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United Nations Improvised Explosive Device Disposal Standards

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Preface

We are pleased to present the United Nations Improvised Explosive Device Disposal (IEDD) Standards, an essential guide for the conduct of IED threat mitigation activities, in particular, clearance and disposal, by those operating under the auspices of the United Nations.

A surge in the quantity and complexity of IEDs has led to a marked increase in casualties among civilian populations, United Nations peacekeeping personnel and humanitarian responders. The use of IEDs increasingly hinders the ability of the United Nations to deliver mandates, obstructs humanitarian responses, weakens stabilization efforts and disrupts the provision of education, healthcare and governance.

The safety of those entrusted by the United Nations with the clearance of IEDs is paramount. So is the United Nations' promotion of the best possible confidence in the quality of IED clearance. As the United Nations is increasingly facing fast-evolving threats and technologies, Member States increasingly resort to the United Nations to mitigate the threat posed by IEDs.

Therefore, we welcome the elaboration of IEDD standards adapted to the new asymmetric landscape, where peacekeepers and civilian operators are deployed and where civilian populations are targeted.

These IEDD Standards have been designed for the safe, effective and efficient disposal of IEDs. They aim at ensuring uniformity and technical specificity related to the generation of an IED disposal capability. They establish the minimum competencies required for IEDD operators and frame the methodology for the clearance of IEDs. The Standards provide guidance on how to carry out IED disposal planning, the competencies and associated training and equipment required to conduct IED disposal operations, as well as the appropriate approaches to IED clearance in rural and urban areas, IED information management and IED risk education.

We would like to express our sincere gratitude to the Member States, international organizations and civil society organizations who volunteered their time, energy and expertise in the elaboration of these Standards. We would also like to commend UNMAS for its effective coordination, and the Office of Military Affairs for their valuable contribution.

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Scope

The United Nations Improvised Explosive Device Disposal (IEDD) Standards have been developed to fill a gap in the technical guidance required to respond to the expanding and increasingly complex problem of IEDs.

IEDs impede humanitarian access as well as other UN operations and impact on civilians, United Nations personnel and clearance organizations. In all areas of its IED response, the United Nations requires a safe, cost-effective and coherent approach to IED disposal. The United Nations has a duty of care to ensure that those entrusted with the task of IED disposal have a competent and practical standard to reference to protect their own lives and ensure operational and cost effectiveness.

The United Nations IEDD Standards are of a technical nature; they are for use by IED disposal operators and for the organizations and units that employ them under the auspices of the United Nations. For Explosive Ordnance Disposal (EOD) Units deployed in United Nations Peacekeeping Operations, the IEDD Standards outline the competencies required by individuals to meet the collective unit requirements set forth in the United Nations EOD Unit Manual. For commercial and non-governmental organizations contracted by the United Nations, these Standards provide the basis for evaluation of the contractors Standard Operating Procedures (SOPs) for IED disposal operations where the context or mandate objective is not humanitarian.

In today's asymmetric environment, and the multi-dimensional nature of Mission activities, the United Nations must be prepared to respond safely and in a timely, cost-effective manner to IED threats before well-defined humanitarian space emerges. The International Mine Action Standards (IMAS) provide the framework for humanitarian response of all explosive devices cleared under humanitarian conditions in strict compliance with humanitarian principles.

The elaboration of these IEDD Standards has been coordinated by the United Nations Mine Action Service, supported by the Office of Military Affairs of the United Nations Department of Peacekeeping Operations, and with the technical advice of national experts having specific expertise in IED threat mitigation. This process also involved extensive outreach and consultations with experts from the mine action sector to incorporate best and most current practices, wherever applicable.

The IEDD Standards have been developed without prejudice to the scope and definitions provided in the Anti-Personnel Mine Ban Convention and the Convention on Certain Conventional Weapons.

These IEDD Standards are intended for use by the United Nations. Member States may also choose to refer to them in the development of national policies and practices.

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Chapter 1: Introduction to Improvised Explosive Device Disposal

Chapter 1

Introduction to Improvised Explosive Device Disposal

1.1 Context of the IED Threat

An Improvised Explosive Device (IED) is "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 nonmilitary components."*[1]

Those who manufacture IEDs continuously alter the characteristics, the functioning or the delivery method of the device. IEDs generally consist of a switch, power source, initiator, container and explosives. All IEDs can be classified as either timed, command, and victim-operated[2]. There are, by definition, no manufacturing standards for IED construction although trends may appear and there may be attempts to achieve commonality between IED components. The safe conduct of IED disposal therefore, relies upon appropriately trained and qualified IEDD operators having a thorough knowledge in this area and of the increasing complexity of these devices.

IEDs are among the world's oldest types of weapons. The use of IEDs as a weapon of choice by non-state armed groups is a clear trend over the last decades. IED attacks[3] do not target only armed forces, security forces or parties engaged in conflict but also civilians, government and local officials, and members of humanitarian organizations. IED attacks take a toll both in terms of human casualties and psychological impact as well as cause materiel damage to vehicles, infrastructure and resources / supplies. IEDs are often indiscriminate killers hampering reconstruction efforts, stabilization tasks and the delivery of the humanitarian aid in conflict and post conflict environments. The clearance of IEDs, along with explosive remnants of war (ERW), which can be used as explosive precursor materiel to manufacture IEDs, are essential prerequisite for the safe and unimpeded delivery of humanitarian assistance and the return of life to normal in a post conflict environment.

IED attacks occur in urban, semi-urban and rural locations against static and mobile targets. Casualties of IED attacks are typically and overwhelmingly civilians.[4] Such attacks have a destabilizing effect, leading to widespread fear, political instability,

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[1] UNMAS Improvised Explosive Device (IED) Lexicon

[2] A detailed description of the IEDs can be found in the UNMAS IED Lexicon. The specifics of IEDs found in various areas are not covered. IEDs may have enhancements, including Chemical, Biological, Radiological or Nuclear (CBRN) and range from simple to complex. The threat from improvised CBRN devices must be considered when undertaking the area threat assessment. However, the capabilities to respond to these threats are not covered in this document.

[3] An aggressive and violent action by an IED aggressor designed to destroy, incapacitate, harass or distract an intended target.

[4] Action on Armed Violence, *Improvised Explosive Device Monitor*, 2017,

diminishing the legitimacy of the ruling government as well as impeding socioeconomic life. The impact can also be felt beyond immediate borders and on a regional level as well. Media and political attention given to the actions of IED aggressors[5] can reach far beyond the borders of the country in which an attack occurs.

IED manufacturers continually adapt their design to circumvent effective IED threat mitigation[6] measures and spread/share their knowledge by using numerous communication technologies available. Therefore, addressing the issue of IEDs requires appropriately informed, trained, equipped and supported personnel from responding organizations who would be tasked to dispose of these devices.

In-depth knowledge of the IED threat picture[7] enables efficient identification of the resources, training, equipment and capabilities required to effectively mitigate the threat. Considering the safety of the IED Disposal (IEDD) operator (and any tasks involving these devices) as a priority, these improvised devices must be studied to determine their components, their functioning, and their methods of employment within a context of local factors. This technical and operational information must be recorded and shared at national level by all actors engaged in IED disposal[8] to allow as accurate an IED threat picture as possible to be developed and to adapt the most appropriate IEDD tactics and methods. An IEDD Organization[9] must take into account “the need to share” principle and the sensitivity of the information.

In IEDD, the “need to share” principle refers to the requirement for all IEDD Organizations in a given locality to share information on IEDs they find with other IEDD Organizations operating in the same area or region. This exchange of information can be through the designated IEDD authority[10] or an appropriate mechanism agreed with the designated authority. Information sharing is essential in IEDD to maintain an accurate IED threat picture which is a basic requirement for safe, effective, and efficient IEDD operations in any threat environment. The "need to share" principle supports maintaining the safe, effective and efficient capabilities of personnel, and the safety and security of other humanitarian organizations and the general population in the area or region.

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[5] An IED aggressor is any person or group of persons or organization that has the intent and / or capacity to inflict or threaten physical violence through the use or threatened use of IEDs.

[6] A whole of United Nations approach which focuses on the application of physical, procedural and training responses which can collectively be applied to mitigate the threats posed and consequences of IED attacks.

[7] An assessment of the potential use of IEDs in a defined geographical area by a stated IED aggressor or aggressor(s) against a stated entity in terms of the technical complexity and tactical sophistication along with the aggressor(s) intent, capabilities and opportunities along with local factors.

[8] IEDD Operators may be generated either from government, military, police, commercial or NGO entities.

[9] The entity that is permitted by the designated IEDD authority to undertake IEDD in line with agreed terms of reference drafted in line with the contents of the IEDD standards.

[10] The entity with responsibility for the conduct and standards by which IEDD is conducted in a defined geographical area, within a defined UN Mandate or an agreed SOFA or SOMA. The mechanism by which a designated authority is identified is a national legislative responsible who should designate a suitable entity to fulfil this role. In the case that no suitable functioning national mechanism exists, the UN may advise / propose a suitable entity to act as the designated authority.

Due to the fact that IEDs are used as an asymmetric or hybrid tool of conflict, all assessments of the threats and hazards that they pose must involve consideration of the technical explosive hazards and the tactical security hazards. Tactical security hazards require consideration of how IEDs are employed and the context of the wider security in the local area of employment. Due to the improvised nature of IEDs and the typical manner of employment, IEDD activities must be threat assessment centric.

It is the responsibility of each organization considering to undertake IEDD to assess and identify any aspect of the proposed IEDD operations that may conflict with their organization's operating principles as part of the process of assessing Statements of Requirements (SOR). IEDD organizations must address the issue(s) encouraging them to accept and partake in the sharing of technical and tactical IED information in both the SOR for IEDD activities and the Terms of Reference (TOR) under which they will operate.

It is the responsibility of the designated IEDD authority[11] overseeing IEDD organizations to ensure that those involved in IED disposal are correctly informed, educated, trained, equipped and supported with the appropriate capabilities according to the IED threat picture and the wider explosive ordnance threat and fulfill their mandate safely, effectively and efficiently.

The IEDD Standards set out the IEDD capability requirements for IEDD Organizations tasked to undertake IED disposal in support of United Nations Missions and United Nations peace operations in which the operating environment is not permissive to purely humanitarian clearance. The Standards provides the means by which the IED threat picture can be developed for a given threat environment and from which the appropriate safe, effective and efficient IEDD capabilities can be determined. The IEDD capabilities, in turn, will inform the training that IEDD Organizations and its operators will be required to undertake to develop the necessary Knowledge, Skills and Attitude[12] (KSA) and to determine the associated IEDD equipment requirements. See figure 1.1 below.

Knowledge	Skills	Attitude
Information, data and facts to be known	*Practical abilities, fitness and aptitude competencies required*	*Confidence, determination and robustness required*
Training competencies required of personnel to operate safely, effectively and efficiently in an IED threat environment		

Figure 1-1 – Knowledge, skills and attitude components of competent IEDD personnel

[11] The entity with responsibility for the conduct and standards by which IEDD is conducted in a defined geographical area, within a defined UN Mandate or an agreed SOFA or SOMA. The mechanism by which a designated authority is identified is a national responsibility. **This does not presuppose the creation of a new governmental entity, wherever possible, existing structures should be used.** In the case that no suitable functioning national mechanism exists, the United Nation may advise / propose a suitable entity to act as the designated authority.

[12] In an IED threat environment attitude refers to a person's confidence, determination and robustness to operate safely, effectively and efficiently in an IED threat environment.

Additionally, the IEDD Standards provide guidance on IED clearance based on best practices within the IEDD philosophy and principles. Finally, these Standards also provide guidance on IED risk education.

1.2 Roles and Actors

The construction and emplacement of IEDs outside of conflict or post-conflict environments is considered a criminal act and in such cases, IED disposal is normally under the jurisdiction of the national state security forces and emergency services. Within conflict areas the status of the national security services may vary between fully operational to partially operational, or totally non-existent. Nonetheless, these national institutions may retain primacy and/or they may share responsibilities with the United Nations, and other international organizations.

United Nations IED threat mitigation efforts in mission settings may vary depending on whether there is a permissive, semi-permissive or non-permissive operating environment. Humanitarian IED disposal only takes place in a permissive operating environment, and is elaborated by the International Mine Action Standards. In urgent or emergency humanitarian crises, the need will likely exist for IED disposal to take place in a semi- or non-permissive environments for the protection of civilians, United Nations personnel and humanitarian actors; it is for these semi and non-permissive environments that the IEDD Standards are written.

The organization responsible for the personnel undertaking IED disposal should maintain situational awareness by conducting regular threat assessments. These assessments will inform the necessary risk mitigation measures and competency standards required, permitting IED disposal personnel to operate in such environments safely, effectively and efficiently. This process is elaborated in Chapter 2.

The designated IEDD authority is the principal entity responsible for policy making, management, oversight and coordination of IED disposal activities in an affected country. The United Nations may fulfill this role for an interim period if conditions do not exist for such an authority to be established or to function. As soon as conditions are present, the United Nations shall encourage and assist the national government in the establishment of such an entity and provide technical advice and support to a designated IEDD authority, as requested.

The IEDD policy[13] of the designated IEDD authority or the United Nations, acting in that capacity on an interim basis, should include detail on the primacy of action within national security frameworks, the authority to act, organizational structures and priorities and principles. The designated IEDD authority or the United Nations should therefore decide on the roles the different IEDD Organizations may have. These roles will have to be

[13] The strategic plan of the designated IEDD authority or in their absence the United Nations for a given country in relation to how IEDD activities are to be conducted by IEDD organizations. This policy will also outline the roles the different IEDD organizations may have.

coordinated with the relevant governmental authorities. The possible but not exclusive list roles of IEDD organizations can be engaged in are:

- IED Clearance
- Protection
- IED Awareness and Risk Education
- Capacity Building
- Information Management

Chapter 3 provides more details on IED disposal capabilities required by IEDD organizations. IED Search competencies are beyond the scope of these Standards. Reference to international best practice is recommended when information on this enabler to IEDD is required.

1.2.1 IED Clearance

Clearance of IEDs refers to tasks or actions to ensure the removal and/or destruction of all IED hazards from a specified area to an agreed standard. The agreed standard is set out in the terms of reference between the designated IEDD authority and the IEDD organization undertaking the clearance. The agreed standard may include clearance to a specified depth when the threat of sub-surface IEDs exists.

IED clearance for the purpose of these Standards can take place in rural, semi-urban and urban locations and is divided into open area IED clearance and infrastructure and urban space clearance. The breakdown of the nine potential procedures used in IED clearance is provided in figure 1-2. How an IEDD organization undertakes these phases of IED clearance is a matter between the designated IEDD authority and the IEDD organization and should be outlined in the Terms of Reference (TOR) under which the IEDD organization operates.

Figure 1-2 – Range of procedures within IED clearance

1.2.1.1 Open Area IED Clearance

IEDs can be designed for use to counter mobility and to deny access to certain open areas, typically on approaches to an area, resource, or facility that is being protected. Special attention needs to be paid to such situations which involve the use of IEDs with

specificity on the technical complexity and tactical sophistication of the IEDs being of utmost importance. These Standards define open area IED clearance as procedures to ensure the removal and / or destruction of all IEDs and associated hazards from a specified area to an agreed standard. Open area IED clearance is conducted in open uninhabited areas without any infrastructure or buildings present and is usually conducted in permissive operating environments. It is undertaken by basic, intermediate or advanced IEDD teams most often in support of developmental initiatives rather than in emergency contexts.

1.2.1.2 Infrastructure and Urban Space IED Clearance

IEDs are often used to deny access to infrastructure in both rural and urban environments making the return of local inhabitants more difficult. IEDs inside buildings present a different technical challenge and require a separate set of skills, equipment and procedures than those needed for open area IED clearance. Infrastructure and urban space IED clearance refers to procedures to ensure the removal and / or destruction of all IEDs and associated hazards from buildings, structures, facilities and their immediate surrounding spaces. Building and infrastructure IED clearance is conducted in permissive and semi-permissive operating environments. Building and infrastructure IED clearance should only be undertaken by intermediate or advanced IEDD teams. It should be noted that the presence of rubble may make the clearance of urban areas extremely difficult and hazardous. In addition, the presence of buried human remains may also pose a health risk to IED Search and IEDD personnel.

1.2.1.3. Protection - Mobility Protection and IED Incident Response

Protection is understood as all measures and means employed to minimize the vulnerability of personnel, facilities and equipment against IED threats, and in all situations, to preserve freedom of movement for operational effectiveness. The nature and complexity of the risk associated with these activities differs from the ones associated with area or infrastructure clearance. In a United Nations mission context, where the mission mandate is to protect civilians, United Nations personnel and humanitarian actors, there is a necessity to allow the delivery of critical mandate activities and humanitarian aid, usually through the protection of convoys. This can be referred to as Mobility Protection.

Mobility Protection refers to procedures to ensure the clearance of all IEDs and associated hazards obstructing the movement to, through or past a given location or area and is designed to facilitate the removal of an IED to allow a specific temporary purpose (e.g. movement of a convoy with humanitarian assistance). Mobility Protection can only be undertaken by advanced IEDD teams and may be required to be conducted in all types of operating environment, including non-permissive environments.

At times, it may also be necessary for IEDD organizations to undertake a timely response to an unplanned IED task, referred to as IED Incident Response. IED Incident Response refers to procedures to ensure the removal and / or destruction of all IEDs and associated hazards which are located or detected separately from an ongoing planned IEDD operation and is reported or turned-in by another party after being found. IED incident response can only be undertaken by advanced IEDD teams and may be conducted in all types of operating environment including non-permissive environments. As directed by

the appropriate tasking authority in line with the procedures set out in the terms of reference under which the IEDD organization operates, IEDD personnel may undertake IED incident response tasks in the absence of national or other available IEDD capabilities, within their certified competency standard and available specialized equipment.

1.2.1.4. IED Awareness and Risk Education

IEDD organizations may be involved in the delivery of IED awareness to troop contributing country (TCC) or police contributing country (PCC) personnel and others involved in the provision of security in the country they are operating. IED awareness refers to a comprehensive set of IED theory presentations and practical lessons, which may include written and / or practical assessments, with the intent to provide or increase the knowledge and awareness of recipients in relation to IEDs, their threat and basic threat mitigation measures. Further information on IED awareness is provided in chapter 4 Training.

IED risk education refers to activities which seek to reduce the risk of death and injuries from IED by raising awareness of men, women, boys and girlsin accordance with their different vulnerabilities, roles and needs, and promoting safe behaviour. Efforts include public information dissemination, education and training, and community IEDD liaison. Further information on IED risk education is provided in Chapter 8.

1.2.1.5. Capacity Building

Where the local security forces do not possess adequate IEDD capabilities for the IED threat, the United Nations may be called to build capacity as part of national security forces development. Capacity building includes various types of support, ranging from strategic advice on IEDD capability development and institution building to training and educating local IEDD teams and the development of doctrine. TCCs/PCCs or IEDD organizations may be tasked to train, accompany, advise and assist local security services in the development of IEDD capabilities. Such mentorship will require the capability to train IEDD teams and provide them with the necessary KSA to develop competent IEDD operators. Mentors may also accompany newly trained IEDD teams on IEDD operations to advise and assist as they develop their competencies and confidence and gain experience. It is important that mentoring be for a limited time with an end state and that the local IEDD teams are competent and confident to operate safely, effectively and efficiently without the need for mentor assistance.

1.2.1.6. Information Management

Information management is a crucial activity within IEDD that enables maintaining as accurate an IED threat picture as possible, which in turn helps to maintain the most appropriate capabilities in terms of IEDD operator competencies, equipment and support to IEDD teams. IEDD Information management encompasses the collection, the reporting, the analysis, the sharing and the dissemination of information related to the IEDD tasks (IED reporting and recovering of components), between the community of actors involved in IEDD in the area or region. This is essential to assess the evolution of the wider explosive ordnance threat, and the IED threat, and to maintain the situational

awareness of all actual and potential IED aggressors. IEDD organizations and their operators must at all times maintain security over IEDD tactics and methods to prevent the publication, broadcast, observation or monitoring IEDD tactics and methods by entities who are not authorized to do so and to prevent their dissemination beyond those who need to have knowledge of IEDD tactics and methods.

Further information on IEDD information management is provided in Chapter 7.

1.3 IEDD Fundamentals

IEDD fundamentals refer to the IEDD philosophy and associated IEDD principles on which these standards are based.

1.3.1 IEDD Philosophy

Every IEDD task is unique and it is therefore not possible to enforce definitive IEDD rules; however an IEDD philosophy and principles can be applied to empower safe, effective and efficient IEDD capabilities. For example, examining trends in the semi-industrial production of IEDs could indicate similarities in the construction and use of the IEDs. The improvised character of the devices, however, distinguishes them from conventional munitions. It is therefore imperative to gain an in-depth knowledge of the IED threat (construction, emplacement and environment) prior to establishing standard clearance procedures and to frequently reassess the IED threat in order to facilitate the amendment of standard clearance procedures when the threat is assessed to have changed. IEDD organizations are encouraged to develop best practices to be used to oversee IEDD activities. Such best practices should not be templated drills but safe, effective and efficient operating procedures that are appropriate for the assessed IED threat and the IEDD capabilities. Such operating procedures should not be prescriptive but should facilitate and encourage critical thinking by the IEDD operators implementing them, taking into account the context of the tactical setting.[14]

Those involved in planning the generation of IEDD capability and the conduct of IEDD operations should be aware of the IEDD philosophy that guides IEDD operators in the planning and execution of IEDD tasks and plans. The United Nations IEDD philosophy is based on the following (the priority of each can vary depending on the operational context)[15]:

a. Preservation of life: The safeguarding of human life takes precedence over all else.

[14] These standard or technical operating procedures should be issued by the designated IEDD authority and should determine how IEDD operations are to be conducted within the designated area of operations. These SOPs or TOPs should be issued to all entities engaged in IEDD operations on a 'need to know basis' but should not be published openly.

[15] In the specific case of UN PK Operations, EOD units may be directed to add the removal of the threat as part of the philosophy. Please refer to the UN DPKO EOD Unit Manual, p.13, para. 1.4

b. Preservation of property: Property preservation is in keeping with the aim of preventing an IED from causing damage.

c. Returning the situation to normal or restoring freedom of movement as soon as possible: The removal of the threat posed by an IED is central to the *raison d'être* of IEDD.

d. Preservation and collection of components and information: Activities done without compromising personal safety. IED components are recorded and recovered, in support of improving the situational awareness as to the threat in the area of operations, in line with designated IEDD authority agreements, and consistent with this philosophy**.**

1.3.2 IEDD Principles

The guiding principles of IEDD are as follows:

a. Remote means are to be used whenever possible within the tactical situation of the task. Where remote means are not possible, semi-remote means are to be used whenever feasible.
b. Manual render safe action is only to be carried out as a last resort, where all other possible means have been exhausted.
c. One-person risk[16].
d. The operator is to spend the minimum amount of time in the target area and is to return to the use of remote means whenever practicable.
e. Prior to making a manual approach, safe waiting periods are observed. Waiting periods are times which an IEDD operator must allow to elapse; the times are mandatory and cover both the primary and secondary safe waiting periods[17, 18 19]. In extremis situations, where time is a crucial factor, the waiting periods could be shortened.
f. Operations shall be properly planned,[20] but operators must at all times remain situationally aware and be prepared to undertake dynamic risk assessment as the situation changes.

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[16] A principle which requires that only one operator be within the assessed danger area of an IED during any part of a render safe procedure.
[17] The term 'soak time' is used in some EOD communities to refer to safe waiting periods.
[18] Exceptions can be made to safe waiting periods if operational priorities dictate or if by following the IEDD philosophy (above) is contravened.
[19] The policy on safe waiting periods to be used are to be provided to IEDD teams by their parent IEDD organization, which should be threat driven and may be determined in consultation with the designated IEDD authority
[20]The EOD Operator's knowledge, including knowledge of IED construction techniques, must allow him/her to:
1. Make a full assessment of the threat;
2. Have an awareness of any special hazard associated with a component, particularly explosives, other than the obvious explosive hazard, so that appropriate precautions can be taken;
3. Determine the most appropriate Render Safe Procedure (RSP) considering the type of explosives and construction encountered;

g. Neutralization through disruption of an IED is the primary option.
h. No positive EOD action is to be undertaken until the cordon and evacuation is in place. In cases that an evacuation is not possible, the IEDD team will adopt protective measures.

1.4 Planning IEDD Capability Requirements

The decision to establish IEDD capabilities is determined by available contamination information received from the national government, designated IEDD authority or the United Nations. The planning of the requirements must ensure that a process of information gathering and analysis is implemented as soon as possible so that a comprehensive assessment of the IED threat and its impact on communities and the humanitarian / developmental activities can be made. The true extent of the IED problem may be difficult to assess, therefore the Information Management and the lessons learned processes are required throughout the whole life of a programme, as depicted in Figure 1-3.The information gained through this approach will also assist in establishing a national IEDD policy and strategy linked to development priorities.

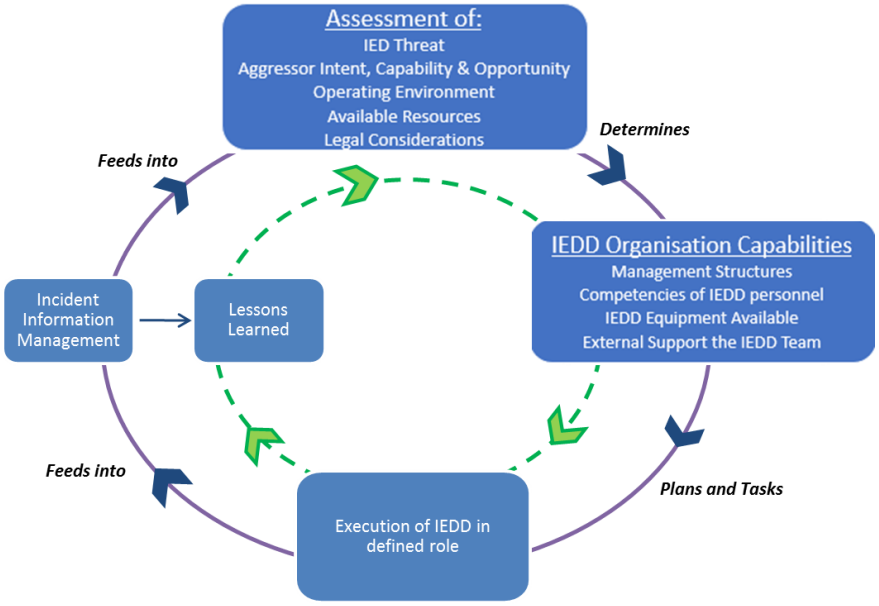

Figure 1-3 – IEDD Cycle

The responsibility for managing all IEDD related issues, mentioned in this standard, remains in the hands of appropriate IEDD qualified experts. Due to the specific characteristics of the IED threat and its mitigation, there is a need to establish a proper management structure staffed with qualified IEDD personnel both at operational level, to plan and carry out IEDD activities, and at the level of the designated IEDD authority /

4. Identify the components of an IED so that after completion of a RSP the operator can identify how the device was intended to function and to assist in the collection of components and information;
5. Provide technical advice.

IEDD organization / United Nations to manage and support national IEDD activities. Further information on management structures involved is provided in Chapter 2.

Certain factors will determine the required IEDD capabilities and the necessary configuration to carry out the assessed IEDD tasks. Further information on the development of IEDD capabilities is provided in Chapter 3.

IEDD capabilities and their tasks will be largely shaped by the following factors:

a. IED threat:

IEDD requires a thorough understanding of IED construction and their methods of use in a given area of operations. Some information may be classified; however, in keeping with the principle of "need to share" and the maintenance of an accurate IED threat picture, appropriate mechanisms for the transfer of information from, between and to IEDD organizations must be established and coordinated. Issues surrounding the sharing of data between partners/IEDD organizations at all levels should be resolved at the earliest opportunity. Understanding the threat is key in preparing the appropriate IEDD capabilities.

b. Aggressor intent, capability and opportunity:

An IED aggressor refers to any person or group of persons or organization that has the intent and capacity to inflict or threaten physical violence through the use or threatened use of IEDs. Aggressor intent refers to the desired aim or purpose that any person or group of persons or organization are trying to achieve through the use or threatened use of physical violence. Aggressor capability refers to the classification of the ability or potential ability of an aggressor to achieve their desired aims when assessed under their doctrine, equipment, competencies and structure. Opportunity refers to the assessment of the chances of a set of circumstances that makes it possible for an aggressor to carry out an attack. Assessment of an aggressor intent, capability and opportunity collectively make up the three pillars of a threat assessment.

c. Operating environment:

The environment in which the IEDD capability will be deployed must be considered from a physical environmental perspective and a social perspective. Physical environment perspective refers to consideration of the terrain, access, altitude, vital infrastructure, and weather factors. Social environment factors include demographics, population details, economy, history of the conflict, historical and contemporary political situation and displaced persons. The operating environment can be categorized from benign or permissive to hostile or non-permissive with everything in between referred to as semi-permissive.

d. Available resources:

All resources that are required, directly or in support of an IEDD capability, need to be considered in relation to the constraints associated with the maintenance or lack of equipment. Some resources that need to be considered in relation to an IEDD capability include:

- Personnel – IEDD personnel with competencies, IEDD support personnel, security services.

- Equipment – critical equipment and all sundry materiel and personnel needed to maintain and sustain it.
- Funds to maintain and sustain the IEDD capability from either national sources or from external donors or loans.

e. Legal considerations:

Legal considerations to be incorporated can have a major influence on the ability of an IEDD organization to develop, maintain and sustain a stated IEDD capability. Such legal considerations may include:

- Legal requirement on an IEDD organization imposed by the designated IEDD authority or the host country law;
- The production of IED reports generated by the IEDD organization for use by the national authority or other host nation government agency;
- The procurement, handling, transport and storage of energetic material for use in IEDD;
- Liability for harm or damage caused due to IEDD operations;
- Mechanism for the enforcement of cordon and evacuation, and the removal of persons from within the assessed danger area of an IED;
- Implications from the mandate under which a United Nations mission is operating.

Expert legal advice should be sought by the designated IEDD authority from the most appropriate means and sources when drafting the terms of reference under which IEDD organizations will operate.

Chapter 2: IEDD Planning

Chapter 2

IEDD Planning

The nature of IEDD operations is inherently more complex than traditional mine action. The introduction of human aggressors, and their unlimited inventiveness, into the equation results in a considerably more complex, dynamic and evolving threat. Organizations conducting IEDD must understand that the threat, both from the IEDs and the way they are employed, can and will change rapidly and that their personnel could themselves become the direct target of the IEDs they encounter. In developing an understanding of current, and likely future aggressors it is likely that IEDD organizations will be considered a valuable target. It is inevitable that IEDD personnel will be observed by aggressor networks who are attempting to identify patterns, capability gaps, and weaknesses that can be exploited.

The IED threat, both the technical and tactical aspects, can change quickly in response to the countermeasures, tactics and methods employed by IEDD organizations. This shift requires those organizations undertaking IEDD operations to constantly evaluate the appropriateness of their tactics, techniques and procedures (TTPs). In order to stay ahead of the threat and mitigate the risk to the greatest extent possible, the designated IEDD authority and IEDD organizations must work together to collect, assess and disseminate tactical and technical observations. Organizations such as the UN Department of Safety and Security (DSS) and UNMAS may serve a focal point for the coordination of this information.

This chapter aims to identify the planning process(es), which must be driven at every level by robust and detailed threat assessments, required to identify the complete spectrum of capability that will be required to counter the IED threat. IEDD planning is a multi-disciplinary activity but at its very heart must have suitably qualified and experienced IEDD operators to properly interpret the threat and inform the technical requirement at every level.

The threat from IEDs can be broken down into “technical” and “tactical” which, when combined, will give the overarching threat picture to IEDD operators and organizations. The “technical” threat refers to the analysis of the aggressors’ likely ability to use complex components and switches, particularly Radio Command, along with their ability to source those components. The “tactical” threat refers to the tactics, techniques, and procedures as well as a myriad of subjective factors, based on the aggressor’s intent and history, to understand the likely method of employment of a device.

2.1 Planning and Threat Assessment

Planning and threat assessment will take place at three levels:

- National
- Area
- Scene

In military jargon, the National level may be considered to be strategic, Area level to be operational and Scene level may be considered to be tactical. The relationship between the three is explained graphically in Figure 2-1. This chart further shows the relationships between planning activity, the development of Terms of Reference (TORs) and delivery of reporting as capability is planned for, contracted and deployed.

