

Journal of Conventional Weapons Destruction

Volume 21

Issue 1 *The Journal of Conventional Weapons
Destruction Issue 21.1*

Article 3

April 2017

Improvised Explosive Devices (IED): A Humanitarian Mine Action Perspective

Robert Keeley
RK Consulting, Ltd.

Follow this and additional works at: <http://commons.lib.jmu.edu/cisr-journal>

 Part of the [Defense and Security Studies Commons](#), [Emergency and Disaster Management Commons](#), [Other Public Affairs, Public Policy and Public Administration Commons](#), and the [Peace and Conflict Studies Commons](#)

Recommended Citation

Keeley, Robert (2017) "Improvised Explosive Devices (IED): A Humanitarian Mine Action Perspective," *Journal of Conventional Weapons Destruction*: Vol. 21 : Iss. 1 , Article 3.
Available at: <http://commons.lib.jmu.edu/cisr-journal/vol21/iss1/3>

This Article is brought to you for free and open access by the Center for International Stabilization and Recovery at JMU Scholarly Commons. It has been accepted for inclusion in Journal of Conventional Weapons Destruction by an authorized editor of JMU Scholarly Commons. For more information, please contact dc_admin@jmu.edu.

FEATURE

IMPROVISED EXPLOSIVE DEVICES (IED): A HUMANITARIAN MINE ACTION PERSPECTIVE

by Robert Keeley

Readers of this *Journal* need no schooling in the acceleration of the use of improvised explosive devices (IED) over the last 20 years. However, what has become obvious in the last few years is the degree to which the spheres of counter-IED (C-IED) and humanitarian mine action (HMA) now overlap. Danish Demining Group (DDG), for example, recently calculated that an estimated 67 percent of the countries where DDG is present also have an IED problem. In countries such as Afghanistan, IEDs are now the major cause of explosive-related casualties among the general population, the very constituents nongovernment organizations (NGO) and HMA sectors support. This raises questions of whether or not an NGO engaged in C-IED efforts can be classically impartial in circumstances where these IEDs are active. This is a significant difference for a sector primarily focused on dealing with the legacies of conflict that are explosive remnants of war (ERW). Yet, while undertaking a series of risk assessments to help identify an appropriate approach for an NGO active in HMA, it became clear that there was a need for better common terminology in order for HMA actors to identify the appropriate response. The aim of this article is to outline how this thought process evolved in DDG in order to set the ground for subsequent discussion of these risk-analysis processes.

What is an IED?

The name says it all. An IED is an explosive device that is made in an improvised manner. British parliamentarians currently define an IED as:

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.¹

This term hides a multiplicity of variations: it might be a device based on a recycled item of unexploded ordnance

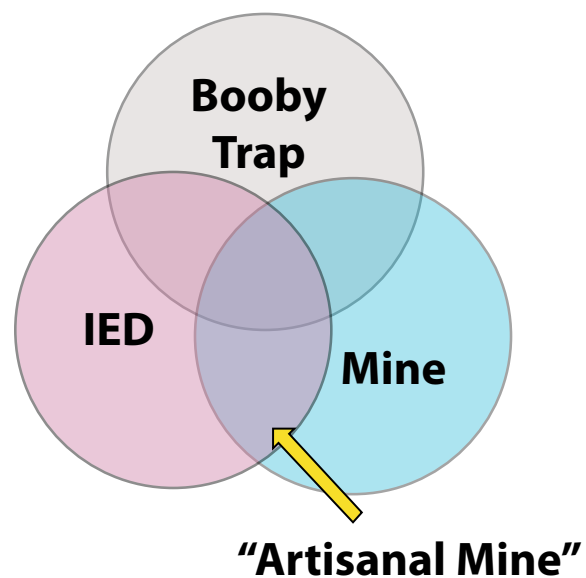


Figure 1. How IED terms overlap.
Figure courtesy of the author.

(UXO), or built around a repurposed item of abandoned explosive ordnance (AXO) found in an unsecured or raided ammunition stockpile. It might also be built from scratch from homemade explosives (HME). However, the common factor amongst these variations is that these constructions are improvised as opposed to factory-made, standardized weapons used for their intended purpose. In summary, the term IED is about **how the weapon is made**.

What is the difference between an IED, a booby trap, or an improvised mine? Not much, in some cases. A booby trap is defined as follows:

An explosive or non-explosive device, or other material, deliberately placed to cause casualties when an apparently harmless object is disturbed or a normally safe act is performed.²

Security incidents are all enemy action (i.e. enemy-initiated direct fire and indirect fire i.e. mortar, rocket and artillery, surface-to-air fire, and explosive hazard) events to include executed attacks (i.e. IED explosion, mine strike) and potential or attempted attacks (i.e. IEDs, mines found & cleared, premature IED detonations, IED turn-ins) which are not included.

