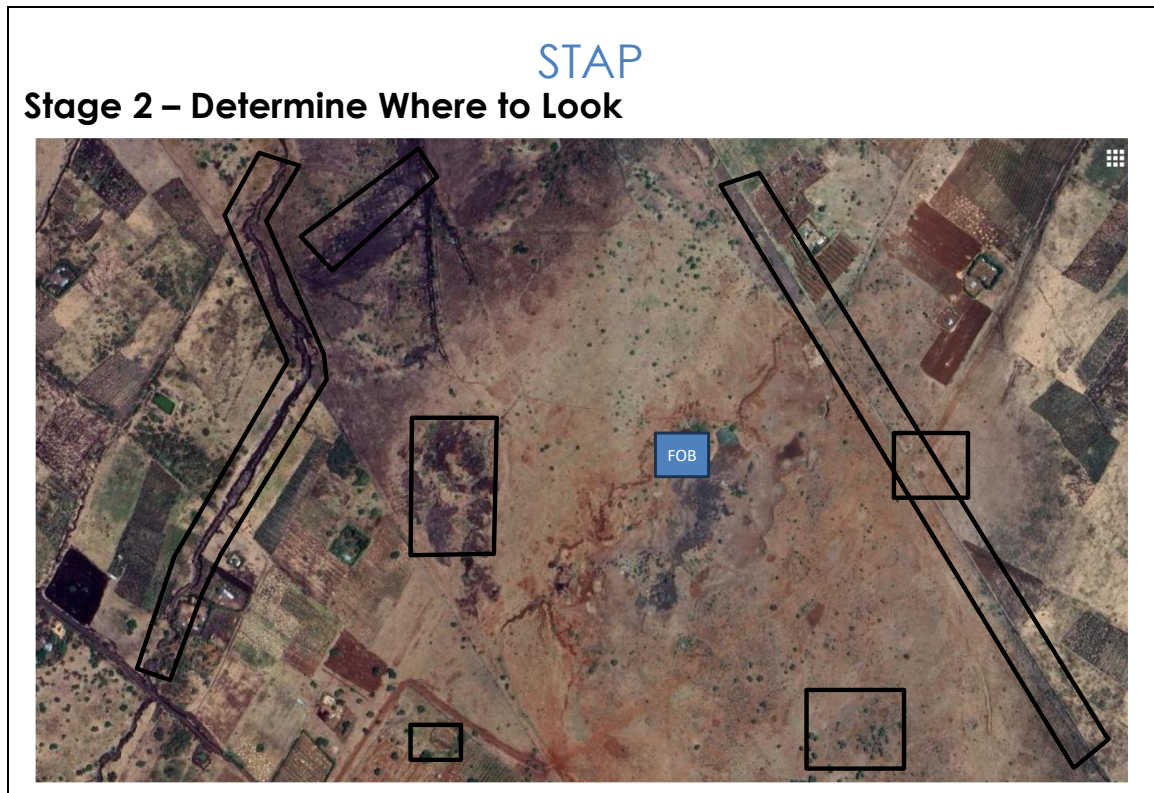
As you can see, we have drawn specific areas of interest.

Slide 48

STAP
Intervisibility Study – Using Range Cards

Range Card

No	Grid ref	Bearing	Tgt description or DF No	Range m	Line switch	A of
1	437885	1400	UM 1010(FPF)	440		
2	437814	5320	Farm House	175		
3	434829	700	Corner of wood	400		
4	434829	4260	PL HQ Trench	200		
5						
6						
7						
8						
9						

Description ____Lone____
____Tree____
Range ____350 m____
Made out by
____2 Sect Comd____
Date ____10 Jan 01____
Map sheet ____SPTA(W)____
Scale ____1:50,000____
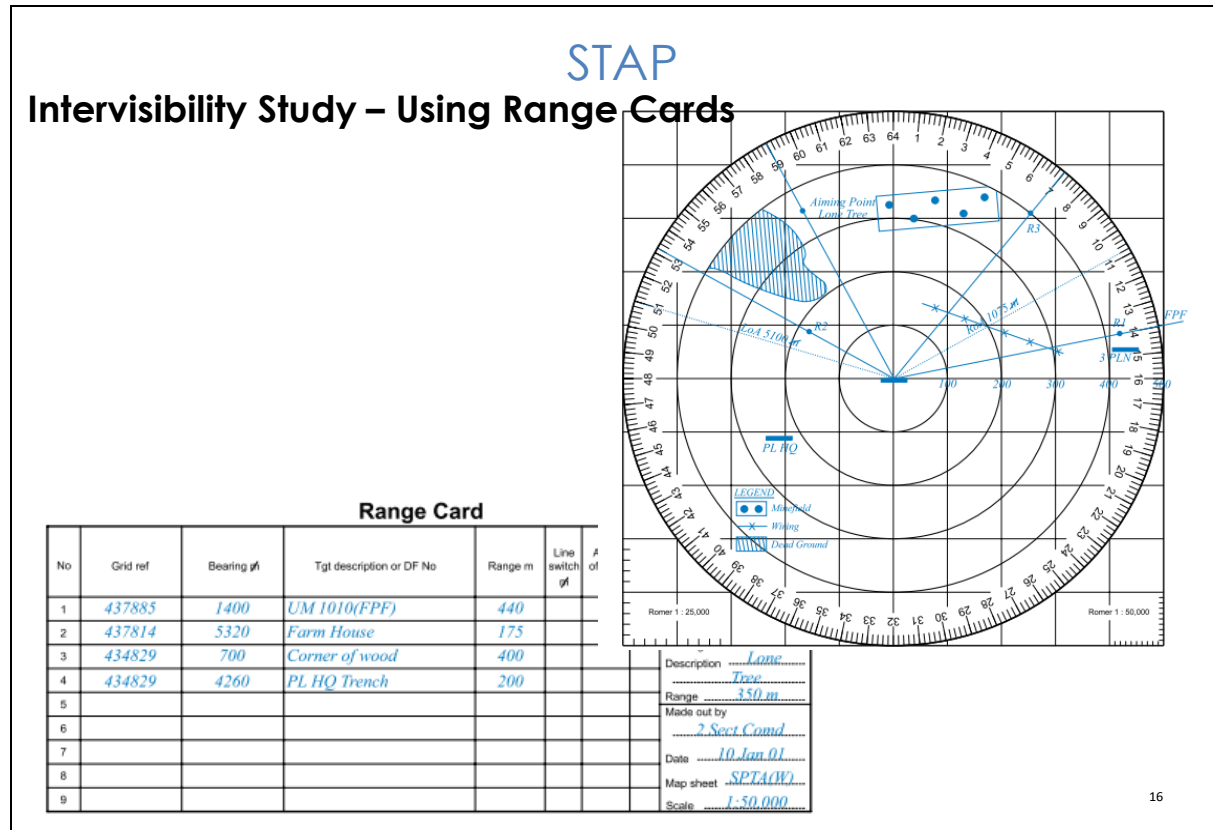
To conduct an intervisibility study we can use many tools. The simplest are range cards. Range cards are a simple sketch which are drawn up when establishing a sentry position or sangar. This is a basic infantry skill which many people do, but don't understand the importance. This next section will aim to show how simple range cards at sentry positions can be used to build STAP.

Slide 49
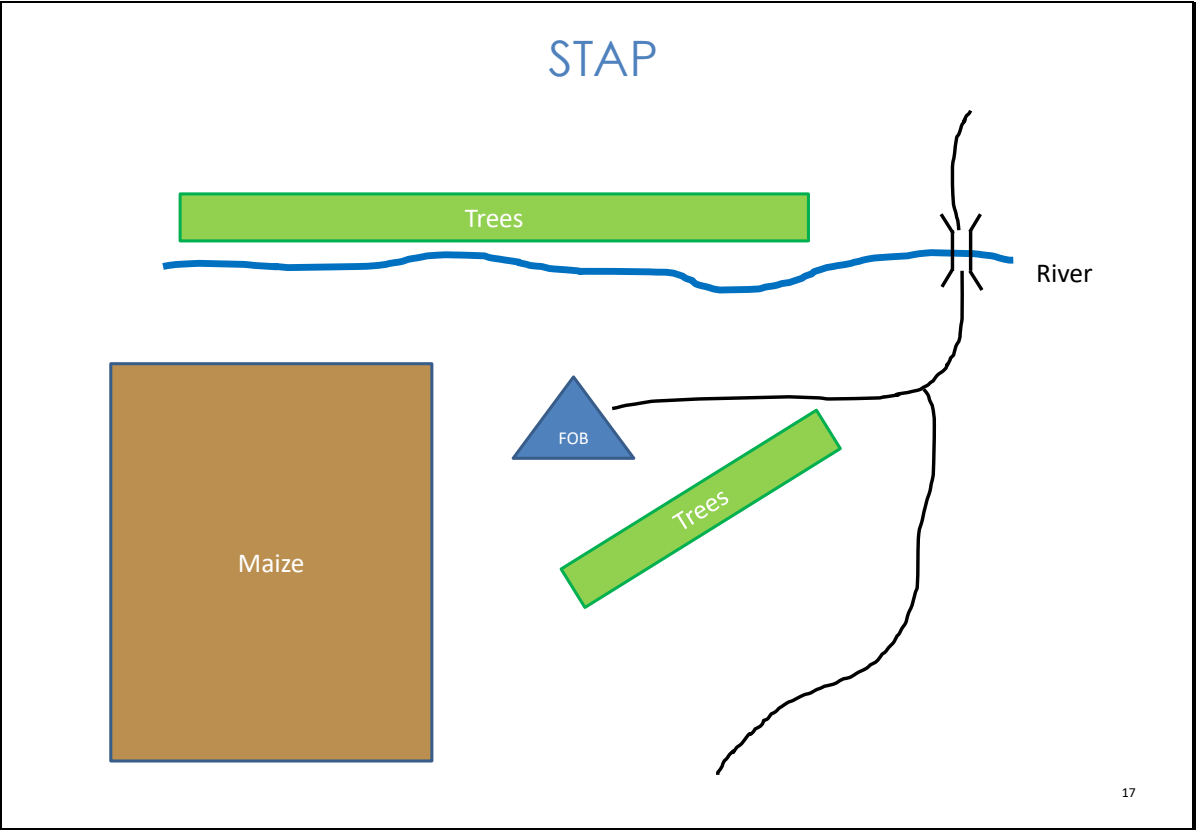
This sketch shows an example of a FOB.
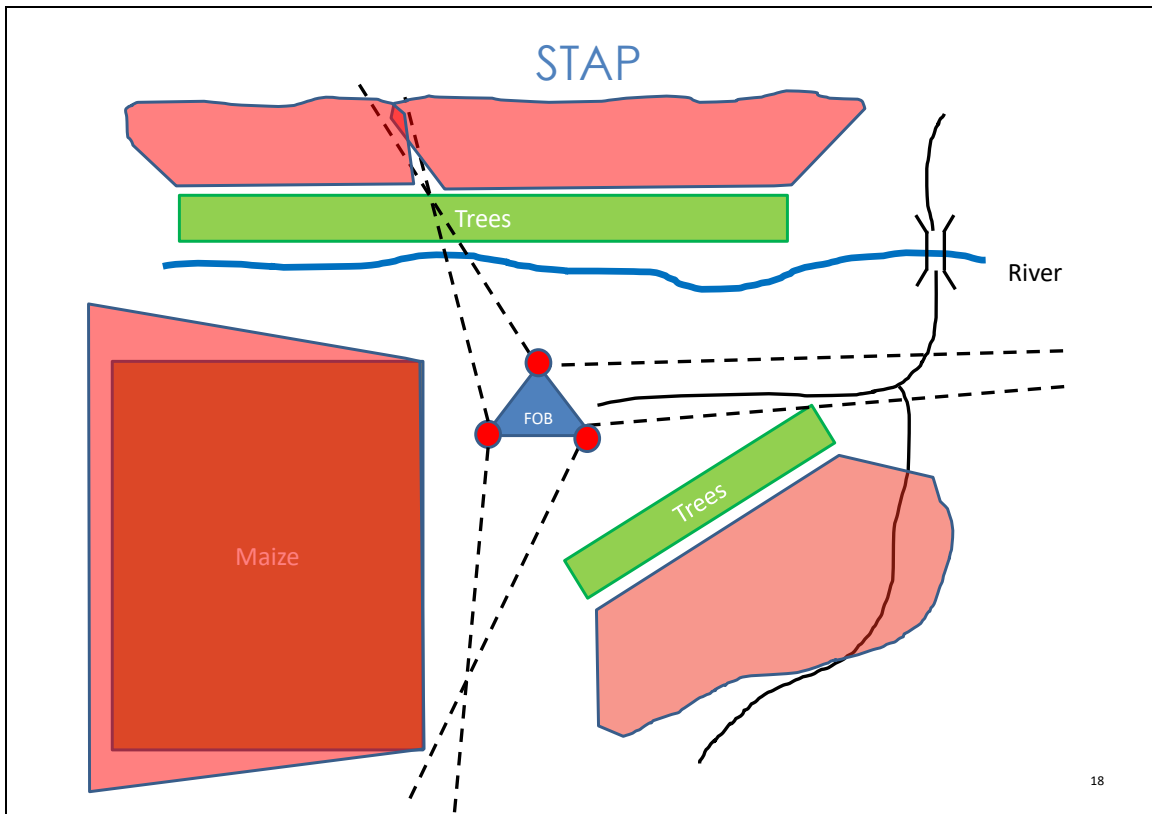
Each sentry position draws up a range card. These cards should be collated and added together to determine what can and what cannot be seen by the FOB as a whole.
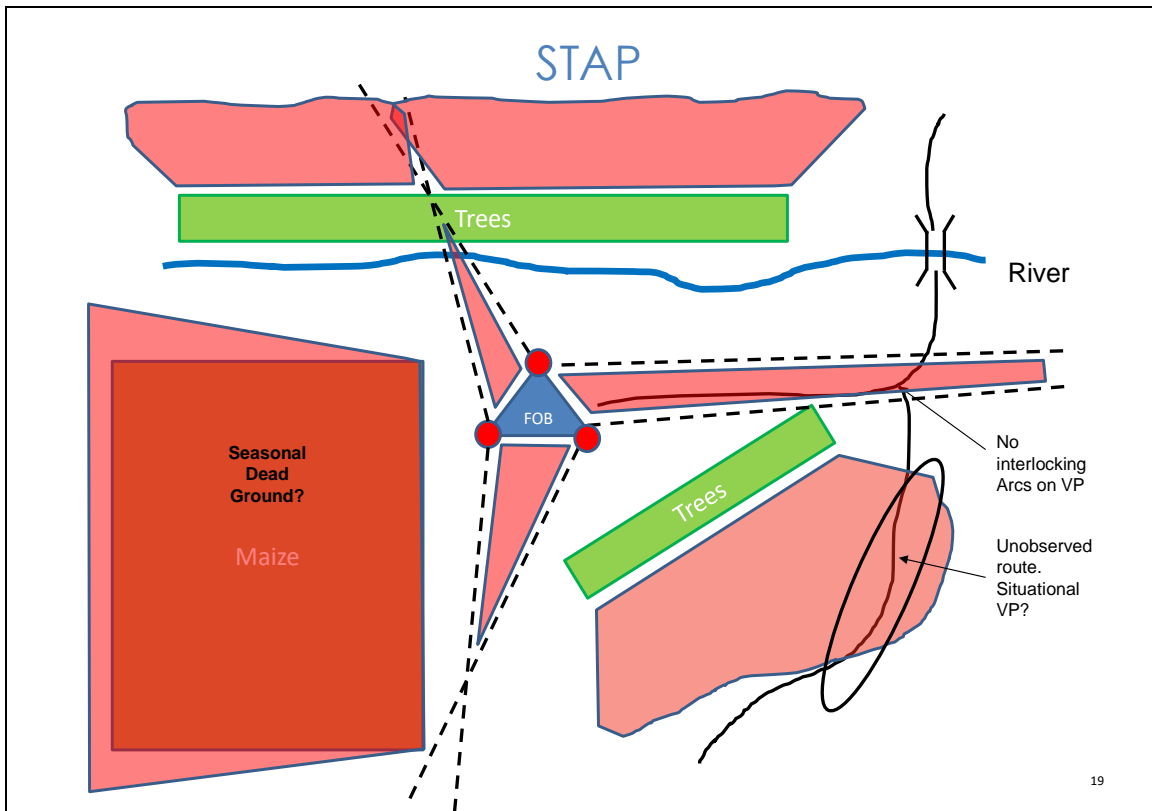
Now the FOB understands what it can and what it cannot see. Lets return to our example.
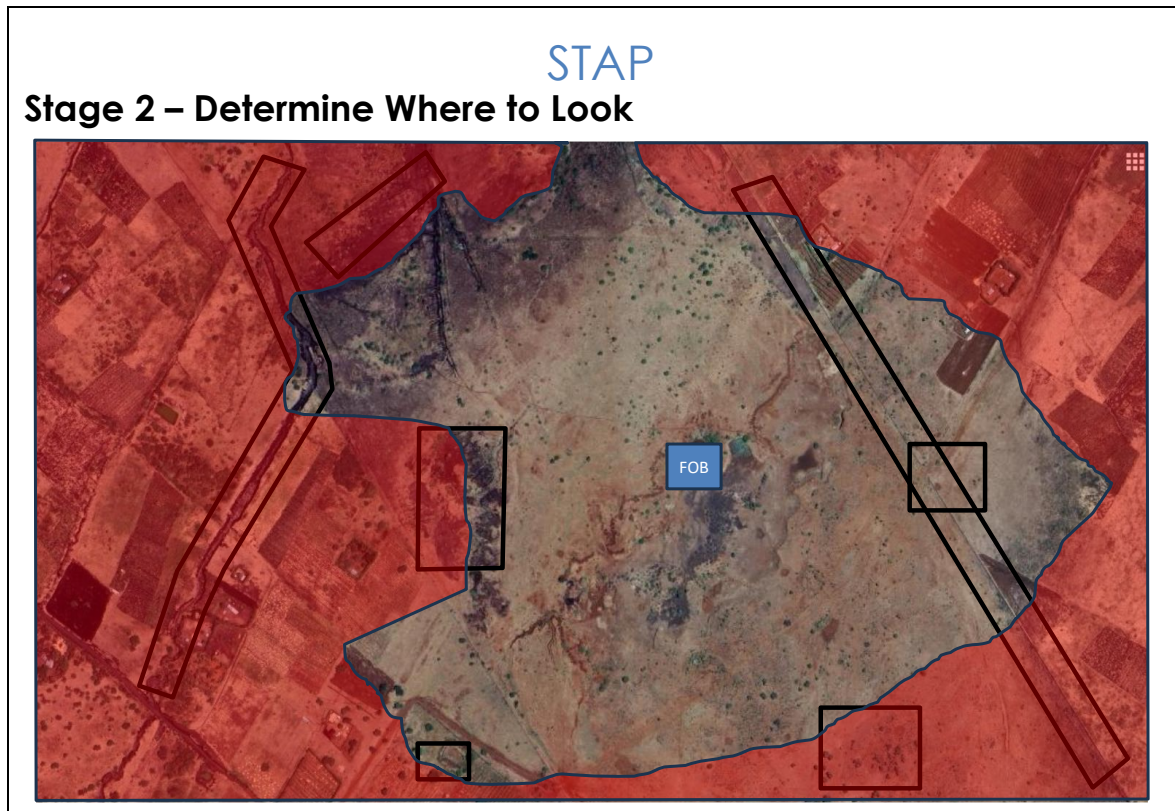
We can now overlay our visibility from the FOB. The red area is what we cannot see from the FOB sentry positions.