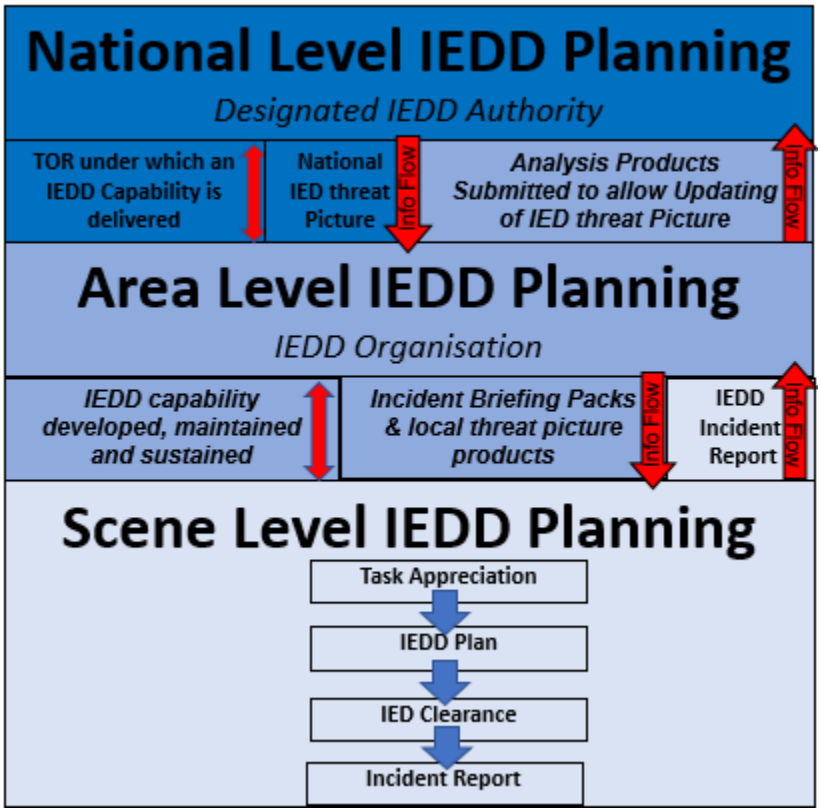

Figure 2-1 IEDD Planning

2.1.1 National Level

National level planning and threat assessment relates to higher level planning to assess the present and potential future explosive hazard threats in a wider geographical region or country. National level planning and threat assessment is the essential first step in determining the safe, effective and efficient IEDD capabilities to be deployed to the IED threat environment and will be instrumental in determining the detail of the statement of requirements (SOR) to be communicated to prospective capability providers.

It is impossible to be completely prescriptive about who, exactly, will be involved in this National level planning and threat assessment but it will typically be led by the designated IEDD authority and include other organizations as required and appropriate. It is unlikely that prospective capability providers, other than national civil or military teams, will be included in this stage of planning and threat assessment. Once complete the National planning and threat assessment process will be the basis against which capability

requirements are put forward for tender and against which detailed terms of reference are agreed. The process is however never complete and is a continual cycle informed by a constant flow and exchange of information described graphically in Figure 2-2 below:

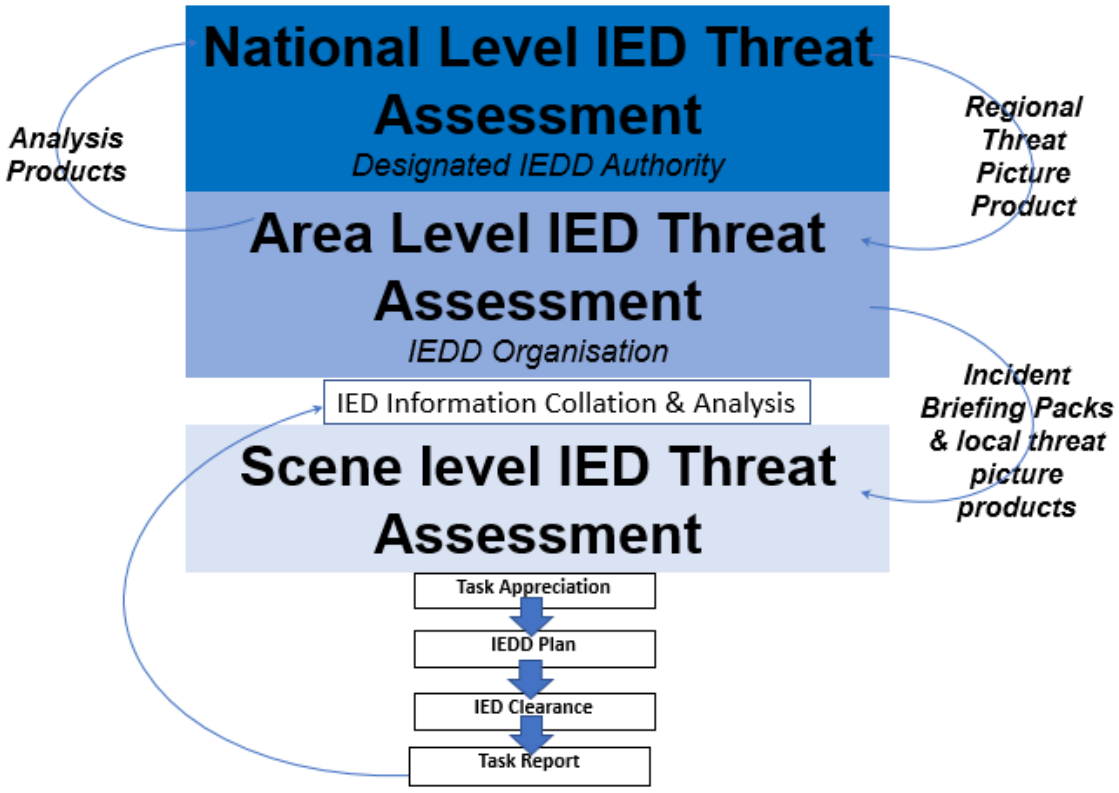

Figure 2-2 Information Flow

The requirement to share operational and tactical information relating to both technical and tactical threat will likely be a key tenet of any TOR. This flow of information facilitates the essential process of dynamic threat assessment at every level and ensures that an accurate picture of developing threats is maintained and communicated to generate mitigation measures and any changes to posture, capability and capacity are managed upstream. Planning at the national level will encompass the spectrum of EO threat and cover the complete requirement from traditional Mine Action activity through to those additional measures required to mitigate the specific IED threat – from enhanced technical capability to developed Risk Education.

2.1.2 Area Level

Area level planning and threat assessment will be conducted by an IEDD organization looking to respond to an SOR developed at the National level. It will need to involve a specialized IEDD operator at the heart of the threat assessment and draw on the expertise of the IEDD organization in determining threat through both technical and non-technical surveys. Informed by the National threat assessment, the process should aim to draw

down the threat to an operational picture which will further refine the threat for a more defined geographical location.

The completion and submission of an area level threat assessment must be a requirement within the statement of work and without which IEDD clearance operations should not commence.

The impact of geography, local population analysis and local political situations amongst many other factors will all help build a picture of the likely existing threat and potential developments once clearance operations commence. The area level threat assessment must describe, in full technical detail, the known or established threats by device type. During an Area analysis, strong community relationships are essential to building the necessary trust required for a thorough understanding of the IED threat. The use of community liaisons should be stongly considered by IEDD organizations.

The area level planning and threat assessment should prioritize clearance operations within the designated area of operations and allocate adequate and appropriate resources. The threat assessment should also detail the freedoms and constraints that will be placed on the clearance teams by detailing the reporting requirements and understanding what situational changes[21] will result in re-evaluation of the IED threat assessment.

The area threat assessment should be subject to frequent review based on the developing understanding of threat which will come from information from the national level IED threat assessment as well as from ongoing clearance operations. A robust Information Knowledge Management system, described in Figure 2-2 above, into which IEDD teams submit reports and from which the IEDD Organization collates data for analysis and trends prior to dissemination to IEDD teams and to the designated IEDD authority, will underpin the threat assessment and allow managers to react appropriately to a changing threat picture.

2.1.3 Scene Level

Scene level planning and threat assessment commences once the national and area level threat assessments have been completed and clearance teams have been allocated to tasks. These clearance teams will include personnel trained to the appropriate level as determined by the planning and threat assessments and risk analysis. It is the direct responsibility of the supervising IEDD operator to draw down the national and area threat assessments and then conduct a threat assessment for the specific site where they are operating. This scene level threat assessment will be an incident appreciation[22] of the

[21] Situational changes refer to changes in any of the following: IED technical complexity; IED tactical sophistication; aggressor intent; aggressor capability; aggressor opportunity.

[22] An assessment of an EOD/IED incident from information gathered through observation, map analysis, witnesses, surveys and all other means allowing an area evaluation in support of a threat assessment leading to threat integration from which possible courses of action are identified as part of a safe, effective and efficient EOD plan

immediate site and must be used to confirm the accuracy and validity of the area threat assessment and that the personnel allocated to the task are adequately trained for the assessed threat. This is the most dynamic threat assessment and it is essential that anything at the scene level which changes the assumptions of the area or national threat assessments is immediately communicated across the organization, and up to the designated IEDD authority where appropriate.

The individual IEDD operators should be given specific freedoms and limitations to the actions that they are permitted to carry out commensurate with their level of training and experience. An example of how limitations can be effectively implemented on individual IEDD operators is the use of IEDD recommended actions stated by the designated IEDD authority or the IEDD organization in their tactical operating procedures (TOPs). They provide the final level of threat assessment which they will conduct for every action that they take. They must have been fully briefed on the national, area and scene assessments.

2.1.4 Flow of Tasks

The IEDD planning and threat assessment process is a logical flow of task appreciation from the highest to the lowest level. It represents an "all informed" cyclical process of information management and must include suitably qualified and experienced persons at every point.

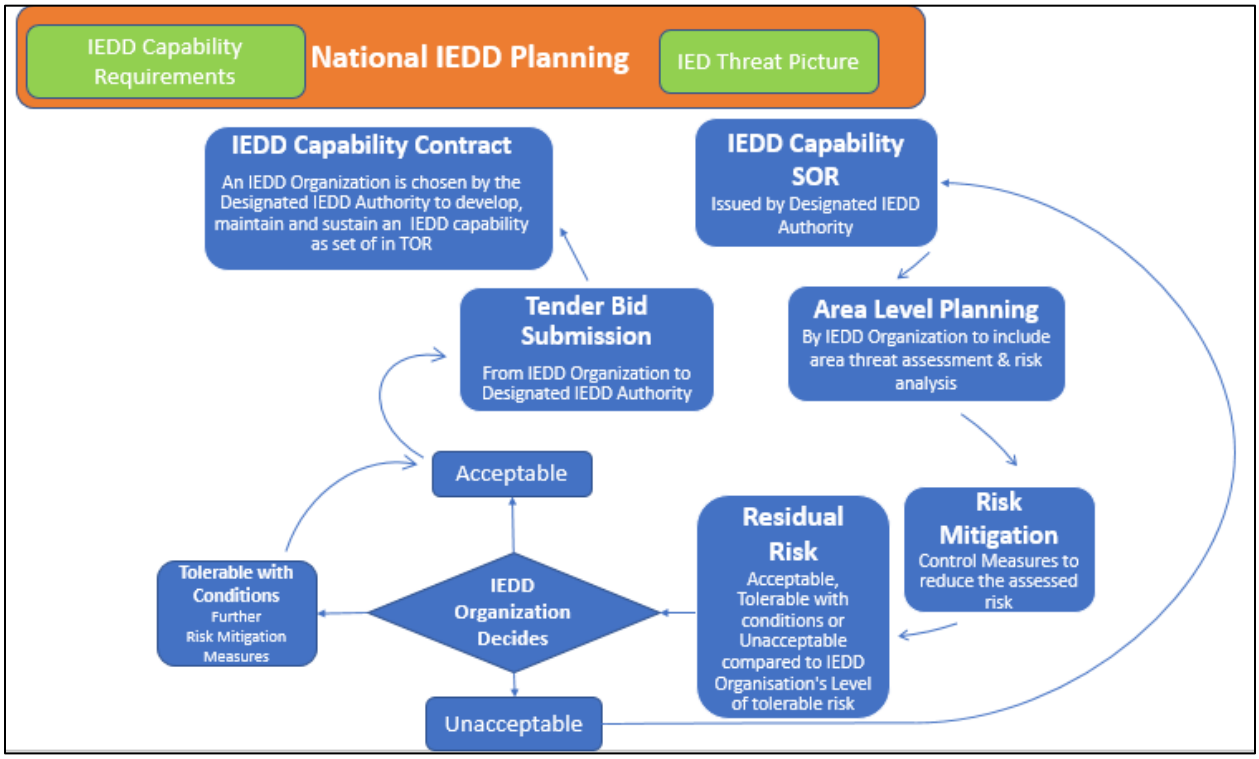

Figure 2-3 IEDD Planning Flow

Figure 2-3 which starts with the determination of a Scope of Requirements (SOR) derived from the National level planning and threat assessment describes how this process should be used to deliver capability. It is impossible to be prescriptive about the exact manner in which this process must be conducted because it relates to what is and always will be a dynamic problem to which there is no “templated” solution. Conducted properly, the flow of tasks should ensure that the most appropriate resources are allocated to every task and that capabilities are matched to the threat. It is not a finite process and must, through the proper use of reporting and information management, allow for reassessment and adjustments to planning to meet emerging and changing threats.

Chapter 3: IEDD Capabilities

Chapter 3

IEDD Capabilities

3.1 Background

IEDD capabilities are generated from a combination of the following four elements:

- Management structures (Chapter 3);
- External support to the IEDD team (Chapter 3);
- Competencies of IEDD personnel (Chapter 4);
- IEDD equipment available (Chapter 5);

The management structures of an IEDD capability refers to both the management methods, mechanisms and processes in place to exercise authority over the personnel involved in IEDD activities and control of the assets. IEDD team competencies refer to the IEDD Knowledge, Skills, Attitude (KSA) and task appreciation that team members are certified as being qualified with. IEDD equipment available to an IEDD team will determine what procedures and techniques can be performed. External support to IEDD from elements outside of an IEDD team includes communications, medical, security, transport, search assets (e.g. ADS, Drones) and ECM[23] assets. Management structures are to also include Information Knowledge Management (IKM) systems to support the information management that is crucial in support of maintenance of effective and efficient IEDD capabilities. Further information on information management is provided in chapter 8.

IEDD trained staff will be required, to support the designated IEDD authority (and United Nations, as appropriate) to plan and assess IEDD activities. This will require personnel with appropriate technical experience[24] and competencies coupled with the appropriate managerial skills to advise or lead United Nations entity, designated IEDD authority and IEDD organizations involved in IEDD. In addition to being IEDD qualified, IEDD staff will be required also to be certified IMAS 09.30 level 1, 2 or 3, depending on their function.

An assessment of the prevailing and potential IED threat in a given area is necessary to determine the most appropriate IEDD capability required. Therefore, it is pre-requisite that an accurate and in-depth understanding of the current and potential IED threat picture[25] is established through appropriate planning and assessment. This is achieved through an analysis of a national threat assessment by the designated IEDD authority in preparation of clearance priorities and taskings.

[23] See note on ECM in “External Support to IEDD” section. ECM is also known as Counter RCIED Electronic Warfare or CREW.
[24] What is a suitable and accepted as an experience is the responsibility of the designated IEDD authority.
[25] An assessment of the potential use of IEDs in a defined geographical area by a stated IED aggressor or aggressor(s) against a stated entity in terms of the technical complexity and tactical sophistication along with the aggressor(s) intent, capabilities and opportunities along with local factors.

First and foremost, any IEDD operation must be as ***safe*** as operationally practical for members of the IEDD team, those supporting the IEDD team and all other persons in the vicinity of the IED task location. IEDD capabilities must also always be ***effective*** in eliminating the threat of an IED and all associated explosive hazards. Thirdly IEDD capabilities must be ***efficient*** in the safe elimination of an IED and all associated explosive hazards within acceptable time, financial, personnel and other resource constraints. For these reasons, it is essential to ensure that all IEDD capabilities and operations are ***safe, effective and efficient***.

Where the designated IEDD authority or United Nations determines that there is the requirement for an IEDD capability to be delivered by a IEDD Organization, it is essential that the appropriate capabilities are identified and communicated through the statement of requirements (SOR) to inform potential IEDD Organizations[26] so that safe, effective and efficient IEDD capabilities are generated and deployed to the IED threat environment. To generate the desired capability, SOR must clearly articulate the explosive mitigation requirements needed. For planning purposes and to provide a framework within which these standards can be based, generic IEDD roles are identified in Chapter 1.

Under Section 3.2 of this Chapter, three generic team structures are presented. These IEDD teams are designed to provide a platform around which these Standards are based and are not intended to restrict IEDD Organizations; rather the generic team structures provide a minimum standard which will allow three IEDD capabilities to be achieved. Should an IEDD Organization, following an internal threat assessment, decide to provide an alternative IEDD team structure that has greater capability than those presented herein, they are free to do so.

3.2 IEDD Structures

The three team structures are referred to as basic, intermediate and advanced. If an IEDD Organization is undertaking area clearance with basic IEDD teams and the need for a higher-level capability is identified (e.g. the presence of Radio Controlled IEDs (RCIEDs) are confirmed during clearance using basic teams), an intermediate level IEDD team is needed to undertake such activities. This is to be stated clearly in the terms of reference under which they operate.

The competency standards for IEDD specialist functions is provided in Annex A of these IEDD Standards, while equipment requirements are provided in Chapter 5 (IEDD Equipment). Issues related to IEDD support are covered at the end of this Chapter.

3.2.1 IEDD Team Structures

This section presents the three IEDD *team* structures: basic, intermediate and advanced.

[26] Potential IEDD organizations are entities interested to undertake IEDD on behalf of a designated IEDD authority.

Four IEDD *personnel* levels as Basic IEDD operator, IEDD assistant, Intermediate IEDD operator and Advanced IEDD operator / IEDD supervisor employed in various roles have been identified as necessary to populate these IEDD team structures.

These team structures are used to provide the framework around which these Standards are based. The overall competency of an IEDD team is based upon the qualification of the competency and qualification of the IEDD team leader. Further information on the competencies of IEDD team members is provided in Chapter 4 – Training. IEDD team structures should have capabilities that reflect the following considerations:

- Required Conventional Munitions Disposal (CMD) competencies;
- IED roles (see chapter 1);
- IED technical complexity and tactical sophistication (see chapter 2);
- Prevailing operating security environment (see chapter 2);
- Aggressor intent, capability and opportunity;
- Local factors;
- IEDD competencies (see chapter 4);
- IEDD equipment (see chapter 5);
- Task information management (see chapter 8).

An IEDD team is comprised minimum of two persons, consisting of a Team Leader (TL) and other team members, all of whom are appropriately certified and equipped to undertake IEDD operations. This refers to appropriately CMD certified operators who have successfully completed an IEDD course.

All IEDD teams must have an IEDD operator as the designated TL, with all IEDD teams under the control of and reporting to an IEDD supervisor, who is contactable and located nearby for deployment to the scene of an IED task as required. The proximity and ability of the supervisor to deploy will vary according to the level of capability of the IEDD teams under their control. In general, the more qualified and capable the team leader, the less direct supervision is acceptable. For basic IED teams the supervisor should be on scene whereas with an intermediate team the supervisor should be contactable at all times and be able to deploy to the scene by the quickest means possible.

These IEDD teams are designed to provide a platform around which these Standards are based and are not intended to restrict the IEDD organization from undertaking IEDD but provide minimum standards that will allow three IEDD capabilities to be achieved. Should an IEDD Organization decide to provide an alternative IEDD team structure and capability that is greater than those presented herein, they are free to do so as long as the alternative meets or exceeds the minimum standards set by these Standards. IEDD Organization may decide to have more members and / or higher capability in a team as long as it remains safe, effective, and efficient.

3.2.2 IEDD Team Functional Roles

For the three IEDD team structures of basic, intermediate and advanced, a total of four IEDD trained personnel are required to fill the positions therein. These four positions are referred to as basic IEDD operator, IEDD assistant, intermediate IEDD operator and advanced IEDD operator respectively. The competencies defining these four roles are provided below.

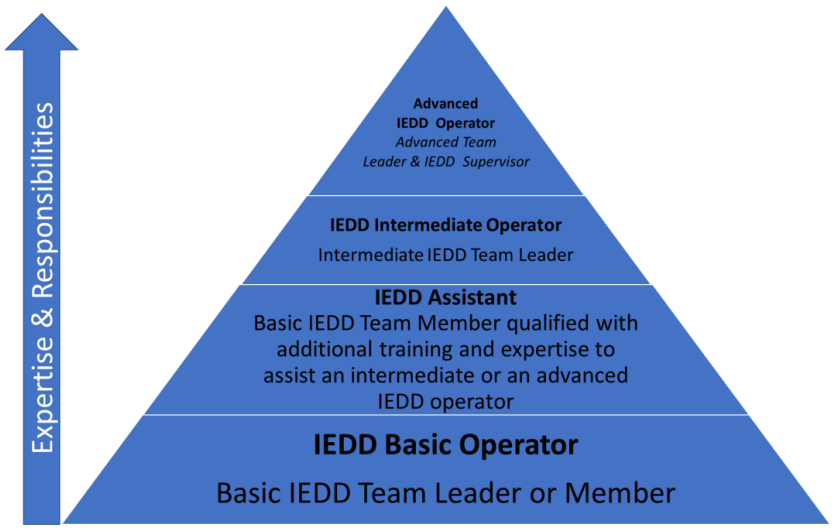

Figure 3-1 IEDD team functional roles

3.2.2.1 Basic IEDD Operator

The following are the prerequisite competencies, main tasks and employment role of basic IEDD operators:

- Prerequisites:
  - Be certified IMAS 09.30 EOD level 1;
  - Completed an IEDD level 1 course.
- Main tasks:
  - Detect, locate and destroy *in situ* items of EO, on which the individual has been trained;
  - Maintenance, preparation and deployment of equipment and explosives in use;
  - Assist the other basic team member in all phases of the IED task as required in line with safe, effective and efficient practices;
  - Refer to the on scene IEDD supervisor upon detecting or locating an item of EO that they are not familiar with or confident to dispose of.

- Employment:
  - Basic IEDD team.
  - Will NOT operate in isolation from an IEDD Supervisor.

3.2.2.2 IEDD Assistant

The following are the prerequisite competencies, main tasks and employment roles of IEDD assistants:

- Prerequisites:
  - Possess IEDD Level 1 certification;
  - Be certified IMAS 09.30 EOD level 2;
  - Completed an IEDD assistant's course.
- Main tasks:
  - Maintain, prepare and deploy all IEDD equipment and explosive tools in use;
  - Assist Intermediate or advanced team leader in all phases of IED task as directed.
- Employment:
  - Intermediate Team member;
  - Advanced Team member – assist IEDD supervisor in IED incident responses & mobility protection;
  - Will NOT operate in isolation from an IEDD Supervisor.

3.2.2.3 Intermediate IEDD Operator

The following are the prerequisite competencies, main tasks and employment roles of Intermediate IEDD operators:

- Prerequisites:
  - Possess IEDD Level 2 certification;
  - Be certified IMAS 09.30 EOD level 3;
  - Completed an intermediate IEDD course.
- Main tasks:
  - IED task management IED task appreciation, IEDD plan development and execution;
  - Supervise and direct the actions of the other intermediate team members;
  - Refer to the IEDD supervisor upon detecting or locating an item of EO that they are not familiar with or confident to dispose of.

- Employment:
    - Intermediate Team leader NOT operating in isolation from an IEDD Supervisor;
    - Advanced Team member – assist IEDD supervisor in IED incident responses & mobility protection.

3.2.2.4 Advanced IEDD Operator

The following are the competencies and main tasks of advanced IEDD operators:

- Prerequisites:
    - Possess IEDD Level 3 certification;
    - Be certified IMAS 09.30 EOD level 3;
    - Have demonstrated suitable knowledge, skill, competency and attitude along with associated experience[27] to be considered suitable in line with the terms of reference under which the IEDD organization is operating to undertake the stated tasks and be employed as stated.
- Main tasks:
    - Conduct remote, semi-remote and manual IEDD render safe procedures on all types of IED;
    - Persons with responsibility for the tasking and coordination of several IEDD teams ensuring safe, effective and efficient IEDD practices;
    - Provide timely advice and supervision to IEDD teams as required;
    - Undertake IEDD tasks, assisted by an IEDD level 2 or level 3 qualified person in support of IED Incident Responses and Mobility Protection.
    - Support and/or undertake area level IEDD planning, producing IED briefing packs and local threat picture products for IEDD teams as well as undertaking analysis of IED reports from IEDD teams to make analysis products to be fed into regional level IEDD planning;
- Employment:
    - Basic IEDD team(s) on scene supervisor;
    - Intermediate IEDD team(s) supervisor being contactable at all times and deployable to the scene by the quickest means possible;
    - Advanced Team leader – IED incident responses & mobility protection.

      Note: employment of an IEDD supervisor is explained further in chapter 6.

[27] It is the responsibility of the designated IEDD authority to determine what is a suitable and accepted as an experience.

3.2.3 IEDD Team Categories and Roles

This section outlines the composition, roles and tasking parameters of the three IEDD team structures. The recommended minimum composition of the three team structures is presented in figure 3.2.

	Basic Team	Intermediate Team	Advanced Team
	Increasing Expertise and Responsibilities		
Team Member	Basic IEDD Operator	IEDD Assistant*	IEDD Assistant*
Team Leader	Basic IEDD Operator	Intermediate IEDD Operator	Advanced IEDD Operator
Team Supervisor	Advanced IEDD Operator		

Figure 3-2 - IEDD team structures and composition

*Note: An IEDD assistant is a certified basic IEDD operator with additional qualification and skills

3.2.3.1 Basic IEDD Team

A basic IEDD team will at a minimum consist of two basic IEDD operators with one designated as the team leader. A basic IEDD team will be certified to undertake the following roles:

- Open area IED clearance;
- IED awareness delivery and support to risk education;
- Capacity building (in line with their qualifications);
- Information management.[28]

This team will not operate in isolation but with the required external support such as communications, transport, medical, search, and security provided as required. They will always be under the direction of an IEDD supervisor on scene and will only undertake disposal of IEDs on which members have been qualified for. If the IED exceeds the qualification of the team members, the IEDD supervisor should take over or task an intermediate IEDD team, if appropriate. The basic IEDD team may only operate in IED threat environments that have been assessed as being permissive in line with the designated IEDD authority terms of reference in relation to security threat assessments.

[28] The on-going specification of information requirements, its collection and analysis followed by the dissemination of relevant information to relevant stakeholders in a timely manner.

3.2.3.2 Intermediate IEDD Team

An intermediate IEDD team will at a minimum consist of two persons - one an IEDD assistant and one an intermediate IEDD operator. An intermediate IEDD team will be certified to undertake all roles of a basic IEDD Team plus:

- Infrastructure and urban space clearance
- Perform IEDD on devices that exceed Basic Team capabilities

This team will not operate in isolation but with the required external support such as communications, transport, medical, search, security and ECM[29] as required by the IED threat assessment. An Intermediate IEDD team will generally require additional diagnostic and remote capabilities over and above that required by a Basic IEDD team, including: radiographic equipment, remotely operated vehicles (ROVs) and counter-RCIED ECM equipment.[30] The team will always be under the direction and of an IEDD supervisor who is contactable and located nearby for deployment to the scene of an IED task as required.. They will be certified to undertake IEDD on all IEDs types with the IEDD supervisor to be on call for technical support, advice and assistance as required. They may operate in IED threat environments that have been assessed as being permissive or semi-permissive in line with the designated IEDD authority terms of reference in relation to security threat assessments.

3.2.3.3 Advanced IEDD Team

In most, if not all, cases – military and TCC capability will be based on the advanced team construct. An advanced IEDD team will at a minimum consist of two persons – one an IEDD assistant and one an advanced IEDD operator. An advanced IEDD team will be certified to undertake all roles of an intermediate IEDD Team plus:

- Mobility protection
- IED incident response
- Perform IEDD on devices that exceed Intermediate Team capabilities

This team may operate as an IEDD team in isolation and with the required external support such as communications, transport, medical, search, security and ECM[31] provided as required. They may operate in IED threat environments that have been assessed as being up to and including non-permissive, in line with the designated IEDD authority terms of reference in relation to security threat assessments.

[29] See note on ECM in “External Support to IEDD” section.

[30] See note on ECM in “External Support to IEDD” section.

[31] See note on ECM in “External Support to IEDD” section.

3.2.4 External Support to IEDD

External IEDD support refers to that support which is non-organic to the IEDD team and needs to be provided from other elements. This support typically includes communications, medical, security, transport, search, ECM assets and situational awareness support, but it can also refer to additional capabilities such as explosive detection dogs (EDD). Internal support refers to support which is organic to the IEDD team and is covered in the IEDD equipment chapter. Internal IEDD support includes IEDD equipment life cycle management which is required for IEDD equipment to remain serviceable and safe for use from the time of purchase to disposal or end of life.

When an IED threat assessment has identified an RCIED threat, there will be a need for the IEDD Organization undertaking IEDD to consider the deployment of an appropriate ECM capability or an acceptable threat mitigation alternative as agreed with the designated IEDD authority, taking into account the prevailing and potential pending RC threat. UNMAS may be referred to for technical advice on this matter.

ECM requirements should be initially provided in the statement of user requirements and updated to the IEDD Organization from the designated IEDD authority as the threat evolves. It is the responsibility of the IEDD Organization to fulfil the ECM requirements in line with the contract in whatever manner they choose to do so e.g. through an organic capability or through a third-party contractor. In the case of ECM support[32], this may be organic to the IEDD team and deployed by the team without additional support or it may be a specialist asset requiring specialist support personnel to deploy it. In all cases the complete life cycle management and ensuring the ECM assets remains capable of mitigating the assessed RCIED threat specialist support is required outside the capabilities of an IEDD team.

It is essential for the United Nations entity, designated IEDD authority or IEDD Organization undertaking an initial IEDD planning process that all IEDD support requirements are assessed and clearly identified and incorporated into the statement of requirements (SOR), including the levels, standards and type of such support. It is also important during on-going IEDD activities that changes in the IED threat are monitored to identify impact on required IEDD support and that this is then communicated and coordinated with the respective IEDD Organization.

[32] See paragraph 5.6 Counter RCIED Equipment

Chapter 4: IEDD Training

Chapter 4

IEDD Training

4.1. Introduction

The nature and risks associated with IEDD demand high training standards, maintenance of competencies, and specific safety considerations for all operators. As a basic requirement, all personnel involved in IEDD should receive formal training, including on IED awareness. The onus to ensure that this takes place is on the IEDD organization authorized by a designated IEDD authority to undertake IEDD activities and applies to all IEDD operators deployed under its control. Part of this process is to ensure that all operators are competent through initial validation and subsequent revalidation in maintaining safe, effective and efficient IEDD capabilities in line with the assessed IED threat. An IEDD organization may be subject to quality assurance (QA) checks and formal inspections by the designated IEDD authority to ensure compliance with agreed terms of reference and national standards, if relevant, under which they are required to operate.

IEDD operators deployed by an IEDD Organization must meet IEDD training requirements as individual specialized skills. Implementation of minimum training standards ensures that all deployed personnel possess the basic knowledge, skills and attitude necessary to safely, effectively and efficiently conduct IEDD operations within their defined roles. This will include an ability to undertake effective and efficient IED information management. An IEDD organization may also be required to undertake IEDD capacity building and to support IED risk education being delivered to local populations.

It is the responsibility of an IEDD Organization to ensure that all relevant personnel are appropriately trained in the required capabilities related to the tasks they will be asked to undertake and deliver. It is also essential that during operational deployments, continuation training and updated IED threat briefs to maintain personal situational awareness on the IED threat are planned for and undertaken by the IEDD Organization.

IEDD Organizations must maintain an accurate IED threat picture and ensure that their operators are well prepared and competent to dispose of all types of IEDs in an effective, efficient and safe manner. This should also involve adapting capabilities to take into account evolving tactics and methods by IED aggressors.

The subsequent sections of this chapter describes in-depth the minimum training standards for IEDD operators required to achieve and maintain high proficiency prior to, and during their deployment into an IED threat environment. Chapter 7 covers IED risk education to local populations.