Security incidents do not include friendly action incidents such as direct fire and indirect fire that are initiated by friendly forces. Enemy-initiated attacks are all enemy action (i.e. enemy-initiated direct fire, indirect fire, surface-to-air fire) and explosive hazard events to include executed attacks only (i.e. IED explosions and mine strikes). Potential or attempted attacks (i.e. IEDs/mines found & cleared, premature IED detonations, IED turn-ins) are not included.

IED events comprise explosive hazard events, both executed (i.e. IED explosion/mine strike) and potential IED/mine attacks (i.e. IEDs/mines found & cleared, premature IED detonations, IED turn-ins).

A complex attack is an attack conducted by multiple hostile elements which employ at least two distinct classes of weapon systems (i.e. indirect fire and direct fire, IED, and surface-to-air fire) against one or more targets.

Figure 2. NATO weapons definitions from Afghanistan. Note that this does include reference to “legacy” incidents from explosive remnants of war.

Figure courtesy of UNMAS.

One can immediately see how easily these two terms overlap. It is possible to set up an IED to produce such a situation. Yet the term booby trap can also apply to non-explosive traps (e.g., punji sticks in Vietnam) and a command-detonated IED is not necessarily linked to the person carrying out an apparently harmless act. If the term IED is about how the device is made, the term booby trap describes **how the device is set up to function**.

Thirdly, one must consider how improvised or artisanal mines fit into this taxonomy. The 1997 *Anti-Personnel Mine Ban Convention* (APMBC) defined a mine as:

*any munition placed under, on or near the ground or other surface area and designed to be detonated or exploded by the presence, proximity or contact of a person or vehicle.*³

Here we see another overlap. Mines are commonly factory-built, but it is quite possible to make a victim-operated IED. The mine definition is about **how the device is initiated**.

One could easily spend time wrestling with these definitions. Take any particular device: which one of these categories does it fit into? In many cases, a given device can fit in two, sometimes even three, categories at once. Because these terms developed from different historical roots, they overlap and describe different attributes of the device: the way it is constructed, the way it is set up, and the way it is initiated (Figure 1, page 5). If the terms aren't used correctly, there is a risk of over-reporting the problem. Secondly, because of their improvised nature, IEDs often require different training and equipment for counteractions; if the problem is misunderstood, the balance of training and other resources will also be wrong.

Moreover, there have been efforts to adjust the definition of **booby trap** to only cover factory-built devices. From the

author's perspective, this attempt to square the definition circle is not helpful. The terms describe different attributes, and trying to make them fit a convenient perspective could simply add further confusion.⁴ Perhaps a booby trap is not a separate type of weapon but merely another method of deployment.

How do IEDs fit into the spectrum of explosive incidents? In situations of counterinsurgency, asymmetric warfare, or internal security, the civilian population, civil power, humanitarian actors, and security forces face a range of different explosive threats, of which IEDs are only part of the spectrum. NATO's early work in Afghanistan helps to untangle the range of these threats.⁵ Figure 2 was developed as a risk assessment carried out by the author on behalf of the U.N. Mine Action Service (UNMAS) in Mali in October 2015.

Figure 3 (page 7) helps clarify a number of points. First, current security incidents (case 2) can stand alongside incidents from legacy weapons (case 1). In fact, these legacy weapons led to the establishment of the HMA sector. Second, current and active security incidents can involve a range of weapons that are not IEDs, including direct fire, indirect fire from factory-built mortars, surface-to-air missile (SAM) attacks on civil aircraft, or placement of factory-built anti-tank mines—all of which are significant but not IED incidents. It should also be noted that, for clarity, the diagram does not include the range of criminal weapon uses that might be included under a wider definition of armed violence (case 3) such as armed robbery, inter-communal disputes, or even domestic violence.

How Do We Describe Different IEDs?

During the 20th century, simpler terms were in use such as letter bombs, parcel bombs, unattended bags, and car bombs.