<div style="border:1px solid black">

STAP

Stage 3 – Allocating Resources

- What resources do we have?
  - Sentry positions (sangars, guard towers)
  - Patrols
  - Cameras
  - UAS/UAV
  - Higher formation assets
  - Neighbouring FOB
- Apply the resource/asset to the area of interest.
- Remember the resource capability need to suit the task.
- Identify gaps and take action
  - Bid for additional resources
  - Move assets
  - Elevate sentry positions
  - Remove vegetation or obstructions

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</div>

Now that we have decided where we want to look. We now need to allocate resources. Firstly, we should take stock of what resources we have at our disposal. Examples include:

- Sentry positions (sangars, guard towers)
- Patrols
- Cameras
- UAS/UAV
- Higher formation assets
- Neighbouring FOB

Once we have accounted for resources, we then apply the resource to the area of interest. Remember, the resource or asset we apply must be able to observe the area of interest.
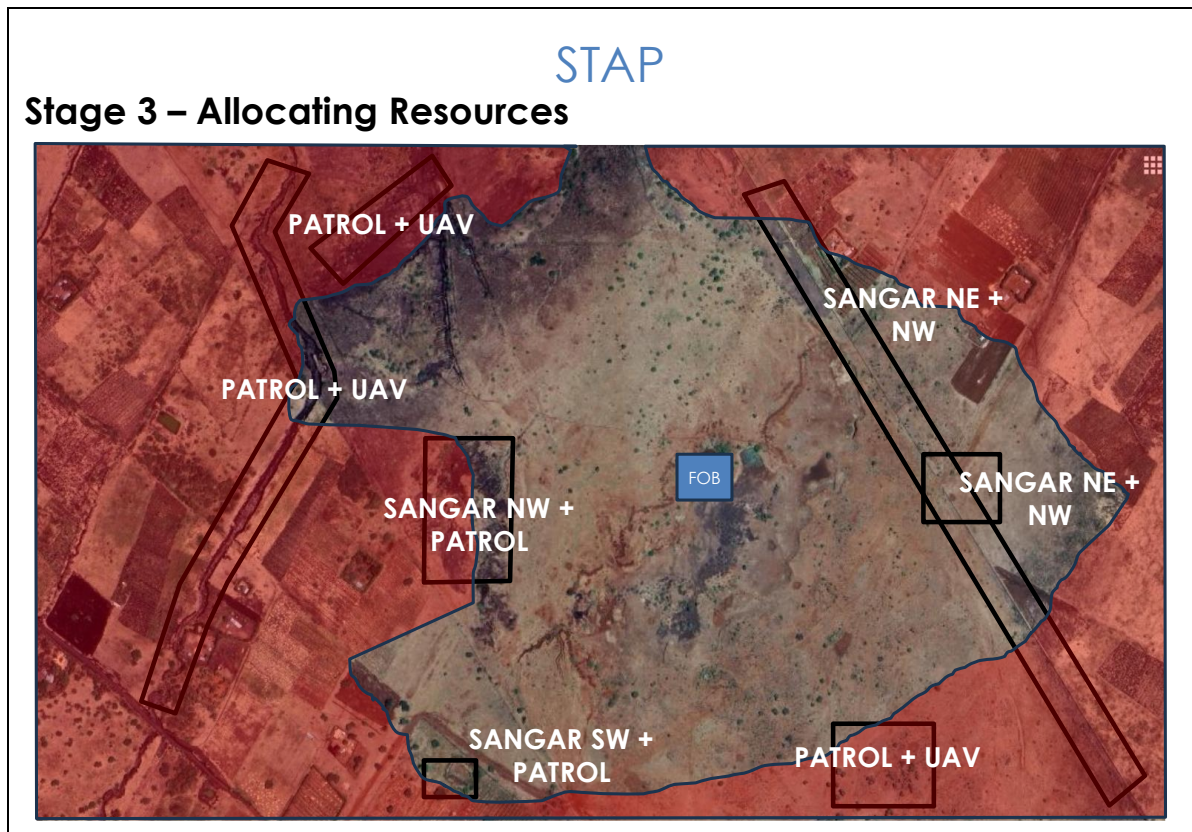
We can now overlay our visibility from the FOB. The red area is what we cannot see from the FOB sentry positions.

STAP

Stage 3 – Allocating Resources

Using a matrix can help with allocating assets/resources as well as managing the STAP

Ser	AOI	Location	Description	Asset	Priority
1	001	Grid reference	Road	Pri – Sangar NE Sec – Sanger SE	3
2	002	...	VP	Pri – Sangar SE Sec – Sangar SE	4
3	003	...	Previous attack	Pri – Patrols Sec – UAV	5
4	003	...	Disused house	Pri – Sangar SW Sec – Patrols	6
5	005	...	Hill	Pri – Sangar NW Sec – Patrols	1
6	006	...	Dry river bed	Pri – Patrols Sec - UAV	2
7	007	...	Bushes	Pri – UAV Sec - Patrols	7

This is an example of a simple matrix you can develop to implement a STAP. Sometimes this is called a decision support overlay matrix.
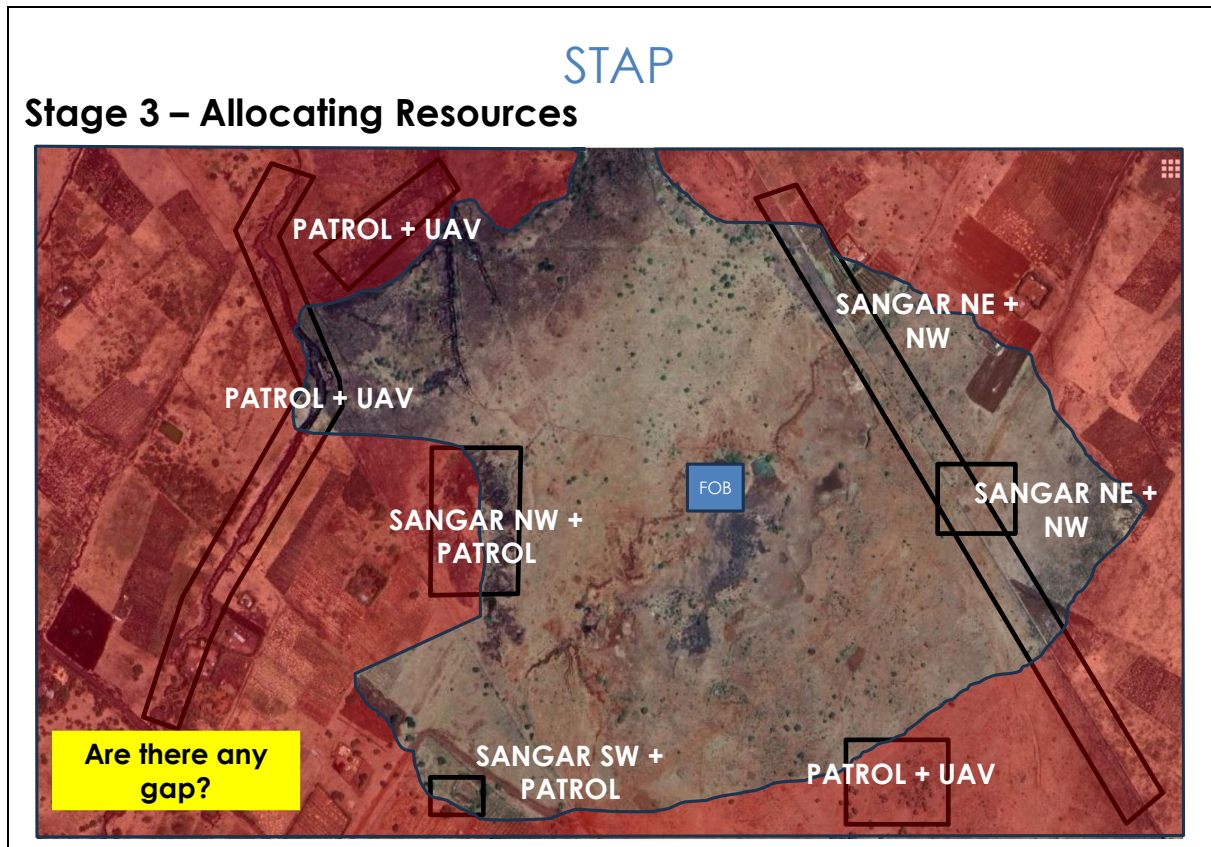
Once resources are allocated, we should confirm there are no gaps. If there are still gaps, we need to take actions. This includes:
- Bid for additional resources
- Move assets
- Elevate sentry positions
- Remove vegetation or obstructions
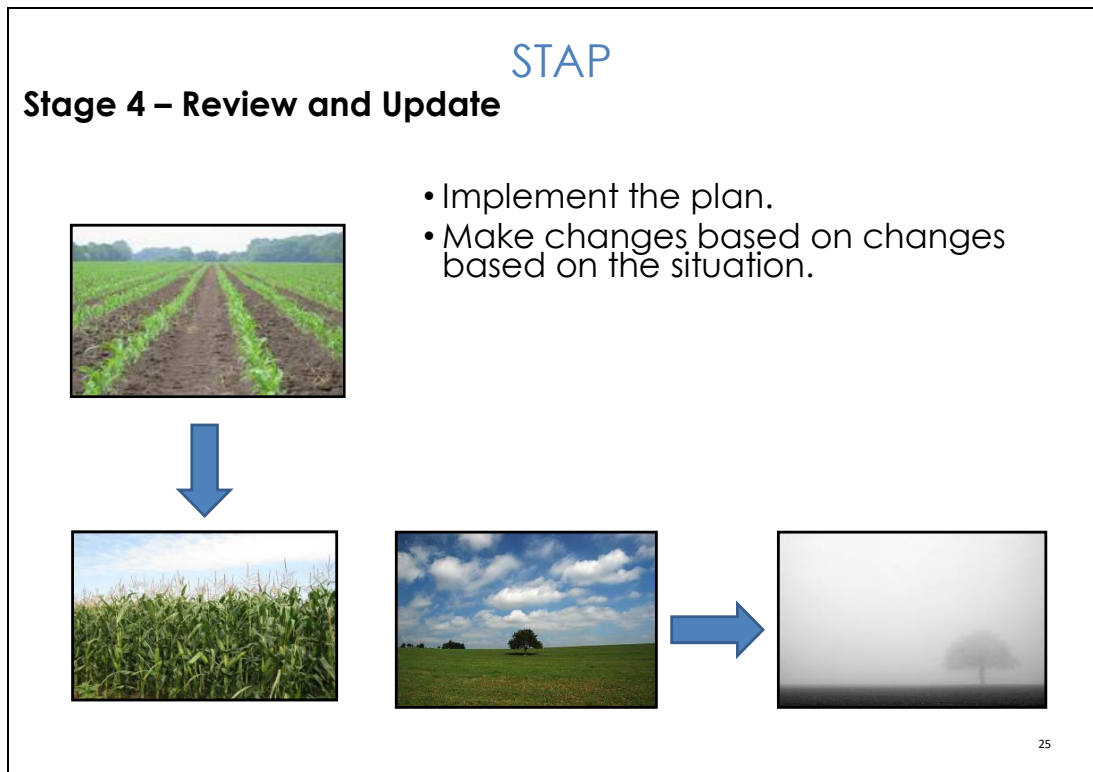
The final stage of the STAP is to implement it. To do this, we need to continuously monitor the plan. When the situation changes such as changes in the environment or the threat we must adapt the plan.

Slide 58

Questions?

UNMAS

Module

3

PRACTICAL APPLICATION OF THREAT ASSESSMENT, ROUTE ANALYSIS AND THREAT MITIGATION

Module 1 at a Glance

Training Objective. To exercise and consolidate the participants' knowledge and skills on threat assessment processes and mitigation techniques by means of map exercises and briefing. This learning outcome comprises 15 periods of syndicate work following by debriefs which consists of the following exercises:

Lesson 3.1 – Syndicate Exercises. The aim of these exercises is to highlight the relevance of threat intent, capability and opportunity environment in order to develop your ability to conduct an accurate threat assessment. The following exercises will be conducted:

1. Threat Assessment Exercises x 2 (180 minutes)
2. Force Protection Exercise (180 minutes)
3. Convoy Planning Exercise (315 minutes)

Name of Exercise	IED-TM Exercise 1 – Threat Assessment Part 1, Threat Intent
Objective of Exercise	To encourage the participants to understand how an IED aggressors' intentions determines their method of IED attack. This will enable the participants to subsequently develop and interpret threat assessments.
Aim	The aim is to highlight the importance of understanding the aggressor's intent in order to develop your ability to conduct an accurate Threat Assessment.
Situation	**Situation**. You are a member of the Combattants Indépendants du Sud Carana (CISC) a separatist group who opposes the current government and the UN Peacekeeping Force in CARANA. See CARANA Country Profile for details on this group. You are part of a small terrorist cell within the CISC trying to demonstrate that you are a professional IED cell capable of conducting deadly attacks. In response to recent news that the UN will commit peace enforcement troops to Operations in support of the stabilisation of CARANA. Due to the worsening security situation, a number of non-essential UN civilian staff are being evacuated from the country via the seaport at TOLE. You have been ordered to plan and execute an attack on UN workers within the attached area. Your intelligence has reported that an UN troop carrier ship will be arriving in TOLE to evacuate the UN staff from CARANA within the next 48–72 hours. We have discovered that this ship will berth somewhere within the area shown. It is believed that the UN staff will be arriving in small groups (10-15) in civilian vehicles with Carana National Police (CNP) escorts. They are 3 known entry points to the port (as shown on the map). UN staff are currently housed both West and East of the city but their routes to the port are not known. CISC have a sympathetic security guard who works at the port – some degree of access without being searched may be possible. The security guard will not take part in any attack and will have to be briefed on any action you require. **Capability**. • Shoot - Small arms only (no heavy weapons), No RPGs.