4.2 Management of Training

The designated IEDD authority should establish procedures for the management of

training within its programmes, to include training design and preparation, training needs analysis (TNA), training management packages (TMP), qualifications and experience of training staff, monitoring of training, and training administration procedures. Training management procedures should be laid out in the designated IEDD authority's IEDD policy and cover the following general requirements:

- Training should be based on a TNA that incorporates lessons identified;
- Training should be included in strategic and annual planning as part of the development of national capacity;
- Training should be properly designed and developed and guided by comprehensive Training Management Packages (TMP);
- Unless training is carried out centrally under the control of the designated IEDD authority, IEDD organizations should be required to submit their TMPs to the designated IEDD authority for approval;
- Training should only be delivered by suitably qualified and experienced personnel who possess a recognised IEDD or IED search qualification. The designated IEDD authority should specify how it will verify qualifications;
- Evaluation and testing of training should be carried out;
- Training should be subject to internal and external monitoring;
- Training administration procedures should be developed.

IMAS 06.10 Management of Training is used to provide guidelines for the management of training for Mine Action personnel and can be used by designated IEDD authorities to provide a basis for IEDD training management procedure concepts when drafting IEDD policy for training management procedures.

4.3 Training Audience

When a designated IEDD authority is drafting IEDD policy on IEDD training management procedures, they must remain aware of their target audiences. Primarily, IEDD organizations will be required to train their IEDD operators and those directly supporting them.[33] Secondly, they may also be involved in the delivery of IED awareness to Troop Contributing Country (TCC) / Police Contributing Country (PCC) personnel, other UN personnel, persons involved in the provision of security and humanitarian personnel in the country they are operating within. Thirdly, they may be involved in supporting IED risk education being delivered the local populace. Broadly there are three target audiences for IED related training and education:

- Local populace IED risk education – see chapter 7 of these standards;
- IED awareness training – personnel required to operate in an IED threat environment;
- IEDD specialist training

[33] Examples of personnel directly supporting an IEDD team include search personnel and ECM operators.

4.3.1 IED Awareness Training

All personnel working in an IED threat environment should receive basic IED awareness training from an accredited organization.[34]

IED awareness refers to a comprehensive set of IED theory presentations and practical lessons, which may include a written and or practical assessments, with the intent to provide or increase the knowledge of recipients in relation to IEDs, their threat and basic threat mitigation measures. This low-level training helps mitigate the IED threat and the consequences of IED attacks by enhancing personnel safety, and improves the survivability of personnel required to operate in such IED threat environments. At the minimum, and tailored to the local environment, these skills include the ability to:

- Understand the technical characteristics and make up of an IED and what to lookout for. This may include ground sign awareness and understanding the need to be aware of typical local atmospherics and how react when a change in normal atmospherics is noted;
- Under the tactics and methods of IED emplacement and deployment;
- Understand the importance of not setting patterns in their activities;
- Understand where and when IED are likely to be emplaced;
- Effectively plan for deployments into, to and through IED threat environments;
- React effectively when an IED is identified understanding what initial evacuation requirements entail;
- React effectively to an IED attack;
- Report an IED find and / or attack to appropriate authority and record event details.

Such training should be included in all initial, pre-deployment, refresher and continuation training. No live or inert explosive ordnance shall be handled during awareness training to avoid any unsafe behavior or action by non IEDD qualified personnel. Failure to properly train personnel could cause injuries or death.

4.3.2 IEDD Specialist Training

IEDD specialist training refers to training delivered to IEDD team members and others who may support their activities e.g. search personnel and ECM operators.

IEDD specialist training enables selected personnel to receive the necessary

[34] An accredited organization being one approved by the designated IEDD authority

qualifications to safely, efficiently and effectively undertake IEDD tasks. These tasks can only be performed by qualified team members, leaders and supervisors, and are subject to the limitations of their relevant associated skillsets. IEDD Organizations may be generated from government, military, police, commercial or NGO entities. IEDD trainees are required to have prerequisite knowledge and skills necessary before undertaking a specialized training, as set out by the designated IEDD authority in the IEDD policy. Training selection criteria should encourage gender balance and diversity.

Only qualified trainers from an accredited IEDD organization[35] should deliver IEDD Specialist training.

4.4 Training Principles

The application of the following principles assists an IEDD Organization to make adequate preparations and resource allocations prior to operating in an IED threat environment, i.e. factoring in adequate timelines and resources, such as:

- Maintaining readiness. IEDD teams who adopt an agile and adaptive approach, optimize their effectiveness while operating in a demanding IED threat environment and facing evolving aggressor capabilities. Anticipation of emerging threats and taking advantage of learning opportunities are key to being better prepared, both on an organizational level in terms of capabilities and on an operator level both in terms of physical and mental preparation.

- Education and training. Education should reinforce a holistic inter-agency, whole-of-government and multinational integrated approach to IED threat mitigation and associated level IEDD tactics, techniques and procedures (TTPs).

- Balance of preparation. Individual, collective and environment-specific preparation is required for effective IEDD training. Three broad areas of preparation are applicable:
  - Establishing an appropriate culture and mindset within the organization for operating within the IED threat environment. Personnel need to be knowledgeable and skilled as well as possessing the appropriate attitude[36] to operate safely, effectively and efficiently.
  - Developing appropriate mechanisms to plan and execute comprehensive IED threat mitigation training and education is essential, ideally within a wider IED-TM approach.
  - Developing robust but flexible TTPs required to operate in the assessed IED threat environment is one of the most effective methods of preparation in supporting the development of appropriate IED threat mitigation measures.

- Appropriate instructional methods. Methods best suited to achieve the standards

[35] Designated IEDD authorities should specify how it will verify qualifications.

[36] In an IED threat environment attitude refers to a person's confidence, determination and robustness to operate safely, effectively and efficiently in an IED threat environment.

defined in this document are to be utilized in the training of personnel to operate in an IED threat environment.

- Realistic operational-focused training. Every effort should be made to train personnel as they are intended to operate, developing the teambuilding, understanding and procedures that will be needed for success when deployed. Three broad areas are required for realistic operational-focused training:
  - Appropriate training environments. IED related training should be conducted in similar conditions to those expected on deployments, to reflect the environment's complexity, intensity and challenges.
  - Habitual association of personnel. Operating as a team, inter-operability and integration of capabilities are required starting at the lowest levels. Ideally personnel who are to operate together in an IED threat environment, should be habitually associated from as early as possibly in their training. Training should develop familiarity and proficiency in operating with other partners and organizations, including local and foreign military forces, promoting cultural and gender considerations and procedural alignment to develop cohesion and information sharing. This also enables better appreciation of capabilities and limitations.
  - Use of operational equipment during training. Training should incorporate all equipment that personnel are expected to use during deployment. Any identified shortfall, operational or inter-operability issue must be adequately addressed, as much as possible prior to the deployment.

- Utilise technology as appropriate. Technology and networked capabilities should be exploited to simulate the complexity and interaction required during the deployment. When possible, systems and data used in simulations and synthetic training should replicate those used on deployments.

- Safety and protection. Appropriate consideration for the safety of personnel, the local population and for the protection of the environment must always be taken during training, particularly when manipulating explosive ordnance.

- SMART evaluation of all training. Application of SMART (Specific, Measurable, Achievable, Realistic and Time-bound in nature) evaluation criteria should be integrated in all training.

4.5 Mentored Supervision

One of the roles that an IEDD Organization may be called upon to undertake is capacity building through mentorship. Mentorship involves activities undertaken by appropriately trained and qualified IED instructors to train, accompany, advise and assist personnel operating in an IED threat environment.

Such capacity building may be part of national security forces capacity development or as part of a United Nations Mission's capability development. Capacity building includes

distinct types of support, ranging from strategic advice on IEDD capability development and institution building to the development of local IEDD teams through training and education and the development of doctrine.

An IEDD organization may be tasked to train, accompany, advise and assist national security services or a United Nations peacekeeping TCC/PCC in the development of IEDD capabilities. Mentorship requires an organization to have the capability to train IEDD teams providing them with the necessary KSA to develop into competent IEDD operators. They may also accompany newly trained IEDD teams on IEDD operations to advise and assist them as they develop their competencies and confidence and gain experience. It is important that mentoring be for a limited time with an end state that the local IEDD teams are competent and confident to operate safely, effectively and efficiently without the need for mentor assistance.

In certain industries, disciplines or contexts, on-the-job training (OJT) is utilised as part of the training and education process and is normally ongoing and facilitated while personnel are carrying out duties and responsibilities commensurate with their current level of KSA. However, OJT does not correspond with IEDD training due to the nature and risks associated with the IED threat. Mentored supervision is not the same as OJT, due to the greater levels of controlled accompanied supervision, assistance and advice during operational deployments.

4.6 IEDD Training Responsibilities

An IEDD Organization is responsible to confirm that IEDD teams have the level of IEDD training required before they are deployed operationally. Generally, the IEDD Organization shall:

- Gain validation for IEDD training from the designated IEDD authority.
- Ensure IEDD instructors and teams are competent, suitably trained and qualified.
- Maintain appropriate training records in line with the requirements set out by the designated IEDD authority, to include:
  - Establishing and maintaining training plans which comply with standards required by the designated IEDD authority as well as other relevant standards and regulations that reflect local conditions and circumstances.
  - Establish and maintain validation procedures so that training completion certificates explicitly list the disciplines on which the individual has been trained and has qualified as competent.
- Instruct IEDD teams to maintain logs of their operational experience.
- Apply lessons learned for IEDD operations in an effective, efficient and safe manner which include procedures to protect the environment.

The designated IEDD authority should:

- Establish and maintain national standards for IEDD to include all details of how IEDD training should be conducted, monitored, evaluated and accredited. Where necessary, seek assistance from other national governments in accordance with

bilateral and international arrangements to obtain the specialist expertise and information necessary to establish safe, efficient and effective national standards for IEDD training, procedures and operations.
- Establish and maintain performance criteria and tools for auditing of IEDD teams.
- Establish and maintain the capability to accredit IEDD training and monitor the training and validation process.
- Establish and maintain the capability to accredit organizations involved in IEDD.
- Establish the required periodicity for IEDD revalidation.
- Where possible, allocate appropriate disposal sites for organizations and approve guidelines and procedures for their safe and efficient use.
- Establish and maintain the capability to monitor measures to protect the environment.
- Establish national systems for IEDD task reporting and inform IEDD organizations so that appropriate training and education may be based on accurate scenarios.
- Define the technical operating procedures (TOPs) which shall govern the conduct of IEDD and IED Search teams within the area of operations.

The IEDD Organization shall ensure their IEDD personnel:
- Provide proof of their qualifications/ validation from an IEDD organization and demonstrate that they possess the appropriate knowledge, skills and attitudes of a competent IEDD operator.
- Maintain their training validation up to date during operational employment.
- Provide and facilitate refresher and continuation training programmes.
- Maintain the situational awareness of the area of operational deployment.
- Perform only those IEDD tasks for which they are suitably qualified.
- Report and share new IED tactics and methods.

4.7 Training Levels

Training will take different forms depending on the requirements and starting level of competency. In general, formal training is delivered in the form of a training course or a workshop to a group of trainees for a finite period, often in a location away from an operational worksite. Four levels of formal training are discussed below. All types of formal training must include an evaluation to confirm the trainee possesses the required knowledge, skills and attitude to be accredited as competent at a level.

Informal training refers to both planned and spontaneous training that is intended to refresh competencies, mitigate skill-fade[37] and introduce new tactics and methods to previously trained IEDD operators. The decision to introduce new tactics and methods as part of informal training needs to be assessed in consultation with the designated IEDD authority with a view to what new tactics and methods need to be recorded as a formal qualification. Informal training can take place at any location that can facilitate such training in a safe manner.

[37] Signs of regressing KSA may be identified / observed through routine monitoring, inspections, or as a result of a task while performing tasks.

4.7.1 IEDD Initial Training

IEDD initial training aims to give trainees the KSA to make them competent to conduct IEDD (to the level the training was designed for) in a safe, effective and efficient manner. This type of training is applicable for newly recruited staff.

4.7.2 IEDD Pre-deployment Training

IEDD pre-deployment training aims to provide additional specific training associated with the area of operations. In particular such training should cover detecting and identifying specific types of IEDs expected to be encountered in the area of operations as well as understanding the IED aggressor's commonly used tactics and methods. It is important to understand the roles, capabilities and limitations of relevant partner organizations. IEDD teams should also familiarize themselves with the geography, culture, working conditions, political situation, gender considerations and other local factors that may affect their operations. This training should take place as close as possible prior to deploying to the area of operations.

4.7.3 IEDD Refresher Training

IEDD refresher training aims to update and/or maintain KSA levels over time. KSA levels naturally tend to decrease with time. As the name indicates, refresher training assists qualified personnel with maintaining and/or bringing back their KSA to acceptable levels of competency. While IEDD operators must be properly qualified for the task when deployed to an area of operations, periodic refresher training will become essential during operational deployment. This type of training can be scheduled on a regular basis and integrated into a projected training calendar.

Periods of absence, low IED activity level, and noticeable signs that KSA levels have dropped or skill-fade may necessitate this type of training. Refresher training aims to:

- Minimize individual or team KSA fading;
- Maintain/increase self-confidence;
- Maintain adequate force protection;
- Remain aware of the evolving IED threat in terms of aggressor tactics and methods and technical developments;
- Adapt IEDD team tactics and methods in line with lessons identified;
- Prevent routine and complacency;
- Conduct rehearsals before performing tasks;
- Test and implement new tactics, methods and lessons learned;
- Integrate new partners, personnel and capabilities into existing structures and processes which in many cases can be part of facilitating habitual association of personnel required to operate together;
- Assess operators and teams' efficiency;
- Ensure safety measures and processes are implemented.

Refresher training should be shaped to address identified capability deficiencies or KSA that provide challenges to IEDD teams. Their identification is enabled through close monitoring of KSA levels and performance assessments. When conducted outside of the area of deployment, this training should replicate operational conditions as close as possible.

4.7.4 IEDD Continuation Training

IEDD continuation training aims to build on previous training and provides additional KSA. This type of training is applicable when there are changes to threat, work methods, procedures and equipment or when staff are being given additional skills to advance their skillsets or careers. Additional KSA allow personnel to undertake increasingly challenging tasks and assume higher level responsibilities within the IEDD team, progressing from team member to leader to supervisor.

Both IEDD continuation and refresher training encompasses individual and organization-specific education, training and exercises, and integrates with the elements that will be required to interact during operations. Such training may become a continuing requirement, especially with a high personnel replacement rate or during a phased operation. In many instances, training requirements may stem from lessons identified from current or previous deployments in the area of operations.

4.8 Training Frequency

The senior management within an IEDD Organization is responsible to define the appropriate frequency of refresher and continuation IEDD training and the specific matters to be covered in line with the requirements set out by the designated IEDD authority. This may take different forms and vary in duration related to maintaining competencies.

The following factors should be considered to determine the appropriate frequency and method of training conducted during a deployment:

- Significant change of threat in terms of IED aggressor's tactics and methods or in terms of the technical complexity of the IEDs in use;
- Increase of IEDs and casualties;
- Rotation of personnel;
- Integration of new equipment or IEDD tactics and methods;
- Implementation of new lessons identified.

The IEDD Organization shall provide the designated IEDD authority their refresher / continuation IEDD training plan, and maintain a record of all training conducted, with the respective results achieved, when required.

4.9 Minimum Training for IEDD Teams

IEDD is a complex and dangerous task and requires the teams to maintain and progress in their KSA. The development of a safe, effective and efficient IEDD capability requires the establishment of levels of expertise to cope with a range of deployment requirements. As a rule, IEDD teams shall only be tasked to incidents and tasks appropriate for their level of training and competence. All other cases should be referred to a higher level of expertise.

Given that IEDs often incorporate conventional munitions as the main charge, the ability to face both types of devices (improvised and conventional) is inherent to IEDD teams, thus requiring them to be appropriately Conventional Munition Disposal (CMD)[38] qualified.

These standards recognize that the International Mine Action Standards (IMAS) are the best practice applicable for CMD activities. Under IMAS 09.30 Explosive Ordnance Disposal, three levels of CMD competency are set out, which are elaborated on in terms of KSA requirements in Test & Evaluation Protocol (T&EP) 09.30/01/2014 EOD Competency Standards under EOD level 1, level 2 and level 3. Prior to becoming member of an IEDD Team, personnel must first possess an appropriate CMD validation in line with the IMAS level[39] 1, 2 or 3 as explained in the following subsections.

It is recommended that training start with generic IEDD skills prior to conducting deployment specific training (or pre-deployment training), giving the IEDD team a broad knowledge base, thereby enabling it to respond to a variety of tasks, and have the KSA to adapt to evolving threats. Additionally, the required deployment specific IEDD training should concentrate on the most likely threats to be encountered. Members of IEDD teams are qualified to carry out these IEDD functional roles, each one building on previous knowledge, with an IEDD assistant qualified to assist either an intermediate or advanced IEDD operator, as illustrated by Figure 4-1: The qualifications of all IEDD team members shall satisfy the requirements and regulations of the designated IEDD authority, who may request proof of capability in addition to the qualification.

4.9.1 Basic IEDD Operator

This initial IEDD Level enables the trained holder of the qualification to conduct activities as described in Chapter 3. The prerequisites for an IEDD Basic operators are IMAS EOD level 1 and the mandatory completion of an additional IEDD Basic operator course.

[38] The term CMD is used here to refer to any EOD operation conducted on conventional munitions. It is acknowledged that the term CMD and EOD are used in certain cases interchangeably. CMD is used here to clearly indicate EOD activities that exclude IEDD activities.
[39] Also referred to IMAS EOD levels.

4.9.2 IEDD Assistant

An IEDD assistant is accredited to conduct activities as described in Chapter 3. The prerequisites for an IEDD assistant are IMAS EOD level 2, to be an accredited basic IEDD operator and the mandatory completion of an additional IEDD Assistant course. Training of an IEDD assistant must include specific training on the recovery of an IEDD Team Leader with basic first aid.

4.9.3 Intermediate IEDD Operator

An intermediate IEDD operator is accredited to conduct activities as described in Chapter 3. The prerequisites for intermediate IEDD operators are IMAS EOD level 3, to be an accredited assistant IEDD operator and the mandatory completion of an additional IEDD Intermediate Operator course. This qualification extends only to those IEDs on which the individual has been trained; when a new type of device is encountered, the operator is to refer the issue to their supervisor for guidance and direction.

4.9.4 Advanced IEDD Operator

An advanced IEDD operator is accredited to conduct activities as described in Chapter 3. The prerequisites for advanced IEDD operators are IMAS EOD level 3, to be an accredited intermediate IEDD operator and the mandatory completion of an additional IEDD Advanced Operator course.

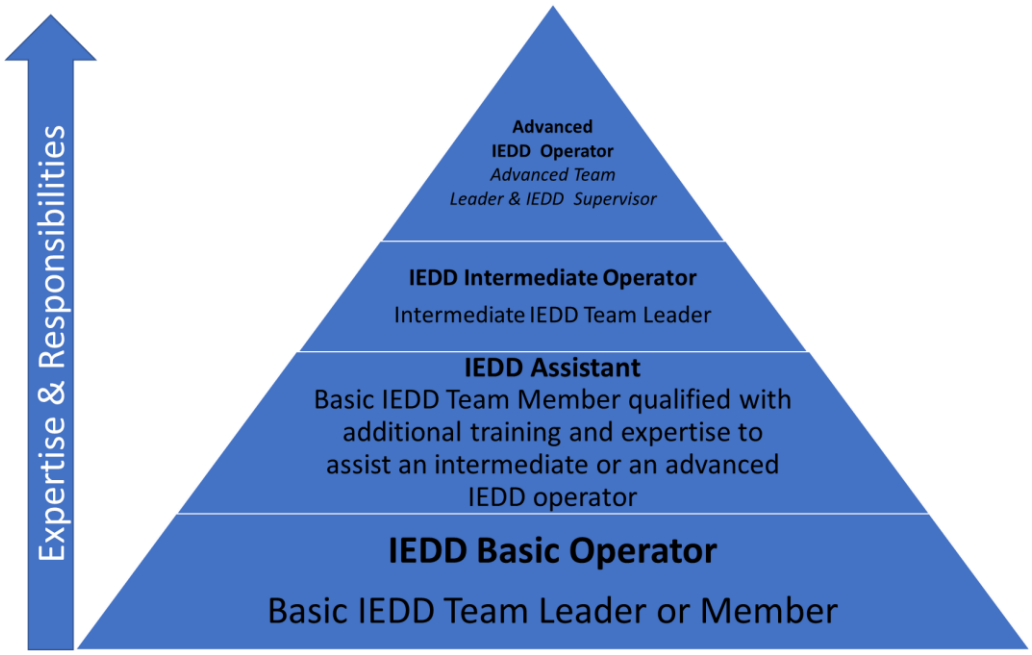

Figure 4-1 IEDD team functional roles

4.10 Validation and Revalidation

IEDD organizations need to be able to validate and revalidate all IEDD operators operating

under their control and maintain the appropriate training records to reflect this in line with the TOR under which they operate.

4.10.1 Validation

A validation process is required to confirm and validate that personnel have acquired KSA necessary to be competent IEDD operators for the qualification they have been trained in accordance with these training standards. Validation of IEDD teams is achieved by qualified instructors from an accredited IEDD organization, through formal training and evaluation as set out by the designated IEDD authority. The exact IEDD validation process required by the designated IEDD authority will be set out in their IEDD policy.

4.10.2 Revalidation

Periodic revalidation of IEDD teams to the required level, as determined by the IEDD Organization, maintain the requisite competencies up to date and allow the IEDD Organization to remain abreast of evolving IED tactics and methods. The revalidation process shall be performed by an IEDD organization accredited by the designated IEDD authority, within the frame of specified QA guidelines defined in the Designated IEDD Authority's IEDD policy. Revalidation date and authority is recorded to demonstrate the currency of employed IEDD personnel, prior to performing IEDD tasks in an area of operations.

4.11 IEDD Training Resources

An IEDD Organization must thoroughly plan the resources required to provide safe, effective and efficient IEDD training to match the operational capabilities they are intended to deploy with and as much as possible the IED threat environment they are expected to deploy into. The designated IEDD authority should specify any specialist training resource requirements or specific training requirements they expect an IEDD Organization to have. Broadly the training resources to be considered include:

- Equipment and material;
- Replica, inert, training, instructional and live items of explosive ordnance;
- Training facilities and areas;
- Training staff, supervisors and instructors.
- Standardized Administrative Evaluation Documentation

All training should be fit for purpose and due cognisance should be taken of the differing requirements for both genders if mixed gender training is to be delivered.

The procurement, importation, transport, storage, handling use and disposal of all items of explosive ordnance must be in line with national legislation, existing mandates and any prevailing arms embargoes. The use of inert, training and live explosive ordnance shall be maintained separately and strictly controlled to avoid accidents / incidents. EO are inherently dangerous and it is essential that everyone involved in their handling and movement should exercise extreme care as the consequences of live explosive ordnance

being inadvertently used during training could result in fatalities or injuries. It is therefore a fundamental principle of ammunition and explosive safety that live EO are never mixed with inert, training, instructional or replica explosive ordnance and that they shall always be maintained separately and strictly controlled. It is safer to use inert explosive ordnance for training or display purposes, but this requirement also carries its own specific risks. This is a proven principle designed to ensure that the risk of accidents / incidents during training and instruction is reduced to the minimum. There is no specific international legislation that refers to the use of inert, training, instructional and replica explosive ordnance, therefore this is considered “best practice”. Except for the specific training of explosive detection dogs, under no circumstances shall live high explosive components be incorporated into IEDs used for training. Where necessary, low-hazard pyrotechnic components may be used to simulate the functioning of an IED. Where employed, such systems should be closely supervised by training personnel.

Training organizations shall establish and maintain operating procedures for the storage and handling of inert, training, instructional or replica explosive ordnance. Training shall be conducted safely without risk of harm to the trainees, trainers or local population. If initial training is conducted in the field, it should be in areas known or proven to be safe. After initial training is complete, and a satisfactory level of competence has been confirmed through formal assessment, it may be permissible to continue further training in hazardous areas (e.g. demolition range). Such training should only be conducted under close supervision. Consideration shall always be given to the safety of the local population and the environment when conducting training, especially when live EO is used. See IMAS 10.70 S&OH protection of the environment. Training resources requirements depend of many factors such as the number and gender of trainees, the training environment, and the type of training provided. As a rule, training should incorporate realistic training aids and the same equipment as required to conduct operations on deployment. The specific amount of equipment required to conduct training should be based on a determined ratio of instructors to students, e.g. 1:4. Training equipment holdings should be modified according to the number of students being instructed and type of training. Considerations must be taken to support all pre-deployment, refresher, and continuation training activities.

4.12 IEDD Training Assessments

4.12.1 Objective of Training Assessment

Assessment of IEDD training confirms that the applicable KSA have been learned and assimilated by students. Undertaking a formal assessment is an essential step for accrediting IEDD personnel and confirming that they posses the competencies required to safely, effectively and efficiently perform IEDD tasks in an IED threat environment.

Since personnel are required to perform IEDD tasks within an IED team, it essential to assess KSA at both individual and team levels. Assessment should be continuous during a training activity to ensure smooth progression and resolve any learning issue that may

rise. It may also be necessary for an IEDD organization to assess personnel to confirm that they possess the pre-requisite KSA before undertaking higher level training or operational deployment.

4.12.2 Conducting Assessments

Assessing KSA is achieved through the application of oral, written and practical tests, exercises and simulations. Training should allow enough time and practice for candidates to assimilate KSA before being formally assessed. Practical exercises shall require trainees to apply their knowledge, use the range of IEDD equipment, tools and training aids available and display their aptitude. Training assessments are only conducted by qualified instructors from an accredited IEDD organization. To ensure impartiality and quality assurance, best practice is for assessments not to be performed by the same instructors who deliver the training where possible.

The assessment method shall drive candidates to apply KSA in realistic simulated operational scenarios. All competencies required at the applicable level of IEDD expertise must be evaluated for each candidate. All formal assessments shall be documented in the course report and maintained by the IEDD organization. Assessed candidates should receive results of their assessments as part of a course report, in a timely manner, and be debriefed on areas of improvement.

4.12.3 Assessment Standards

Assessments must be conducted against a defined standard, which must be achieved by trainees to receive their validation. It is important that IEDD operator courses are assessed as a pass-fail course. If trainees are unable to meet the course criteria then they should not be considered qualified to these IEDD standards nor be employed within an IEDD team on operations operating under these standards.

In cases where the individual fails to attain the standard, remedial training with reassessment may be considered and should only be considered by the IEDD organization if the successful achievement of training standards by the individual is assessed with high confidence.

4.13 Lessons Learned Process

The term *Lessons Learned* is broadly used to describe the act of learning from experience to achieve future improvements. The idea of lessons learned in an organization is that through a formal approach to learning, individuals and the organization can reduce the risk of repeating mistakes and increase the chance that successes are repeated. In the IEDD context, this means reduced operational risk, increased cost efficiency, and improved operational effectiveness. The lessons learned process is an essential element in maintaining an accurate IED threat picture for the IED environment in which an IEDD organization is required to operate.

As an IED threat is typically continuously evolving, it is essential that those who operate in such an environment maintain an accurate situational awareness at all times. This requires that an accurate IED threat picture is developed, maintained and sustained. This is best achieved through a "lessons learned culture" in which all activities are undertaken with an emphasis on capturing best practice through a robust information management system, which is covered in Chapter 8.

Lessons learned refer to more than just learning from experience. Learning must be used to justify changes that will lead to reduced risk, improved efficiencies, reduced costs, improved performance, enhanced capabilities, and updated training curriculum. The typical steps for any lessons learned process are identification, action, and institutionalization. IEDD teams play a critical role in the analysis, dissemination, and implementation of lessons learned. Specifically, for IEDD, the process can be described as follows:

- **Step 1 - Identification:** After every IED task a report is generated that identifies what can be learned from the task. It includes all aspects of environment, the IEDD team and aggressor tactics and methods, the target of the attack, the IED construction and emplacement, the IEDD tools used, and the items recovered. The report should include detailed pictures along with the written descriptions. The IEDD team's observations and analysis contained in the report are then reviewed by a higher-level group who can identify trends across a larger area and make recommendations action to be taken. After the identification step, you have "lessons identified".
- **Step 2 - Action**: The recommendations are reviewed for feasibility by the IEDD organization's leadership and actions are tasked out to specific bodies. Usually this is an update to or creation of operating procedures, tactics and methods, modification of IEDD tools, or an update on aggressor tactics, methods or devices i.e. an update to the IED threat picture.
- **Step 3 - Institutionalization**: The new operating procedures, tactics and methods, tools or amended IED threat picture are incorporated into training for new IEDD operators and communicated to current IEDD operators through advisories and bulletins. The result of the institutionalization of the solution is a "lesson learned" that must be disseminated to all relevant bodies.

The lessons learned process is a non-stop, cyclical one that every organization undertaking IEDD activities must have ingrained in their culture. Figure 4-2 illustrates activities undertaken during each step of the process.

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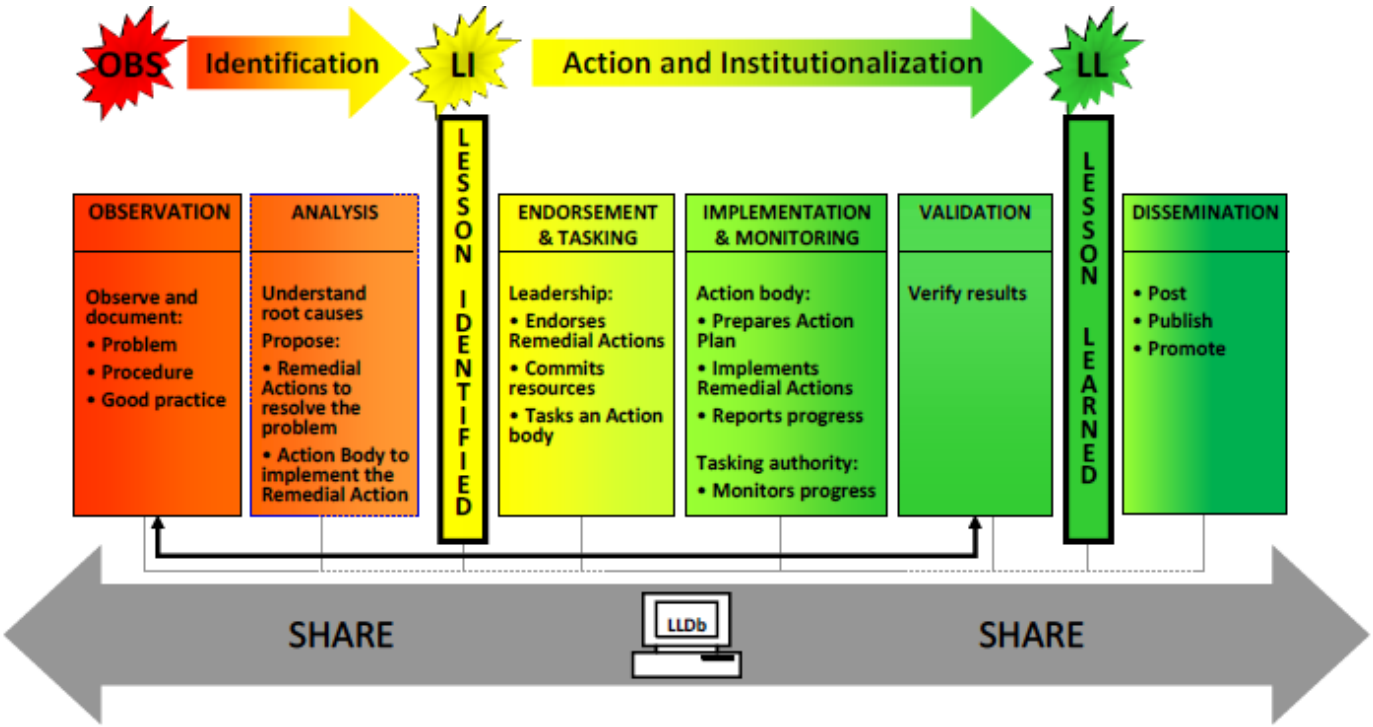

Figure 4-2 Lessons Learned Process

A critical aspect any lessons learned process is information sharing through the establishment of a widely used and effective information management system (see Chapter 8 Information Management). This enables an organization to have a level of confidence in the IED trends, identify and quickly disseminate any changes in the IED threat picture, and ensure that the appropriate competence and protection levels are available for the assessed threat.