	• IED Capability: – Explosives - Large quantities (up to 500Kg) HME. – Small quantities 4-5 Kg C4. – Detonators. – Initiation switches • Command Wire, Radio Command. • Time Delay. • Basic Victim Operated (pressure plates, tripwires, anti-lift) switches. **Your Mission:** You and your team are to carry out an attack to kill and injure as many UN staff as possible in order to deter the UN from becoming involved and to demonstrate that CISC are a credible force. **Limitations** • You have little public support in most of the operating area so the public will not overtly support you and all resources must be brought into the area prior to the attack. • After the attack, your safe haven is 35km to the North-West over the border in SUMORA. The leadership of the CISC has invoked the following restrictions on you: • The attack must be filmed. • The attack must take place either in or close to the port area to prove to the world that the UN military machine cannot even protect its own people against the CISC. • We do not wish for any of the cell to martyr themselves during this operation so you must consider and extraction plan. • Your team consists of 5 members.
Exercise Requirements	The CISC Cell Commander will be here shortly. You have 45 min to plan. He will expect a 10 min brief from you. You are to: 1. Produce a trace/overlay/sketch of the attack identifying all Contact Points (intended explosion site), Firing Points (triggerman location), escape routes, and relevant locations. 2. Then brief your plan in detail. • Any assumptions should be cleared with the instructor before detailed planning. – If you have any further questions or require information then ask the instructor.

• Any information that you would seek to gain on reconnaissance will be available from the instructors.

Your plan must include:

    a) A brief scheme of manoeuvre (the outline of the plan with key timings)

    b) Your intent – who are you specifically targeting and why? Who do you not want to harm and why?

    c) Capability – what specific type of attack/IED are you going to use?

    d) Opportunity – Where and when will the attack take place?

    e) Expected outcome of attack.

    f) Reasons why this location and method of attack has been chosen.

    g) Identification of the biggest risks involved in this plan.

    h) Any other relevant information you feel necessary.

IF YOU HAVE ANY QUESTIONS ASK

Map of CARANA in General
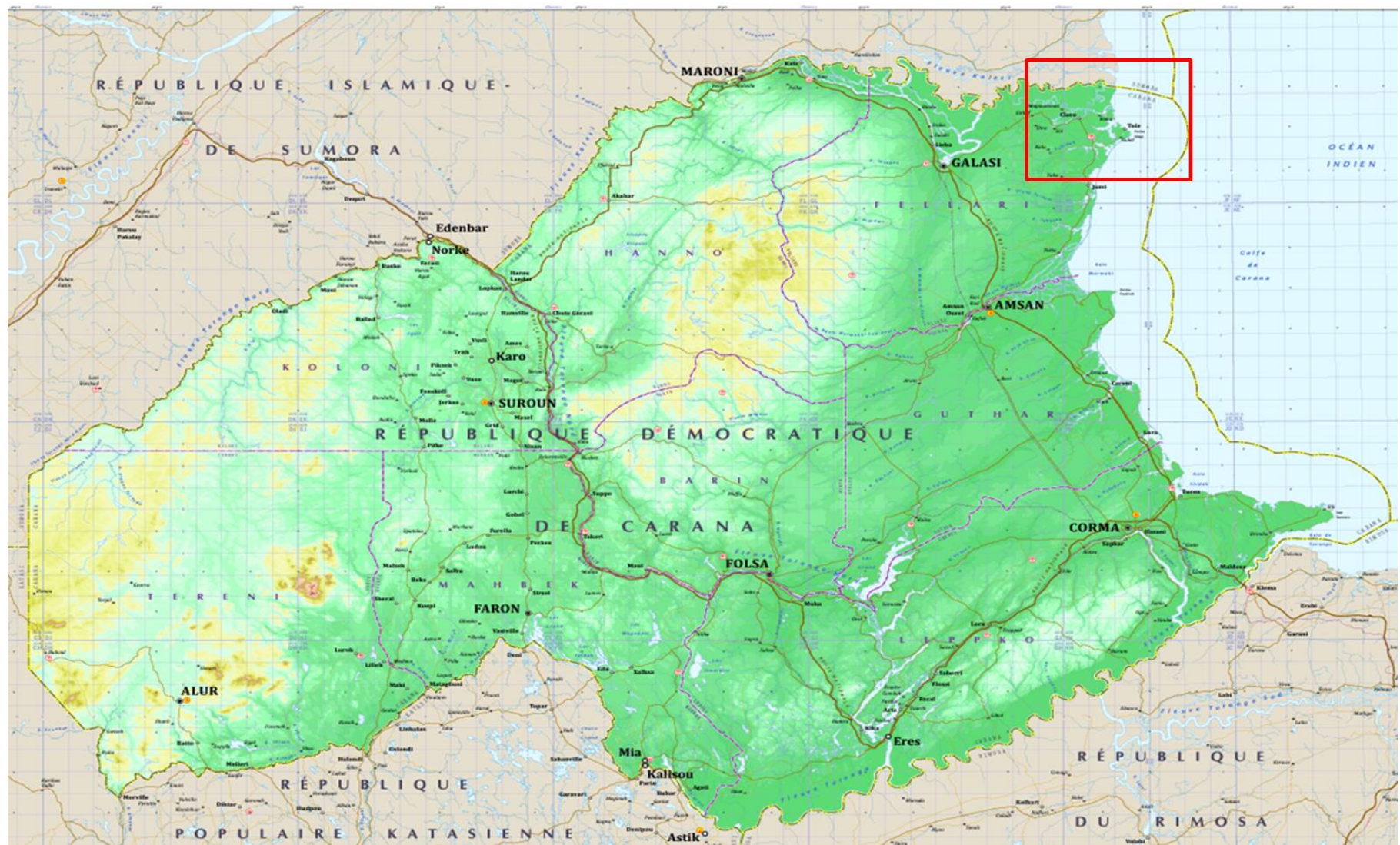
Port City of TOLE
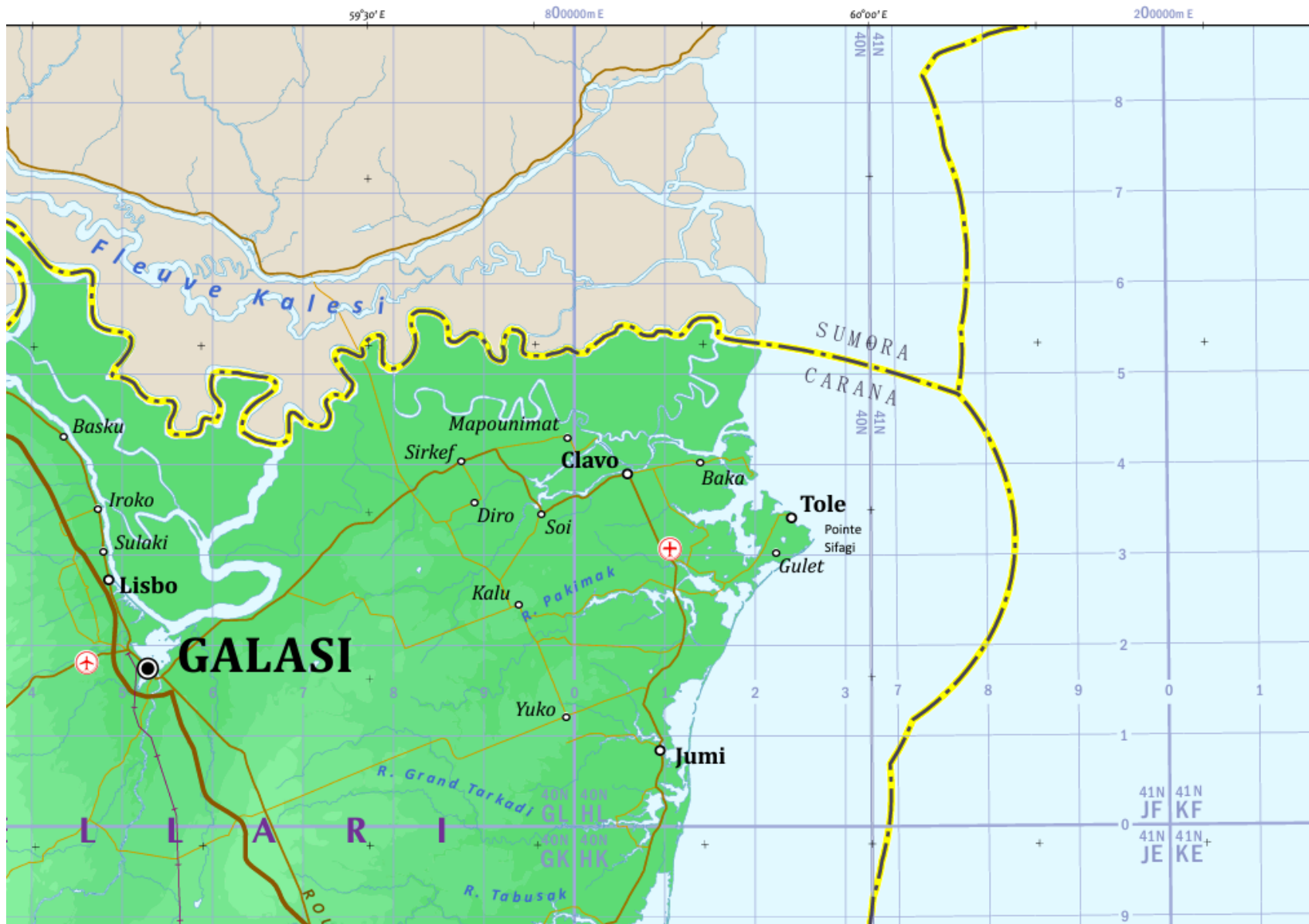
TOLE PORT IN GENERAL

ENTRY POINT 1
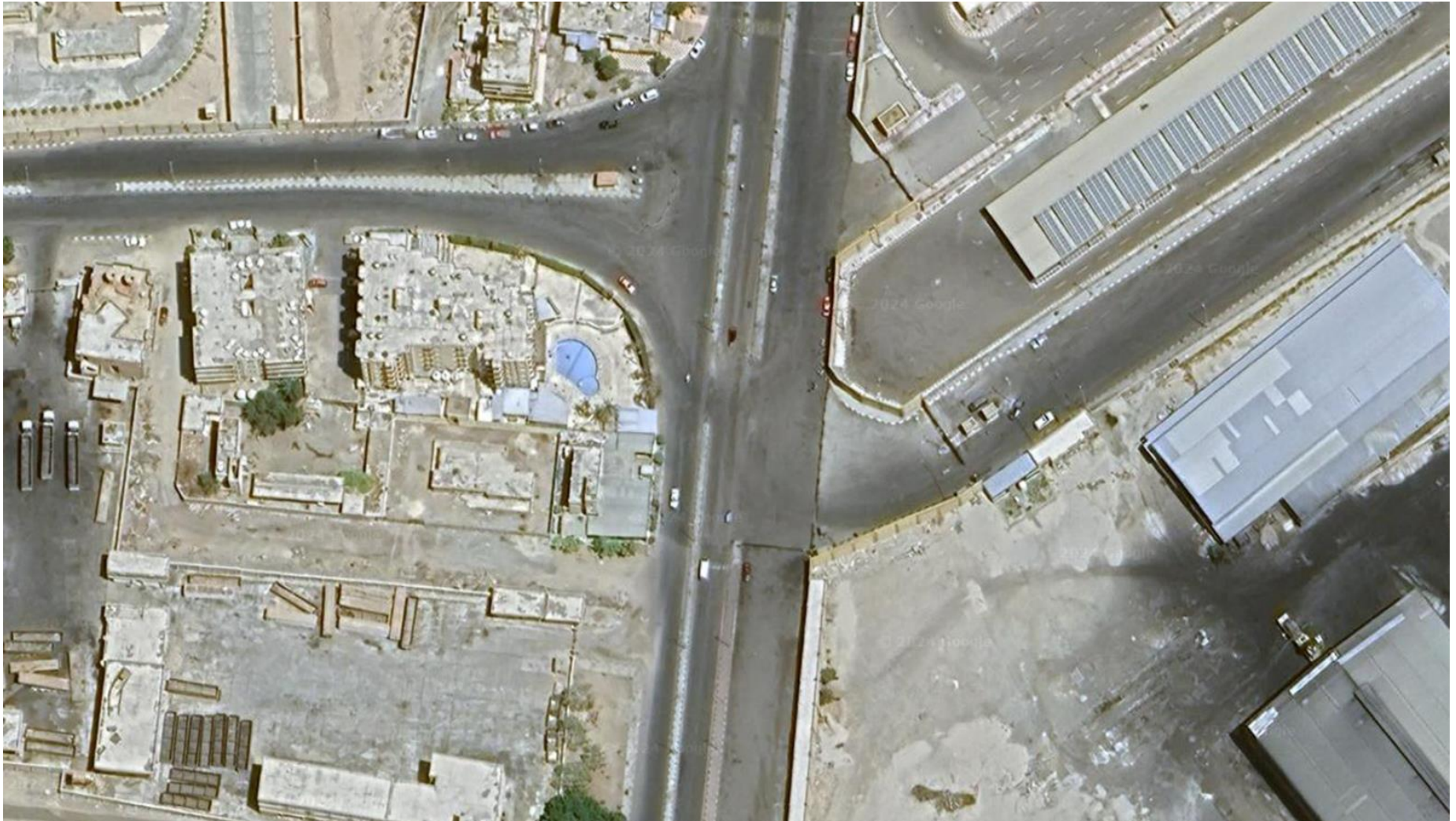
ENTRY POINT 2

ENTRY POINT 3

BERTHING POINT

Expected berth point for UN ship

Likely temporary holding area for UN personnel

Instructor Guidance – NOT TO BE ISSUED TO STUDENTS

The CISC Cell Commander will be here shortly. You have 45 min to plan. He will expect a 10 min brief from you. You are to:

1.   Produce a trace/overlay/sketch of the attack identifying all Contact Points (intended explosion site), Firing Points (triggerman location), escape routes, and relevant locations. The students will be required to produce a sketch map or produce a digital overlay to brief their plan. If the student have laptops available, a digital copy of the associates slide for this exercise must be given to them.

2.   Then brief your plan in detail. The brief needs to be short, covering the key sequences of events. Whilst conducting planning, the instructor must encourage the students to consider the reality of their plans.

Your plan must include:

a)   A brief scheme of manoeuvre (the outline of the plan with key timings)

b)   Your intent – who are you specifically targeting and why? Who do you not want to harm and why?

c)   Capability – what specific type of attack/IED are you going to use? The students need to align the type of attack with the intention of the attack. E.g. A VOIED cannot be used if they are specifically targeting UN troops but not wishing to harm civilians.

d)   Opportunity – Where and when will the attack take place? The location and time of their attack must align to their intention and the type of device they wish to use.

e)   Expected outcome of attack. The student plan should align intention with their outcome.

f)   Reasons why this location and method of attack has been chosen.

g)   Identification of the biggest risks involved in this plan. Risks should be considered based on the type of attack they use. E.g. A VOIED killing civilians, a CWIED having the firer being caught, a timed device functioning before/after troops arrive. They also need to consider risks of being caught during the preparation phase and in the extraction phase. This is to encourage the student to understand that these are issues that a potential threat also have to consider.

h)   Any other relevant information you feel necessary.

IF YOU HAVE ANY QUESTIONS ASK

Name of Exercise	IED-TM Exercise 2 – Threat Assessment Part 2
Objective of Exercise	To allow the students to practically exercise the threat assessment process and link this to applying threat mitigation measures.
Situation	**Situation**. You are an IED threat Mitigation Advisor working in a Battalion as part of the UN Mission in Carana (UNMIC). Your battalion was deployed as part of a peacekeeping force to help respond to the instability caused by adversary groups operating in CARANA seeking to overthrow the legitimate government. Your battalion is located in a Main Operating Base. On of the Companies in your Battalion is located in a nearby Forward Operating Base near a small village to provide local security. The Company has no specialist counter IED assets. In addition to normal vehicle patrols, the Company conducts regular foot patrols through the centre of village to reassure the population and deter the adversary group form gaining popular support. The patrols tend to take place in the morning before the heat of the day and they always use the route shown either clockwise or anti clockwise, normally stopping for a water break on route. The local population routinely use this same routes in the village area but they do not use the routes near the FOB area. A friendly source of intelligence suggest that a small number of adversaries have moved into the area and wish to mount an attack against UN troops to undermine their capability and discourage them from conducting patrols. This will give the adversaries greater freedom of movement and opportunity to influence the population and gain support. The adversaries operating in CARANA are known to have the capability to carry out all types of IED attacks and have access to both homemade explosives and military ordnance. However as they are operating in small group, they are likely to only have small quantities of explosive at this stage and only simple IED making equipment.

Exercise Requirements	As the Threat mitigation advisor you are to carry out a threat assessment and make recommendations of what the Company could do to reduce the threat of an attack. Your syndicate must, as a minimum; • Complete the threat assessment using the 6Ws. • Specifically identify the VPs and VA's and be able to qualify them. i.e. explain why they are VA's and VPs. • Identify the most likely type of attack at the VP/VA. • Make recommendations of what the FOB could do to reduce the threat. You have 45 minutes to carry out the assessment. You are to provide a 10-minute brief to the class on your assessment and recommendations. **IF YOU HAVE ANY QUESTIONS ASK**

MAP IN GENERAL

FOB

MAP IN DETAIL

MAP IN DETAIL

Instructor Guidance – NOT TO BE ISSUED TO STUDENTS

The students should be encouraged to use the 6Ws for completing the threat assessment process:

Intent

Who is the threat from – the students should identify who the threat is from. In this case, it is simply the local adversary group.