4.14 Safety During IEDD Training

All personnel involved in IEDD operations must adopt fundamental safety considerations, apply mandatory IEDD actions and use best practices in order to mitigate risks entailed by the presence of IEDs. These measures equally apply during any training activities. Chapter 6 on IEDD Clearance provides further guidance on this matter.

Chapter 5: IEDD Equipment

Chapter 5

IEDD Equipment

5.1 Background

This chapter serves to inform those involved in developing, maintaining and sustaining IEDD capabilities on the IEDD equipment required as part of such capabilities.

IEDD equipment requirements listed herein are included as **critical** equipment requirements for the three IEDD team structures and outline the support needed to secure and sustain them. The equipment listed is deemed the minimum equipment needed to safely, efficiently and effectively undertake the tasks that the stated team is expected to be able to complete[40].

The designated IEDD authority retains the right to insist on equipment in addition to or to a higher specification than those listed herein. Similarly, an IEDD organization may choose to provide equipment in addition to or at a higher specific than those listed herein, in line with the agreement between the IEDD organization and the designated IEDD authority.

Only specialist IEDD equipment is mentioned in Annex B. Generic administrative and communications and information technology support equipment required by the IEDD Organization and IEDD support elements is not listed..

Lists of critical IEDD equipment are provided in appendices of Annex B covering the following equipment requirements:

- Basic IEDD team – Annex B, Appendix 1
- Intermediate IEDD team – Annex B, Appendix 2
- Advanced IEDD team - Annex B, Appendix 3
- Support team – Annex B, Appendix 4

5.2 Lifecycle Management of IEDD Equipment

In the development of appropriate safe, effective, and efficient IEDD capabilities for the assessed IED threat faced, appropriate IEDD equipment must be available to the IEDD operator when it is required. Such equipment must be maintained and sustained for the life span of the capability requirement. This anticipates a complete life cycle management approach with appropriate equipment support being in place from acquisition to retirement.

Such equipment support refers to appropriate technical support, storage facilities, spare parts and associated workshop facilities as well as preventative maintenance regime.

[40] In line with the IEDD team categories and roles provided in Chapter 3 of these Standards.

This approach should account for the natural wear and tear of IEDD materiel requiring maintenance, repair and replacement during both normal and high tempo operational periods.

The scale of equipment holdings, spare parts and ancillaries must be managed so that a sufficient scale of holdings is maintained to facilitate breakages and equipment being non—operational due to preventative maintenance or upgrade works.

In terms of technical maintenance of IEDD equipment it will be required to plan for and have available the necessary technicians, equipment support and materiel to maintain, sustain, repair and upgrade if necessary all IEDD equipment required to sustain the IEDD capability. Broadly this can be broken down into the following areas:

- General IEDD equipment support;
- EOD ROV support to the electronics, hydraulics, mechatronics, weapons, optical systems and software along with all other technical aspects of the ROV in service;
- Counter RCIED equipment.

5.3 Training Equipment

The IEDD organization must ensure that all IEDD teams to be deployed are trained, practiced and competent on the full equipment scales that they are to deploy with into an IED operational environment. For this reason, training equipment in line with that set out in the appendices outlined in section 5.1 are to be available for all team members, at all levels.

Inert training aides should reflect the explosive ordnance hazard in the area of operations the team is expected to operate within, along with inert training aides for the explosive stores they will operate with.

Strict rules and procedures are to be set out by the designated IEDD authority and implemented by the IEDD organization in relation to safe storage, handling, use and disposal of all live and inert EO natures.

5.4 Protective Equipment

It is the responsibility of the IEDD organization undertaking IEDD to ensure that its personnel utilize the appropriate level of IEDD protective equipment in line with the requirements set out by the designated IEDD authority and these Standards.

The designated IEDD authority should state the level of IEDD PPE to be worn by IEDD operators when undertaking certain IEDD tasks. This may, for example, state the protection levels outlined in IMAS 10.30 and the associated references therein or in

relevant national standards[41]. PPE requirements should be threat driven in line with the threat assessment for the area of operations considering also the wider security requirements for the mission area.

The designated IEDD authority should always consider the protection provided by PPE to IEDD operators to be a "last resort" protective measure against the blast, fragmentation and thermal effects of IEDs. Such last resort protective measures should be in place after all training, procedural and threat assessment hazard control measures have been implemented to mitigate the risk to an acceptable level.

The greatest control measure against the hazardous effects of IEDs is stand-off and for this reason remote neutralization[42] action against IEDs is always the preferred Render Safe Procedure (RSP). In most cases, such remote neutralization actions are best achieved through IEDD ROV technologies.

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5.5 External Support IEDD Equipment

External IEDD support refers to that support which is non-organic to the IEDD team and needs to be provided from other elements. This support typically includes communications, medical, security, transport, and specialist search assets and situational awareness support. External support needs to have all the equipment, tools, spares and ancillary consumable items that are required to maintain, sustain, upgrade and repair all the items of equipment that are deployed with in support of the IEDD team(s).

During the initial IEDD planning process, it is essential that the United Nations entity, designated IEDD authority or IEDD organization undertaking it, assess and identify all IEDD support requirements and include them into the statement of requirements, including the levels, standards and type of such support.

It is also important during on-going IEDD activities that changes in the IED threat are monitored to identify impact on required IEDD support and this is then communicated and coordinated with the respective IEDD Organization.

[41] For example, in line with US National Institute of Justice (NIJ) standards or other relevant internationally defined standard..

[42] Rendering safe of IEDs through the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components to prevent an unacceptable functioning of the device, with an emphasis on preventing the device functioning.

5.6 Counter RCIED Equipment

5.6.1 RCIED Mitigation Responsibilities

When the IED threat assessment has identified a Radio Controlled (RC) threat, there will be a need for the IEDD Organization undertaking IEDD activities to consider the deployment of an appropriate electronic counter measure (ECM) capability or an acceptable threat mitigation alternative as agreed with the designated IEDD authority. This capability will be informed by the designated IEDD authority or other suitable organization or agency with an understanding of the prevailing and potential pending RCIED threat.

ECM requirements will initially be provided in the statement of user requirements and updated by the IEDD Organization from the designated IEDD authority as the threat evolves. It is the responsibility of the IEDD Organization to fulfil the ECM requirements in line with the contract in whatever manner they choose to do so e.g. through an organic capability or through a third-party contractor.

In the case of ECM support, this may be organic to the IEDD team and deployed by the team without additional support or it may be a specialist asset requiring specialist support personnel to deploy it. Specialist support may be required outside the capabilities of an IEDD team to ensure the ECM assets remains capable of mitigating the assessed RCIED threat.

5.6.2 Counter RCIED Equipment Maintenance and Sustainment

When the designated IEDD authority has assessed the requirement for ECM capability to be necessary for an IEDD organization operating in a given area of operations, a number of issues need to be considered and accounted for to sustain this capability.

Such capabilities go far beyond the physical hardware and the type of counter RCIED assets to be deployed. Deconfliction between other IEDD operations and security / military elements operating ECM assets and communications systems is necessary to ensure harmonization operation of all such assets and avoid communications and ECM asset ‘fratricide’.

Depending on the type of ECM assets deployed, RCIED support will require the necessary technical expertise in terms of personnel along with the equipment support materiel to maintain and sustain the capability, such as:

- Hardware spares;
- Test equipment;
- Workshop and tools;
- IT support of hardware, firmware and software to load, repair, maintain and upgrade the equipment and threat fills.

Chapter 6: IED Clearance

Chapter 6

IED Clearance

6.1 Introduction

IED clearance refers to tasks or actions to ensure the removal and/or the destruction of all IED hazards from a specified area to an agreed standard. IED disposal is the collective term referring to the following EOD procedures, intended to result in the final elimination of an IED; detection, location, access, identification, evaluation, hazard mitigation, rendering safe, component recording and recovery, and final disposal.

Depending on the priorities and required land use specified by the designated IEDD authority, these operations may involve surface and sub-surface clearance. Aspects of site organization used for Battle Area Clearance (BAC)[43] and landmine clearance may be applied during IED clearance operations with appropriate amendments for the differences and complexities of the IED hazards. This decision shall be taken based on a field risk assessment and a complete Explosive Ordnance (EO) threat assessment of the area of operations. It is expected that when IEDs are encountered, all types of EO can be expected to be found during IEDD clearance operations.

The boundaries of the area to be cleared and the expected IED contamination shall be determined by the designated IEDD authority. This should be conducted in accordance with the procedures described in Chapter 2. The IEDD organization is responsible for conducting a continuous IED threat assessment to determine the types of IEDs, the tactics and methods of their users as well as all EO threats in the area of operations. This assessment is essential to establish trends and emerging threats and to inform all IEDD organizations accordingly.

The priorities provided by the designated IEDD authority for clearance operations in support of development / stabilization projects (e.g. road construction etc.) may specify an exact area to be cleared. Different depths of clearance may be specified for different sub-areas depending on the IED threat assessment and the future land use. The area outside of these boundaries may still be contaminated. However, for area clearance tasks, the extent of the area to be cleared may not be possible to be established at the start of the task but may be identified as the task progresses. As such, the priorities for clearance should be determined by the impact on the local community and its needs, balanced against national priorities set by the designated IEDD authority. Finally, this chapter intends to highlight considerations for and to provide guidance and a common framework for the planning and conduct of IEDD operations. The specifics of IEDs found in various theatres will not be covered.

[43] IMAS 9.11

6.2 Quality Assurance in IED Clearance.

6.2.1 Quality Assurance

The quality assurance requirements for IED clearance depend on threat assessment for the IED clearance being undertaken and is related to the level of assurance that is required. Mine action QA practices may be used when appropriate as in the case of open area clearance operations. The quality requirements for infrastructure and urban space clearance tasks are considerably more challenging owing to the complex nature of the terrain and environment being cleared. Such quality requirements expected of an IEDD organization need to be clarified with the designated IEDD authority. The quality requirements expected with mobility protection and IED incident response tasks will typically involve the clearance of an identified IED hazard or clearance of a specified point or bounded geographical location to a set standard making the task somewhat clearer. In any case that the quality assessment requirements for IED clearance is unclear, liaison with the designated IEDD authority must be sought to clarify the issue. A scene threat assessment, factoring humanitarian concerns and clearance resources shall be performed to decide on concurrent or sequential surface and subsurface clearance. Broadly speaking there is a difference between the requirements for IEDs which are surface laid or emplaced without concealment and those which are concealed by being buried or secreted within urban and infrastructure locations[44]. The key difference between IEDs which are unconcealed and concealed is that concealed IEDs are not visible and typically require detection procedures to determine their location, while unconcealed typically do not.

- **Unconcealed IED Clearance** usually relies on visual search to locate them, although there may be instances where detectors or other means such as explosive detection dogs (EDD) may be used to aid in the investigation of areas, earth mounds or other suspected areas with limited access. Recording of searches, EO types and locations of items found is important and may assist in determining the details of any following sub-surface search.
- **Concealed IED Clearance** can use various detection methods to locate them followed by access techniques to allow their disposal. All located EO and their hazardous components are removed in accordance with the requirements of the tasking authority.[45] The clearance of all EO and more particularly IEDs in the concerned area to the specified standard should be achieved ensuring:

[44] This concept is similar to the clearance of surface and subsurface ERW and mines.

[45] A designated entity which provides operational control, planning, and administrative services related to a IEDD organization that is undertaking IEDD operations in a designated geographical area of responsibility. These cells receive notification of IEDD incidents, provide scheduling and control of IEDD teams and coordinate the completion of incident reports for onward passage to the designated IEDD authority

- Use of IEDD organizations accredited for IED clearance with material, technical capabilities, support and staff having appropriate levels of IEDD qualification and competencies (see chapter 3);
- Monitoring the clearance organization and its sub-units;
- Conducting a process of post-clearance inspection of cleared land.

6.2.2 Clearance Standard

The clearance standard to be achieved shall be specified by the designated IEDD authority. This standard should be developed through threat assessments, or from other reliable information which establishes the assessed depth of IED hazards or other information in relation to where and how IEDs may be concealed in the area. This should then be coupled with post clearance use requirements.

In the absence of reliable information on IED concealment, a default standard for clearance should be established by the tasking authority in agreement with the designated IEDD authority. Specifying clearance standards will depend on intended post clearance use, the likely IED hazards in the area to be cleared and other environmental factors.

IEDs may be on the surface of the ground, in which case, the standard specified may call for the removal and or destruction only of surface IED hazards. While concealed IEDs often have complicating factors that need to be considered, such as:

- Clearance in urban areas may require the removal of large quantities of debris before the start of the clearance process. IEDs originally placed or concealed within urban structures which subsequently collapse as well as the deliberate emplacement of IEDs in the rubble of collapsed buildings should both be considered.
- In situations where large bombs and missiles or heavy caliber projectiles have been used, deep penetrations may have resulted which also may have been used to emplace IEDs or simply contribute to the mixed contamination of the area being cleared.
- Shifting sands in desert areas or coastal areas as well as IEDs being moved along river banks and wash plains through erosion may require clearance to a depth of several meters to clear IEDs which were originally on or close to the surface.

The required clearance standards should be adjusted as clearance work progresses. Any change shall be agreed between the designated IEDD authority and the IEDD organization conducting, and shall be formally recorded.

6.3 Planning Considerations for IED Clearance Operations

The generation of IEDD capabilities at national, area and scene level is described in Chapter 2. The minimum standards of competencies for IEDD personnel are described in Chapter 3. The training of IEDD operators with the required KSA to qualify them as

competent must be completed with an accurate IED threat picture related to the IED threat environment where they will operate in. The IEDD operators KSA must allow them to:

- Make a full threat assessment of the area in which they are to operate;
- Be aware of both standard and special hazards[46] on scene both associated with the IED and other secondary hazards[47] present on scene, so appropriate precautions can be taken;
- Determine the most appropriate Render Safe Procedure (RSP) considering the type of explosives and construction encountered;
- Identify the components of an IED so that after completion of a RSP the operator can identify how the device was intended to function and to assist in the collection of components and information;
- Provide technical advice.

6.4 Safety Considerations during IED Clearance

IEDD is an inherently dangerous activity. Safety during IEDD tasks shall be the principal consideration to an IEDD Operator. The risks are to be minimized by applying IEDD philosophy and principles at all times in conjunction with the application of IEDD best practices which must include IEDD mandatory actions[48] required of IEDD operators. The 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.

6.4.1 General Safety Considerations

The IEDD philosophy and principles are always applicable during IED clearance.[49] The following areas of safety demand constant consideration and review:

- **Public Safety**: While it should be the responsibility of law enforcement / security forces to evacuate danger areas and initiate cordons[50], the IEDD operator shall advise on any necessary modification to protective measures taken. Positive IEDD action shall not be carried out until cordoning and evacuation is complete and IEDD action is to stop if any person enters the danger area. The following should be considered:

[46] Special hazards refer to non-standard hazards associated with an IED in terms of blast, fragmentation, thermal, ground shock or bubble pulse effects.
[47] Secondary hazards are other hazards present at the scene of an EOD task which are not directly a consequence of the EO item but a hazard due to its proximity to the EO item within the danger area of the EO item. Examples of secondary hazards include fuel sources, dangerous chemical or radiological substances, electrical supplies, glass fronted buildings, unstable buildings, rubble or other ground as well as biological hazards.
[48] As determined by the designated IEDD authority.
[49] See Chapter 1.
[50] Clarity in relation to responsibilities for cordon and evacuation of IED task sites must be captured in the IEDD policy of the designated IEDD authority for use and reference by the IEDD organizations.

- Evacuation routes should not bring evacuees into the assessed danger area of an IED; see IED safety distances for more information;
- Building exits near to the IED should be blocked and evacuation should be by alternative exits if practicable.

- **Cordon Safety:** A cordon should be established, in line with the assessed IED danger area, and placed under the responsibility of the incident commander or clearance site manager. Cordon personnel are to be positioned at appropriate distances outside of the assessed IED danger area, around the IED to ensure that personnel cannot inadvertently stray into the IED danger area. The cordon should remain in place until the IED task is completed and all components have been collected. As the task progresses and the IEDD operator completes their render safe procedure, more information may come to light on the specific construction of an IED. An IEDD operator may require the cordon to be increased or advise the incident commander or clearance site manager on how the cordon size can be progressively reduced as such information comes to light. Before any positive IEDD action is carried out, the IEDD Operator shall ensure that cordon personnel are warned to stay under cover. This will normally be achieved through direct briefing and communication with the incident commander or clearance site manager.
- **IEDD Team Safety**: The Clearance Command Post or Incident Control Point (ICP) shall be located, wherever possible, outside the danger area of a suspect IED. Factors to consider when applying minimum IED safety distances are provided in the next paragraph. IEDD intervention vehicles should be positioned in such a way as to afford the maximum protective cover to the IEDD team. All team personnel shall be behind or under protective hard cover during positive IEDD actions. For surface clearance investigation and for sub-surface clearance involving excavation of IEDs, a safety distance between adjacent clearance teams must be determined and applied, the principle of the minimum personnel exposed to risk is paramount.

6.4.2 IED Safety Distances

It is the IEDD operator's responsibility to advise the incident commander or clearance site manager on the level of evacuation required for the task to be completed safely. There will often be a degree of uncertainty in the initial stages of a task on the exact makeup of the IED. General factors that an IEDD operator should consider include:

- Estimated Net Explosive Quantity (NEQ) of the IED, for assessing blast and fragmentation safety distances;
- Type of EO/IED and its main charge e.g. military munitions which are designed to fragment pose a greater fragmentation hazard compared to uncased explosives;
- Proximity of items of EO or other IED to assess possibility of sympathetic detonation;
- Presence of secondary hazards not directly a consequence of the IED but a hazard due to its proximity within the danger area of the IED. Examples include fuel sources,

dangerous chemical or radiological substances, electrical supplies, glass fronted buildings, unstable buildings, rubble or other ground as well as biological hazards.

- Local environmental factors such as the nature of the soil, nature of the surroundings where the IED is located, weather conditions (cloud ceiling height), and other relevant factors.

6.4.2.1 IED Task Cordons

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. The cordon should remain in place until the IEDD task is completed, all components have been recorded and/or recovered and declared safe by the IEDD team leader. Cordon personnel should be aware that they are sometimes vulnerable to attacks by aggressors with direct and indirect fire weapons as well as by suicide IEDs. All cordon personnel should therefore maintain continual situational awareness. All cordon and evacuation distances need to be based on the tactical situation and the decision of the IEDD operator, grounded on thorough risk assessment.

6.4.2.2 Projected IED Safety Distances

Special considerations are required for IED safety distances involving improvised projected mortars, rocket assisted mortars and free flight rockets. The priority for evacuation in tasks involving projected IEDs is: impact zone, flight path area, and then baseplate. Some improvised free flight rockets have been based on air-to-ground and surface-to-air military munitions which have a theoretical maximum range of many kilometers. In these circumstances, the appropriate authority should be informed of the general direction of the hazard in order that security forces in the affected area may be warned. It is unlikely that evacuation will take place over such large areas and personnel should be advised to remain within buildings until the hazard is removed. The general procedure for cordoning and evacuation due to a projected IED hazard are to be based on the technical assessment of the IEDD operator who shall consider the following hazard areas in determining cordon safety distances:

- Hazard area around the baseplate or launch vehicle;
- Fight path hazard area;
- Assessed impact zone hazard area.

6.5 Recommended IEDD Actions

All IEDD actions must be in line with IEDD philosophy and principles as provided in Chapter 1 of these Standards. There are certain IEDD actions which are best practice in supporting safe, effective and efficient IEDD activity and in reducing the hazards associated with IEDD. In many cases the designated IEDD authority will insist on the use of these IEDD actions by all IEDD personnel and refer to them as “mandatory IEDD actions”. Mandatory IEDD actions are different from but support IEDD fundamentals in

terms of IEDD philosophy and principles. These Standards consider the practices and actions discussed in IEDD fundamentals to be mandatory during IED clearance.

These Standards will not provide specific mandatory IEDD actions as these are determined by the prevailing IED threat picture, and the capabilities deployed. However, the designated IEDD authority shall set out any mandatory IEDD actions it requires IEDD organizations to observe.

The following are recommended IEDD actions to be carried out by all IEDD operators. The IED Team leader/supervisor has the authority to decide not to apply these actions if the risk of not doing these action is deemed acceptable based on an assessment:

- The most appropriate personal protective equipment (PPE) should be worn on all manual approaches;
- If required by the IED threat assessment, ECM equipment should cover all manual approaches;
- Positive IEDD action should not be carried out until cordon and evacuation measures have been completed.

Since IEDD tactics and methods are of a sensitive security classification, the details of such tactics and methods are not provided in these standards. Such information can be utilized by IED aggressors to counter these tactics and methods and exploit this knowledge to design IEDs that will target IEDD organizations and operator personnel. Exact IEDD tactics and methods are at the discretion of the IEDD organization and must be in line with IEDD principles and philosophy. These IEDD methods must be, at minimum:

- Safe, effective and efficient leading to the disposal of an IED;
- In line with the mission mandate and or the SOFA or SOMA, where applicable in United Nations mission settings[51];
- In line with the terms of reference from the designated IEDD authority under which the IEDD organization operates.

Under the principle of “need to share” IEDD organizations are encouraged to share best practices and lessons learned related to IEDD tactics and methods to the benefit of all operating actors within an IED threat environment, bearing in mind the sensitive nature of this information.

[51] Status of Forces Agreements (SOFAs) and Status Of Mission Agreements (SOMAs) are bilateral or multilateral treaties that define the legal position of military forces and civilian personnel deployed by one or more states or by an international organization in the territory of another state with the latter's consent.

6.6 Open Area, Infrastructure and Urban Space Clearance

6.6.1 Composition of IEDD Operations

The composition of the IEDD operations will be in accordance with the IEDD team structures set in Chapter 3.

- For IED area clearance tasks the operation should be composed of basic IEDD team(s) and at least one intermediate IEDD team equipment set (with remote means, full disruptor and digital x-ray capabilities) available on short notice, placed under the command and control of an IEDD Supervisor.. All positive actions performed on IEDs are to be approved by the IEDD supervisor in charge or if otherwise stated, in the prevailing operating procedures.
- For IED infrastructure and urban space clearance task the operation should be composed of intermediate IEDD team(s), placed under the command and control of an IEDD Supervisor. The IEDD supervisor will have no more than an agreed number of IEDD teams under their control. All positive actions performed on IEDs are to be approved by the IEDD supervisor in charge or if otherwise stated so in the prevailing operating procedures
- An IEDD operation must always include medical support and at least two means of external communication along with appropriate internal communication means. Additional IEDD support may include as required search, security, transport and ECM[52] support.

6.6.2 Considerations for Open Area, Infrastructure and Urban Space Clearance

- IED open area, infrastructure and urban space clearance tasks shall involve the planning, systematic location and disposal of all IEDs found in a given area. It involves the clearance of all IEDs and their component parts which would otherwise pose a significant threat to personnel.

- The order in which locations and sites within an area are to be cleared must be established and / or agreed between the designated IEDD authority and the conducting IEDD organization. In this context, the agreement should specify the limits of the area (including the infrastructure and urban spaces) to be cleared, the IED threat picture, the clearance standard, the environment and the requirements for monitoring and inspection.

- An IED clearance plan is required for each area to be cleared which shall include the purpose and clearance methodology to facilitate an effective and efficient response to the threat. The clearance plan shall be prepared by the IEDD organization based on the IED threat assessment and the clearance requirements provided by the

[52] See paragraph 5.6 of this chapter for ECM considerations.

designated IEDD authority and after conducting a site reconnaissance which shall involve a ground appreciation and IED threat assessment. Any subsequent amendments to the clearance plan shall be approved by designated IEDD authority.

- In some circumstances, an IEDD organization may be tasked to operate in an area with a mandate to identify its own clearance tasks based on general priorities provided by the designated IEDD authority. The IEDD organization should in this case produce a clearance plan that indicates the area to be cleared and the intended clearance depth.

- During the area level planning, determining the season of the year that the IEDs were emplaced can be important as it may affect the depth of IED contamination. For example, wet season with soft soil may have been emplaced at a greater depth compared to winter with frozen soils, etc.

- Worksite preparation may allow careful vegetation cutting and removal, and movement over a site following surface clearance to enable marking and preparation of clearance 'lanes' or 'boxes' for subsequent sub-surface clearance. Sub-surface checks should be made before driving stakes or markers in to the ground.

- Clearance search patterns need to be carefully planned and coordinated to ensure complete coverage of an area. Lane marking, may be used but the speed of the IED clearance operations should be balanced against productivity. For example:
  - During IED area clearance, areas may be divided for sub-surface clearance into boxes (for example 25m x 25m, or 50m x 50m), and different basic IEDD teams allocated each box with adequate spacing between teams.
  - Infrastructure and urban space clearance can delineate a clearance box using buildings and / or streets as boundaries.
  - The boundaries of the 'box' might be marked by stakes and/or tape/string, then the internal lanes would be marked and moved quickly using tight strings, with an aim of maintaining control and ensuring full area coverage but also minimizing the time spent on marking[53].

- According to the IED threat assessment, all unoccupied buildings/infrastructure may be considered as possibly contaminated with IEDs. Attention should be given to the following non-exhaustive list of considerations:
  - Debris may need to be checked and removed;
  - Searching of water sewage systems and culverts running under roads;
  - Examination of electrical circuits inside buildings;
  - Clearance of land with thick and / or high vegetation;
  - Corpses in various states of decomposition possibly booby-trapped;

[53] Reference to IMAS 08.40 Marking of hazards as an example.

- Finds of IED components, parts thereof and association equipment including HME laboratories.

- The construction of protective works to contain the effects of an (accidental) initiation, should be considered balanced against the likelihood, consequences and benefit as hazard control measure in the local environment.

- Clearance operations conducted in populated areas require thorough liaison with the local authorities to ensure the safety of the local populace and prevent the population from entering the IED danger area. Procedures shall be developed for avoiding or controlling the entry personnel and traffic into hazardous area.

- A communication / information campaign coordinated with the local authorities should be considered, coordinated at the level of the designated IEDD authority and possibly implemented by the IEDD Organization in cooperation with relevant local entities.

- **Safety Brief**. Personnel participating in IED clearance tasks, including support personnel, must be briefed daily on essential safety and hazard information related to the ongoing activities. Details covered in such safety briefs may include command authority, relevant locations, emergency response in the event of an accident, medical support, hazard area, emergency radio communication and prohibitions. Prior to the start of the working day, the IEDD supervisor in charge of a working area shall give a daily brief to the IEDD teams which shall include the daily clearance plan and associated safety measures.

- **Reporting**. The location of all detected IEDs are to be recorded appropriately, e.g. in a daily work sheet for future reference, which shall ensure a more accurate and defined representation of IED contamination and work progress. Reporting will also assist in maintaining an accurate IED threat picture. The reporting system will be in accordance with directives from the designated IEDD authority found in the IEDD policy. Further information in relation to reporting is provided in Chapter 8 on Information Management.

6.6.3 IED Clearance Site Organization.

The following outlines a practical and beneficial way to organize a clearance site in support of safe, effective and efficient IEDD, in accordance with best practice. Designated areas shall be cleared of EO hazards in accordance with the clearance plan, which include details of the clearance site being worked within. A clearance site is composed of working areas and logistic areas. It is paramount that the location of all designated areas at the site is appropriately marked and is known by all personnel operating there. As an aide to illustrate the generic set-up of an IED clearance site figure 6-1 is provided as an example.

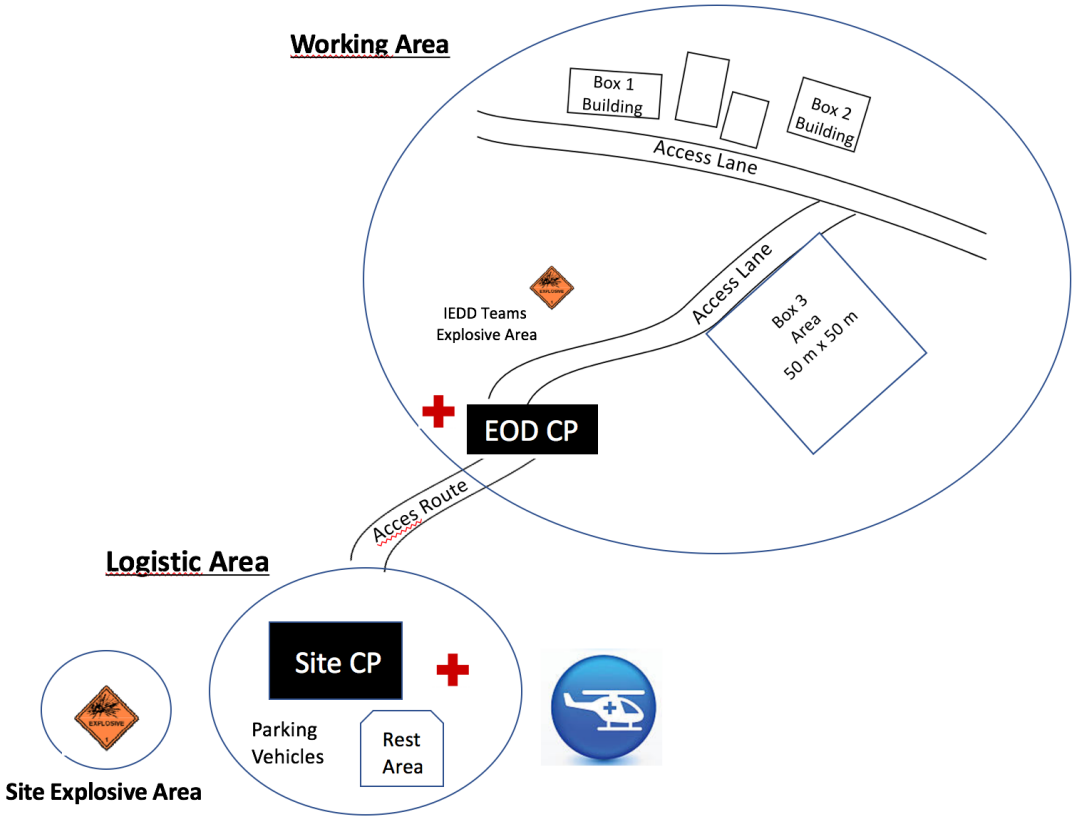

Figure 6-1: Generic IED clearance site organization

- **Logistic Area:** Logistic Areas are normally located outside the Hazardous Area (Fragmentation hazard zone) in support of clearance operations. Logistics Areas may be composed of: Operation room with the clearance site manager and his staff, field accommodation for the personnel, Explosive Detection Dog (EDD) kennel, parking for vehicles, communications shelter, equipment and inert items removed during clearance at the Site, etc.

- **Working Area:** A Working Area is where IEDD activities are conducted at the site and is within the Hazardous Area. A clearance site may have one or more Working Areas divided into clearance boxes or/and clearance lanes. The distance between the IEDD teams at work should be determined by the IEDD supervisor based on a risk

assessment (normally not less than 25 meters). All positive actions performed on IEDs are to be approved by the IEDD supervisor in charge or if otherwise stated so in the prevailing operating procedures. Prior to positive IEDD action, an adjustment of the safety perimeter must be considered and suspension of other activities on the site must be considered, with non-essential personnel having frontal and overhead protection.

- **Control Points:** We define a site control point (CP) and an EOD CP as:
    - Site CP is the place located normally in the logistic area from where the incident commander or site manager manages the overall operations, ongoing and planned. The site CP also acts as an administration and briefing area and is the point at which all visitors should arrive.
    - EOD CP is a control point from which the IEDD supervisor can control the operation. There is a CP per working area from which the IEDD supervisor can control the teams at work in clearance boxes or lanes under their responsibility. EOD CP will be situated at least 100 meters away from IEDD operators in the working area and will have vehicle access. This distance can be adapted in function of the environment, e.g. protection from natural cover, and the hazardous safety distance related to the EO nature(s) encountered.
- **Vehicle Park:** This should be close to the site CP and large enough to accommodate the IEDD teams' vehicles, ambulance, security vehicles and visitors' vehicles. All vehicles should be positioned in the park so they do not have to maneuver to depart in the event of an emergency.
- **Explosives Area:** When not in use all explosives for the clearance activities will be stored in their logistic cases in the intervention vehicles or in a secure and marked area at a safe distance determined based on the national regulations (At least 50 m away from all other areas).
- **Rest Areas:** These are to be established at least one hundred meters away from the working area. Rest areas are to be used by clearance personnel during their breaks. Sufficient space should be foreseen for this. This rest area will be collocated with the vehicle park.
- **Demolition Area:** A location cleared for the disposal, by explosive demolition, of unexploded ordnance. The demolition area shall be designated at a set distance from the working area to avoid any fragmentation from falling into cleared areas where quality control or sampling may be planned.
  NOTE: For basic IEDD teams the primary means of IEDD is to destroy in situ. The movement of IEDs is a potential course of action following appropriate neutralization

in line with the assessed threat and the training of the IEDD operators involved. For this reason, not all IEDD work sites will require a demolition area.