Who is the target – the students should highlight that the adversary group is specifically targeting the UN patrol, and not intending to affect the civilian population.

Why – the students should extract from the scenario.

Capability

What – the adversaries have all types of IED but the limited access to resources should steer the students toward the use of small Victim Operated, Time or Command Operated IEDs targeting dismounted patrols.

Opportunity.

Where – the student must identify to the likely terrain and situational VPs. These include the channelled areas of the route, the areas where the FOB cannot observe, the situational VP created by the stop off location. The congested urban area could be identified as a VA also. Student should highlight that the observed area by the FOB by night should not be a VA/VP.

When – If the students highlight that there is a situational VP created by the stop off location, they will need to highlight there is a time based threat.

Type of attack.

The student should link each of the VPs with a likely type of attack. There is no correct answer here but the logic of the intended target and location of VP must support the use of the type of IED. examples:

- The VA of the busy street – Command IED to prevent risk to civilians
- VPs in channelled areas in close proximity – command IED to prevent risk to civilians who routinely use the routes.
- Stop off point – Time or command.

- VPs between town and FOB – likely to be victim operated.

Possible Mitigation measures could include:

- Changing the route on a daily basis
- Changing the location of the stop off point
- Changing the times of the patrols
- Conducting searches of known VPs
- Conducting EHAT and GSA training
- Increasing observation
  - Increasing visibility of FOB
  - Placing units out to maintain visibility of route
  - Developing a surveillance plan to routinely observe Vas/VPs – in person or by using UAS or remote cameras
- Conducting deterrence operations
  - Engaging with local police to establish check points to carry out person and vehicle searches
  - Conduct engagements with civilian population to gather sources of information.

Name of Exercise	IED-TM Exercise 3 – Convoy Movement Exercise
Objective of Exercise	To assess the participants on their understanding on how to conduct terrain analysis and threat analysis of a particular route and present a threat assessment of the route and plan how to conduct convoy movements in IED threat environment.
Aim	The aim of the exercise is to highlight the relevance of conducting route analysis, understanding the IED threat along the route in order to plan how to conduct convoy movement in the Area of Operation.
Situation	You are the IED Threat Mitigation Advisor working in a Battalion HQ. A new Forward Operating Base (FOB) is planning to be built in a remote area of Sector 2 approximately 25km North West of your current location. The date is 20 April 2024. **Situation**. Following the UNSCR 1544 (2023) a Bn FOB was established near PIKSEK to provide security from a rising adversary activity targeting security forces in the NORTH WEST of CARANA. The UNAC Bn in the area was initially highly effective but in recent months the adversary groups have increased their activity targeting remote local security force outposts and resorting more and more to the use of IEDs as a weapon. Increasingly, UN troops are the target of adversary attacks. A decision has been made to establish a new Company level FOB to the south of TRITH to support local security forces and deny freedom of movement to the adversaries. **Threat Forces**. Adversary forces remain active to the NORTH of PIKSEK. They are well trained and resourced and retain the capability to launch well-planned, coordinated operations. The adversaries have shown the capacity to make a variety of IEDs and they are known to be well equipped with small arms (mainly AK style weapons). The adversaries are politically motivated not ideologically/religiously motivated and so suicide attacks are extremely rare. They tend to operate in small cells of about 30 fighters but they will rarely be found in groups larger than eight to avoid being identified. They do not wear a uniform, opting to dress in local attire. They use normal civilian vehicles and motorcycles. The adversaries also make use of the restrictive high terrain which can only be accessed by foot. There is assessed to be one cell operating in the area of operations. The adversaries do not target civilians as they are do not want to antagonize the local population who, although do not support the adversaries,

	also tolerate their presence out of fear of retribution. Occasionally IEDs are used to initiate complex attack type ambushes in both rural and urban areas. **Friendly Forces.** The security situation in close proximity to PIKSEK has stabilised. In order to improve the security force's presence, a Forward Operating Base (FOB) location has been identified in to te SOUTH of TRITH and an operation to secure it is to be completed in the coming weeks. An infantry company group with an EOD team attached has been tasked to secure and clear the site prior to construction work starting.

Mission	**MISSION.** UNAC Bn is to conduct convoy support between PIKSEK and TRITH in order to allow a new FOB to be CONSTRUCTED and subsequently DENY adversaries freedom of movement.
	EXECUTION - Concept of Operations.
	    a. **Intent**. To support the convoy movement from SUROUN to LOPKAS by providing protection to the convoy and performing route clearance of IED threat along the alternative supply route (ASR).
	    b. **Scheme of Manoeuvre**. This operation will be conducted by UNAC Bn no later than 30 Apr 2024 to enable engineers to construct new FOB no later than 15 May 2024.

Exercise Requirements	You are the IED TM advisor to your HQ. You are to give a brief to the commander on risk reduction for the movement to the new FOB, as part of the wider mission planning.
	
	Specific requirements. You are to:
	
	- Carry out a Threat Assessment
	- Carry out a route analysis:
	    o Establish your Areas of Interest (AOI)
	    o Gather Information on all AOIs
	    o Establish all VA's and VP's.
	    o Assign mitigation measures to all VA's and VP's.

- Plan a convoy move implementing threat mitigations measures and coordinating all supporting assets.

You are to brief the following:

- Brief your threat assessment.
- Brief your route analysis.
- Brief your suggested mitigation measures.
- Brief a proposed Course of Action which incorporates
  - Task Org
  - A scheme of manoeuvre (outline plan)
  - Phases of the operation
  - Key timings
  - Convoy plan i.e. What is the order of march and where are assets placed in the convoy including ECM to ensure coverage of whole convoy.
- What are your key risks and what do you require to address the risks.

Map of CARANA in General
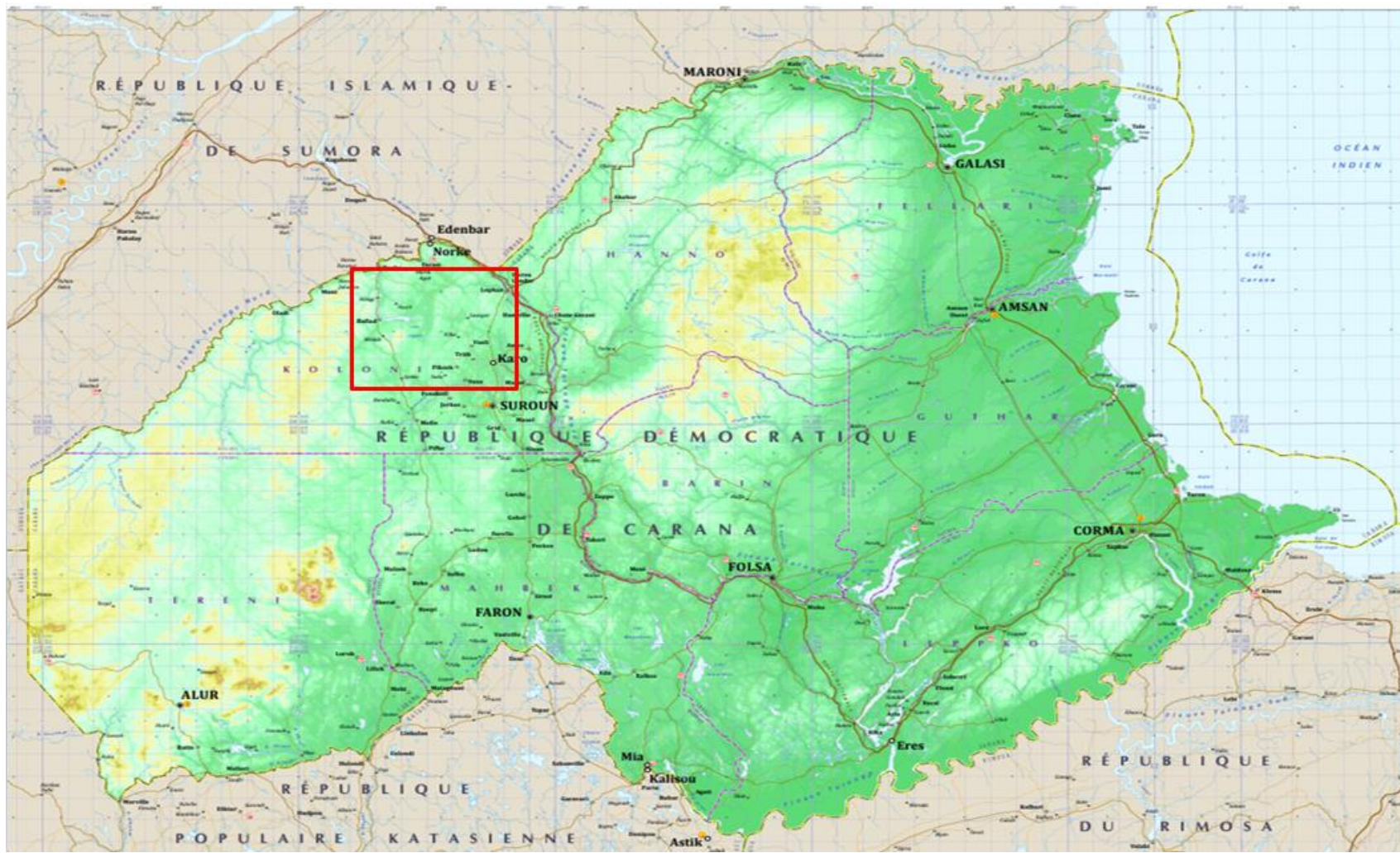
Area Of Operation

Alternative Supply Route
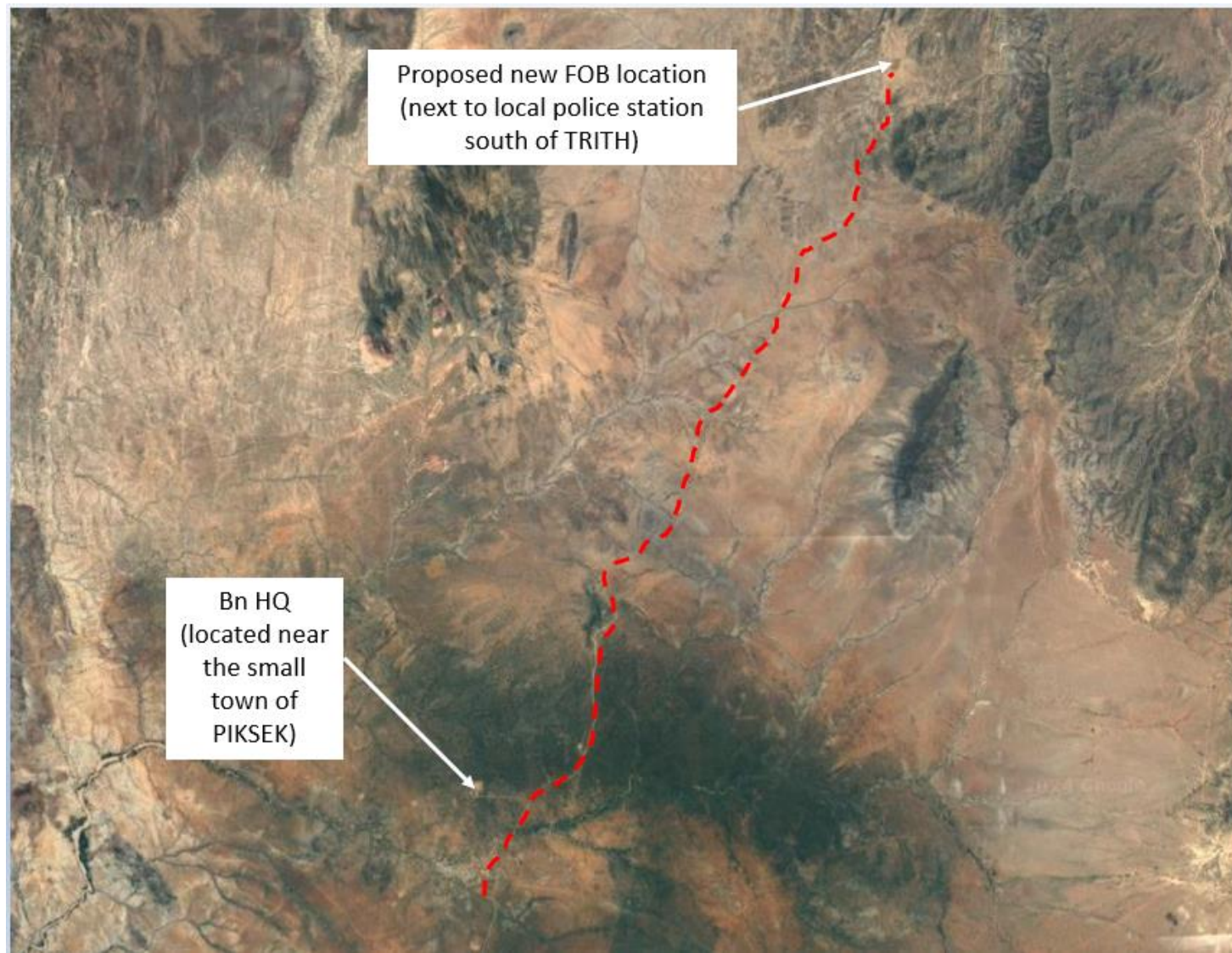
Additional Supplementary Information to be found in the slide pack

Instructor Guidance – NOT TO BE ISSUED TO STUDENTS

The instructor is to issue to this exercise after the Static Force Protection exercise. The students are expected to work on this exercise outside of teaching hours. Depending on the size of the training and number of sydicates, the instructor is to determine when the students will be expected to commence their briefs as per the course programme. The presentation of this exercise serves as a useful opportunity for senior officer or external guests to observe the product of the training. The student should be made aware of potential visitors to their presentation.

This exercise is written on the assumption that student do not have access to the internet and limited laptop computers. If the students do however have sufficient access to the internet and have computers, they may be given the actually location on Google Maps where this scenario was pulled from. This will enhance the student experience and make it more realistic. The location are

Start Point: 1.801558, 36.789945

Finish Point: 2.009130, 36.905104

You are the IED TM advisor to your HQ. You are to give a brief to the commander on risk reduction for the movement to the new FOB, as part of the wider mission planning.

Specific requirements. You are to:

- Carry out a Threat Assessment. Students should be able to determine a basic threat assessment by using historical IED attacks and description of the Adversary force.
- Carry out a route analysis:
  - Establish your Areas of Interest (AOI) Some AOIs have been expanded in the power point slides but there are not exhaustive and others may be included.
  - Gather Information on all AOIs. The expanded images and historical IED data will assist the students. Furthermore, the student need to use what they have learned in previous lessons from VP and VA to make an assessment of the location. The student should request the use of UAV for gathering additional information on VAs and VPs.

- o Establish all VA's and VP's. Its is important to note that not all of the AOIs that have been expanded should be considered VPs or VA's. e.g. A bend in the road is not a VP if it does not require a vehicle to slow down.
- o Assign mitigation measures to all VA's and VP's. These mitigation measures must be practically implementable and must actually reduce the risk. The instructor should scrutinize the students understanding of the mitigation measures. E.g. Conducting 5/25 is not a mitigation measure at a VP, it is a drill. A mitigation measure might be Conducting a search operation or by-passing the VP.
- Plan a convoy move implementing threat mitigations measures and coordinating all supporting assets.

You are to brief the following:

- Brief your threat assessment.
- Brief your route analysis.
- Brief your suggested mitigation measures.
- Brief a proposed Course of Action which incorporates
  - o Task Org – this should cover what assets the team plan to deploy.
  - o A scheme of manoeuvre (outline plan)
  - o Phases of the operation
  - o Key timings – the timings must take into account the mitigation measure. E.g. if they plan to conduct search operations at 10 VPs, they must factor the additional c. time per VP into their plan.
  - o Convoy plan i.e. What is the order of march and where are assets placed in the convoy including ECM to ensure coverage of whole convoy. The order of the convoy must consider where assets will be required when on the convoy and when carrying out mitigation measures. Additionally the ECM needs to be spread out to price complete cover for the convoy.
- What are your key risks and what do you require to address the risks.

IED TM RTP
CONVOY MOVEMENT EXERCISE
Student Handout

BACKGROUND

1.   **Introduction.**   You are the IED Threat Mitigation Advisor working in a Battalion HQ. A new Forward Operating Base (FOB) is planning to be built in a remote area of Sector 2 approximately 25km North West of your current location. The date is 20 April 2024.