- **Sentry Points:** Security in coordination with incident commander or site manager will setup the necessary sentry points.

- **Access Routes:** All access routes must be clearly marked and be a minimum of three meters wide or as required to allow the entering and exiting of expected vehicles that will be on scene.

- **Stores and Equipment Area:** Location where all equipment is securely stored which is usually part of, or adjacent to, the site CP.

- **Medical Area:** A marked area on site where a qualified medic shall be located during IED clearance operations and where medical treatment shall be administered to a casualty(s) in the event of an accident. The ambulance may be located at the medical area and the medic shall ensure sufficient medical equipment is available at all times. The medical area may be co-located with the site CP or other administration areas with the chosen site ideally being flat, dry and shaded. Depending on the site medical evacuation plan one or more medical areas may be required e.g. a medic may be situated at one medical area and casualties may be recovered to another medical area for treatment to which the medic then moves. The medic shall however, always be situated in reach of all medical areas in which to give medical treatment to casualties within five minutes of being alerted of an accident. A suitable helicopter landing site for medical evacuation may also be required according to the prevailing medical support guidelines.

- **Metal Collection Pit:** Pertinent metal located during clearance shall be placed in the metal collection areas which should be situated at a convenient location at the clearance site. To facilitate quality control, metal collection pits should not be located in areas cleared that day and shall be regularly checked by the IEDD Supervisor and/or appointed EOD expert to ensure that all items contained therein are free from explosives (FFE).

- **EO Scrap Area:** All cleared EO located at the site which is FFE, shall be placed in the EO scrap area. A qualified EOD operator shall ensure that all items contained therein are FFE. The EO scrap area is to be separated from other administration areas and should be situated outside the working area. The dimensions of the area may vary according to the clearance site, to prevent spillage, special approved containers also can be used for this purpose. All EO removed during clearance which is FFE shall be placed within that area unless removed to another approved location for storage or disposal.

- **Latrine:** To prevent people inadvertently straying into hazardous areas, and for hygiene purposes, a latrine should be designated for each clearance area. Latrines should be in the vicinity of the rest area or the site CP and shall be adequate for the number of personnel on the clearance site.

- **Detector / Locater Test Area:** Each clearance site shall have a testing area to ascertain that the detectors / locators are serviceable, calibrated to the manufacturer's standard and capable of locating the pertinent target at the required clearance depth, prior to operational deployment.

- **Control lane:** There may be a requirement to identify a route through a clear area to the working area or other designated areas, e.g. direct the movement of personnel or vehicles. White topped or unpainted posts or rocks should be used to mark this.

- **Access Lane:** A marked passage leading through a hazardous area that has been cleared to provide safe movement to a required point or area.

6.7 IEDD Mobility Protection and Incident Response Tasks

6.7.1 IEDD Protection Tasks

An IEDD Team may be deployed to intervene in tasks that constitute grave, immediate or serious threats to life in the case of mobility protection and incident response tasks. Such tasks are to be prioritized in line with the terms of reference under which an IEDD organization operates.

6.7.2 Composition of the IEDD Team

The composition of the IEDD team will be in accordance with the IEDD Team Structures outlined in Chapter 3. For an IED Incident Response task, the team will be an advanced IEDD team which can operate in isolation from other IEDD teams. In addition, an advanced IEDD Team will always include medical support and at least two means of external communication along with appropriate internal communication means. Additional IEDD support may include as required search, security, transport and ECM support.

6.7.3 Actions on Arrival at Task Location.

On arrival at the task location the IEDD operator shall ensure that the EOD CP location selected by the Incident Commander is safe:

- A cordon must be established and evacuation of personnel must be conducted to a minimum distance specified at paragraph 6.4.2;
- Consideration should be made so that the EOD CP is free from any hazards.
- Arrival drills in accordance with organizational SOPs should be conducted.

6.8 IEDD Task Appreciation

Every IED task is unique therefore the points outlined in this chapter are guiding principles and present a common framework that can be applied to any IED situation. The IEDD operator needs to make an accurate and logical threat assessment of the situation before taking any positive action.

6.8.1 Aim

From arrival, the IEDD operator must remain continually aware of the aim of the task.

6.8.2 Evaluating Local Factors.

Numerous factors will contribute to the development and continual re-evaluation of an IEDD RSP. As each factor is considered, the IEDD operator must qualify it by asking the question “so what?”. The answers can be obtained through information obtained from observation, information provided to them, previous experience, current assessed IED threat picture, advice from the IEDD supervisor or questioning of the incident commander or clearance site manager or other witnesses. The main factors to be considered are:

- Safety;
- IED aggressor’s intent, capability and opportunity;
- Target;
- Time;
- Intelligence;
- Suspect Device;
- Environment and Terrain.

6.8.3 Establish Available Courses of Action.

The IEDD operator must consider the possible courses of action of the IED aggressor to plan and evaluate the different options for his own courses of action. It is important to consider what is the most dangerous outcome, the best outcome, and the most likely outcome and to mitigate the hazards associated with each appropriately.

6.8.4 IEDD Clearance Plan

An IEDD clearance plan is the product of a task appreciation in which safe, effective and efficient courses of action involving IEDD procedures are developed in line with the assessed IED threat. All IEDD plans must be in line with the IEDD philosophy and principles and take account of stated mandatory IEDD actions or alternatively be justified under exemptions to stated mandatory IEDD actions.

Ideally IEDD plans should include more than one viable course of action (COA) with a priority given to their execution and be mutually supporting so that if the first COA is unsuccessful, then the second can be implemented and so on until the IED is disposed of. The IEDD plan should consider what is the most dangerous outcome, the best outcome and the most likely outcome and mitigate the associated hazards of each appropriately.

The IEDD plan will be the basis for the IED RSP. An IEDD plan must be logically derived, and be consistent with the threat assessment.

6.8.5 Communication of IEDD Clearance Plan

Effective communications are of paramount importance for two main reasons:

- All personnel on scene are aware and understand what is to happen and their actions, responsibilities and roles within;
- As a control measure to enhance safety and coordination during task progress.

After finalization, the complete plan should be discussed with all IEDD team member(s) and, if necessary, with the IEDD supervisor. The adage that ‘two heads are better than one’ is particularly relevant in the development of an IEDD plan.

The IEDD team leader must brief on the proposed plan and the actions, responsibilities and roles within. The incident commander or clearance site manager and other representatives should ideally be fully briefed on what their actions are to be at each stage of the plan and what the possible outcome(s) of the plan could be.

Attention should be given to deconflict communications from other specific equipment (Detection, ECM, etc.) to be used as part of the RSP. For ongoing communication, the IEDD operator must ensure that communication is maintained with the incident commander or clearance site manager or IEDD supervisor throughout every phase of the task.

6.8.6 Execution of the Render Safe Procedure.

The RSP is the execution of the finalized IEDD plan. The IEDD operator shall continually re-evaluate the situation and their plan throughout the task.

6.8.7 Post IEDD Task Activities

On completion of the RSP the IEDD Operator shall:

- Declare the task complete to the incident commander or clearance site manager;
- Debrief the supporting agencies where applicable;
- Maintain the cordon, although this may be reduced after consultation with the concerned agencies in line with residual hazards;
- Inform the tasking authority of task completion details;
- Prior to the handing over or retention of any IED components for further technical exploitation, an advanced IEDD operator must assess it and declare it safe to handle and move;
- Complete the IED report and forward it with supporting photographs and x-rays, where applicable, to the tasking authority. IED reporting is covered in Chapter 8.

Chapter 7: IED Risk Education

Chapter 7

IED Risk Education

7.1 What is IED Risk Education?

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. These activities include information exchange with at-risk communities, communication of safety messages to target groups, and support for community risk management.

IED threat may be static (for example laid to prevent or deny use of area or property), or dynamic, as generally used by non-state armed groups against governmental authorities, security and/or peacekeeping forces, or indiscriminately against civilians. Mitigating the IED threat in each situation requires a specific approach and IED risk education messaging may vary from situation to situation.

The dynamic nature of the IED threat is a key characteristic differentiating IED RE from traditional mine risk education. The diversity of construction, emplacement of devices and their use in asymmetric contexts render traditional risk education methods insufficient. It can be very difficult to define and educate people on specific IEDs in a similar fashion to landmines as IEDs can be made to look like anything, including innocuous household items. IED risk education should ensure that men, women, boys and girlsin the affected communities are aware of the risks posed by IEDs and are encouraged to behave in a way that reduces the risk to people, property, and the environment. The objective is to reduce the risk to a level where people can live safely, and to recreate an environment where economic and social development can occur without being hindered or constrained by IED contamination and associated threats.

IED risk education should be preceded by a risk assessment, a gender and diversity context analysis and isan integral part of operational and task level planning and implementation. It may be a stand-alone activity, but where possible, should be implemented in support of and in conjunction with other IED threat mitigation and mine action related activities. Programmes and projects may be implemented in situations of emergency, transition, or development. If done correctly, successful IED RE campaigns may discourage the future use of IEDs by branding their use as indiscriminate weapons. IED RE messages should however not be perceived as being politically motivated or lead to the perception that the IED RE organization is part of the conflict. IED RE can also support information gathering and contribute to assessing impact of IED hazard, which may vary depending on location and type of device(s) (technical and tactical categorization).

In emergencies when IEDD is not possible or has not begun or, as is becoming increasingly more common, in countries and areas with residual contamination, IED RE may form part of a school curriculum, and not be linked to other aspects of IED threat mitigation or mine action. It may be managed and monitored by educational authorities, independently of a designated IEDD authority mitigation or mine action.

7.2 Do No Harm Approach

A “Do No Harm” approach needs to be central to all aspects of the design and delivery of an IED RE programme and avoid unintended consequences as a result of the delivery of IED RE program, such as:

- Exposing the local populace to being harmed;
- Educating those who intend to do harm;
- Spreading the production and use of IEDs;
- Increasing unnecessary fears;
- Promoting civilians to ‘clear’ IEDs themselves.

7.3 Role of IED Risk Education

IED risk education can play a significant role in IED threat mitigation, by virtue of the information exchanges with community members and the relationship built with affected communities through these activities. Community involvement plays a crucial role in IED Risk Education campaigns and in IED threat mitigation overall, including in relation to the safety and security of IEDD operations.

IED Risk Education has several components:

- **Communication of safety messages;** information and education activities that seek to minimize deaths and injuries from IEDs by raising awareness of the risk among individuals and communities and by promoting safe behavior.
- **Data should be gathered** from at-risk communities and other sources on the risks posed by explosive devices, dangerous areas, and the impact of these devices on the civilian population. Data should be used to understand better the extent of the IED threat and its impact, to identify groups at-risk and to support IED threat mitigation and other mine action elements.
- **Community liaison** facilitates information exchange between authorities, IEDD Organizations and operators, humanitarian and development organizations and bodies, and affected communities. Effective community liaison should ensure that community members are involved in IED threat mitigation. IED Risk Education may also contribute to IEDD, as well as promote community support for the process by gathering and disseminating information about local warning signs, identifying and reporting on hazardous areas and their impact on the community, informing the community about safety procedures to be used during clearance operations.

7.4 Needs, Vulnerabilities, Capacity Assessment and Information Management

Communities at risk are one of the main stakeholders of IED threat mitigation. The purpose of an RE needs assessment is to identify, analyze and prioritize the local IED risks, to assess the capacities and vulnerabilities of the men, women, boys and girls in the affected communities, and to determine the options for conducting IED RE. Efforts to strengthen community capacities for RE should be an integral part of any IED RE programme. This may include the establishment of volunteer networks and strengthening of community risk management efforts.

The process by which to gather data and assess needs should be agreed with all relevant stakeholders. The results should be shared with them, for example, through briefings to community leaders, community-based organizations, and community members. The information should also be used for design of IED RE messages, as the content may be country and area specific; i.e. threat specific.

Regular needs assessments should be coordinated by the designated IEDD authority. It should review the different needs, vulnerabilities, and expectations of the affected communities in each IED affected region (province or district). Those conducting a needs assessment should be appropriately qualified or trained and gender balanced to do so.

The data collected should determine the following:

- target groups – both social, demographic and geographical (who is affected by IEDs?) Attention should be paid, in particular, on population movements into or through areas of risk;
- information on IED hazards and affected areas (e.g. type of devices used, nature of suspected areas where such devices can be found, any markings, signs used, etc.);
  areas of work (by gathering data on where people are injured, where the risk is greatest, where risk-taking behaviour is occurring, etc.);
- messages, and subsequently the activities, according to target groups (by assessing how people are injured and how and why they take risks);
- IED Risk Education approaches and methodologies likely to induce behavioral change. Community input should be sought in assessing any existing local safety strategies;
  Channels of communication and the way target groups communicate and learn;
  institutional arrangements and partnerships for providing IED RE messages and emergency responses;

  resources available and their allocation; and
- timeframe to achieve the project or programme objective (by gathering data on the nature and extent of the IED hazard.

7.5 IED Risk Education Messages and Message Delivery

Safety messages are at the heart of any IED RE initiative. Developing and disseminating these messages and assessing their impact should be the result of a carefully planned strategy and process.

All communication in IED RE should be based on a carefully planned strategy that is targeted to specific at-risk groups and which is socially and culturally appropriate. The following elements should be included in an IED RE communication strategy:

- risk-taking behaviours to be addressed, target groups, safety messages, type of contamination
- communication channels, and means of dissemination.

Messages to be communicated depend on target audiences, the behaviour to be promoted and the factors likely to influence target audiences to adopt the desired behaviour. Messages or symbols should be culturally, linguistically, and socially appropriate. There should be positive messages, as people need to feel that they can take action and that by taking action they can improve their own and their families' lives. A message does not need to be short, but it should be clear. All messages and suggested means of delivery to be used should be tested before they are finalized. Testing should ideally be done among the target audience to ensure that messages or materials are:

- understandable,
- socially acceptable,
- relevant,
- realistic, and
- persuasive.

Common messages can include;

Preventative messages

Avoid crowded places (that may or have been targeted with IEDs);

Avoid public gatherings (that may or have been targeted with IEDs);

Do not approach suspicious and/or out of place objects (*instead of "do not touch" in other risk education lessons*);

Do not enter known IED hazard areas;

Do not enter old military positions, derelict houses or battlefields;

Report threat to authorities;

Action messages;

Report threat or event to authorities;

Immediately leave area with IED threat;

Inform others around you;

In case of IED explosion, do not approach area but leave to a safe location;

7.6 General Considerations in IED Risk Education

During the planning and implementation of IED RE, organizations should comply with the following principles and objectives in line with their mandate:

Adhere to:

- The reduction of IED tasks or IED occurrences;
- Reducing the number of casualties in an IED task;
- Improvement of victim safety awareness;
- Tailored approaches and methodologies of RE for differing at-risk groups and regions;
- Emphasis on the importance of gender considerations and diversity in both IED RE planning and implementation;
- Flexible and fluid RE methods which correspond to unique changes as well as the dynamic environment;
- Reinforce the specificity of RE in geographic region, conditions, backgrounds or other circumstances and the need to stress the “absence of the normal” and “presence of the abnormal”.

7.7 IED Risk Education in Emergency Situations or During an IEDD Task

If IED RE is done in an immediate IEDD intervention is needed, the aim is to promote safe behaviour among the largest number of civilians potentially at risk, particularly children, in the shortest possible time. For reasons of time, most of the communication will normally be one-way. The aim is to reach the greatest number of at-risk people in a few days or weeks with information about the threat posed by the explosive devices and basic safety messages. Population displacement or even movement are particular risk factors, especially in an emergency. At the end of an emergency phase, evaluation or re-assessment may be required to establish a new/different post-emergency IED RE approach.

In an emergency, messages should be general in nature. Determining the key messages in such cases depends on a variety of factors, such as the target audience and the type of IED threat in the area. Efforts should focus on raising awareness of the danger and stressing safe behaviour, such as recognition of potentially dangerous areas, which may include the following set of connected messages:

- stay on a cleared path.
- ask local people from diverse communities where it is safe and where it is dangerous.
- avoid overgrown areas, military bases and equipment.

- report explosive ordnance to a responsible person or authority.

7.8 Efficacy of IED Risk Education

Messages and message delivery should be monitored by each organization as it implements respective projects or programmes to ensure their effectiveness. A monitoring system should have been established at the planning stage. This means assessing whether messages are:

- reaching their target audiences;
- being understood and accepted; and
- being acted upon.

This, in essence, means determining if the risk education activity is creating a change in the behavior and attitudes of those impacted by the IED threat.

In determining whether there is a need for media and print materials to support IED RE, there should be consideration given to the difficulties of getting the right message to the right audience in the right language or symbol using printed materials. There may, though, be occasions when a project or programme deems it appropriate to develop printed materials (e.g. posters, leaflets, or billboards). Printed materials may, for example, be useful reminders when combined with other communication approaches.

The same or different messages and images may be used for each RE product. Adapting materials from other contexts may be inappropriate or misleading in certain circumstances and should, therefore, be carefully tested before dissemination.

As with RE messages, media and outreach materials should be tested before they are finalized. A focus group discussion or group/ individual interviews may be conducted to discuss the proposed approach. Materials should not be finalized and printed without field-testing them first in case changes need to be made. Similar to the points mentioned above about messages, materials should be checked to determine whether the designs are understandable, socially acceptable, relevant, attractive, and persuasive.

As part of a project or programme-wide monitoring system, the reaction to and trust in the means of delivery, including any printed materials, should be regularly checked. Where media and materials are resulting in the wrong message being delivered they should no longer be used until they have been effectively revised.

7.9 Integration of IED RE in School Curriculum

Integrating IED RE into the school system and curriculum is a strategy primarily developed in countries facing a widespread IED threat. It is a method to target a very large number of children, and is appropriate in countries where the national government has accepted that IEDs are a long-term or residual problem, requiring multiple and sustainable solutions.

It should also be determined whether the national or local authorities and school systems have the capacity and willingness to undertake such a programme. It may be that IED RE

is more appropriate to include as a supplementary activity in schools, rather than to integrate it in curricula.

7.10 IED RE Responsible Authority

The authorities, both at national and local level, have the primary responsibility for ensuring the safety of their constituents. They are ultimately responsible for developing and managing IED RE projects, within its national boundaries and responding to the needs and priorities of the affected communities.
Each country will also identify the most appropriate entity to develop and deliver a national IED RE programme by the means most suited to their situation. In the absence of a national entity the United Nations may assist in this matter.
With regard to IED risk education, specifically, refer to IMAS 2.10.

7.11 IED Risk Education and Prevention Violent Extremism

While traditional mine action interventions occur in post-conflict scenarios, it is becoming increasingly common that IED risk education may be required in situations subject to active asymmetric warfare. In these dynamic IED threat environments, stand-alone risk education will not be effective. Community members may be influenced by key push and pull factors, including structural motivators, individual incentives, and enabling factors, which increase their vulnerability toward engagement with violent extremist and insurgent groups. These non-state actors develop strategies that leverage these vulnerabilities in order to advance their bellicose objectives. Subsequently, prevention measures must also be designed to address these issues by offering positive alternatives. While IED risk education certainly should not attempt to address all drivers of violent conflict, risk education messaging will be exponentially more effective when linked to opportunities that not only attract and engage the audience but also create incentive for positive behavior. Although PVE in support of risk education is a relatively new approach, best practices include the following:

- Specific strategy should be unique to each situation.
- General examples of activities that will enhance RE effectiveness include vocational and technical training, economic, and inclusion opportunities.
- Key leverage points to be targeted include community, private sector, women, and youth.

Chapter 8: Information Management

Chapter 8

Information Management

8.1 Purpose

The purpose of this chapter is to describe the Information Management (IM)[54] general principles, objectives, and its importance in any IED threat environment for capturing information on identified and cleared IEDs.

8.2 Introduction

All IEDD activities use and generate information, in the form of data or knowledge that can be used or analyzed. Whether in written, verbal, graphical, digital, audible or material formats, information is captured to support the aims of the programme and activities, and is vital to the planning process, as demonstrated in chapter 2. The IEDD organization(s) authorized by the designated IEDD authority to conduct IEDD and other stakeholders need efficient IM processes and means to collect, transmit, receive, store, access, control, distribute and dispose this information.

Since a considerable volume of information is expected from IEDD operations, IM requirements must be clearly identified and planned from the start through a flexible approach, allowing adaptation to changing conditions. Every piece of information is processed through a cycle, where quality, reliability and accuracy are fundamental attributes. This calls for a methodical structure that provides the necessary tools and resources.

All personnel involved in IEDD operations benefit from information by making specific use of it for several purposes. Therefore, they also share IM responsibilities, organizational involvement, and collaboration efforts, which in turn supports the decision-making process by providing timely and optimal information.

In the IEDD context, the availability of information is critical to organizational success where it directly impacts the freedom of action and the security of personnel and civilians. For example, reporting the discovery of a new IED design is of great interest and relevance to all IEDD operators working in the same environment since this may require adjusting tactics and methods. Employing common terminology, formats, and interoperable systems further enhance information exchange, streaming and understanding.

Sharing information about IEDs with partners, host nation authorities and security forces supports important objectives, but must be carried out cautiously to avoid any undesirable or inappropriate use. When considering providing information support to non-UN security

[54] The term 'Information Management' refers to the on-going specification of information requirements, its collection and analysis followed by the dissemination of relevant information to relevant stakeholders in a timely manner. (Ref IMAS 05.30 - Information Management for Mine Action)

forces, the IEDD organization(s) must abide by the Human Rights Due Diligence Policy related to United Nations support to non-United Nations security forces.[55] A risk assessment must be undertaken to guide decisions about the provision of such support or not.

At all times, the IEDD organization(s) must preserve the legitimacy, credibility and impartiality of the United Nations. By the same measure, the designated IEDD authority and the United Nations must also demonstrate that the impartiality of the IEDD and international organizations is preserved and guaranteed. This is achieved through transparency, judgement and adequate monitoring of the recipient entity's intent and compliance with international humanitarian, human rights and refugee laws.

The IEDD organization(s) shall investigate and/or report any suspected violation resulting from or facilitated by the provision of information. IM within Peace Operations contexts should be conducted in accordance with the priorities set out by the Mission Leadership, including the Force Commander, where relevant, and may be dictated by United Nations policies and mandates.

8.3 Objectives of Information Management

The establishment and maintenance of adequate IM procedures and practices directly supports the IEDD objectives/roles (as defined under section 1.2) for safe, effective and efficient IEDD operations. The overall goal of IM is to meet the information needs of those with organizational roles or functions. Without proper IM implementation and support to IEDD operations, risks to personnel, the local population and the mission are likely to increase. IM directly or indirectly contributes to meeting the following objectives:

- Conduct and update threat assessments
- Disseminate aggressors' tactics and methods where applicable and relevant to the safety of IEDD operations
- Analyze trends
- Standardize reporting
- Improve IEDD procedures
- Foster cooperation of stakeholders
- Prepare IEDD personnel for their tasks
- Record information and safeguard databases
- Provide timely and controlled access to information
- Network IEDD stakeholders and partners
- Share IEDD best practices and lessons learned
- Support IEDD planning, decision-making and execution for all phases of the peacekeeping mission life cycle
- Track clearance and land release progress
- Guide IEDD training plans
- Identify IEDD capability requirements and informs capability development

[55] http://www.un.org/ga/search/view_doc.asp?symbol=S/2013/110&referer=http://www.un.org/en/sc/documents/letters/2013.shtml&Lang=E

- Outline IEDD equipment standards for TCC
- Preserve IED components and information
- Contribute to IED awareness and risk education initiatives
- Establish national IEDD policy and strategy
- Assist capacity building programmes
- Facilitate quality management
- Prevent IED attacks
- Enhance security and force protection of United Nations, host nation personnel and civilians
- Inform the establishment of a common operating picture (COP)
- Support the rule of law
- Prioritization of areas to be cleared
- Enable the safe return of refugees and displaced persons
- Facilitate a quick and precise response to attacks

8.4 IM Requirements

In order to meet the challenges posed by IEDD activities, an IM structure enabling coordinated, integrated and timely management of information is an essential capability. Such a system reduces the time required for planning IEDD actions, and provides users with relevant data to complete their tasks effectively.

During the planning of operations, the IEDD Organization(s) evaluates its respective requirements to support IM. At the minimum, it should be composed of the following:

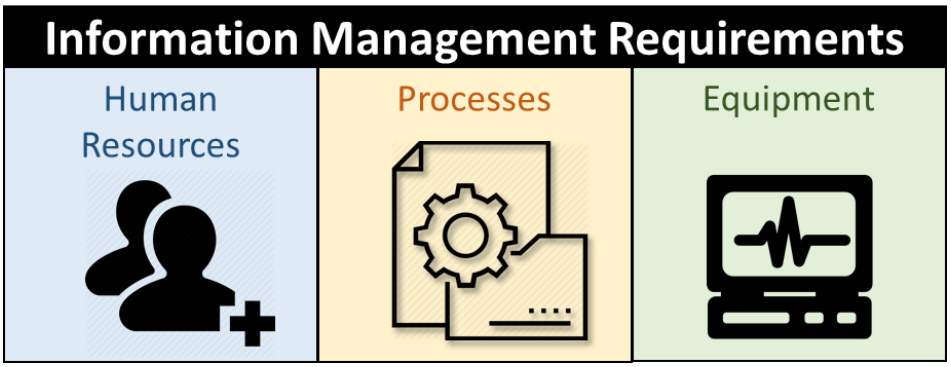

Figure 8-1 IM Requirements

8.4.1 IM Human Resources

Any IEDD Organization should have dedicated and properly trained IM personnel, led by an IM Manager. This person is generally responsible to organize information in a useful manner, using the available processes and equipment, and is supported by:

- A System Administrator

- A Geographic Information System (GIS)[56] Officer
- IM technicians to maintain the different systems.
- Applying the IM Manager's directions, guidelines and policy, all users involved in IEDD activities can support IM in a meaningful manner.

8.4.2 IM Processes

These include the organizational capabilities and framework to collect, integrate and protect information, so that it becomes an accessible and valuable enabler to authorized operational and management staff. Selected IM processes / systems:

- Must support the effective safeguard of information, providing both digital and paper document structures;
- Should consider Web-based technologies to support these objectives;
- Should be accessible to IEDD teams and organizations;
- Should optimize the sharing of information;
- Request minimal training;
- Be compatible with existing software platforms;
- Should consider using existing infrastructure such as IMSMA;

8.4.3 IM Equipment

The physical system and tools that allow the capture, transmission and storage of information should have the following characteristics:

- Capacities must be sufficient to handle the expected amount of IEDD information and their particular formats, including GIS data required to produce the expected outputs.
- Design shall provide adequate protection against the expected environmental working conditions.
- IM equipment must enable taking video and photographic data, as common complements to IEDD task reports and available records.
- Conscious use of metadata to allow information to be logically archived and quickly found during a search within a given database.
- IM equipment should be compatible with the different sources of data and software to facilitate data import and connectivity from other type of platform.

[56] The term 'GIS' refers to Geographic Information System. It is an organized collection of computer hardware, software, geographic data and personnel designed to efficiently capture, store, update, manipulate, analyze and display all forms of geographically referenced information. (IMAS 05.10)

- IM equipment should have the capacity to store & link securely large quantities of data and other source material (including image & video). Server usage planning should take this need into consideration.

8.4.4 IM Prerequisites

IMAS 05.10 stipulates the IM prerequisites for the establishment and flow of IM in a mine action programme (MAP). These shall be examined when establishing an IM system to support IEDD operations in order to increase efficiency and avoid duplication. IM prerequisites include the following:

- Document Management
- Record Management
- Web Management
- Human Resources
- Equipment
- IM Knowledge
- GIS Management
- Quality Management

8.5 IEDD Task Reporting

Any IEDD operation represents a substantial source of information. Once the IED is identified, rendered safe, or destroyed, the IEDD team shall complete the appropriate reports and submit to their respective organization(s) authorised by the designated IEDD authority, enabling analysis to inform regional planning and to update IEDD teams of the local IED threat situation.

All IED events within the area of responsibility shall be reported electronically through selected IM system as directed by the designated IEDD authority. Reports are to be completed for each IEDD operation undertaken by organization(s) authorised by the designated IEDD authority, excluding training exercises and courses. Reports should also be used for abandoned explosive ordnance and explosive remnants of war.

Reporting IEDD results help keep a record of cleared infrastructures and areas, and track progress of a given task, as well as casualties and damage incurred. Timeliness and accurate reporting are key to ensuring a well-informed IEDD community, and are invaluable in analyzing trends and formulating optimal subsequent Render Safe Procedures. Of particular note is the need to use standard terminology, at all levels, to ensure the appropriate response and recording of information. The UNMAS IED Lexicon provides a common framework for the classification of IEDs which aids in the standardization of terms.

It is vital that IED reports are accurately and diligently recorded.IEDD teams should where possible collect material from the IED task site in order to support further analysis and be prepared to provide subject matter expertise and advice as and when required in regard to specific IEDD tasks.

In addition, reports shall be supplemented with digital photography. Digital photography allows IEDD teams to take an unlimited number of pictures, which can be viewed, discarded or replaced if necessary. Digital photography should be used at the scene of all events and be suitably annotated for ease of reference. This practice provides an additional dimension to reports and a permanent record of tasks. In addition, any radiography (X-ray) graphics, whenever they have been taken as part of the RSP, assist in the analysis or confirmation of electronic circuits as well as confirming IED makeup..

8.6 IEDD Task Reporting Formats

A standardized reporting format enables the efficient dissemination of technical IED related information. They also facilitate the following:

- Development of IED hazard area databases
- Development of an accurate threat picture and in overall situational awareness
- Compilation of an archive of IEDD activity in order to support safe, effective and efficient best practices.

When responding to IEDD tasks, information must be collected and disseminated in a timely manner, using the IEDD task report. The IEDD task report is the formal technical record of an IEDD task.

Following an IEDD operation and when conducting deliberate IED Area, Infrastructure and Urban space clearance operations, more detailed data needs to be recorded in order to develop technical intelligence, to confirm the aggressor’s and own Tactics and Methods, and to share information with partners.

Annex C provides guidelines on the items to consider for inclusion in IEDD reports. IED reporting classifications, and their definitions, that should be recorded on IEDD reports are shown at Table 8-1.

Classification[57]	Definition
IED	1. IEDD action which results in the successful neutralization, disruption or dismantling of an IED. 2. Includes devices deliberately initiated by IEDD action where the aggressor's intentions have been frustrated, for example: a. Majority of explosive burnt before detonation occurs. b. Removal of device from target so that detonation occurs in a place where damage is reduced to a minimum. 3. Also includes: a. Fully primed devices from Finds e.g. Devices containing plain detonators and safety fuse. b. Successfully dismantled incendiaries.
EXPLOSION	A partial or complete functioning of an IED.
FALSE	An IED related incident that is incorrectly identified though reported in good faith as an IED, which is subsequently categorized as a false alarm after positive Explosive Ordnance Disposal (EOD) action.
FIND / CACHE	An IED related incident that involves the discovery and/or recovery of an IED not yet emplaced or employed, IED components, and/or IED paraphernalia.
HOAX	An IED incident that involves a device fabricated to look like an IED, and is intended to purposely simulate one in order to elicit a response.
TURN-IN	An IED related incident where an IED or component is turned over to friendly forces.

Table 8.1 IEDD Incident Classification

8.7 IM Resources and Infrastructure

IM is a fundamental and enabling capability for the conduct of IEDD operations as part of IED Threat Mitigation objectives[58] , including in United Nations peace operation contexts.

[57] For planned IEDD operations the main classification used will be an IED.

[58] IED-TM Objectives (Secure Environment) include force protection, protection of civilians.