2.   **Preliminaries.**

    a.   **Ground in General.**   A secondary supply route runs between the regional capital of KARO and the border to the NORTH with SUMORA. Although in a remote and underdeveloped part of the country the route is significant for the for trade and one of the only roads for movement of local security forces. The towns of PIKSEK and TRITH are very small towns linked by this road. The road is a well constructed dirt road which, until recently was well maintained by the local government. This part of the country is a dominated by semi-arid bushland in the lowland areas, some local thick acacia forest and rocky dry hills.

    b.   **Ground in Detail.** PIKSEK in is a small town situated approx. 50km to the NORTH WEST of KARO. It is a market town with a population of approximately 3,500 relying on transitional trade and local farming as one of the few places in the area with sufficient rain and fertile soil. A UN Bn is located just to the NORTH of PIKSEK which was established last year to provide local security. The terrain to the NORTH of PIKSEK is thick acacia forest which restricts vehicular travel to the main road. Further NORTH the terrain opens into semi-arid bushland which is unrestricted to large high mobility vehicles but restrictive to large logistics vehicles and small 2-wheel drive cars. In the wet season movement off road is restrictive to all vehicles after prolonged heavy rains. Both to the NORTH WEST and NORTH EAST of the open terrain, the ground rises steeply into rocky exposed hills. There are some very small tracks which can be transited by high mobility vehicles but impassable by small and logistic vehicles. The small village of TRITH lies about 25km NORTH of PIKSEK and comprises of about 500 people. To the south of TRITH is a small police post which is the only government security in the area.

    c.   **Climate and Weather.**   Daytime temperatures are peaking at 34°C, morning and afternoon temperatures typically range from 24°C to 34°C. Night time temperatures drop to 15°C. Rain is limited to two short wet seasons in May and October. Outside of these months rain is very rare, but during these month it can be very heavy. The moon state is currently full, and skies are clear throughout the month, there are good ambient light levels for operating with Night Vision Goggles (NVGs).

Table 1 – 10 day forecast

DATE	21 Apr	22 Apr	23 Apr	24 Apr	25 Apr	26 Apr	27 Apr	28 Apr	29 Apr	30 Apr
Temp	High – 32 Low - 14	High – 32 Low - 15	High – 33 Low - 16	High – 33 Low - 15	High – 33 Low - 15	High – 34 Low - 14	High – 34 Low - 15	High – 35 Low - 16	High – 29 Low - 20	High – 28 Low - 20
Precipitation	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Light rain	Heavy rain	Heavy Rain
Visibility	Clear	Clear	Clear	Clear	Clear	Clear	Clear	50% cloud cover	100% cloud cover	100% cloud cover
Moon	90% Rise – 1400 Set -	95% Set – 0200 Rise – 1500	Full Set – 0300 Rise - 1600	Full Set – 0400 Rise – 1700	95% Set – 0500 Rise – 1800	90% Set – 0600 Rise – 1900	80% Set – 0700 Rise – 2000	70% Set – 0800 Rise - 2100	60% Set – 0900 Rise – 2200	50% Set – 1000 Rise - 2300

3. **Task Organisation.**
   - UNAC Battalion Group. HQ Company (static), Force Protection Platoon (static), Mobility Company - 2 Infantry Platoons in APCs (3 APC per Platoon). Each Platoon has 1 x Search Team trained and equipped with detectors.
   - 2 x IEDD team. Each Team consists of 2 pax and their equipment incl ROV. They do not have a vehicle and rely on transport being provided for them.
   - 1 x Engr Sqn. This includes a construction troop, logisitcs vehicles to move the construction materiel for the new FOB and a plant detatchment (1 x grader, 1 x front-end loader and a back-hoe). In total this squadron is made up of 15 vehciles.
   - 1 x UAV Detachment which will remain in the Bn HQ location in PIKSEK.

4. **Situation.** Following the UNSCR 1544 (2023) a Bn FOB was established near PIKSEK to provide security from a rising adversary activity targeting security forces in the NORTHWEST of CARANA. The UNAC Bn in the area was initially highly effective but in recent months the adversary groups have increased their activity targeting remote local security force outposts and resorting more and more to the use of IEDs

as a weapon. Increasingly, UN troops are the target of adversary attacks. A decision has been made to establish a new Company level FOB to the south of TRITH to support local security forces and deny freedom of movement to the adversaries.

    a.   **Threat Forces.** Adversary forces remain active to the NORTH of PIKSEK. They are well trained and resourced and retain the capability to launch well-planned, coordinated operations. The adversaries have shown the capacity to make a variety of IEDs and they are known to be well equipped with small arms (mainly AK style weapons). The adversaries are politically motivated not ideologically/religiously motivated and so suicide attacks are extremely rare. They tend to operate in small cells of about 30 fighters but they will rarely be found in groups larger than eight to avoid being identified. They do not wear a uniform, opting to dress in local attire. They use normal civilian vehicles and motorcycles. The adversaries also make use of the restrictive high terrain which can only be accessed by foot. There is assessed to be one cell operating in the area of operations. The adversaries do not target civilians as they are do not want to antagonize the local population who, although do not support the adversaries, also tolerate their presence out of fear of retribution. Occasionally IEDs are used to initiate complex attack type ambushes in both rural and urban areas.

    b.   **Friendly Forces.** The security situation in close proximity to PIKSEK has stabilised. In order to improve the security force's presence, a   Forward Operating Base (FOB) location has been identified in to te SOUTH of TRITH and an operation to secure it is to be completed in the coming weeks. An infantry company group with an EOD team attached has been tasked to secure and clear the site prior to construction work starting.

5. **Mission**. UNAC Bn is to conduct convoy support between PIKSEK and TRITH in order to allow a new FOB to be CONSTRUCTED and subsequently DENY adversaries freedom of movement.

Key Timings. The FOB is to be completed by 15 May 2024. It will take the Engineers 15 days to construct the FOB once the area is secure.

EXERCISE REQUIREMENT

You are the IED TM advisor to your HQ. You are to give a brief to the commander on risk reduction for the movement to the new FOB, as part of the wider mission planning.

Specific Requirements. You are to:

- *Carry out a Threat Assessment*
- *Carry out a route analysis:*
  - *Establish your Areas of Interest (AOI)*
  - *Gather Information on all AOIs*
  - *Establish all VA's and VP's.*
  - *Assign mitigation measures to all VA's and VP's.*

- *Plan a convoy move implementing threat mitigations measures and coordinating all supporting assets.*

You are to brief the following:
- *Brief your threat assessment.*
- *Brief your route analysis.*
- *Brief your suggested mitigation measures.*
- *Brief a proposed Course of Action which incorporates*
  - *Task Org*
  - *A scheme of manoeuvre (outline plan)*
  - *Phases of the operation*
  - *Key timings*
  - *Convoy plan i.e. What is the order of march and where are assets placed in the convoy including ECM to ensure coverage of whole convoy.*
- *What are your key risks and what do you require to address the risks.*

The brief should last max 20 mins with a 5 min debrief/questions from the commander.

Name of Exercise	IED-TM Exercise 4 – Static Force Protection Exercise
Objective of Exercise	To encourage the participants to develop their understanding of how to consider and mitigate IED threats against fixed positions (for example, a FOB, VCP, Police Building, etc.)
Aim	The aim is to highlight the actions that planning, and operations staff can evaluate, or implement to mitigate IED threats.
Situation	An Infantry Company is based in a Forward Operating Base (FOB) in in the CARANA where UNAC Mission is established. 3 Weeks ago, there was an attempt by an adversary group to overrun a nearby FOB in in the same sector. The attack was initiated a VBIED which breached the FOB wall. The adversaries managed to gain entry to the FOB and were almost successful in capturing, but by luck an aviation QRF arrived in time to repel the adversary. The attack killed and wounded a significant number of TCCs as well as damaging equipment. Intelligence reports indicate that the adversaries were able to survey the nearby FOB and identified the gaps and enabled them plan for an attack. Intelligence suggests that the adversaries, confident after their attack, will look to conduct further attacks to discredit the UN forces.
Task	You are the Company Commander, and also FOB Commander. Following the recent attack in the nearby FOB you have been tasked to make an assessment of the FOB and come up with mitigation measures to prevent any future attempts to over your FOB. You need to develop a Surveillance Target Acquisition Plan (STAP) to counter possible threats to the FOB. You also need to identify physical improvements to the FOB. Improvements to the FOB need to be made as soon as possible and you should develop a prioritized list of measures.

Additional Information	The Sector Commander has allocated the following resources to make the improvements: • 500 baskets of Mil 1 Hesco (1basket is 1Mt3 in size) • 1km of razor wire • One light-wheeled tractor (Back-hoe) • 1 tipper truck • One squad (7 Soldiers, 1 NCO) of engineers (attached for 3 weeks). Engineers are typically equipped with shovels, pickaxes, and one chain saw. • 1 x task line of UAS will be available on request for 4hours per day.
Limitations	The following STAP and FOB improvements must be implemented as soon as possible. The recommendations must be based on the resources that are available.
Exercise Requirements	1. Develop a Surveillance and Target Acquisition Plan (STAP) for the FOB. 2. Assess the FOB design and make specific recommendations for improving the FOB security. As a minimum you need to address the following: • The design of the Entry Control Point (ECP) • The FOB wall and terrain within the effective range of the weapon systems (200 meters) • The sentry positions • Ensure you prioritize the tasks you want to complete and consider it in the context of the resources you have available to you. Any assumptions should be cleared with the Instructor before detailed planning. Any information that you would seek to gain will be available from the instructors.

Map of CARANA in General

LUROK FOB (B COY TANZBAT AO)

Aerial Images of the FOB during the rainy season

Aerial Images of the FOB

SOUTHWEST corner and ECP boundary   **EAST**

FOOTBRIDGE

ECP

Dead Ground Study (Dry Season)

1. Develop a Surveillance and Target Acquisition Plan (STAP) for the FOB. Here the students will be expected to follow the process described in the associated classroom lesson. They are to conduct a terrain and threat analysis of area, identify named/target areas of interest, produce a matrix of assets to observe the areas of interest. This can be done using a sketch or via overlay on a powerpoint slide. This STAP should include tasks to improve observation notably removing vegetation to get observation onto the route/VPs.

2. Assess the FOB design and make specific recommendations for improving the FOB security. As a minimum you need to address the following:

- The design of the Entry Control Point (ECP). Students should make recommendation to create channelling, slow down (chicane), search areas and protection for the guards.
- The FOB wall and terrain within the effective range of the weapon systems (200 meters) The student may make recommendation to enhance the FOB wall either with HESCO or Wire but they must recognize this is a limited asset. The students should identify the need for anti-vehicle ditches and anti-personnel barrier (wire fence) to create a stand off.
- The sentry positions. The current FOB does not have any elevated sentry or sangar positions. The students should identify this and recommend this. This may be brought out in the STAP section. The instructor should raise the question for discussion if the students feel the limited HESCO should be spend on a section of the wall, or used to build effective sentry position (and ECPs).
- Ensure you prioritize the tasks you want to complete and consider it in the context of the resources you have available to you. The students need describe the prioritization of tasks based on the limitation of resources they have available. E.g. If the students prioritize enhancing the wall they may not have the resource to improve sentry positions. Although not stated, the student should be encourage to consider the infantry company within the FOB as a labour force and not completely rely of the limited Engineer assets.

Any assumptions should be cleared with the Instructor before detailed planning.

Any information that you would seek to gain will be available from the instructors.

3 - Annex

PRACTICAL APPLICATION OF THREAT ASSESSMENT, ROUTE ANALYSIS AND THREAT MITIGATION

The following power point slides are the briefing slides that accompany each exercise.

Slide 1

IED TM Lesson 3:
Syndicate Exercises

1

Find guidance inserted in the note section of each slide.

Slide 2

Slide 3

Terminal Learning Objectives
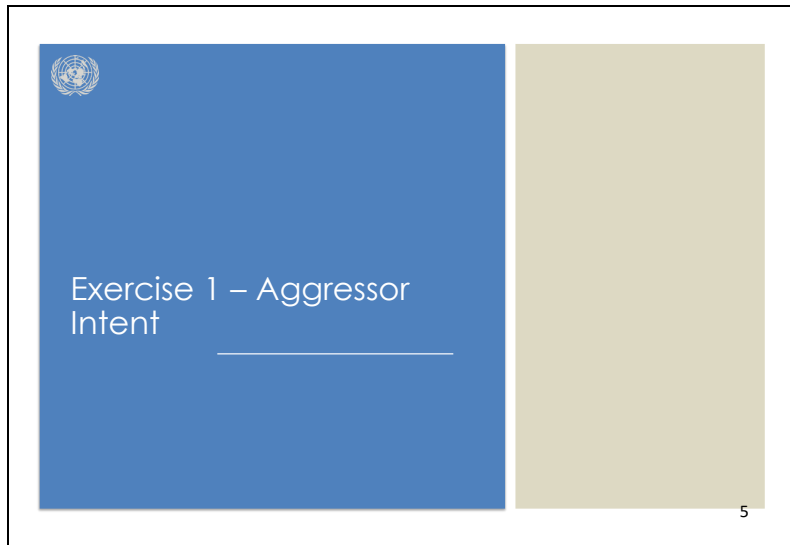
To exercise and consolidate the participants' knowledge and skills on threat assessment processes and mitigation techniques by means of map exercises and briefing.

3

Slide 4
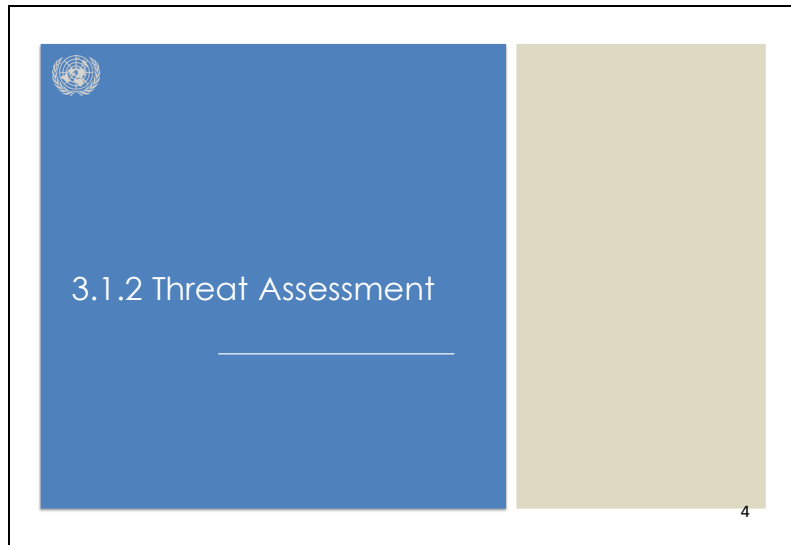
3.1.2 Threat Assessment

4

Slide 5

Exercise 1 – Aggressor Intent

5

Slide 6

Training Objective and Methodology

To encourage the participants to understand how an IED aggressors' intentions determines their method of IED attack. This will enable the participants to subsequently develop and interpret threat assessments.

This exercises will be conducted as a syndicate.

Intent

Threat

Capability   Opportunity

6

Slide 7
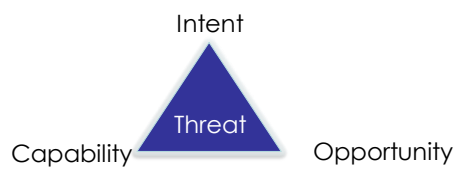
Exercise 1 – Threat Assessment Part 1

Situation.

You are a member of the Combattants Indépendants du Sud Carana (CISC) a separatist group who opposes the current government and the UN Peacekeeping Force in CARANA. See CARANA Country Profile for details on this group. You are part of a small terrorist cell within the CISC trying to demonstrate that you are a professional IED cell capable of conducting deadly attacks.

In response to recent news that the UN will commit peace enforcement troops to Operations in support of the stabilization of CARANA. Due to the worsening security situation, a number of non-essential UN civilian staff are being evacuated from the country via the sea port at TOLE. You have been ordered to plan and execute an attack on UN workers within the attached area. Your intelligence has reported that an UN troop carrier ship will be arriving in TOLE to evacuate the UN staff from CARANA within the next 48–72 hours. We have discovered that this ship will berth somewhere within the area shown.

It is believed that the UN staff will be arriving in small groups (10-15) in civilian vehicles with Carana National Police (CNP) escorts. They are 3 known entry points to the port (as shown on the map). UN staff are currently housed both West and East of the city but their routes to the port are not known.

CISC have a sympathetic security guard who works at the port – some degree of access without being searched may be possible. The security guard will not take part in any attack and will have to be briefed on any action you require.

7

Slide 8

Exercise 1 – Threat Assessment Part 1

Capability.

• Shoot - Small arms only (no heavy weapons), No RPGs.

• IED Capability: – Explosives - Large quantities (up to 500Kg) HME. – Small quantities 4-5 Kg C4. – Detonators. – Initiation switches

• Command Wire, Radio Command.

• Time Delay.

• Basic Victim Operated (pressure plates, tripwires, anti-lift) switches.

8

Slide 9

Exercise 1 – Threat Assessment Part 1

Your Mission:

You and your team are to carry out an attack to kill and injure as many UN staff as possible in order to deter the UN from becoming involved and to demonstrate that CISC are a credible force.

9

Slide 10

Exercise 1 – Threat Assessment Part 1

Limitations

- You have little public support in most of the operating area so the public will not overtly support you and all resources must be brought into the area prior to the attack.

- After the attack, your safe haven is 35km to the North-West over the border in SUMORA.

The leadership of the CISC has invoked the following restrictions on you:

- The attack must be filmed.

- The attack must take place either in or close to the port area to prove to the world that the UN military machine cannot even protect its own people against the CISC.