The varying Information and Communication Technology (ICT)[59] capabilities (resources and infrastructure) of IEDD Organizations/operators, including those of peacekeeping units, have an impact on the effectiveness of an IM system to support IEDD operations. Likewise, the availability of the host country's telecommunications infrastructure can impact on the ability of data to be transferred electronically in support of the IM system. Notwithstanding technical limitations of available ICT infrastructure, the minimum requirement for IM resources in support of IEDD operations should include the following:

Required ICT Systems	Enabling functions (must be able to)
Communication	Send/Receive voice data
Computer hardware	Send/Receive digital data
Computer software	Capture imagery/video
Archiving/Storage	Archive data
Photographic/Video/X-Ray	Search and retrieve data
	Print data

Table 8.2 ICT Infrastructure Minimum Requirements

ICT systems organic to the IEDD organization(s) authorized by the designated IEDD authority should be compatible with and support the selected IM system, in either a standalone or networked configuration. However, initial data collection on scene may need to be paper based with subsequent digitalization occurring at a location and facility where appropriate ICT infrastructure is available. This would also apply for any other associated data collected on scene such as still imagery and video. The large size of these files places a considerable burden on bandwidth for communication networks; and as such transfer may need to occur via other media / means.

Large data files may require physical transfer via removable data storage devices to networked facilities. In any case, if available, a priority should be given to the timely voice transmission of the IED report via telecommunication means, until such time as additional data can be provided to higher headquarters in paper or electronic format. Where possible, data collection at the task site should be automated via the use of tools such as tablets and mobile phone based software which can provide the following benefits:

- To provide a web based capability where data from the system can be viewed in.
- Easy to use, configurable dashboards that allow users to interact with the data, performing simple queries on the data and returning results in easy to interpret visualization, such as graphs and maps.
- To reconfigure the parameters of data input.

[59] ICT is an extended term for information technology (IT) which stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information.

- To include visual and international/multi-lingual look-up of IED components[60] to facilitate data entry.

In order to ensure that data collected on scene in various formats (paper / electronic) is correctly uploaded into an IM system, the strict application of IEDD report control / tracking numbers and file naming conventions is required. This will ensure the integrity of the collected data and also facilitate search functions within the IM system to provide a true and accurate representation of the aggressors IED activity. Also, data (electronic or paper based) that has not been uploaded into the IM system should remain traceable for future inclusion or referencing (from other electronic database or paper filing systems).

The application of a robust IEDD report tracking system within the IM system will also facilitate the association of related subsequent reporting for higher level analysis. When this data is uploaded and geospatially associated within the GIS it becomes a powerful tool for staff at all levels of IEDD operations.

8.8 IM Process/Cycle

IM is performed through a cycle of organizational activities including: the acquisition of information from one or multiple sources, the custodianship and the distribution of that information to those who need it, and its ultimate disposition through archiving or deletion. The underlying basis for the IM process as it pertains to IEDs is a "need-to-share" philosophy in as broad a context as possible. The IM cycle for landmines detailed in IMAS 05.10 has a similar applicability to IEDs, based upon the following principles:

- **Transformation.** Continued transformation of data to information and information to knowledge for decision-making.
- **Efficiency.** The management of data and information is done with a proactive approach, in which the IM staff based on their experience foresee the requirements and are ready to address them in a timely manner.
- **Inclusiveness.** Successful implementation of the cycle depends on the active involvement of operations, management and other stakeholders.
- **Quality.** Data is checked and verified for accuracy and for timeliness and organized for analysis.
- **Consistency.** Disaggregated data collection, in combination with agreed technical definitions of key terms, will ensure objective and repeatable results to analytical queries. This will enable the formulation of informal decisions that are transparent and accountable.
- **Sharing.** Information is disseminated to the stakeholders, within and outside the IEDD community, in a standardized way and in appropriate formats. Sharing

[60] Based on the UNMAS IED Lexicon

information with other stakeholders will encourage them to further participate in planning, implementation and follow-up process.

The IM cycle is a four-staged process as follows:

- **Information needs assessment**. The analysis of information should involve recurring assessment and discussion with each of the principal stakeholders.
- **Data collection**. The data collection phase identifies where and how to gather the required data, and how to validate it. It should be designed to meet the intended use of the data, and consideration should be given to ethical principles such as maintaining respect for confidentiality and privacy. This stage includes the quality management of the data to ensure any subsequent analysis is based on accurate facts.
- **Data analysis**. Objective and repeatable data analysis relies on there being IM policies and standards that reduce the subjectivity and increase the consistency of the output information.
- **Information dissemination**. Information dissemination involves the distribution of information to internal and external users so that it can be readily and easily used by stakeholders.

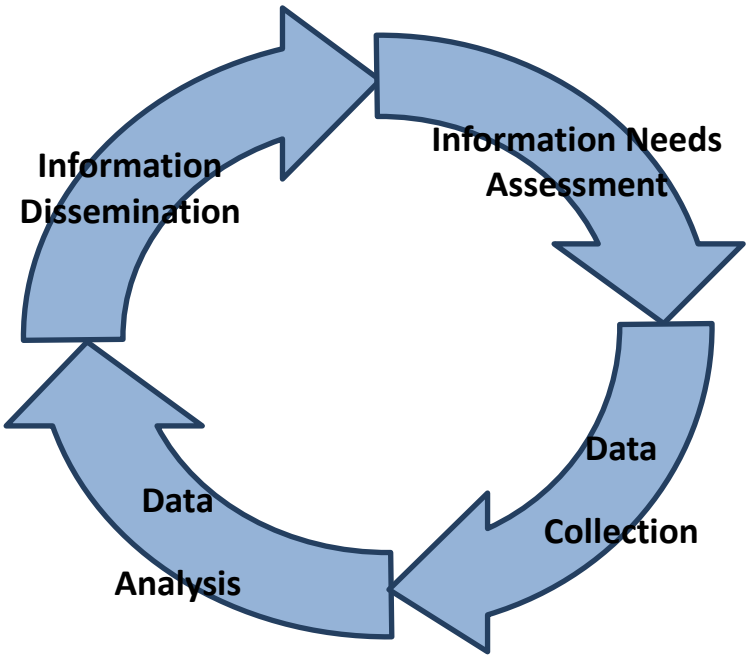

Figure 8-2 - Stages of the IM Cycle

In order to ensure technical accuracy is maintained, reports shall be submitted in accordance with operating procedures as directed by the IEDD organization.

The IM system is a key enabler in supporting the transfer of information and data as part of IEDD area level planning activities as illustrated in Figure 8-3.

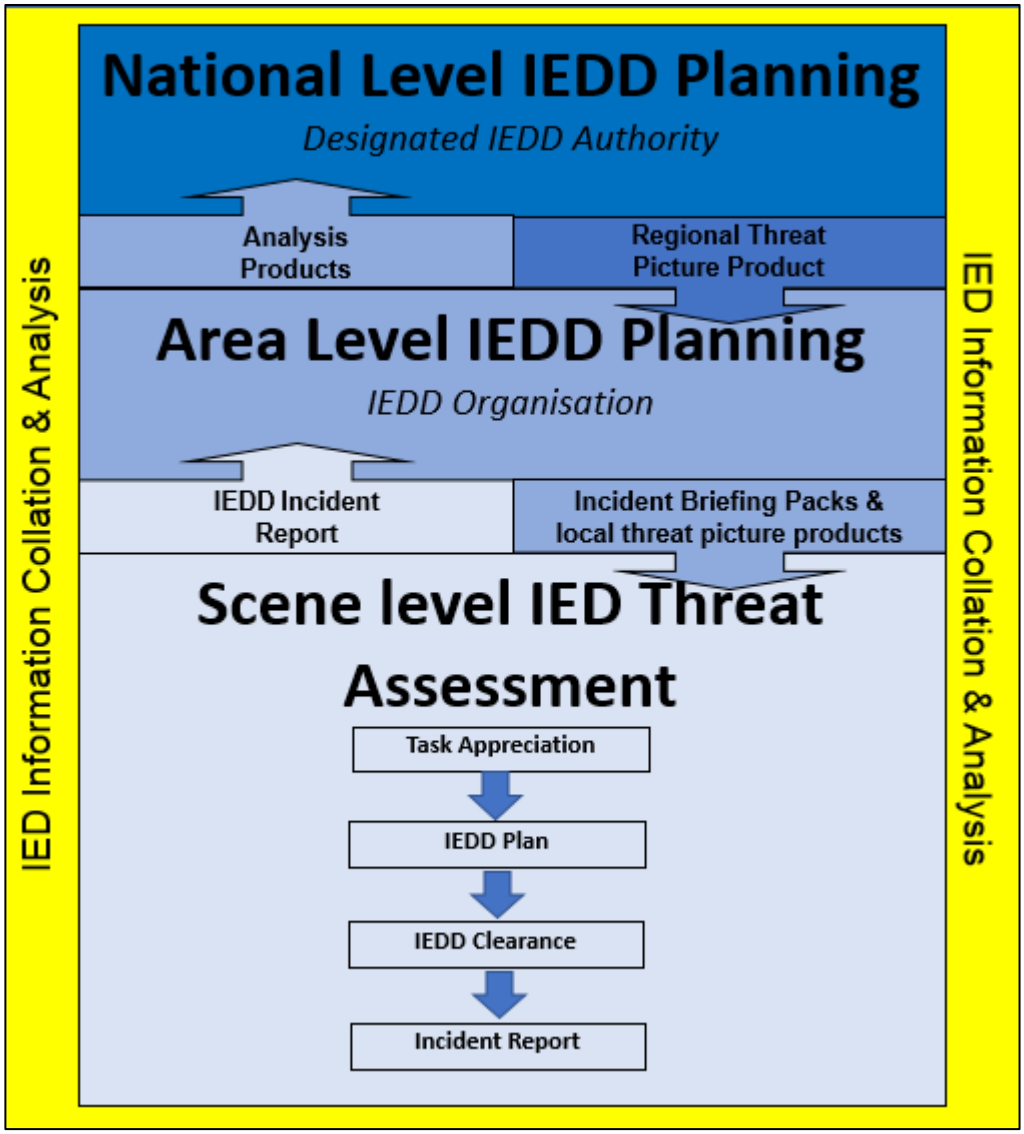

Figure 8-3 – IM on the IED Threat Assessment Process

The IM system when correctly enabled with human resources, processes and equipment can facilitate the timely and efficient collection, transfer and analysis of IED related data and information. Figure 8-3 highlights the role that IM plays in obtaining accurate IED threat assessments on all levels.

8.9 Information Management Responsibilities

8.9.1 Designated IEDD authority

The designated IEDD authority should:

- Develop and implement IM policy, standards and regulations for the management of information. These standards and regulations should be consistent with United Nations IEDD Standards, and other relevant national standards;
- Establish IM systems that allow effective, efficient and timely transfers of data and information between the organization(s) authorized by the designated IEDD authority, donors, relevant national bodies, and other stakeholders;
- Ensure that IM sections within the organization(s) authorized by the designated IEDD authority have appropriately qualified personnel, equipment and training;
- Ensure that the IM section of the programme has developed clear and appropriate operating procedures for IM;
- Ensure that all organization(s) authorized by the designated IEDD authority information gathering activities are coordinated to avoid duplication of effort, so maximizing the use of resources and minimizing survey fatigue.

8.9.2 IEDD Organization(s)

The IEDD organization authorized by the designated IEDD authority should:

- Develop programme or country-wide IM operating procedures that clearly define the type, format and frequency of the information requirement in accordance with the national standards;
- Establish at least one IM section with qualified personnel, and equipment in accordance with the prerequisites of the national standards;
- Provide training to operational and IM personnel of organization authorized covering IM;
- Have a proactive role in all IM activities;
- Provide proposals and suggestions for the amendment of the national IEDD for IM.
- Work for decreased dependency on particular staff members by transferring knowledge to other organizations authorized by the designated IEDD authority;
- Ensure a streamlined data and information flow by applying the agreed policies and by utilizing existing IM systems, standards, guidelines, procedures and routines;
- Implement data quality management procedures at all stages of the IM cycle;
- Be able to identify possible IM shortcomings in the organization authorized by the designated IEDD authority and notify the relevant operational or management staff in due time;
- Utilize the existing IM capacity within the IEDD programme in order to plan, implement and follow up on operational activities;
- Participate in quality management procedures throughout the entire IM cycle.
- Ensure the involvement and training of IM staff in operational activities.
- Provide feedback, verification and correction of information whenever they notice any errors or inconsistencies.

Annex A

IEDD Operator Competencies

Appendix 1

Basic IEDD Operator Competencies

Pre-requisite: IMAS EOD level 1

1. KNOWLEDGE BASE

1.1 IEDD Generic Theory

1.1.1 IEDD Philosophy - Basic

1.1.2 IEDD Principles - Basic

1.1.3 IEDD Mandatory Actions - Basic

1.1.4 IEDD Operator's responsibilities - Basic

1.1.5 IEDD command structure - Basic

1.1.6 IEDD safe waiting periods (soak times) – Basic

1.1.7 Understanding Open Area IED environments - Basic

1.1.8 Applicable laws and rules (Area of operations specific, National, International and UN) - Basic

1.2 IEDD Design Theory

1.2.1 IED components – Basic

1.2.2 Electronic circuits – Basic

1.2.3 IED categories – Basic

1.2.4 IED method of employment – Basic

1.2.5 IED method of emplacement – Basic

1.2.6 IED indicators – Basic

1.2.7 IED categories - Victim Operated (VO) IEDD Operation in Open Areas

1.3 **Prepare, Employ and Maintain IEDD tools and equipment Theory IEDD Standards**

1.3.1 Prepare IEDD Protective Equipment

1.3.2 Employ IEDD Protective Equipment

1.3.3 Maintain IEDD Protective Equipment

1.3.4 Prepare demolitions charges & equipment for manual deployment

1.3.5 Employ demolitions charges & equipment during manual approaches

1.3.6 Maintain demolitions equipment

1.3.7 Prepare detection equipment

1.3.8 Employ detection equipment

1.3.9 Maintain detection equipment

1.3.10 Prepare Basic Hook & Line[61]

1.3.11 Employ Basic Hook & Line

1.3.12 Maintain Basic Hook & Line

1.4 IEDD Task Conduct Theory

1.4.1 IEDD in Open Area task conduct chronology – Basic

2. EQUIPEMENT SKILLS AND DRILLS PRACTICAL

2.1 Gather and prepare IEDD Detection Equipment Practical

2.1.1 Individuals must be able to explain the environment in which the task will take place

2.1.2 Individuals must be able to explain and demonstrate how to effectively inspect, test and prepare equipment

2.1.3 Individuals must be able to explain the characteristics and hazards of the equipment in use

2.1.4 Individuals must be able to demonstrate an ability to effectively test the serviceability of the equipment, reporting any defective equipment through the appropriate channels

2.2 Operate and employ IEDD Detection Equipment Practical

2.2.1 Individuals must be able to explain the capabilities, limitations and employment of equipment in use

2.2.2 Individuals must be able to explain how to operate the equipment correctly

[61] Basic Hook & Line is comprised of a hook and rope, designed for the Basic Operator to remotely pull IED components that were not destroyed during the detonation of the VOIED main charge. It is intended to avoid having the Basic Operator become targetable through manually moving IED components that could have a secondary IED or Booby trap. It is NOT intended to provide more advanced Entry Kits to the Basic Operator.

2.2.3 Individuals must be able to explain the importance of operating the equipment correctly and the consequences of not doing

2.2.4 Individuals must be able to demonstrate an ability to make necessary adjustment to the equipment in use (metal detector, etc.)

2.3 Maintain IEDD Equipment and stores Practical

2.3.1 Individuals must be able to explain the equipment's capabilities and acceptable limits of deviation - Basic

2.3.2 Individuals must be able to explain operational requirements and organizational procedures - Basic

2.3.3 Individuals must be able to explain how to report defective equipment - Basic

2.3.4 Individuals must be able to demonstrate an ability to carry out regular routine maintenance checks in accordance with the servicing schedule - Basic

2.3.5 Individuals must be able to demonstrate an ability to maintain all equipment within the specified levels - Basic

2.3.6 Individuals must be able to demonstrate an ability to comply with operational requirements and organizational procedures – Basic

3. <u>IEDD ACTIVITIES PRACTICAL</u> - IEDD Task Conduct Practical

3.1.1 Individuals must be able to explain VOIED in open area considerations

3.1.2 Individuals must be able to demonstrate an ability to search for, detect, locate and destroy VOIEDs in open areas

3.1.3 Individuals must be able to demonstrate an ability to use basic hook and line (grapnel hook and pulling line) in the semi-remote movement of items

4. <u>POST TASK ACTIVITIES PRACTICAL</u> - Return Activities Practical

4.1.1 Individuals must be able to demonstrate an ability to re-pack IEDD equipment;

4.1.2 Individuals must be able to explain post-task equipment maintenance and consumable replenishment

4.1.3 Individuals must be able to demonstrate an ability to conduct post-task equipment maintenance.

Appendix 2

IEDD Assistant Competencies

Pre-requisite: IMAS EOD level 2 and IEDD Basic Operator Accredited.

1. KNOWLEDGE BASE

1.1 IEDD Generic Theory

1.1.1 IEDD Philosophy - Intermediate
1.1.2 IEDD Principals - Intermediate
1.1.3 IEDD Mandatory Actions - Intermediate
1.1.4 IEDD Operator's responsibilities - Intermediate
1.1.5 IEDD command structure - Intermediate
1.1.6 IEDD safe waiting periods (soak times) - Intermediate
1.1.7 Applicable laws and rules (Deployment specific, National, International and UN) – Intermediate

1.2 IEDD Design Theory

1.2.1 IED components – Intermediate
1.2.2 Electronic circuits – Intermediate
1.2.3 IED categories – Intermediate
1.2.4 IED method of employment – Intermediate
1.2.5 IED method of emplacement – Intermediate
1.2.6 IED indicators - Intermediate

1.3 RF Threats Theory

1.3.1 RF spectrums – generic
1.3.2 ECM principles – generic

1.4 Prepare, Employ and Maintain IEDD tools and equipment Theory

1.4.1 Prepare IEDD Protective Equipment
1.4.2 Maintain IEDD Protective Equipment
1.4.3 Prepare IEDD Disruptors for manual approach loading drill
1.4.4 Prepare IEDD Disruptors for remote approach loading drill
1.4.5 Maintain IEDD Disruptors
1.4.6 Prepare demolitions accessories for manual approach loading drills
1.4.7 Maintain demolitions accessories
1.4.8 Prepare access & manipulation equipment (Hook & Line, etc.)
1.4.9 Prepare detection equipment
1.4.10 Maintain detection equipment
1.4.11 Prepare identification equipment
1.4.12 Maintain identification equipment
1.4.13 Prepare ECM equipment
1.4.14 Maintain ECM equipment
1.4.15 Prepare X-Ray equipment
1.4.16 Maintain X-Ray equipment
1.4.17 Prepare photographic/video equipment
1.4.18 Employ photographic/video equipment

1.4.19 Maintain photographic/video equipment

1.5 Prepare and Employ ROV Theory

1.5.1 Use and limitations of ROVs with regards to terrain, obstacles and range
1.5.2 Prepare ROV tools and accessories
1.5.3 Employ ROV tools and accessories
1.5.4 Maintain ROVs

1.6 Home Made Explosives (HME) Theory

1.6.1 Clandestine lab types
1.6.2 HME types – generic
1.6.3 HME use in IEDs – generic
1.6.4 HME precursors – generic
1.6.5 HME handling, storage and transport – generic
1.6.6 HME PPE requirements – generic
1.6.7 HME disposal – generic

1.7 IEDD Task Conduct Theory

1.7.1 Typical IEDD task conduct chronology – generic
1.7.2 Arrival drills (5s & 20s)
1.7.3 ICP setup – generic

1.8 IED Component gathering and recording Theory

1.8.1 Reasons for Component gathering and recording
1.8.2 Types of components and information
1.8.3 Scene/information preservation & collection Generic
1.8.4 Prepare IED Component gathering equipment
1.8.5 Use IED Component gathering equipment
1.8.6 Maintain IED Component gathering equipment
1.8.7 IED Component gathering procedures generic
1.8.8 Task photography/videography generic
1.8.9 Safety considerations

1.9 Post Blast Theory

1.9.1 Reasons for Post blast analysis
1.9.2 Safety considerations

1.10 IED Task Reporting Theory

1.10.1 Reasons for IED task reporting
1.10.2 Terminology and Lexicon
1.10.3 Reporting format and content
1.10.4 Visual attachments (X-Ray, photo, video, diagrams)
1.10.5 Report sub-deployment

2. EQUIPEMENT SKILLS AND DRILLS PRACTICAL

2.1 Gather and prepare IEDD Equipment Practical

2.1.1 Individuals must be able to effectively explain the environment in which the task will take place
2.1.2 Individuals must be able to explain and demonstrate how to effectively inspect, test and prepare equipment
2.1.3 Individuals must be able to explain acceptable tolerances of accuracy of the equipment
2.1.4 Individuals must be able to explain the characteristics and hazards of the equipment in use
2.1.5 Individuals must be able to explain operational requirements and organizational procedures
2.1.6 Individuals must be able to demonstrate the ability to safely and efficiently load disruptors in the manual configuration
2.1.7 Individuals must be able to demonstrate the ability to safely and efficiently prepare explosive tools in the manual configuration
2.1.8 Individuals must be able to demonstrate the ability to safely and efficiently load disruptors on the ROV
2.1.9 Individuals must be able to demonstrate the ability to safely and efficiently prepare explosive tools on the ROV
2.1.10 Individuals must be able to demonstrate an ability to effectively test the serviceability of the equipment, reporting any defective equipment through the appropriate channels
2.1.11 Individuals must be able to demonstrate an ability to prepare the equipment correctly for use, IAW team leader's specifications
2.1.12 Individuals must be able to demonstrate an ability to meet operational requirements and their own organizational procedures

2.2 Operate and employ IEDD Equipment Practical

2.2.1 Individuals must be able to explain the capabilities, limitations and employment of equipment in use
2.2.2 Individuals must be able to explain how to operate the equipment correctly
2.2.3 Individuals must be able to explain the importance of operating the equipment correctly and the consequences of not doing
2.2.4 Individuals must be able to demonstrate an ability to operate the equipment correctly according to the manufacturer's instructions
2.2.5 Individuals must be able to demonstrate an ability to effectively challenge obvious inaccuracies or inconsistencies of information
2.2.6 Individuals must be able to demonstrate an ability to make necessary adjustment to the equipment in use (metal detector, etc.)
2.2.7 Individuals must be able to explain the reasoning for employing Electronic Counter Measures (ECM)
2.2.8 Individuals must be able to explain the safety implications of using ECM
2.2.9 Individuals must be able to demonstrate an ability to safely decontaminate or destroy equipment after use if necessary
2.2.10 Individuals must be able to demonstrate the ability to safely and efficiently operate the ROVs in all terrain and weather conditions

2.2.11 Individuals must be able to demonstrate the ability to safely and efficiently deploy disruptors and explosive tools with the ROVs, as directed by the team leader
2.2.12 Individuals must be able to demonstrate the ability to safely and efficiently perform tasks with the ROVs, as directed by the team leader
2.2.13 Individuals must be able to demonstrate the ability to dress the level 3 or 4 (IEDD) operator in his PPE
2.2.14 Individuals must be able to demonstrate an ability to safely acquire X-Ray images (take an X-Ray)
2.2.15 Individuals must be able to demonstrate an ability to retrieve/download X-Ray images
2.2.16 Individuals must be able to demonstrate an ability to read X-Ray images
2.2.17 Individuals must be able to explain why an X-Ray reading may be incorrect and how to deal with it

2.3 Maintain IEDD Equipment and stores Practical

2.3.1 Individuals must be able to explain the requirements of the servicing schedule
2.3.2 Individuals must be able to explain the equipment's capabilities and acceptable limits of deviation
2.3.3 Individuals must be able to explain operational requirements and organizational procedures
2.3.4 Individuals must be able to explain how to report defective equipment
2.3.5 Individuals must be able to demonstrate an ability to carry out regular routine maintenance checks in accordance with the servicing schedule
2.3.6 Individuals must be able to demonstrate an ability to report defective equipment and organise its repair or replacement
2.3.7 Individuals must be able to demonstrate an ability to monitor consumables continuously and arrange for their replenishment
2.3.8 Individuals must be able to demonstrate an ability to maintain all equipment within the specified levels
2.3.9 Individuals must be able to demonstrate an ability to comply with operational requirements and organizational procedures

3. IEDD Activities Practical

3.1 Pre-Deployment Activities Practical

3.1.1 Individuals must be able to explain the typical chronology of an IEDD task
3.1.2 Individuals must be able to explain the importance of intelligence in the pre-deployment phase
3.1.3 Individuals must be able to explain final pre-deployment equipment preparations
3.1.4 Individuals must be able to demonstrate the ability to execute final pre-deployment equipment preparations

3.2 Arrival Drills Practical

3.2.1 Individuals must be able to explain typical Arrival Drills, in line with operating procedures based on local environment (permissive, etc.)

3.2.2 Individuals must be able to demonstrate the ability to conduct Arrival Drills, in line with operating procedures based on local environment
3.2.3 Individuals must be able to explain a typical ICP setup
3.2.4 Individuals must be able to demonstrate the ability to execute a typical ICP setup
3.2.5 Individuals must be able to explain ICP related safety hazards

3.3 Generic IEDD Deployment Conduct Practical

3.3.1 Individuals must be able to explain IEDD mandatory actions
3.3.2 Individuals must be able to explain IEDD safe waiting periods (soak times)
3.3.3 Individuals must be able to explain the safety considerations for the cordon and team when taking positive actions on the IED
3.3.4 Individuals must be able to demonstrate an ability to prepare the ROV to the team leader's specifications
3.3.5 Individuals must be able to demonstrate an ability to deploy the ROV as specified by the team leader
3.3.6 Individuals must be able to explain remote secondary device search requirements
3.3.7 Individuals must be able to demonstrate an ability to conduct efficient remote secondary device search as directed by team leader
3.3.8 Individuals must be able to explain the requirements for manual approaches
3.3.9 Individuals must be able to demonstrate an ability to prepare IEDD tool & equipment for manual approach to the team leader's specifications
3.3.10 Individuals must be able to explain when a task scene is explosively safe
3.3.11 Individuals must be able to explain requirements to X-Ray IED components

3.4 HME Practical

3.4.1 Individuals must be able to explain HME types and safety considerations
3.4.2 Individuals must be able to explain the requirements for PPE
3.4.3 Individuals must be able to explain HME handling, packaging and transport procedures

3.5 Component Gathering and Recording Practical

3.5.1 Individuals must be able to explain why Component gathering and recording is necessary
3.5.2 Individuals must be able to explain Component preservation and collection
3.5.3 Individuals must be able to explain types of Components and information
3.5.4 Individuals must be able to explain scene/information preservation and collection techniques and considerations
3.5.5 Individuals must be able to explain the use of Component gathering and recording equipment
3.5.6 Individuals must be able to explain how much of the explosives of each type must be retained for analysis
3.5.7 Individuals must be able to explain the safety considerations when conducting Component gathering and recording
3.5.8 Individuals must be able to demonstrate an ability to assist the IEDD team leader with Component gathering and recording

3.5.9 Individuals must be able to demonstrate an ability to preserve and collect Components and information
3.5.10 Individuals must be able to demonstrate an ability to photograph/videotape task scene and components
3.5.11 Individuals must be able to demonstrate an ability to make a sketch of the task scene
3.5.12 Individuals must be able to demonstrate an ability to segregate and package energetic and inert components to be retained for analysis
3.5.13 Individuals must be able to demonstrate an ability to gather and record components while respecting all safety considerations

3.6 Return Activities Practical

3.6.1 Individuals must be able to demonstrate an ability to re-pack the IEDD equipment for return trip

3.7 Actions on Emergencies Practical

3.7.1 Individuals must be able to explain actions to be taken during medical emergencies
3.7.2 Individuals must be able to explain actions to be taken should team safety be jeopardised by aggressor activities
3.7.3 Individuals must be able to demonstrate an ability to retrieve a casualty
3.7.4 Individuals must be able to demonstrate an ability to provide First Aid
3.7.5 Individuals must be able to demonstrate an ability to organize and execute a casualty evacuation
3.7.6 Individuals must be able to demonstrate an ability to take appropriate actions as per deployment operating procedures should team safety be jeopardised by aggressor activities

4 POST TASK ACTIVITIES

4.1 Reporting Practical

4.1.1 Individuals must be able to explain why IEDD reports are necessary
4.1.2 Individuals must be able to explain which information is to be included in the IEDD report
4.1.3 Individuals must be able to assist in completing IEDD reports
4.1.4 Individuals must be able to explain IEDD report sub deployment chain

4.2 Equipment related tasks Practical

4.2.1 Individuals must be able to explain post-task equipment maintenance and consumable replenishment
4.2.2 Individuals must be able to demonstrate an ability to conduct post-task equipment maintenance
4.2.3 Individuals must be able to demonstrate an ability to conduct post-task supply activities required for consumable replenishment

Appendix 3

Intermediate IEDD Operator Competencies

Pre-requisite: IMAS EOD level 3 and IEDD Basic Operator Accredited.

1. KNOWLEDGE BASE

1.1 IEDD Generic Theory

1.1.1 IEDD Philosophy - Advanced
1.1.2 IEDD Principals - Advanced
1.1.3 IEDD Mandatory Actions - Advanced
1.1.4 IEDD Operator's responsibilities - Advanced
1.1.5 IEDD command structure - Advanced
1.1.6 IEDD safe waiting periods (soak times) - Advanced
1.1.7 Forensic (component gathering and recording) protocols - Advanced
1.1.8 Understanding Rural IED environments - Advanced
1.1.9 Understanding Urban IED environments - Advanced
1.1.10 Understanding threat actors - Advanced
1.1.11 Applicable laws and rules (Deployment specific, National, International and UN) Detailed

1.2 IEDD Design Theory

1.2.1 IED components - Advanced
1.2.2 Electronic circuits - Advanced
1.2.3 IED categories - Time IEDD Operation
1.2.4 IED categories - Command IEDD Operation
1.2.5 IED categories - Victim Operated (VO) IEDD Operation

1.2.6 IED method of employment – Advanced
1.2.7 IED method of emplacement – Advanced
1.2.8 Find Operations

1.3 RF Threats Theory

1.3.1 RF spectrums – detailed
1.3.2 ECM principles – detailed

1.4 Employment of IEDD Tools and Equipment Theory

1.4.1 Employ IEDD Protective Equipment
1.4.2 Employ IEDD Disruptors during manual approach
1.4.3 Employ IEDD Disruptors during remote approach
1.4.4 Employ demolitions accessories during manual approaches
1.4.5 Employ access & manipulation equipment (Hook & Line, etc.)
1.4.6 Employ detection equipment
1.4.7 Employ identification equipment
1.4.8 Employ ECM equipment
1.4.9 Employ X-Ray equipment

1.5 Employment of ROV Theory

1.5.1 Use and limitations of ROVs with regard to IED design and emplacement

1.6 Home Made Explosives (HME) Theory

1.6.1 HME Types Detailed
1.6.2 HME use in IEDs – detailed
1.6.3 HME precursors – detailed
1.6.4 HME handling and de-sensitising – detailed
1.6.5 HME storage and transport (small quantities) – detailed[62]
1.6.6 HME PPE requirements – detailed
1.6.7 HME disposal (small quantities)

1.7 IEDD Task Conduct Theory

1.7.1 IEDD task conduct chronology – detailed
1.7.2 ICP setup and safety considerations – detailed
1.7.3 Applying questioning techniques
1.7.4 Interpret IED related intelligence
1.7.5 Conducting IED Threat Assessment
1.7.6 Cordon placement and evacuation distances with regards to assessed IED size and emplacement
1.7.7 Security considerations and cordon employment – detailed
1.7.8 Disruption tool or demolition accessory selection with regards to IED size, construction, emplacement and desired effect

1.8 IED Component Gathering and Recording Theory

1.8.1 Scene/information preservation & collection Detailed
1.8.2 IED Component gathering procedures detailed
1.8.3 Task photography/videography detailed
1.8.4 Safety considerations

2 EQUIPMENT

2.1 Manage IEDD Equipment and Stores Practical

2.1.1 Individuals must be able to explain the equipment management system for their organization
2.1.2 Individuals must be able to explain the correct use of equipment, operational requirements and organizational procedures
2.1.3 Individuals must be able to explain the importance of ensuring a simple and effective logistics supply chain
2.1.4 Individuals must be able to demonstrate an ability to carry out regular inspections of the servicing log for all equipment in use
2.1.5 Individuals must be able to explain the reasoning for using ECM and the second order and possible legal consequences of using such equipment

[62] Small and Large HME quantities need to be defined. A possibility is to state that the deployment operating procedures will define those quantities.