- We do not wish for any of the cell to martyr themselves during this operation so you must consider and extraction plan.

- Your team consists of 5 members.

10

Slide 11

Country Map

Slide 12

Map in General

Slide 13

Port in General

Slide 14
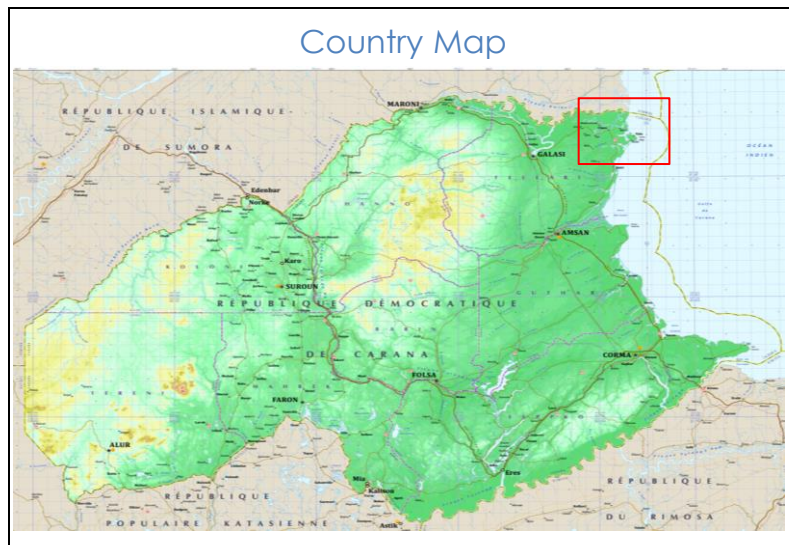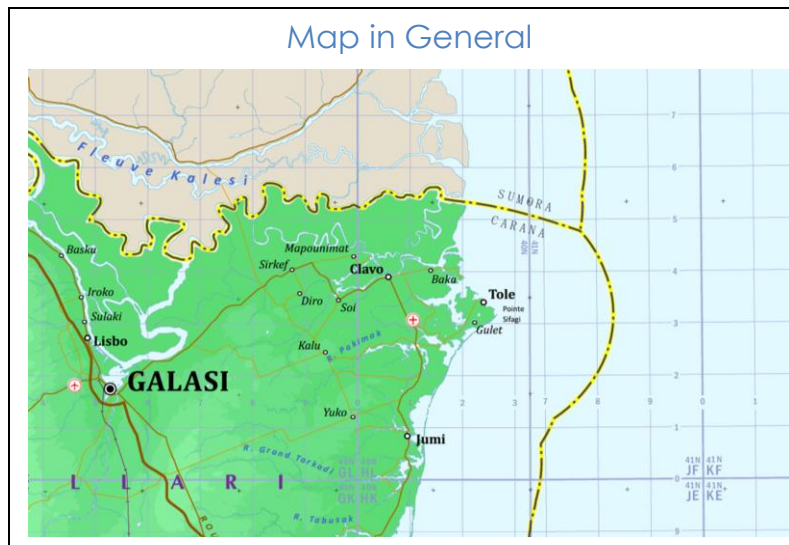
Port in Detail – Entry Point 1
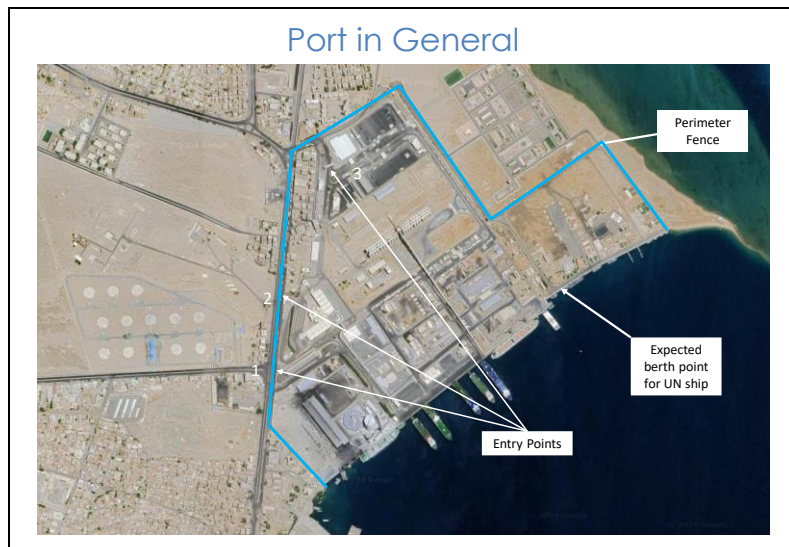
14

Slide 15

Port in Detail – Entry Point 2

514

Slide 16

Port in Detail – Entry Point 3

Slide 17

Port in Detail – Berthing Point

Expected berth point for UN ship

Likely temporary holding area for UN personnel

17
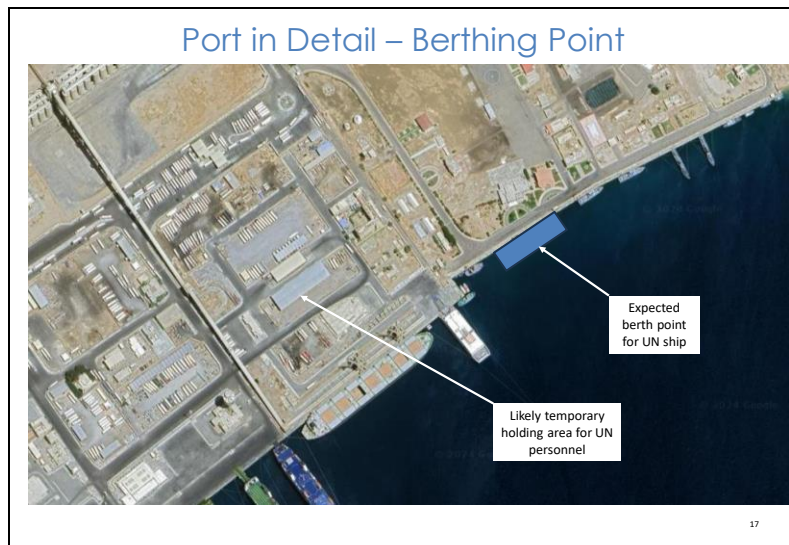
Slide 18

EXERCISE REQUIREMENT

The CISC Cell Commander will be here shortly. You have 45 min to plan. He will expect a 10 min brief from you. You are to:

1. Produce a trace/overlay/sketch of the attack identifying all Contact Points (intended explosion site), Firing Points (triggerman location), escape routes, and relevant locations.

2. Then brief your plan in detail.

Your plan must include:

a) A brief scheme of manoeuvre (the outline of the plan with key timings)

b) Your intent – who are you specifically targeting and why? Who do you not want to harm and why?

c) Capability – what specific type of attack/IED are you going to use?

d) Opportunity – Where and when will the attack take place?

e) Expected outcome of attack.

f) Reasons why this location and method of attack has been chosen.

g) Identification of the biggest risks involved in this plan.

h) Any other relevant information you feel necessary.

Any information that you would seek to gain on reconnaissance will be available from the instructors.

Any assumptions should be cleared with the instructor before detailed planning.
– If you have any further questions or require information then ask the instructor.

Slide 19

Questions?

UNMAS

19

Slide 20

Threat Assessment
Exercise 2 – Application

20

Slide 21

Training Objective and Methodology

To confirm the understanding of the threat assessment process and output. The aim is to highlight the threat triad and conduct an accurate threat assessment.

These exercises will be done by the participants in their syndicate groups.

Intent

Threat

Capability   Opportunity

21

Slide 22
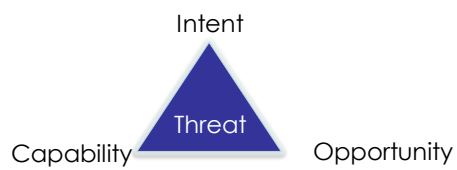
Exercise 2 – Threat Assessment Part 2

Situation.

You are an IED threat Mitigation Advisor working in a Battalion as part of the UN Mission in CARANA (UNMIC). Your battalion was deployed as part of a peacekeeping force to help respond to the instability caused by insurgent groups operating in CARANA seeking to overthrow the legitimate government. Your battalion is located in a Main Operating Base. One of the Companies in your Battalion is located in a nearby Forward Operating Base near a small village to provide local security.

In addition to normal vehicle patrols, the Company conducts regular foot patrols through the centre of village to reassure the population and deter the insurgent group form gaining popular support.

The patrols tend to take place in the morning before the heat of the day and they always use the route shown either clockwise or anti clockwise, normally stopping for a water break on route. The local population routinely use this same routes in the village area but they do not use the routes near the FOB area.

A friendly source of intelligence suggest that a small number of insurgents have moved into the area and wish to mount an attack against UN troops to undermine their capability and discourage them from conducting patrols. This will give the insurgents greater freedom of movement and opportunity to influence the population and gain support.

The insurgents operating in CARANA are known to have the capability to carry out all types of IED attacks and have access to both home made explosives and military ordnance.

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521

Slide 23

Map in General
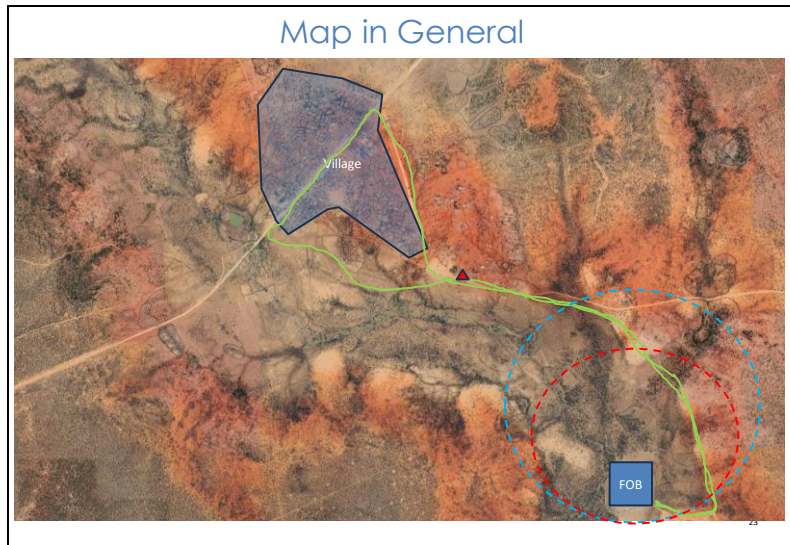
Instructor to point out:
FOB Location
Location of the village
Green route which shows the route taken by the patrol on a daily basis – this is approx 6km in total.
The red triangle representing where the patrol routinely stops for a water break under a shady tree
The blue circle shows the limit of visibility of the FOB sentry positions in the day.
The Red circle shows the limit of visibility of the FOB sentry positions in the night.

Slide 24

Map in Detail

FOB

24

Slide 25

Map in Detail
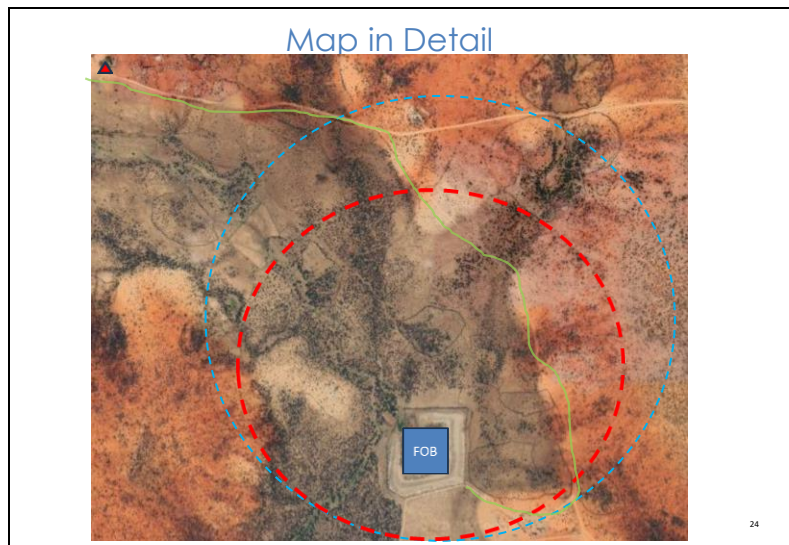
Slide 26
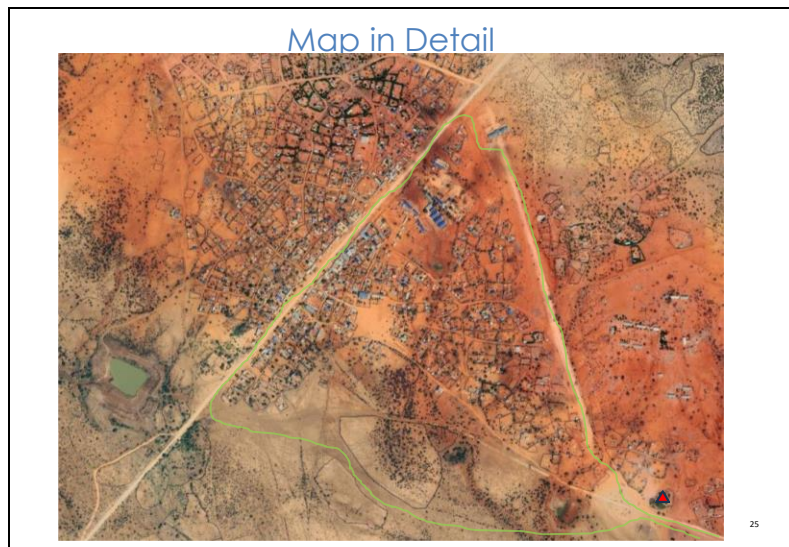
Exercise Requirement

Situation.

As the Threat mitigation advisor you are to carry out a threat assessment and make recommendations of what the Company could do to reduce the threat of an attack.

Your syndicate must, as a minimum;

•   Complete the threat assessment using the 6Ws.

•   Specifically identify the VPs and VA's and be able to qualify them. i.e. explain why they are VA's and VPs.

•   Identify the most likely type of attack at the VP/VA.

•   Make recommendations of what the FOB could do to reduce the threat.

You have 45 minutes to carry out the assessment. You are to provide a 10-minute brief to the class on your assessment and recommendations.

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Slide 27

Exercise 2 – Threat Assessment Part 2
Supplementary Activity – Group Discussion

Following your advice the Company FOB has made the following changes to their activity:

- The FOB has redesigned it's sentry positions so they have greater visibility of the area.

- Foot patrols no longer stop in the same locations for water breaks,

- Foot patrols vary their routes slightly.

Look at the new map (next slide)

As a class discuss the following:

- Where are the new VPs?

- What could the FOB do to minimize the threat even further?

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Slide 28

Map in General
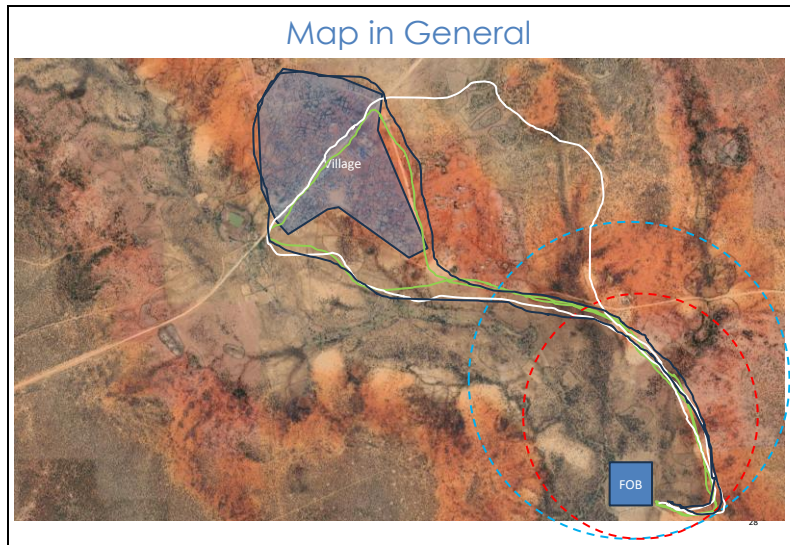
Instructor to point out:
FOB Location
Location of the village.
The Green, white and black lines show the new routes which are taken by the patrol on a daily basis – this is approx 6km in total.
The blue circle shows the limit of visibility of the FOB sentry positions in the day. This has been increased by using elevated sentry positions and using binoculars.
The Red circle shows the limit of visibility of the FOB sentry positions in the night. This has been increased through the use of Night Vision Devices.

Slide 29

Slide 30

3.1.2 FOB Protection
Exercise

Training Objective and Methodology

To encourage the participants to develop their understanding of how to consider and mitigate IED threats against fixed positions (for example, a FOB, VCP, Police Building, etc). The aim is to highlight the actions that planning and operations staffs can evaluate, or implement, to mitigate IED threats.

These exercises will be done by the participants in their syndicate groups.

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Slide 32

Situation

- An Infantry Company is based in a Forward Operating Base (FOB) in in the CARANA where UNAC Mission is established.