3 IEDD ACTIVITIES PRACTICAL

3.1 Pre-deployment Practical

3.1.1 Individuals must be able to explain the pre-deployment briefing process
3.1.2 Individuals must be able to explain the deployment planning process
3.1.3 Individuals must be able to demonstrate the ability to brief their team prior to a deployment
3.1.4 Individuals must be able to demonstrate the ability to plan a movement phase to deployment location
3.1.5 Individuals must be able to demonstrate the ability to use intelligence in the planning process
3.1.6 Individuals must be able to demonstrate the ability to analyse intelligence material

3.2 Arrival Drills Practical

3.2.1 Individuals must be able to justify the reasoning in defining the location and type of ICP setup
3.2.2 Individuals must be able to demonstrate the ability in defining the size, location & special requirements of cordon and evacuation area
3.2.3 Individuals must be able to demonstrate the ability in coordinating cordon employment and specifications with the OSC

3.3 Threat Assessment Practical

3.3.1 Individuals must be able to demonstrate an ability to identify and gather the relevant information (questioning technique) from the OSC and witnesses
3.3.2 Individuals must be able to demonstrate an ability to use information that is complete, valid, accurate and reliable
3.3.3 Individuals must be able to demonstrate an ability to use simple analysis tools to conduct the Threat Assessment
3.3.4 Individuals must be able to demonstrate an ability to justify their decisions
3.3.5 Individuals must be able to explain the reasoning in defining remnant IEDs compared with those from an ongoing IED campaign
3.3.6 Individuals must be able to demonstrate an ability to adjust the cordon & evacuation in relation to their Threat Assessment

3.4 Generic IEDD Deployment Conduct Practical

3.4.1 Individuals must be able to demonstrate an ability to follow and adjust Primary safe waiting periods (primary soak times)
3.4.2 Individuals must be able to explain how to employ the ROVs IAW assessed threat
3.4.3 Individuals must be able to explain disruption/neutralization tool/technique selection and emplacement WRT IED
3.4.4 Individuals must be able to explain the expected results of selected disruption/neutralization
3.4.5 Individuals must be able to demonstrate an ability to remotely disrupt/neutralise the IED in a safe & adequate manner, and confirming disruption remotely

3.4.6 Individuals must be able to demonstrate an ability to coordinate with the OSC to ensure cordon safety when taking positive actions on the IED
3.4.7 Individuals must be able to demonstrate an ability to follow and adjust Secondary safe waiting periods (secondary soak times) after taking positive actions on the IED
3.4.8 Individuals must be able to demonstrate an ability to plan tasks for manual approaches
3.4.9 Individuals must be able to demonstrate an ability to execute planned tasks during manual approaches
3.4.10 Individuals must be able to demonstrate an ability to manually place disruptors/tools in a safe and adequate manner
3.4.11 Individuals must be able to demonstrate an ability to manually confirm disruption/neutralisation
3.4.12 Individuals must be able to demonstrate an ability to make the scene explosively safe through explosive component separation & segregation as well as a manual secondary device search
3.4.13 Individuals must be able to demonstrate an ability to safely and efficiently X-Ray IED components
3.4.14 Individuals must be able to demonstrate an ability to analyse X-Ray images
3.4.15 Individuals must be able to explain requirements to dispose of explosive components not retained for analysis
3.4.16 Final declaration to On Scene Commander that area cleared of all detected IEDs

3.5 Time IEDD Conduct Specific Practical
3.5.1 Individuals must be able to explain Time IED considerations
3.5.2 Individuals must be able to demonstrate an ability to keep cordon safe until the Time threat has been neutralized

3.6 Command IEDD Conduct Specific Practical
3.6.1 Individuals must be able to explain Command IED considerations
3.6.2 Individuals must be able to demonstrate an ability to coordinate deployment of the cordon to be effective
3.6.3 Individuals must be able to demonstrate an ability to employ ECM in a safe and efficient manner

3.7 Victim Operated (VO) IEDD Conduct Specific Practical
3.7.1 Individuals must be able to explain VOIED considerations;
3.7.2 Individuals must be able to explain how to employ ROVs in a VOIED environment;
3.7.3 Individuals must be able to demonstrate an ability to search for, identify and neutralise VOIEDs;
3.7.4 Individuals must be able to demonstrate an ability to employ semi-remote (hook & line) methods to access VOIEDs;
3.7.5 Individuals must be able to explain and demonstrate how to render safe specific VOIEDs assessed as a threat in a give area of operations e.g. postal devices.

3.8 HME – practical

3.8.1 Individuals must be able to explain HME precursors
3.8.2 Individuals must be able to explain HME fabrication
3.8.3 Individuals must be able to explain HME handling and de-sensitising
3.8.4 Individuals must be able to explain HME storage small quantities
3.8.5 Individuals must be able to explain HME storage small quantities
3.8.6 Individuals must be able to explain HME disposal small quantities
3.8.7 Individuals must be able to demonstrate an ability to identify HME
3.8.8 Individuals must be able to demonstrate an ability to identify HME precursors
3.8.9 Individuals must be able to demonstrate an ability to determine HME fabrication techniques
3.8.10 Individuals must be able to demonstrate an ability to de-sensitise and handle HME
3.8.11 Individuals must be able to demonstrate an ability to package and transport small HME quantities
3.8.12 Individuals must be able to demonstrate an ability to dispose of small HME quantities

3.9 Component Gathering and Recording Practical

3.9.1 Individuals must be able to demonstrate an ability to perform and control the preservation and collection of Components and information

3.10 Return Activities Practical

3.10.1 Individuals must be able to explain return trip planning considerations
3.10.2 Individuals must be able to demonstrate an ability to plan and coordinate the return trip with supporting agencies
3.10.3 Individuals must be able to demonstrate an ability to execute the return trip, and adjust should unforeseen events modify the plan

4 POST DEPLOYMENT ACTIVITIES PRACTICAL

4.1 Reporting Practical

4.1.1 Individuals must be able to demonstrate an ability to accurately complete IEDD reports
4.1.2 Individuals must be able to demonstrate an ability to submit IEDD reports through proper channels
4.1.3 Individuals must be able to demonstrate an ability to debrief supervisor on non-routine/new IED devices, components, use/placement, aggressor Tactics and Methods or events

4.2 Equipment - practical

4.2.1 Individuals must be able to demonstrate an ability to ensure team personnel, equipment and stores are ready to deploy for the next task

Appendix 4

Advanced IEDD Operator Competencies

Pre-requisite: IMAS EOD level 3, Intermediate IEDD Operator Accredited.

1. KNOWLEDGE BASE

1.1 IEDD Generic – Theory

1.1.1 Providing Mobility Protection
1.1.2 Providing Task Response
1.1.3 Conducting Dismounted Operations
1.1.4 Conducting Infrastructure Clearance
1.1.5 identifying possible future threats

1.2 IEDD Design – Theory

1.2.1 Suicide Initiated IEDD Operation
1.2.2 Projected Weapons in IEDs
1.2.3 Vehicle Borne (VB) IEDD Operation
1.2.4 Vehicle search and clearance principles – advanced
1.2.5 Dismounted IEDD Operation
1.2.6 Post blast clearance

1.3 RF Threats - Theory

1.3.1 RF spectrums - advanced
1.3.2 ECM principles - advanced
1.3.3 ECM equipment needs assessment
1.3.4 ECM equipment acquisition

1.4 Home Made Explosives (HME) - Theory

1.4.1 Clandestine lab types
1.4.2 HME types - advanced
1.4.3 HME understanding the chemistry and fabrication - advanced
1.4.4 HME precursors - advanced
1.4.5 HME storage and transport (large quantities) – detailed
1.4.6 HME disposal (large quantities)

1.5 Post Blast Theory

1.5.1 Conduct of Post blast analysis
1.5.2 Estimation of Explosive Quantities
1.5.3 Explosive damage patterns

1.6 Management - Theory

1.6.1 Multiple team tasking and coordination
1.6.2 Personnel Management and Administration
1.6.3 Personnel Morale and Welfare
1.6.4 Equipment Management and Administration
1.6.5 Equipment Needs Assessments and Acquisition
1.6.6 Inter-agency interactions

1.6.7 Understanding all related applicable laws and rules (Deployment specific, National, International and UN) detailed

2 EQUIPMENT

2.1 Manage IEDD Equipment and Stores Practical

2.1.1 Individuals must be able to demonstrate an ability to monitor defects through a defect reporting schedule

2.1.2 Individuals must be able to demonstrate an ability to manage the consumption and order of consumables through the organization's logistic system

2.1.3 Individuals must be able to demonstrate an ability to ensure all personnel comply with operational requirements and organizational procedures

2.1.4 Individuals must be able to explain the reasoning for using ECM and the second order and possible legal consequences of using such equipment

3 IEDD ACTIVITIES PRACTICAL

3.1 Pre-deployment Activities Practical

3.1.1 Individuals must be able to explain the planning process involved in deploying multiple teams

3.1.2 Individuals must be able to demonstrate the ability to gather and brief on intelligence material

3.2 Advanced IEDD Conduct Practical

3.2.1 Individuals must be able to demonstrate the ability to conduct IED Task Responses

3.2.2 Individuals must be able to demonstrate the ability to conduct Mobility Protection

3.2.3 Individuals must be able to demonstrate the ability to conduct Manual Disposal RSPs

3.3 HME Practical

3.3.1 Individuals must be able to demonstrate an ability give instructions on how to package and transport large HME quantities

3.3.2 Individuals must be able to demonstrate an ability to dispose of large HME quantities

3.3.3 Individuals must be able to demonstrate the ability to manage teams during the mitigation of HME Factories

3.4 VB IEDD conduct specific - practical

3.4.1 Individuals must be able to explain VB IED considerations

3.4.2 Individuals must be able to explain VB IED safety distances

3.4.3 Individuals must be able to demonstrate an ability to employ ROVs in searching for, accessing and disrupting/neutralising VB IEDs

3.4.4 Individuals must be able to demonstrate an ability to employ semi-remote (hook & line) methods to access VB IEDs

3.4.5 Individuals must be able to demonstrate an ability to manually search for and place disruptors/explosive tools to VB IEDs
3.4.6 Individuals must be able to demonstrate an ability to prove the vehicle to be completely explosively safe

3.5 Projected IEDD conduct specific - practical
3.5.1 Individuals must be able to explain Projected IED considerations
3.5.2 Individuals must be able to explain Projected IED cordon considerations
3.5.3 Individuals must be able to explain evacuation Projected IED considerations
3.5.4 Individuals must be able to demonstrate an ability to disrupt/neutralise the IED without exposing the cordon /civilians to undue risk

3.6 Suicide Initiated IEDD conduct specific - practical
3.6.1 Individuals must be able to explain Suicide Initiated IEDD considerations
3.6.2 Individuals must be able to demonstrate an ability to RSP suicide initiated VB IEDs
3.6.3 Individuals must be able to demonstrate an ability to RSP suicide initiated PB IEDs

3.7 Dismounted IEDD conduct specific - practical
3.7.1 Individuals must be able to explain Suicide Initiated IEDD considerations
3.7.2 Individuals must be able to demonstrate an ability to select required equipment to conduct Dismounted IEDD tasks
3.7.3 Individuals must be able to demonstrate an ability to RSP IEDs in a dismounted environment
3.7.4 Individuals must be able to explain Dismounted IEDD safety considerations

3.8 Post Blast Conduct Specific Practical
3.8.1 Individuals must be able to explain Post Blast considerations
3.8.2 Individuals must be able to demonstrate an ability to conduct a crater analysis
3.8.3 Individuals must be able to demonstrate an ability to conduct an estimation of the explosive quantity used
3.8.4 Individuals must be able to demonstrate an ability to conduct an assessment of the damage caused
3.8.5 Individuals must be able to explain safety considerations

4 IEDD MANAGEMENT AND TRAINING PRACTICAL

Individuals must be able to:

4.1 Explain the considerations when tasking multiple IEDD teams
4.2 Demonstrate an ability to plan multiple IEDD team deployments and employments
4.3 Demonstrate an ability to coordinate IEDD teams and supporting assets (force protection, medical support, etc.)
4.4 Demonstrate an ability to coordinate and manage inter-agency interactions
4.5 Demonstrate an ability to manage and monitor multiple IEDD team activities while ongoing
4.6 Demonstrate an ability to provide sound advice to operators when IEDs or situations outside the normal scope of operations are encountered
4.7 Demonstrate an ability to perform IEDD task quality assurance
4.8 Demonstrate an ability to vet and analyse IEDD reports
4.9 Demonstrate an ability to establish and maintain a lessons learned process
4.10 Demonstrate an ability to disseminate lessons learned, and ensure they are assimilated into Tactics and Methods
4.11 Demonstrate an ability to assess the validity of Tactics and Methods and adjust as needed
4.12 Demonstrate an ability to administer periodic IEDD refresher training
4.13 Demonstrate an ability to evaluate IEDD member/team performances
4.14 Demonstrate an ability to conduct personnel Management and Administration
4.15 Demonstrate an ability to ensure and foster personnel Morale and Welfare
4.16 Demonstrate an ability to oversee that equipment maintenance is conducted within schedule
4.17 Demonstrate an ability to conduct equipment Assessment Needs and Acquisition
4.18 Demonstrate the ability to ensure applicable laws, rules/regulations (deployment specific, international and UN) are being adhered to by IEDD team members

Annex B

EOD Unit Critical Equipment Requirements

This annex provides a breakdown of the minimum equipment deemed to be essential in order for a basic, intermediate and advanced IEDD teams as well as support teams to have a safe, effective and efficient capability. These critical equipment requirements are broken down as follows:

- Basic IEDD Team – Appendix 1
- Intermediate IEDD Team – Appendix 2
- Advanced IEDD Team – Appendix 3
- Support Team – Appendix 4

The equipment listed is deemed the minimum equipment needed to safely, efficiently and effectively undertake the tasks that the stated team or cell is expected to be able to complete. An IEDD organization can provide equipment in addition to or to a higher specific than those listed in this annex, in line with the TOR between the IEDD Organization and the designated IEDD authority. Only specialist equipment is mentioned in the attached appendices with the generic administrative and communications and information technology support equipment required not listed. All IEDD teams are expected to have all equipment listed in appendix 1 in addition to the equipment listed in appendix 2 or 3 for intermediate and advanced teams respectively.

Appendix 1

Basic IEDD Team Equipment

This appendix sets out the critical equipment[63] requirements of a basic IEDD team. The equipment listed is deemed the minimum equipment needed to safely, efficiently and effectively undertake the tasks that the stated team is expected to be able to complete[64]. The designated IEDD authority retains the right to insist on equipment in addition to or to a higher specific than those listed herein. Similarly, an IEDD organization may choose to provide equipment in addition to or to a higher specific than listed herein, in line with the agreement between the IEDD organization and the designated IEDD authority. Only specialist IEDD equipment is mentioned in the attached annexes with the generic administrative and communications and information technology support equipment required by the IEDD organization and IEDD support elements not listed. This team will not operate in isolation but with IEDD required external support and always under the direction of an IEDD supervisor on scene. They will only undertake IEDD on IEDs on which they have been qualified for. If the IED exceeds the qualification of the team members, the IEDD supervisor should take over. They may only operate in IED threat environments that have been assessed as being permissive in line with the designated IEDD authority terms of reference in relation to security threat assessments. A basic IEDD team will at a minimum consist of two basic operators. A basic IEDD team critical equipment is:

- Medical Equipment:
  - Individual First Aid Kit (IFAK) for each team member[65];
  - Team medical kit[66];
- Personal Protective Equipment (PPE);
  - The designated IEDD authority may state the level of IEDD PPE to be worn by IEDD operators when undertaking certain IEDD tasks which may for example state the protection levels in line with IMAS 10.30 and associated references or in line with US National Institute of Justice (NIJ) standards.
  - PPE requirements should also consider the security requirements for the mission area.
  - As a minimum, the following protective measures must be considered; Eye protection; Head protection; Body protection; Hearing protection; Hand protection
- Explosive Stores and Associated Equipment
  - Appropriate means of explosive train initiation in line with prevailing national legislative restrictions, mandates and weapon embargoes. List for non-electric, NONEL / Shocktube and Electrical initiation are provided:

[63] Minimum equipment deemed to be essential for an IEDD capability to be effective, efficient & safe.

[64] In line with the IEDD team categories and roles provided in Chapter 3 of these Standards.

[65] As per the UN MSD / DSS packing list.

[66] As per IMAS packing list standard.

Non-electric initiation:	Non-electric initiation:	Electric initiation:
• Ruler; • Crimpers; • Non-metallic knife; • Burning fuse; • Igniters; • Non-electric initiators;[67] • Main charges	• Ruler; • Crimpers; • Non-metallic knife; • Shocktube; • Shocktube Igniters; • Shocktube initiators;[68] • Main charges	• Exploder with batteries including spares and chargers as required; • Firing cable; • Electric detonators; • Main charges.

- Protective works equipment:
- Optical Equipment:
- Tools:
  - Grapnel hook;
  - Pulling rope / line;
  - Hand held metal detector with appropriate sensitivity to EO threat in area of operations[69];
  - Manual demining tool kit.
- Consumables
- Reporting, Recording and Reference Material:
  - IED Report Format;
  - Aide Memoire for Explosive Ordnance for the area of operations if available;
  - IED Identification guide for Area of Operations – if required by designated IEDD authority;
- Any additional IEDD equipment stated as necessary by the designated IEDD authority in line with the assessed IED threat picture.

[67] An initiator whose functioning is initiated by non-electric means and includes inter alia igniferous or flash detonators / initiators.
[68] An initiator whose functioning is initiated by NONEL / Shocktube means.
[69] Tested to the appropriate standard as stated in the CEN Workshop agreement

Appendix 2

Intermediate IEDD Team Equipment

This annex sets out the critical equipment[70] requirements of an intermediate IEDD team. The equipment listed is deemed the minimum equipment needed to safely, efficiently and effectively undertake the tasks that an intermediate IEDD team is expected to be able to complete[71]. The designated IEDD authority retains the right to insist on equipment in addition to or to a higher specific than those listed herein. Similarly, an IEDD organization may choose to provide equipment in addition to or to a higher specific than listed herein, in line with the agreement between the IEDD organization and the designated IEDD authority. Only specialist IEDD equipment is mentioned herein this annex with the generic administrative and communications and information technology support equipment required by the IEDD organization and IEDD support elements not listed.

All intermediate IEDD teams are expected to have access to all the IEDD critical equipment listed for basic IEDD teams as per these Standards. This team will not operate in isolation but with IEDD required external support and always under the direction of an IEDD supervisor on scene. An Intermediate team will have organic ROV and may have ECM[72] support in location for use if required, as determined by the IED threat assessment. Similarly, they will also have access to digital x-ray equipment which will be on scene but may be held rearward with other IEDD team support assets. Each intermediate IEDD team does not need to have its own ECM or digital x-ray but must have easy access to it. ECM must be available to be brought to the required site of requirement promptly if an RCIED threat is to be mitigated and is line with the requirements set out by the designated IEDD authority. Similarly, portable digital x-ray equipment must be available to be brought forward to its site of requirement.

Intermediate IEDD teams will be certified to undertake IEDD on all IEDs with the IEDD supervisor to be on call for technical support, advice and assistance. They may operate in IED threat environments that have been assessed as being permissive or semi-permissive in line with the designated IEDD authority terms of reference in relation to security threat assessments. An intermediate IEDD team will at a minimum consist of two persons one IEDD assistant and one intermediate IEDD operator.

[70] Minimum equipment deemed to be essential for an IEDD capability to be effective, efficient & safe.

[71] In line with the IEDD team categories and roles provided in Chapter 3 of these Standards.

[72] See paragraph 5.6 of this chapter for ECM considerations.

The critical equipment of an intermediate IEDD team is:

- Critical equipment of a basic IEDD team.
- EO component recovery kits.
- Disruptor set complete in line with the IED threat.[73]
- Water bottles of various volume e.g. 0.5l, 1.0l and 2.0l etc.
- EOD tool Toolkit.[74]
- EOD Remotely Operated Vehicle (ROV) with the following capabilities:
    i. Disruptor deployable;
    ii. Suitable to the terrain in the mission area;
    iii. Remote optical capability;
    iv. Wireless and hardwire[75] deployable.
- Dedicated vehicle – with protection level in line with the assessed threat.
- Portable digital x-ray;[76]
- Personal dosimeters with capability to read exposure levels;
- EOD bomb suit;[77]
- Hook And Line (HAL) kit to include at least two pulling ropes;
- ECM assets;[78]
- Any additional IEDD equipment stated as necessary by the designated IEDD authority in line with the assessed IED threat picture.

[73] Determined in line with threat assessment as to the nature of IED threat faced in the area of operations.
[74] Contents as per the Designated IEDD authorities packing list requirements.
[75] Depending on ECM compatibility if in use.
[76] Each intermediate IEDD team does not need to have its own but must have easy access to it, which can be brought to the required site of requirement promptly.
[77] designated IEDD authority may state the level of IEDD PPE to be worn by IEDD operators when undertaking certain IEDD tasks which may for example state the protection levels in line with IMAS standards or in line with US National Institute of Justice (NIJ) standards. PPE requirements should also consider the security requirements for the mission area.
[78] See paragraph 5.6 of chapter 5 for ECM considerations.

Appendix 3

Advanced IEDD Team Equipment

This annex sets out the critical equipment[79] requirements of an advanced IEDD team. The equipment listed is deemed the minimum equipment needed to safely, efficiently and effectively undertake the tasks that the stated team is expected to be able to complete[80]. The designated IEDD authority retains the right to insist on equipment in addition to or to a higher specific than those listed herein. Similarly, an IEDD organization may choose to provide equipment in addition to or to a higher specific than listed herein, in line with the agreement between the IEDD organization and the designated IEDD authority. Only specialist IEDD equipment is mentioned in the attached annexes with the generic administrative and communications and information technology support equipment required by the IEDD organization and IEDD support elements not listed.

All advanced IEDD teams are expected to have access to all the IEDD critical equipment listed for basic AND intermediate IEDD teams as per these Standards. This team may operate as an IEDD team in isolation but with the required external support such as security and communications and may ECM[81] provided if required. They may operate in IED threat environments that have been assessed as being up to and including non-permissive in line with the designated IEDD authority terms of reference in relation to security threat assessments and in such situations, are required to have the appropriate security support in line with the assessed threat.

The critical equipment of an advanced IEDD team is the ability to generate light equipment scales[82] provided the capability is effective, efficient and safe in line with the IEDD teams training and qualifications.

[79] Minimum equipment deemed to be essential for an IEDD capability to be effective, efficient & safe.
[80] In line with the IEDD team categories and roles provided in Chapter 3 of these Standards.
[81] See paragraph 5.6 of this chapter for ECM considerations.
[82] The term “light’ is used in relation to the equipment scales that an advanced IEDD team is deployed with in comparison to what they would typically be deployed with if fully equipped. Light Scales as it is sometimes referred to may be required due to mobility requirements e.g. on foot or due to equipment deficiencies in a time of conflict, hostility or crisis. Light IEDD is not a course or qualification or a different team structure.

Appendix 4

Support Team Equipment

Upon drafting the statement of requirements for prospective IEDD organizations, the designated IEDD authority must consider the capability and associated requirements for the following six aspects of IEDD support:

- Communications – both internally externally from site to HQ and elsewhere. As a minimum, there must be a minimum of two means of communication from site to HQ and elsewhere
- Transport.
- Medical.
- Search – threat driven for example the decision to include GPR[83] or buried wire detectors should be in line with the requirement assessed as part of the IED threat picture. May include explosive detection dogs.
- Security of the IEDD and support personnel to, at and from the site of the IEDD task.
- Counter RCIED Equipment – see Section 5.6.

[83] Ground Penetrating Radar; required when directed by the designated IEDD authority after the need is identified due to the assessed threat of minimum / low or no metal content VOIEDs.

Annex C

IEDD Task Reporting Format Guidelines

The following is an outline of the possible headings that may be included in an IEDD Report. It is broken down into 7 sections, with heading provided under each which can be used, removed or expanded upon as the threat and the selected information management system requires. In the case that more than one IED of the same type is associated with the same IEDD task, one IEDD report may be used with the number of IEDs involved mentioned.

1. General Information

- 1.1. IM ID
- 1.2. IED ID
- 1.3. Field ID
- 1.4. Organization authorized by the designated IEDD authority
- 1.5. Date of Report (DD/MM/YYYY Format)
- 1.6. Organization Name
- 1.7. Reported By (Name, Unit, Team)

2. Verification Information

- 2.1. Verified By (Organization and Person plus role)
- 2.2. Date of Verification (DD/MM/YYYY Format)

3. Task Information

- 3.1. IEDD Area Type (Should not be able to change this field but allows the system when using a common IEDD reporting system to discriminate between different IEDD activities)
- 3.2. Date of Task (DD/MM/YYYY Format)
- 3.3. Time (of task) (xxxxhrs Format)
- 3.4. Type of task (Drop down menu as per table 8-1. Note that *Cache* and *Find* are considered the same)
- 3.5. If task type is Explosion, IED or Find: *Complex Attack / Single IED / Multiple IED / Unknown*
- 3.6. Total number of devices in task
- 3.7. Description of task (Before, during and after)
- 3.8. Assessed Target of Attack (Drop down menu with options for types / factors being tracked and required to be analyzed with an option for Other. In the case "other" is chosen, a field is available to specify the other not included at present in the drop-down menu)
  - 3.8.1. Other
- 3.9. Information Source (Drop down menu with options for types / factors being tracked and required to be analyzed with an option for Other. In the case "other"

is chosen, a field is available to specify the other not included at present in the drop-down menu)

3.9.1. Other

3.10. Casualties (Multi-field menu matching the options in the assessed target of attack with two fields for each casualty group allowing *killed* and *injured* to be entered. In the casualty fields for "other" a description field should be provided)

3.11. Animal Casualties *Yes / No*

3.11.1. Number of Animal casualties

3.12. Vehicles Damaged *Yes / No*

3.12.1. Number of Vehicles Damaged

3.12.2. Description of Vehicles (A description of the level of vehicle damage can be included, which should ideally be in reference to a common damage scale in use)

4. Tactical Details

4.1. Nearest Town (Details here should be systematic in relation to how the area of operations are divided. For example, the following fields may be included: Sector, Area of Responsibility, Province, District, City/Area)

4.2. Coordinates of task location

4.2.1. System *Lat/long* Or *UTM*

4.2.2. Fixed by *GPS / Map / DGPS*

4.2.3. Latitude *Degree decimal (xx.xxxxxx) – WGS84*

4.2.4. Longitude *Degree decimal (xx.xxxxxx) – WGS84*

4.3. Nearest Reference Point

4.4. Task Area (Area information should be a two field drop down menu option reflecting task area information that the system wishes to track and analyse, e.g. options may include *Static, Route, Unknown, Not Applicable*. If Static the second field will allow the further options such as; *In/Near Tea Shop, At/Near Borehole, In/Near Governmental Building, In/Near Military Installation, In/Near Residential Building, Under Tree/Forest, On/Near Coastline, On/Near Riverbank, Other, Agricultural Land, Unknown* If Route is selected the options may be; *Urban, Rural, MSR*)

4.4.1. Other (Such as who controls the area where the IED was laid)

4.5. Vulnerable Point (Possible options to be tracked in terms of VP being used in Attacks include: *Previous attack sites,* Approach to friendly locations, Current and previously occupied positions, Entry and exit points, Culverts, River Crossing Points & Bridges, Intersections and junctions, Sharp turns, Isolated choke points, Slopes – both uphill and downhill)

4.6. Vulnerable Area (Consideration in terms of the characteristics of the area in which the IED task took place which may include: *Soft ground, Previously used tracks and patrol routes, Linear features, Interior of buildings, Canalised routes, Extended long stretches of road, Tactically important areas, High ground*

dominated areas, Escape routes into and out of areas, Successive VPs in close proximity, Exit or entry of areas of urban / rural interfaces)

4.7. Why Here
4.8. Why Now
4.9. Why in This Way
4.10. Desired Outcome
4.11. Actual Outcome
4.12. Method of Emplacement (Possible Drop-down options including *Buried/Vehicle/ Attached/Hand-emplaced/Person borne/ Other/Unknown)*
  4.12.1. Other

If Attached or Hand Emplaced or Vehicle Bourne (Field to allow further details for these three methods of emplacement such as: Attached: *Elevated / Under vehicle / Other.* Hand Emplaced: *Elevated / Concealed / Unconcealed.* Vehicle: *VBIED / SVBIED)*

4.13. Other

5. **Technical Details**
  5.1. Power Source
  5.2. **I**nitiator(s)
    5.2.1. Number present
    5.2.2. Initiator Type: *Military / Commercial / Improvised*
  5.3. Energetic Material(s): *High Explosive / Propellant / Pyrotechnic Composition / Unknown*
    5.3.1. Source: *Military / Commercial / Improvised*
    5.3.2. If Military: *Military Ordnance (MILORD) / Bulk / Harvested*
    5.3.3. Other
  5.4. Container description
  5.5. Enhancements: *Directional / Fragmentation / Incendiary / CBR / Unknown*
    5.5.1. Additional Information (For additional information for enhancements the following are options; Directional: Platter Charge / EFP / Shaped Charge /Unknown; Fragmentation: Omni-directional / claymore / DFC / DFFC; Incendiary: Liquid / Solid / unknown; CBR: Chemical / biological / radiological)
  5.6. Switches
    5.6.1. Arming Present: *Yes / No*
      5.6.1.1. If Present Describe
    5.6.2. Firing Switch Type: Command / Timed / Victim Operated / Hybrid / Unknown (Hybrid firing switch refers to an IED with a combined or separate dual firing circuit such as a command IED with a backup victim operated firing switch)
      5.6.2.1. Further Details (Further details of firing switch should ideally be drop-down options fields with common IED firing switches in the AO or region and which need to be tracked

and analysed. The option of "Other" should always be available with an associated description field to allow further details to be provided to allow new and emerging switch details to be captured. Non-exhaustive examples of the further details that can be provided include: Command: *CWIED / CPIED / PCIED / RCIED*; Timed: *Mechanical / Electronic / Burning Fuse / Evaporation / Pneumatic Release;* Victim Operated: *Pressure Plate / Tripwire / Pressure Release / PIR / Anti-cut (collapsing circuit) / Movement (trembler))*

5.6.2.1.1. Other

5.6.2.1.2. Additional Information (The author of an IED report should be afforded every opportunity to provide as much on firing switch(es) in use in an IED and for this reason the opportunity to provide such "additional information" should be provided to them)

6. **Render Safe Procedure Details**
   - 6.1. Was the Device Subject to an RSP?
   - 6.2. Additional relevant and shareable information on RSP success/failure.
   - 6.3. Has this type of device been encountered previously? *Yes / No*
     - 6.3.1. If Yes, associated Report number
   - 6.4. Has there been an task at this location previously? *Yes / No*
     - 6.4.1. If Yes, associated Report number
   - 6.5. Time Spent on RSP
   - 6.6. Operational Equipment used
   - 6.7. Were items collected form the scene? *Yes / No*
     - 6.7.1. If Yes, who retained the recovered items;
     - 6.7.2. List of items recovered (The information for list recovered items should be several fields to allow the recording of Description of item, Bag No. and Remarks for each item recovered)

7. **After Action Review**
   - 7.1. After Action EODCC Comments (What worked, what didn't work, recommended training, equipment or supplies required)

Annex D

IEDD Standards References

The following documents provide guidelines and standards reference herein these standards.