- 3 Weeks ago there was an attempt by an insurgent group to overrun a nearby FOB in in the same sector. The attack was initiated a VBIED which breached the FOB wall. The insurgents managed to gain entry to the FOB and were almost successful in capturing, but by luck an aviation QRF arrived in time to repel the insurgent. The attack killed and wounded a significant number of TCCs as well as damaging equipment.

- Intelligence reports indicate that the insurgents were able to survey the nearby FOB and identified the gaps and enabled them plan for an attack. Intelligence suggests that the insurgents, confident after their attack, will look to conduct further attacks to discredit the UN forces.

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Slide 33

Situation

- You are the Company Commander, and also FOB Commander. Following the recent attack in the nearby FOB you have been tasked to make an assessment of the FOB and come up with mitigation measures to prevent any future attempts to over your FOB.

- You need to develop a Surveillance Target Acquisition Plan (STAP) to counter possible threats to the FOB. You also need to identify physical improvements to the FOB.

- Improvements to the FOB need to be made as soon as possible and you should develop a prioritized list of measures.

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Slide 34

Additional Information

• The Sector Commander has allocated the following resources to make the improvements:

• 500 baskets of Mil 1 Hesco (1basket is 1Mt3 in size)

• 1km of razor wire

• One light-wheeled tractor (loader)

• 1 tippers

• One squad (7 Soldiers, 1 NCO) of engineers (attached for 3 weeks). Engineers are typically equipped with shovels, pickaxes, and one chain saw.

• 1 x task line of UAS will be available on request for 4hours per day.

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Slide 35

Exercise Requirements

1. Develop a Surveillance and Target Acquisition Plan (STAP) for the FOB.

2. Assess the FOB design and make specific recommendations for improving the FOB security. As a minimum you need to address the following:

- The design of the Entry Control Point (ECP)
- The FOB wall and terrain within the effective range of the weapon systems (200 meters)
- The sentry positions
- Ensure you prioritize the tasks you want to complete and consider it in the context of the resources you have available to you.

Any assumptions should be cleared with the Instructor before detailed planning.

Any information that you would seek to gain will be available from the instructors.

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Slide 36

Map in General

FOB Location

MSR

MSR

36

Slide 37

Map in General

Slide 38

Map in General
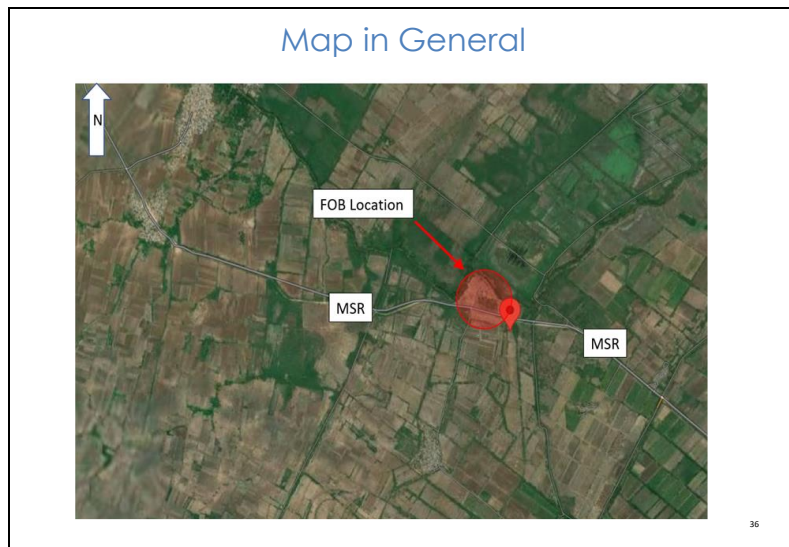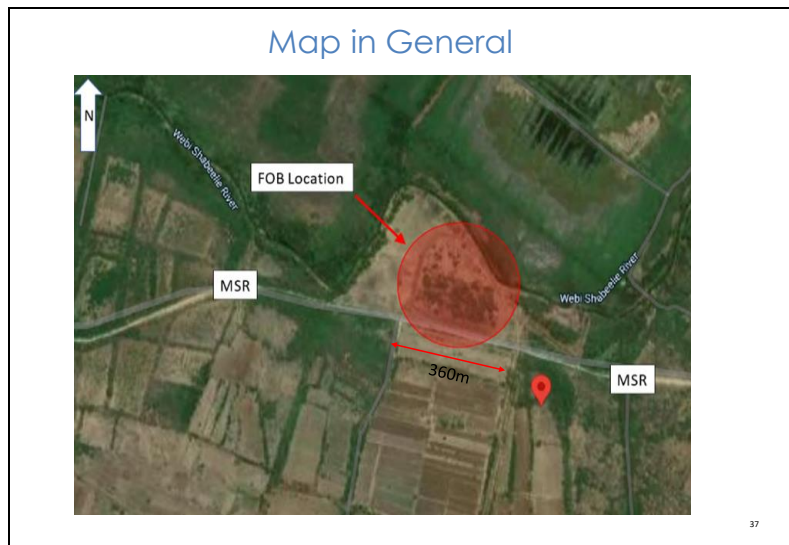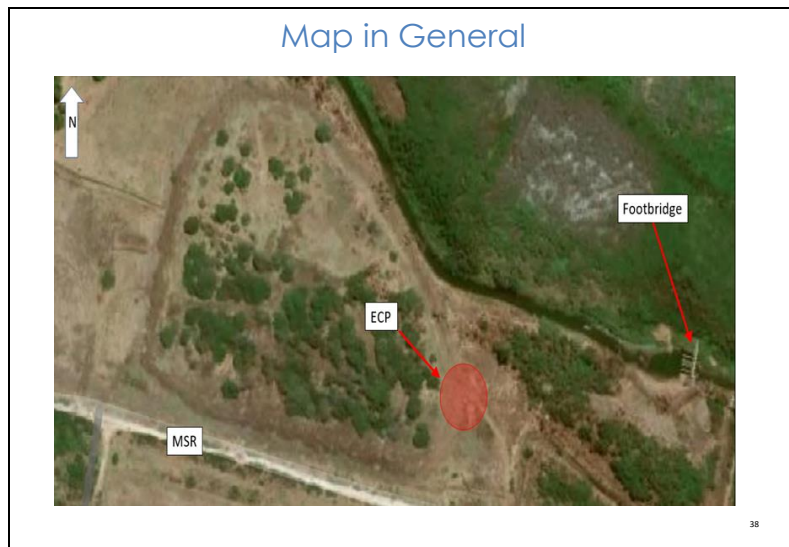
Slide 39

Map in Detail – SW Corner

N

MSR

39

Slide 40

Map in Detail – SE Corner
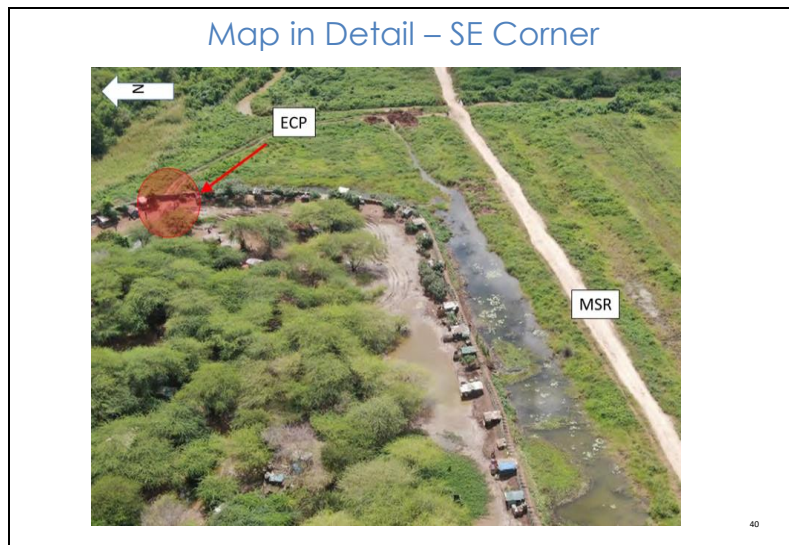
Slide 41

Map in Detail – West Border

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Slide 42

Map in Detail – East Border

Footbridge

ECP

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Slide 43

Map in Detail – Dead Ground
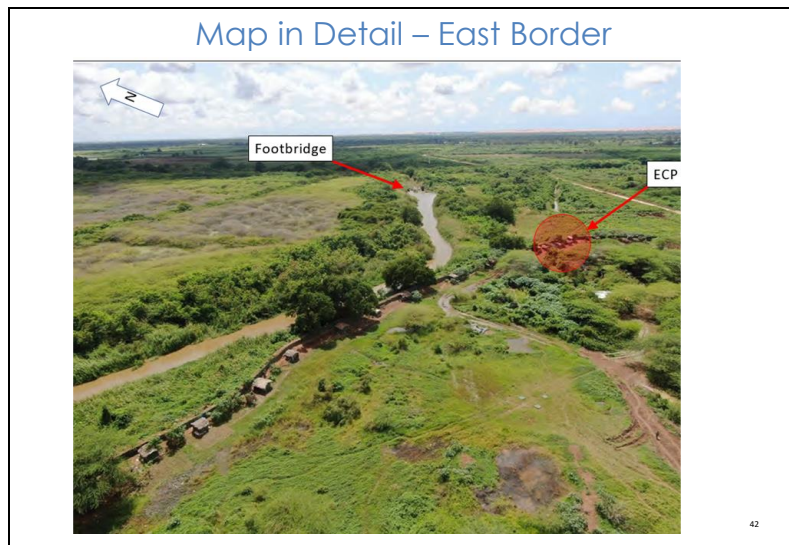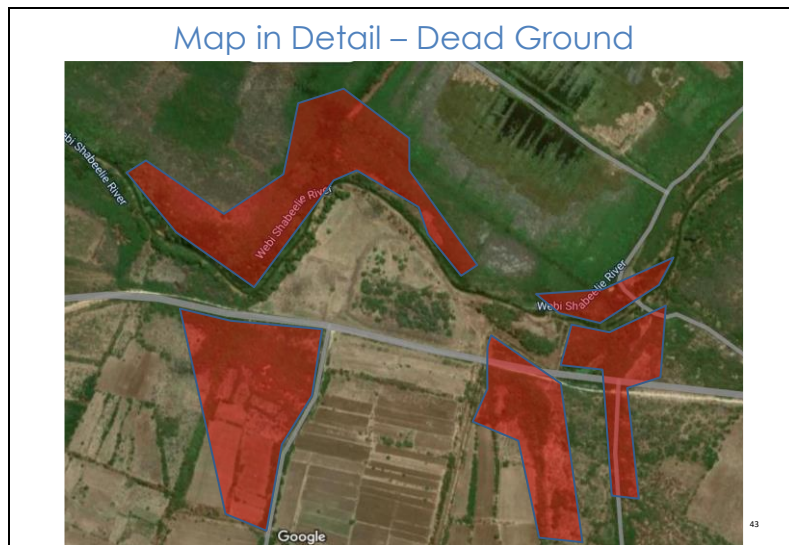
Instructor Notes. The areas shaded in red represent "dead ground" or ground that is not visible from the FOB sentry positions. This is mainly due to the trees obstructing the view. And the fact that the sentry positions are at ground level.

Slide 44
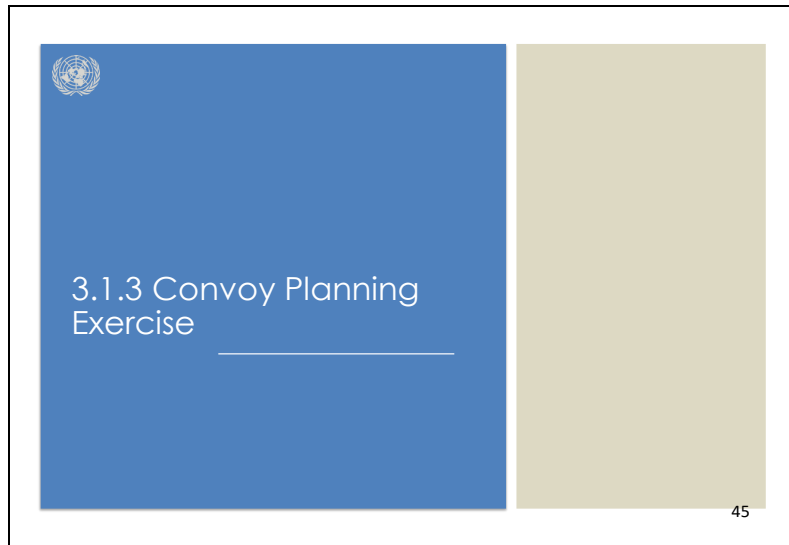
Slide 45

3.1.3 Convoy Planning Exercise

45

Slide 46

Training Objective and Methodology

To assess the participants on their understanding on how to conduct route analysis and threat analysis of a particular route and present a threat assessment of the route and plan how to conduct convoy movement in IED threat environment.

These exercises will be done by the participants in their syndicate groups.

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Slide 47

Exercise 3 – Convoy Planning

You are the IED Threat Mitigation Advisor working in a Battalion HQ. A new Forward Operating Base (FOB) is plannd to be built in a remote area of Sector 2 approximately 25km North West of your current location.

Following the UNSCR 1544 (2023) a Bn FOB was established near PIKSEK to provide security from a rising insurgent activity targeting security forces in the NORTH WEST of CARANA. The UN Assistance Force to CARANA (UNAC) Bn in the area was initially highly effective but in recent months the insurgent groups have increased their activity targeting remote local security force outposts and resorting more and more to the use of IEDs as a weapon. Increasingly, UN troops are the target of insurgent attacks. A decision has been made to establish a new Company level FOB to the south of TRITH to support local security forces and deny freedom of movement to the insurgents.

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Slide 48

Exercise 3 – Convoy Planning

Enemy Forces. Insurgent forces remain active to the NORTH of PIKSEK. They are well trained and resourced and retain the capability to launch well-planned, coordinated operations. The insurgents have shown the capacity to make a variety of IEDs and they are known to be well equipped with small arms (mainly AK style weapons). The insurgents are politically motivated not ideologically/religiously motivated and so suicide attacks are extremely rare. They tend to operate in small cells of about 30 fighters but they will rarely be found in groups larger than eight to avoid being identified. They do not wear a uniform, opting to dress in local attire. They use normal civilian vehicles and motorcycles. The insurgents also make use of the restrictive high terrain which can only be accessed by foot. There is assessed to be one cell operating in the area of operations. The insurgents do not target civilians as they are do not want antagonize the local population who, although do not support the insurgents, also tolerate their presence out of fear of retribution. Occasionally IEDs are used to initiate complex attack type ambushes in both rural and urban areas.

48
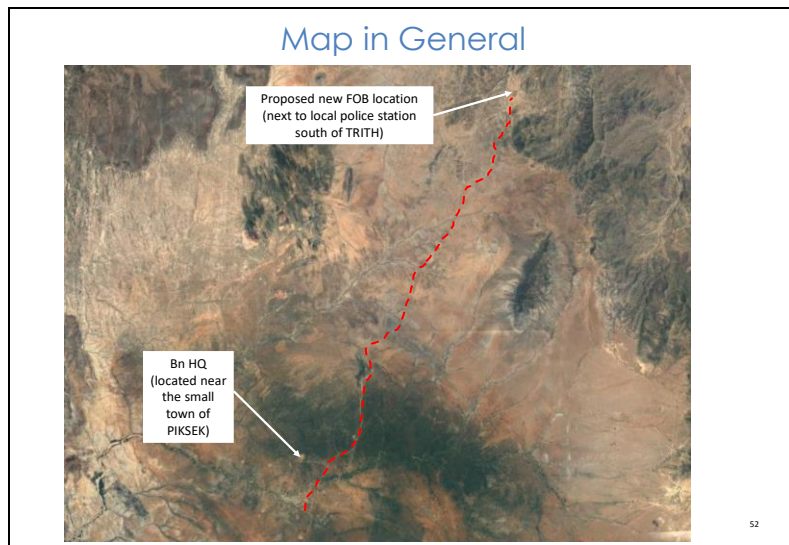
Slide 49

Exercise 3 – Convoy Planning

Friendly Forces. The security situation in close proximity to PIKSEK has stabilized. In order to improve the security force's presence, a Forward Operating Base (FOB) location has been identified in to te SOUTH of TRITH and an operation to secure it is to be completed in the coming weeks. An infantry company group with an EOD team attached has been tasked to secure and clear the site prior to construction work starting.

Mission. UNAC Bn is to conduct convoy support between PIKSEK and TRITH in order to allow a new FOB to be CONSTRUCTED and subsequently DENY insurgents freedom of movement.

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Slide 50

Country Map

Slide 51

Country Map

Slide 52

Map in General

Proposed new FOB location
(next to local police station
south of TRITH)

Bn HQ
(located near
the small
town of
PIKSEK)

52
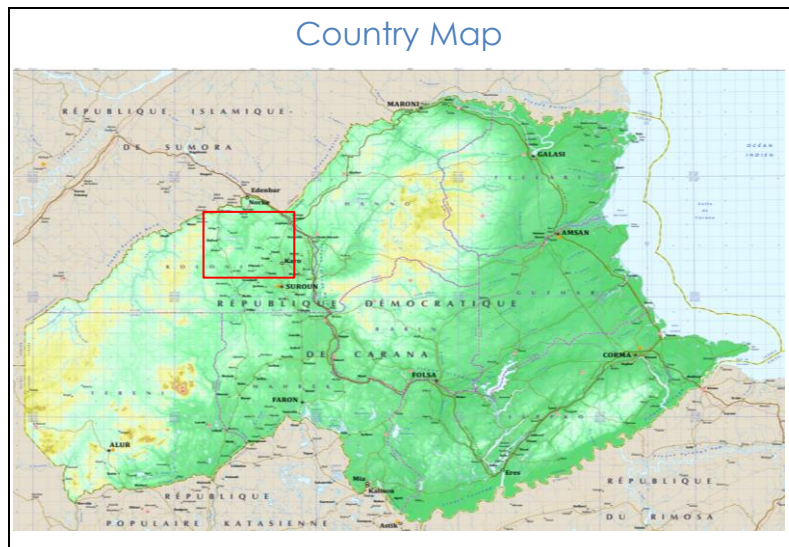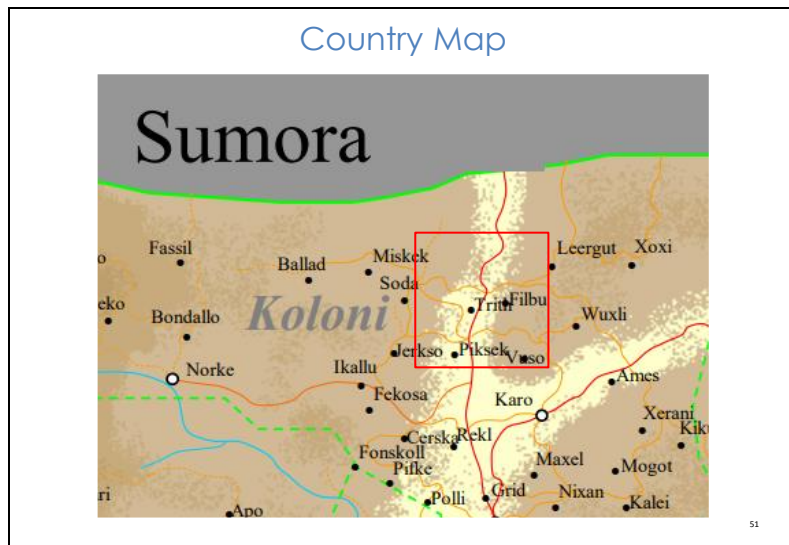
Slide 53

EXERCISE REQUIREMENT

You are the IED TM advisor to your HQ. You are to give a decision brief to the commander on risk reduction for the movement to the new FOB, as part of the wider mission planning.

Read the student handout and supplementary information.

You are also to:
• Carry out a Threat Assessment
• Carry out a route analysis:
• Plan a convoy move implementing threat mitigations measures and coordinating all supporting assets.

Specific details of your tasks can be found in the student handout.

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Exercise 3 – Convoy Planning

SUPPLEMENTARY INFORMATION

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Exercise 3 – Convoy Planning

Assets.

• Mobility Company – 2 x Infantry Platoons. Each Platoon consists of 30 pax and 3 x Armoured Personnel Carriers (APC). Each Platoon has 1 x trained search team equipped with detectors.

• 2 x IEDD team. Each Team consists of 2 pax and their equipment incl ROV. They do not have a vehicle and rely on transport being provided for them.

• 1 x Engr Sqn. This includes:

 Construction troop – 30 pax in 3 x soft skin trucks

 8 x Logistics vehicles to move the construction materiel for the new FOB

 Plant detachment (1 x grader, 1 x front-end loader, 1 x back-hoe and 1 x recovery vehicle). Max speed of this detachment is 20km/hr

1

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Exercise 3 – Convoy Planning

Assets.

Electronic Counter Measures (Jammers):

• 2 x portable ECM units. Range 40m.

• 6 x vehicle mounted ECM fitted to each APC. Range 50m.

UAV detachment:

• 1 detachment based in the Bn HQ location.

• Maximum distance the UAV can fly from base station – 50km

• Maximum flight time – 6 hours. After this it requires 4 hours to be refueled and maintained before re-deployment.

• Has full colour motion video, Night Vision or thermal imaging but only 1 camera can be used at a time. Switching between cameras requires UAV to be returned to base station and swapped, this will take 4 hours.

2

Exercise 3 – Convoy Planning
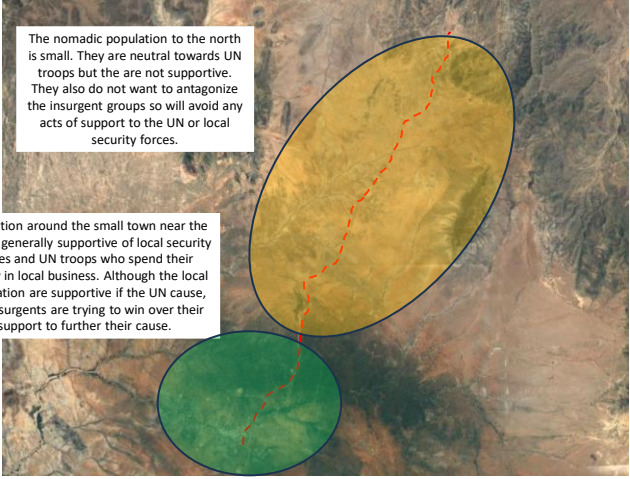
Assets.

Local Security Forces:

- There is a local police checkpoint near the planned FOB location and a main police station in the town of PIKSEK.

- They can be requested to support by setting up police check points but they are limited in number and have few vehicles. This means they will only conduct checkpoints in close proximity to their stations and will only be able to maintain1 checkpoint per police post.

- The local police have an awareness in CIED and can conduct basic vehicle and person searches if needed.

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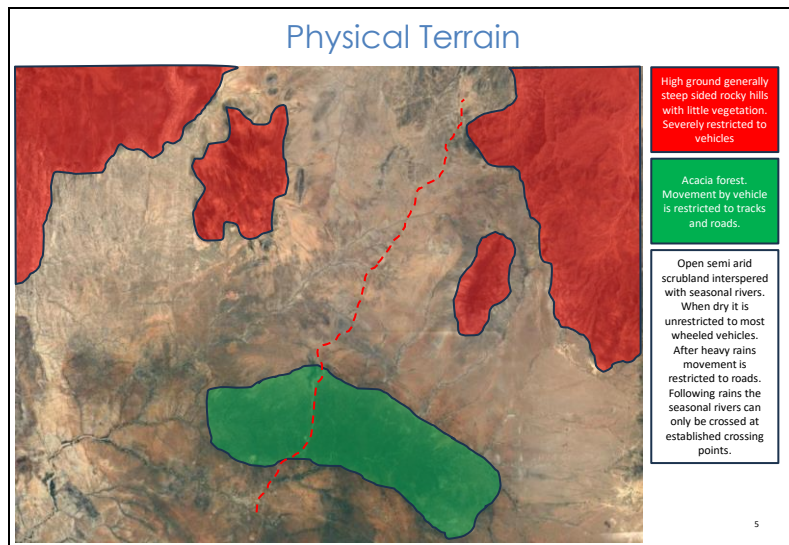
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Exercise 3 – Convoy Planning

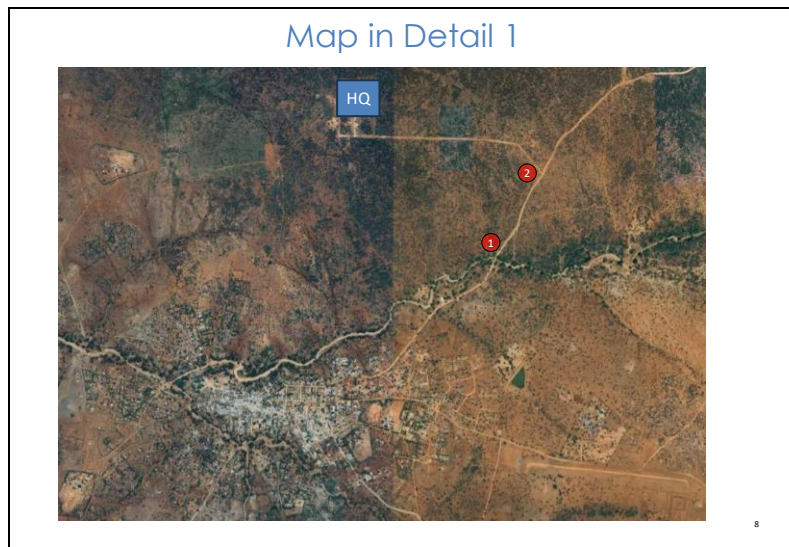| Location	When	Incident Type	Description
1	12 Months ago	Timed IED	Large IED assessed to be targeting local police forces who set up daily check point at bridge.
2	9 months ago	Victim operated IED	Assessed to be a pressure plate IED using HME. Target was newly arrived UN troops who had occupied the nearby FOB. IED destroyed 1 x APC killing 4 soldiers and injuring a further 5.
3	9 months ago	Victim operated IED	Assessed to be a pressure plate IED using HME. Target was newly arrived UN troops who had occupied the nearby FOB. IED destroyed a UN patrol vehicle killing 4 soldiers.
4	9 moths ago	Command IED	Confirmed command wire IED using military ordinance. The IED targeted a UN logistics vehicle in a convoy. The attack was followed with small arms attack.
5	More than 1 year ago	Unknown	IED attack targeting local security forces.
6	4 weeks ago	Command IED	Assessed Radio Controlled IED targeting UN patrol. The IED was found during a route search as destroyed in situ by IEDD team.
7	5 months ago	Command IED	Command wire IED targeting a local security force vehicle. The device was placed on a narrow culvert. The device killed an unknown number of local police.
8	3 weeks ago	Victim operated IED	Assessed directional victim operated device. This targeted searchers who had been following the same isolation route after the culvert crossing had been determined as a vulnerable point. The device was found and destroyed in situ.
9	6 months ago	Timed IED	Assessed timed IED. This device appeared to be targeting local police who set up daily vehicle checkpoint on the road going North West. The device functioned but only caused minor injuries.
10	3 months ago	Victim operated IED	Assessed pressure plate IED. IED functioned damaging a UN APC. No soldiers were killed but the driver sustained injuries.
11	7 months ago	Command IED	Assessed command IED functioned halting a UN convoy. The IED attack was followed up by heavy small arms attack from the high ground to the East. The attack was repelled but the lead vehicle driver and commander were killed.
12	2 weeks ago	Victim operated IED	Unknown type of VO IED targeting local security forces.

6

Instructor Notes. This slide represents the recent IED incidents in the area. They are represented in detail by a red number marker on each of the maps in detail.
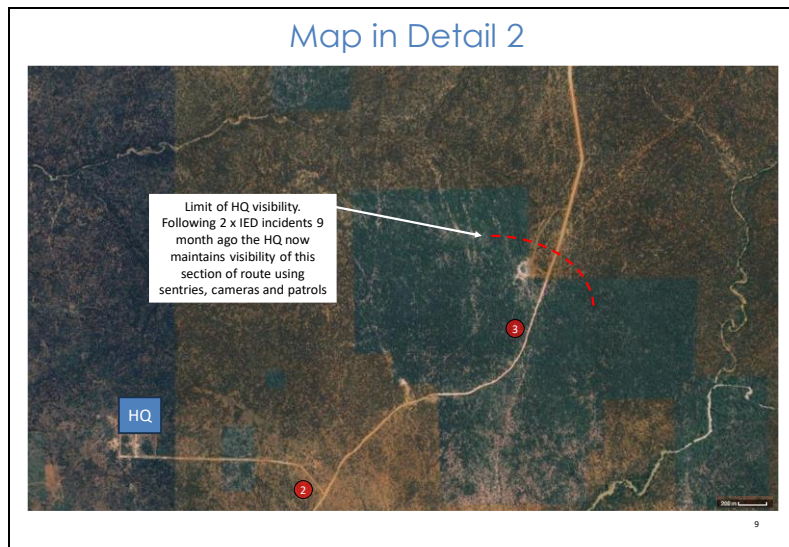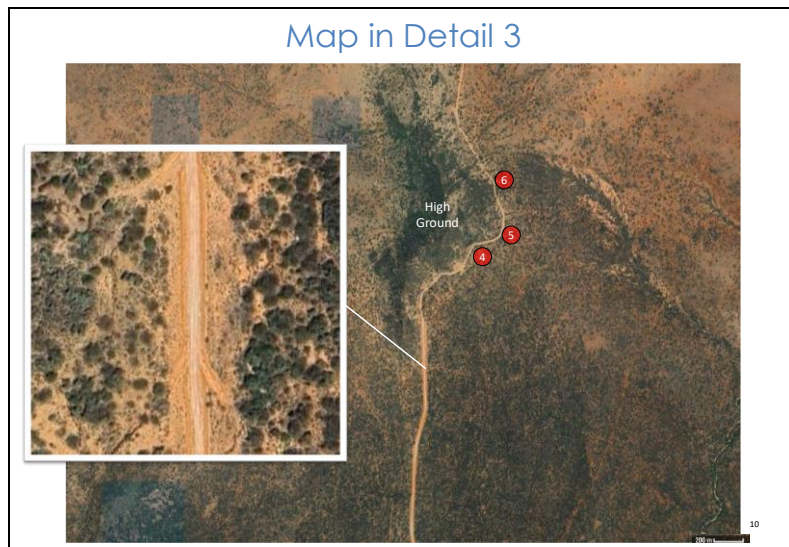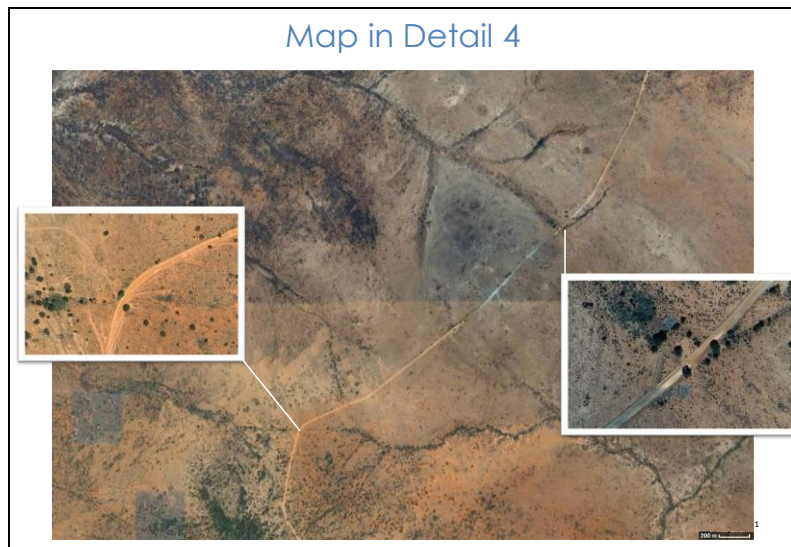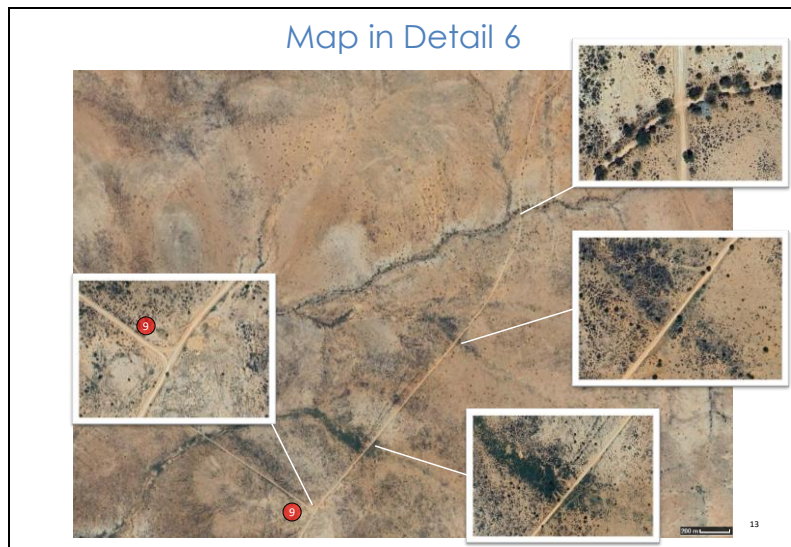
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Map in Detail 1

Slide 63

Map in Detail 2

Limit of HQ visibility. Following 2 x IED incidents 9 month ago the HQ now maintains visibility of this section of route using sentries, cameras and patrols

HQ

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Map in Detail 3

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Map in Detail 4

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Map in Detail 5

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Map in Detail 6

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Map in Detail 7

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Map in Detail 8

Slide 70

Map in Detail 9

Slide 71

Questions?

UNMAS

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