1. IMAS 05.10 Information Management for Mine Action
2. General Assembly Security Council, Human rights due diligence policy on United Nations support to non-United Nations security forces, A/67/775-S/2103/110, 5 March 2013
3. Libya Improvised Explosive Device Disposal (IEDD) Technical Operating Procedures Edition 1, 31 December 2016
4. UN IED Threat Mitigation Military and Police Handbook Jan 2017
5. UN Peacekeeping Missions EOD/IEDD Unit Manual May 2017
6. UN Mine Action Service Improvised Explosive Device Lexicon
7. UN Guidelines on IED Threat Mitigation in Mission Settings, May 2016
8. IMAS 09.30 Explosive Ordnance Disposal.
9. IMAS 06.10 Management of Training.
10. IMAS 04.10 - Glossary of mine action terms, definitions and abbreviations.
11. IMAS 10.50 S&OH Storage, transportation and handling of explosives.
12. IMAS 10.70 S&OH protection of the environment.
13. T&EP 09.30/01/2014 EOD Competency Standards.
14. UN DPKO Policy Ref 2010.20, Training for all United Nations Peacekeeping Personnel, 1 May 2010
15. The NATO Lessons Learned Handbook, February 2016.
16. Bob Keeley, *Draft Technical Note in Mine Action*, IED Risk Education

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Annex E

Lexicon of Abbreviations

2IC /EO	Second in Command / Executive Officer
AFV	Armoured Fighting Vehicle
AO	Area of Operations
AOG	Armed Opposition Group
AP	Amended Protocol
ASM	Ammunition Security Management
AST	Advanced Search Team
AXO	Abandoned Explosive Ordnance
BAC	Battlefield Area Clearance
BCMD	Biological and Chemical Munitions Disposal
C2	Command and Control
CBR	Chemical, Biological and Radiological
CBRN	Chemical, Biological, Radiological and Nuclear
CCW	Convention on Certain Conventional Weapons
CEA	Captured Enemy Ammunition
CIMIC	Civil Military Cooperation
CMD	Conventional Munition Disposal
COA	Courses of Action
COE	Contingent Owned Equipment
COMMEX	Commercial (grade) Explosives
COP	Common Operating Picture
CP	Checkpoint
CREW	Counter Radio-controlled Electronic Warfare
DCOS	Deputy Chief Of Staff
DDR	Disarmament, Demobilisation & Rehabilitation
DECS	Doctrine, Equipment, Competencies & Structure
DFC	Directional Fragmentation Charge
DFFC	Directionally Focused Fragmentation Charge
DFS	Department of Field Services
DPKO	Department of Peacekeeping Operations
DSS	Department of Safety and Security
DtD	Defeat the Device

ECM	Electronic Countermeasures
EDD	Explosive Detection Dogs
EFP	Explosively Formed Projectiles
EHR	Explosive Hazard Reduction
EOD	Explosive Ordnance Disposal
EODCC	Explosive Ordnance Disposal Coordination Cell
EOR	Explosive Ordnance Reconnaissance
ERW	Explosive Remnants of War
ESI	Explosive Scene Investigation
EW	Electronic Warfare
FFE	Free From Explosives
FHQ	Force Headquarters
FP	Force Protection
GPS	Global Positioning System
HAL	Hook And Line
HE	High Explosive(s)
HET	Heavy Equipment Transport
HHD	Hand Held Detector
HME	Home Made Explosives
HN	Host Nation
HNSF	Host Nation Security Force(s)
HoMC	Head of Military Component
IAW	In Accordance With
ICP	Incident Control Point
ICT	Information and Communication Technology
IDD	Improvised Dispersal Device
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
IED-TM	Improvised Explosive Device Threat Mitigation
IFAK	Individual First Aid Kit
IKM	Information Knowledge Management
IM	Information Management
IMAS	International Mine Action Standards
IMSMA	Information Management System for Mine Action
IMTC	Integrated Mission Training Cells

INGO	International Non-Governmental Organization
IPD	Identify Process Dispose
IR	Incident Report
IT	Information Technology
KAPB	Knowledge, Attitudes, Practices and Beliefs
KLE	Key Leader Engagement
KSA	Knowledge, Skills and Attitude
LI	Lessons Identified
LL	Lessons Learned
LO	Liaison Officer
LOO	Lines Of Operation
LRF	Laser Range Finder
MA	Mine Action
MAC	Mine Action Centre
MANPADS	Man Portable Aid Defence System(s)
MAP	Mine Action Programme
MBT	Mine Ban Treaty
MHE	Manual Handling Equipment
MILEX	Military (grade) Explosives
MILSPEC	Military Specification
MNT	Manual Neutralisation Techniques
MO	Modus Operandi
MOU	Memorandum of Understanding
MP	Military Police
MRE	Mine Risk Education
MSR	Main Supply Route
NEQ	Net Explosive Quantity
NGO	Non-Governmental Organization(s)
NIJ	National Institute of Justice
NTSG	National Technical Standard Guidelines
NWD	Nuclear Weapon Disposal
OJT	On the Job Training
OPCW	Organization for the Prohibition of Chemical Weapons
OSC	On Scene Commander
PC	Platter Charge

PDV	Pre-deployment Visit(s)
PEF	Performance Evaluation Form
PoC	Protection of Civilians
POL	Petrol, Oil and Lubricant
PPE	Personal Protective Equipment
PSSM	Physical Stockpile Security Management
PwK	People with Knowledge
QA	Quality Assurance
RCIED	Radio / Remote Controlled Improvised Explosive Device
RCV	Remote Controlled Vehicle
ROE	Rules Of Engagement
ROV	Remotely Operated Vehicle
RSIED	Road Side IED
RSP	Render Safe Procedure
RST	Route Search Team
SA	Staff Assistant
SALW	Small Arms and Light Weapons
SC	Shaped Charge
SF	Special Forces
SI	Serious Injury(s)
SMART	Specific, Measurable, Achievable, Realistic and Time-based
SO	Staff Officer
SOFA	Status of Forces Agreement
SOMA	Status of Mission Agreement
SOP	Standard Operating Procedure
SOR	Statement of Requirements
SRSG	Senior Representative of the Secretary General
SSR	Security Sector Reform
SUR	Statement of Unit Requirements
TBI	Traumatic Brain Injury(s)
TCC	Troop Contributing Country(s)
TL	Team Leader
TMP	Training Management Plan
TNA	Training Needs Analysis

TOP	Tactical Operating Procedure
TPSA	Tape Pressure Sensitive Adhesive
TTP	Tactics, Techniques and Procedures
U2	Intelligence Branch
U3	Operations Branch
U5	Planning Branch
U6	Communication and Information Systems Brach
U7	Training and Education Branch
U9	CIMIC Branch
UAV	Unmanned Aerial Vehicle
UN	United Nations
UNCT	United Nations Country Team
UNIBAM	United Nations Infantry Battalion Manual
UNMAS	United Nations Mine Action Service
UNOE	United Nations Owned Equipment
USA	Unit Search Advisor
UST	Unit Search Team
UXO	Unexploded Explosive Ordnance
VA	Vulnerable Area
VBIED	Vehicle Bourne Improvised Explosive Device
VIP	Very Important Person
VOIED	Victim Operated Improvised Explosive Device
VOS	Victim Operated Switch
VP	Vulnerable Point
VSI	Very Serious Injury(s)
WAM	Weapons and Ammunition Management
WG	Working Group
WIT	Weapons Intelligence Team(s)
WRT	With Respect To
WTI	Weapons Technical Intelligence

Annex F

Glossary of Terms

The following terms are defined as utilized in these standards. Terms are defined to provide clarity and prevent misunderstanding for those reading these standards. While the majority of terms are used in relation to IEDD activities, broader EOD terms are also defined in order to provide clarity and context when necessary. This glossary of terms is intended to facilitate the appropriate, accurate, clear, concise and consistent use of terminology.

Abandoned Explosive Ordnance(AXO). Conventional EO that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. AXO may or may not have been primed, fuzed, armed or otherwise prepared for use.

Access Procedures. Those actions taken to facilitate freedom of movement to the location of an item of EO necessary for subsequent EOD procedures.

Aggressor. Term used to describe any person or group of persons or organization that has the intent and capacity to inflict physical violence.

Aggressor Capability. Classification of the ability or potential ability of an aggressor to achieve their desired aims when assessed under their doctrine, equipment, competencies and structure.

Aggressor Intent. The desired aim or purpose that any person or group of persons or organization are trying to achieve through the use or threatened use of physical violence.

Aggressor Tactics and Methods. The typical techniques and courses of actions that an aggressor utilize in the use or threatened use of physical violence to achieve their intent.

All Reasonable Effort. Describes what is considered a minimum acceptable level of effort to identify and document contaminated areas or to remove the presence or suspicion of IEDs. “All reasonable effort” has been applied when the commitment of additional resources is considered to be unreasonable in relation to the results expected.

Anti-handling Device. A device intended to protect a mine and which is part of, linked to, attached or placed under the mine and which activates when an attempt is made to tamper with or otherwise intentionally disturb the mine.
Source: Mine Ban Convention

Area Evaluation. An assessment of local environmental and macro levels factors that influence or contribute to potential threats related to an EOD incident to inform the incident threat assessment.

Area of Operations (AO). An area of operations refers to a geographical space on the earth that is defined by a designated IEDD authority to be under the responsibility of a stated IEDD Organization for the purpose of IEDD activities therein.

Area Level IED Threat Assessment. The processes of an IEDD organization examining the IED threat for a given geographical area under their responsibility in line with the terms of reference provided to them by the designated IEDD authority. Area level IED threat assessment is informed from the regional IED threat picture produced by the national level IED threat assessment as well as scene level IED incident reports. Area level IED threat assessments produce incident briefing packs & local threat picture products for IEDD teams they control and provide area IED analysis products to the national IEDD threat assessment.

Area Level IEDD Planning. Planning done by a IEDD Organization prior to the deployment of its IEDD capabilities to a given designed geographical area of responsibility.

Assets. A term referring to equipment, vehicles, buildings or materiel.

Attachment Method. The method of attachment of an IED to a target e.g. a vehicle, or anchor point should be characterized as Tied, Adhesive, Magnetic or Mechanical.

Battlefield Area Clearance (BAC). Systematic and controlled clearance of hazardous areas where the hazards are known not to include mines.

Biological and Chemical Munitions Disposal (BCMD). Any EOD operation conducted on conventional munitions containing either biological or chemical agents or the recovery of other containers containing toxic substances.

Booby-trap. Any device or material which is designed, constructed or adapted to kill or injure, and which functions unexpectedly when a person disturbs or approaches an apparently harmless object or performs an apparently safe act.
Source: CCW – AP II
NOTE: the term boobytrap is used by many involved in EOD to refer to refer to both:
1. Conventional anti-handling devices which can be used in association with mines or as clandestine devices.
2. Improvised explosive devices which utilize a victim operated firing switch more commonly referred to as VOIED.

From an EOD perspective, there is a difference between an anti-handling device, that has a level of quality assurance associated with its manufacture, and the switch used in a VOIED which owing to the improvised nature of the device or part thereof has a lower certainty of reliability in construction and method of function. For this reason, boobytrap is taken as a non-technical generic term, with the preferred terms of anti-handling device and VOIED the preferred technical terms. Not all persons qualified to dispose or render safe anti-handling devices are IEDD qualified which is a requirement to be qualified to dispose of or render safe VOIED.

Capability. The ability of an organization or entity to achieve a stated ability from the collective contribution of assets and the competent[84] to safely, effectively and efficiently operate them.

Capabilities of IEDD personnel. The capabilities of IEDD personnel refer the knowledge, skillsets, attitude and competencies that personnel are certified as being qualified with, in conjunction with the equipment and support available to them to effectively, efficiently and safely respond to an IED incident.

[84] The competency of personnel is considered to be combination of knowledge, skills and attitude of personnel in regard to a stated activity.

Clandestine Devices. Clandestine devices are EO items which are specifically designed for concealed emplacement or appear like an innocuous item which functions when a person carries out an apparently harmless act. They utilize anti-handling devices or other conventional firing mechanisms in conjunction with a conventional initiator and main charge. The term military boobytrap has been used in reference to clandestine devices in the past.
NOTE: They do not refer to anti-handling devices or other firing mechanisms fitted to ERW or other EO being used in a manner not in their intended design role which are considered to be IEDs.

Clearance. Procedures to ensure the removal and / or destruction of all explosive ordnance hazards from a specified area to an agreed standard.

Conventional Explosive Ordnance. All munitions containing explosives. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges; demolition charges, pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine; and all similar or related items or components explosive in nature.

Conventional Munitions Disposal (CMD). Any EOD operation conducted on conventional munitions.

Critical Equipment. Minimum equipment deemed to be essential in order for an IEDD capability to be effective, efficient and safe.

Delivery Method. An IED incident should be characterized if the IED was to be delivered by some means to its intended target. i.e. it is a non-static IED. Such delivery methods include: Vehicle borne (VB); Animal borne; Waterborne; Airborne; Person – proxy or suicide; Projected – Indirect/direct.

Demining / Humanitarian Demining. Activities which lead to the removal of mine and ERW hazards, including technical survey, mapping, clearance, marking, post-clearance documentation, community mine action liaison and the handover of cleared land. Demining may be carried out by different types of organizations, such as NGOs, commercial companies, national mine action teams or military units. Demining may be emergency-based or developmental.
Note the following in IMAS standards and guides in relation to demining:

- Mine and ERW clearance is considered to be just one part of the demining process;
- Demining is considered to be one component of mine action;
- The terms demining and humanitarian demining are interchangeable.

Source: IMAS 04.10

Designated IEDD authority. The national entity with responsibility for the conduct and standards by which IEDD is conducted in a defined geographical area. It is the national responsibility to designate a suitable entity to fulfil this role. In the case that no suitable functioning national mechanism exists, the UN may advise / propose a suitable entity to act as the designated authority.

Destroy in Situ. The destruction of any item of ordnance by explosives without moving the item from where it was found, normally by detonating an explosive charge alongside.
Source: IMAS

Detection Procedures. Those actions taken by any means to discover the presence of an item or substance of potential EO significance.

Device Orientation. When an IED is emplaced to specifically attack some part of a target e.g. underside/side/top, the device orientation should be characterized appropriately. When an IED intended purpose is anti-personnel, it is typical not to include device orientation in its tactical characterization.

Diagnostic Procedures. A collective term used in EOD that refers to both identification and evaluation procedures.

Do No Harm Approach.

The approach to be taken in all aspects of the design and delivery of an IED RE program., relating to unintended consequences as a result of the delivery of such a program, which includes:

a) Exposing the local populace to being harmed;
b) Educating those who intend to do harm;
c) Spreading the production and use of IEDs;
d) Increasing unnecessary fears;
e) Promoting civilians to 'clear' IEDs themselves.

Safe, Effective and Efficient.

The characteristics that all IEDD capabilities should have at all times in that the associated risk is assessed as tolerable, it achieves a desired outcome or end state within acceptable time, financial, personnel and other resource constraints.

Electronic Counter-Measures (ECM). The equipment, techniques and specialists within IEDD to temporarily inhibit or mitigate the threat posed by RCIEDs.

Emplacement Location. When statically employed IED emplacement should be characterized as Subsurface, Surface or Elevated.

Environmental Factors. In area evaluation, terrain, vegetation, weather, altitude, access and other local physical and meteorological influences that need to be considered in how they can impact an EOD incident.

Explosion. A type of IED incident in which involves the uncontrolled initiation or functioning of an IED. This type of incident also includes a partial explosion termed 'a partial' where only a part of the explosive train has functioned, in which case it should be expected that varying amounts of explosive or potentially dangerous items will be in situ.

Explosive Ordnance (EO). All munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices (IEDs); and all similar or related items or components explosive in nature.[85]
Source: IMAS 04.10, 2nd Ed, 01 Jan 03, Amd 7, Aug 14, Glossary of Mine Action

[85] Other definitions include demolition charges.

Evaluation Procedures. Those actions taken to analyze the results obtained from EOD identification procedures to assess the likely mode of action it's and associated hazards along with those in the locality.

Explosive Hazard. An explosive hazard is any hazard containing an explosive component. All explosive hazards encountered can be broken down into the categories: Mines, ERW, IEDs and components and precursor chemicals thereof.

Explosive Ordnance Disposal (EOD). The term EOD is a collective one that includes the procedures of detection, location, access, identification[86], evaluation[2], hazard mitigation, render safe, recording and recovery and final disposal used in the disposal of items of Explosive Ordnance (EO) or any hazardous material associated with an EOD incident.

EOD Procedures. The collective term referring to the following procedures, intended to result in the final elimination of an item of explosive ordnance; detection; location[87], access, identification, evaluation, hazard mitigation, rendering safe, component recording and recovery and final disposal.

Explosive Remnants of War (ERW). Refers to Unexploded Ordnance (UXO) and Abandoned Explosive Ordnance (AXO).
Source: CCW Protocol V

External IEDD Support. Refers to support which is non-organic to the IEDD team and needs to be provided from other elements. This support typically includes communications, medical, security, transport, search, ECM assets and situational awareness support.

Final Disposal. The action of elimination (complete destruction) of explosive ordnance hazards by EOD personnel. Final disposal may be achieved as part of the rendering safe of an item or EO or be separate actions taken after it has been rendered safe.

Hazard Mitigation Procedures. Application of control measures intended to reduce the likelihood of the initiation of an item of EO and / or the consequences of such an initiation.

Identification Procedures. Those actions taken to establish the make-up and characteristics of an item of EO.

Improvised. In the context of EOD, improvised is taken to refer to the design, construction and or placement of an item of EO or component thereof. Such items of EO or components thereof are made from materials available at hand and have one or more of the following characteristics:

- Not subject to quality control during manufacture;
- Use components not in their original design role;
- Employed in a manner that was not intended in its design.

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[86] Some definitions of EOD have the EOD procedures of identification and evaluation under the combined heading of diagnosis.

[87] Some definitions have the procedure of uncovering after accessing and before identification, however; for this definition uncovering is taken to be one method of locating the item of EO.

Improvised Explosive Device. 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 nonmilitary components.

IED Aggressor. Any person or group of persons or organization that has the intent and / or capacity to inflict or threaten physical violence through the use or threatened use of IEDs.

IED Awareness. A comprehensive set of IED theory presentations and practical lessons, which may include a written and or practical assessments, with the intent to provide or increase the knowledge of recipients in relation to IEDs, their threat and basic threat mitigation measures.

IED Clearance. Clearance of IEDs refers to tasks or actions to ensure the removal and/or the destruction of all IED hazards from a specified area to an agreed standard.

IED Disposal (IEDD). The collective term referring to the following EOD procedures, intended to result in the final elimination of an IED; detection, location, access, identification, evaluation, hazard mitigation, rendering safe, component recording and recovery and final disposal.

IEDD Organization. The entity that is permitted by the designated IEDD authority to undertake IEDD in line with agreed terms of reference written in line with the contents of the IEDD standards.

IEDD Clearance Plan. An IEDD clearance plan is the product of an incident appreciation in which safe, effective and efficient courses of action involving EOD procedures are developed in line with the assessed EO threat. All IEDD plans should have three COAs with a priority given to their execution and be mutually supporting in that if the first COA is unsuccessful the second can be used and so on until the IED is disposed of. The plan should consider what is the most dangerous outcome, the best outcome and the most likely outcome and mitigate the associated hazards of each appropriately. All IEDD Plans must be in line with the IEDD philosophy and principles.

IEDD Planning. IEDD planning refers to the processes of examining the IED threat for a given IED threat environment and determining the most appropriate IEDD capability that is required to address or mitigate the assessed threat. IEDD planning takes place on three levels of National Level, Area Level and Scene Level.

IEDD Policy. The strategic plan of the designated IEDD authority or in their absence the UN for a given country in relation to how IEDD activities are to be conducted by IEDD organizations. This policy will include detail on primacy of action within national security frameworks, authority to act, organizational structures and priorities and principles. It will outline the roles the different IEDD organizations may have.

IEDD Protective Equipment. Garments and equipment designed to protect an IEDD operator from the blast, fragmentation and thermal effects resulting from the unintentional initiation of an IED or another item of explosive ordnance.

IEDD Staff. Qualified IEDD personnel with appropriate technical experience and competencies coupled with the appropriate managerial skills to advise or lead UN Staff, designated IEDD authority and IEDD organizations involved in IEDD. It is the responsibility of the designated IEDD authority to determine what is a suitable and accepted as an experience.

IEDD Tasking Authority. A designated entity which provides operational control, planning, and administrative services related to a IEDD organization that is undertaking IEDD operations in a designated geographical area of responsibility. These cells receive notification of IEDD incidents, provide scheduling and control of IEDD teams and coordinate the completion of incident reports for onward passage to the designated IEDD authority.

IED Reporting Classifications.

Classification	DEFINITION
IED	4. IEDD action which results in the successful neutralization, disruption or dismantling of an IED. 5. Includes devices deliberately initiated by IEDD action where the aggressor's intentions have been frustrated, for example: a. Majority of explosive burnt before detonation occurs. b. Removal of device from target so that detonation occurs in a place where damage is reduced to a minimum. 6. Also includes: a. Fully primed devices from Finds e.g. Devices containing plain detonators and safety fuse. b. Successfully dismantled incendiaries. NOTE: For planned IEDD operations the main classification used will be an IED.
Explosion	A partial or complete functioning of an IED.
False	An IED related incident that is incorrectly identified though reported in good faith as an IED, which is subsequently categorized as a false alarm after positive Explosive Ordnance Disposal (EOD) action.
Find / Cache	An IED related incident that involves the discovery and/or recovery of an IED not yet emplaced or employed, IED components, and/or IED paraphernalia.
Hoax	An IED incident that involves a device fabricated to look like an IED, and is intended to purposely simulate one in order to elicit a response.
Turn-in	An IED related incident where an IED or component is turned over to friendly forces.

IED Incident Response. Procedures to ensure the removal and / or destruction of all IEDs and associated hazards which are located or detected not as part of an on-going planned IEDD operation but is reported or turned-in by another party after their discovery. IED incident response can only be undertaken by advanced IEDD teams and may be conducted in all types of operating environment including non-permissive environments as part emergency based IEDD.

IED Neutralization. Rendering safe of IEDs through the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components to prevent an unacceptable functioning of the device, with an emphasis on preventing the device functioning.

IED Risk Education. Activities which seek to reduce the risk of injury and casualties from IED by raising awareness of men, women and children in accordance with their different vulnerabilities, roles and needs, and promoting behavioural change including public information dissemination, education and training, and community IEDD liaison.

IED Threat Assessment. The processes of examining the IED threat for a given IED threat environment and determining the most appropriate IEDD capability that is required to address the assessed threat.

IED Threat Environment. A geographical designation, with in which there is the confirmed or assessed presence of IEDs.

IED Threat Picture. An assessment of the potential use of IEDs in a defined geographical area by a stated IED aggressor or aggressor(s) against a stated entity in terms of the technical complexity and tactical sophistication along with the aggressor(s) intent, capabilities and opportunities along with local factors.

IED Threat Mitigation (IED-TM). A whole of UN approach which focuses on the application of physical, procedural and training responses which can collectively be applied to mitigate the threats posed and consequences of IED attacks.

Information Management. The term 'Information Management' refers to the on-going specification of information requirements, its collection and analysis followed by the dissemination of relevant information to relevant stakeholders in a timely manner.
Source: IMAS 05.30 - Information Management for Mine Action

Infrastructure and Urban Space IED Clearance. Procedures to ensure the removal and / or destruction of all IEDs and associated hazards from buildings, structures, facilities and their immediate surrounding spaces. Building and infrastructure IED clearance is not conducted in non-permissive operating environments. It may be conducted in permissive operating environments as part of developmental based IEDD or in semi-permissive operating environments as part of emergency based IEDD and is only undertaken by intermediate or advanced IEDD teams.

Intended Purpose. Immediate and direct goals or objectives of an IED attack. Such objectives include: Anti-Infrastructure; Anti-Vehicle; Anti-Armour; Anti-Maritime; Anti-Air; Anti-Personnel (AP); TTP identification; Obstacle creation; Obstacle removal / Breeching.

Intent. The desired aim or purpose that an act is carried out with through prior thought and planning.

Internal Support. Refers to support which is organic to the IEDD team and is covered in the IEDD equipment chapter. Internal IEDD support includes IEDD equipment life cycle management which is required for IEDD equipment to remain serviceable and safe for use from purchase to disposal or end of life.

Lessons Learned. People, things and activities related to the act of learning from experience to achieve improvements

Local Factors. Those environmental and macro level factors that are identified as a result of an area evaluation undertaken as part of an EOD incident appreciation.

Local Environmental Factors. The local environmental factors within area evaluation, refer to terrain, infrastructure, vegetation, weather, altitude, access and other local physical and meteorological influences that need to be considered in how they can impact an IED incident.

Location Procedures. Those actions within an EOD task which results in determining the presence and position of an item or EO.

Macro Level Factors. In area evaluation, higher level local influences that need to be considered and how they can impact an IED incident. They set the incident in context with regards to the background situation and make an appreciation of how such factors can also influence potential threats. Typical macro level factors include socio-economic picture, political and security context, factions / groups, culture and on-going and recent IED activity.

Manual Actions. Steps carried out by an EOD operator in person as part of EOD procedures in close proximity to an item of EO or suspect item.

Manual Approach. An approach by an EOD operator into the estimated danger area circumference of an item of EO or suspect object, before or after neutralization.

Mobility Protection IEDD. Mobility protection IEDD refers to procedures to ensure the clearance of all IEDs and associated hazards obstructing the movement through or past a given location or area. Mobility protection IEDD can only be undertaken by advanced IEDD teams and may be conducted in all types of operating environment including non-permissive environments.

Modus Operandi. Method of operation; style of handling things.

National Level IED Threat Assessment. The processes of the designated IEDD authority examining the IED threat for the geographical area under their responsibility to determine the national IED threat picture and associated IEDD capabilities required by the IEDD organizations they will deploy to designated areas of responsibility. The national threat picture is informed by all source IED information fusion and the provision of IED analysis products by IEDD organizations under its control.

National Level IEDD Planning. Higher level planning to assess the present and potential future explosive hazard threats in a given country including in the wider region.

Net Explosives Quantity (NEQ). The total explosives contents of an ammunition, unless it has been determined that the effective quantity is significantly different from the actual quantity. It does not include such substances as white phosphorus, war gases or smoke and incendiary compositions unless these substances contribute significantly to the dominant source of potential harm of the hazard division concerned.

One Person Risk. A principle which requires that only one operator be within the assessed danger area of an IED during any part of a render safe procedure.

Open Area IED Clearance. Procedures to ensure the removal and / or destruction of all IEDs and associated hazards from a specified area to an agreed standard.

Opportunity. The assessment of the chances of a set of circumstances that makes it possible for an aggressor to carry out an attack.

Other Devices. Manually-emplaced munitions and devices including improvised explosive devices designed to kill, injure or damage and which are actuated manually, by remote control or automatically after a lapse of time.
Source: CCW – AP II

Permissive, Semi-Permissive and Non-Permissive Operating Environments. A categorization of the operating environment in which IEDD operations are undertaken to allow for the appropriate planning and resource allocation of security assets as well

and the appropriate TTPs to be utilized to mitigate the assessed threat. When assessing the operating environment in this manner, it is always considered in terms of the threat facing the IEDD personnel.

- ***Permissive*** refers to an operational environment, typically in peacetime, where there is support from the local population.
- ***Semi-permissive*** refers to operations in a potentially hostile environment where the support from the local population cannot be depended upon.
- ***Non-Permissive*** refers to a hostile environment where adversaries and / or unsupportive local population pose a continuous threat.

Positive EOD Action. Any action taken during an EOD task which has the potential to influence or alter the state of the firing switch or mechanism of an item of explosive ordnance.

Pre-deployment Training. All activities that aim to impart the knowledge, skills and attitude (KSA) deemed necessary to complete assigned tasks in a safe, effective and efficient manner prior to becoming operational.

Projected IED. IEDs involving improvised projected mortars, rocket assisted mortars and free flight rockets.

Protection. Protection is understood as all measures and means employed to minimize the vulnerability of personnel, facilities, equipment during operations posed by any threat and in all situations, to preserve freedom of action and the operational effectiveness.

Recording and Recovery Procedures. Those actions taken to document and retrieve items of EO or components thereof that are in an acceptable state of safety. These procedures including the reporting of EOD incidents.

Remote Actions. Remote actions are those that can be carried out without the need for the operator to approach or be in close proximity to the IED. The use of a ROV fitted with injectors is an example of a remote action.

Remote Control. Control by commands from a distance.
Source: CCW – AP II

Render Safe Procedures (RSP). The application of special EOD methods and tools to provide for the interruption of functions or separation of essential components to prevent an unacceptable detonation.
Source: IMAS Glossary

Risk. Combination of the probability of occurrence of harm and the severity of that harm.

Risk Analysis. A process which evaluates the likelihood of the assessed threat impacting an organization and the severity of the consequences of those threats.

Safe Waiting Periods. Safe waiting periods are waiting times which an EOD operator must allow to elapse, prior to making a manual approach. The times are mandatory and cover both the primary and secondary safe waiting periods.
Note: the term soak time is used in some EOD communities to refer to safe waiting periods.

Scene Level IED Threat Assessment. The processes of an IEDD team or number of teams examining in the field the IED threat for a given area or IED task. It can involve

deliberate planning in the case of area IED clearance and urban space clearance, be completely dynamic planning as in the case of mobility protection or IED incident response, but all IED tasks require in-going dynamic threat assessments throughout their execution. Scene level IED threat assessment is informed by area level planning and it in turn informs area level planning through the reports of IED incidents it undertakes.

Scene Level IEDD Planning. Scene level IEDD planning is the planning associated with individual IEDD tasks which are typically bounded in terms of space or time. It can involve preplanned tasks in the case of IED area clearance or urban space and infrastructure clearance, or it can involve dynamic planning as in the case of mobility protection or IED incident response. Scene level planning is informed by area level planning, and it in turn informs area level planning through IED incidents reports.

Scene Threat Assessment. An assessment of an IED task from information gathered through observation, map analysis, witnesses, surveys and all other means allowing an area evaluation in support of a threat assessment leading to threat integration from which possible courses of action are identified as part of a safe, effective and efficient IEDD plan.

Secondary Hazards. Secondary hazards are other hazards present at the scene of an EOD task which are not directly a consequence of the EO item but a hazard due to its proximity to the EO item within the danger area of the EO item. Examples of secondary hazards include fuel sources, dangerous chemical or radiological substances, electrical supplies, glass fronted buildings, unstable buildings, rubble or other ground as well as biological hazards.

Semi-remote Actions. Steps carried out by an EOD operator requiring an approach into the estimated danger area circumference of an item of EO or suspect object to place or fit a weapon or tool. The tool or weapon is then operated remotely.

Skill Fade. Signs of regressing KSA may be identified/observed through routine monitoring, inspections, or as a result of a task while performing tasks.

Status Of Forces Agreement (SOFA). Status Of Forces Agreements (SOFAs) are bilateral or multilateral treaties that define the legal position of military forces deployed by one or more states or by an international organization in the territory of another state with the latter's consent.

Status Of Mission Agreement (SOMA). Status Of Mission Agreements (SOMAs) are bilateral or multilateral treaties that define the legal position of uniformed (military and police) and civilian personnel deployed by one or more states or by an international organization in the territory of another state with the latter's consent.

Sustainment. The provision, replacement and rotation of personnel in organizational structures along with the associated materiel with the necessary means and facilities, to fully meet operational demands.

Task Appreciation. An assessment of an EOD task from information gathered through observation, map analysis, witnesses, surveys and all other means allowing an area evaluation in support of a threat assessment leading to threat integration from which possible courses of action are identified as part of a safe, effective and efficient EOD plan.

Threat Assessment. Evaluation of the likely intent and capabilities of an aggressor along with local factors, involved or potentially involved in an EOD incident.

Threat Integration. The process of combining aggressor intent and aggressor capability with local factors to identify those areas and activities that, when observed, will confirm or deny the aggressor's likely chosen course of action. This will inform the IEDD operator of critical points and weaknesses within the situation or incident which may be exploited for use in the developing a safe, effective and efficient COAs to deny the aggressor of their intent.

Unexploded Explosive Ordnance (UXO). EO that has been primed, fuzed, armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason.
Source: IMAS

Victim Operated IED (VOIED). An IED with a firing switch that is activated by the actions of an unsuspecting individual, relying on the victim to carry out some form of action that will cause it to function.

Vulnerable Area (VA). Areas where the ground lends itself to IED or small arms light weapons attack.

Vulnerable Point (VP). Specific points where it is particularly advantageous for an aggressor to position an ambush, using either IEDs, SALW, or both. VP are typically characterized by prominent or restrictive feature or choke point on the ground. Several factors pertaining to aggressor capability, intent and local factor use will contribute to the vulnerability of a specific point.