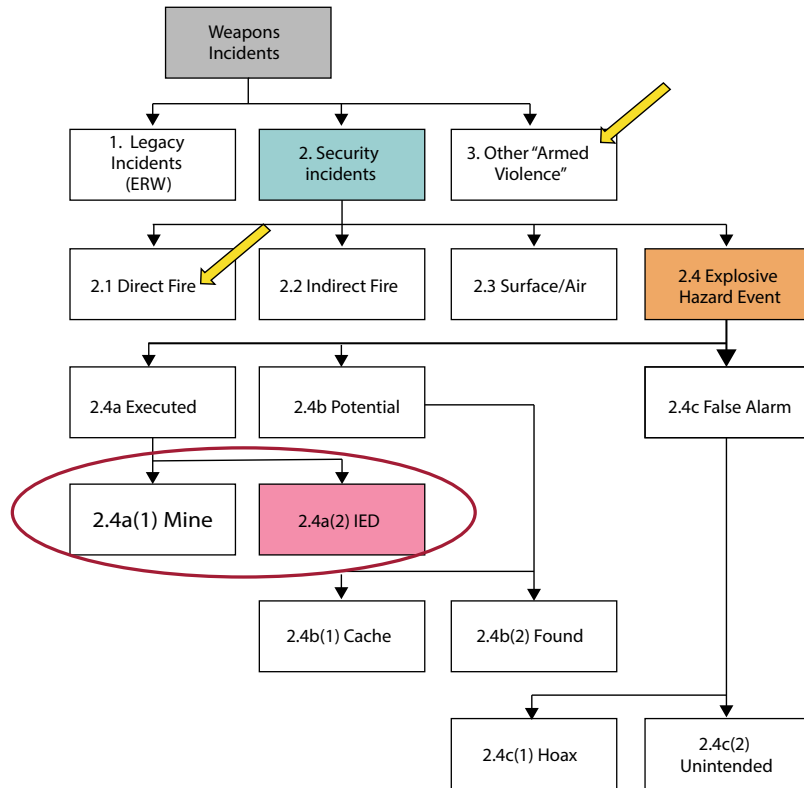


Figure 3. Description of IEDs.
Figure courtesy of the author.

These terms were not precise but counter-IED personnel knew what they meant. In recent years, there has been a significant proliferation of terms (particularly involving acronyms) intended to make our vocabulary more exact. However, this article argues that the opposite was achieved. We now have vehicle-borne IEDs (VBIED), victim-operated IEDs (VOIED), command wire detonated IEDs (CWIED), suicide vehicle-borne IEDs (SVBIED), improvised rocket-assisted munitions (IRAM), etc. While it is comparatively easy to learn what these acronyms mean, perhaps they obscure what is actually needed for a fuller analysis.

These terms describe one or both of two main attributes of IEDs: the nature of the containment and the means of initiation. Thus a VBIED can be command detonated by wire (CWIED) or remote control (RCIED), it could be detonated on a timer, victim-operated (VOIED) or be operated by a suicide bomber (SVBIED). So, which one of these is it?⁶

Currently, organizations tend to use a reporting form with a list of boxes for each of these terms and ask reporting officers to select one. This fails the rule of lists, which requires a list to be both mutually exclusive and collectively exhaustive.⁷ One-dimensional lists simply cannot consider something with two variable attributes without significantly more

letters. Yet an IED in a car initiated by a command wire could be reported by a peacekeeping contingent as a VBIED while another unit records an identical device as a CWIED. There are two implications. The security forces will be unable to correctly analyze the threat and design the appropriate response if the dataset is incomplete. Additionally, it will be harder to design appropriate risk education from the humanitarian perspective if both attributes are not clearly understood.

Risk is a precise mathematical term that considers both the probability of a particular incident occurring and the severity of its outcome. The containment of an IED and its size speaks directly to the severity of the potential outcome. A Unabomber-style letter bomb can potentially hurt one or two people; a van full of ammonium nitrate can bring down an entire federal building in Oklahoma, whereas the means of initiation speaks to the probability of the incidence.

Furthermore, good risk education processes discuss and suggest safe behavior. In order to do this, it is critical that the people designing

the risk education programs have a good understanding of the typical means of initiation used in order to provide advice on indicators, safe behavior, and containment.⁸

As a result, a matrix is the suggested means of describing and recording IED incidents, rather than a simple list of terms (Figure 4, page 8).

Implications for Humanitarian Actors

There is clearly an overlap of IED, booby trap, and mine definitions. The terms are not interchangeable. The C-IED and HMA practitioners stand to benefit from recognizing this, as they set the basis for the rest of the taxonomy. Moreover, IEDs are only one part of a series of explosive and weapon-related hazards that might be faced in a particular country, including legacy ERW, attacks using factory-made weapons, and weapons used in other incidents of armed violence that are not terrorist or insurgency related. Classification of IED incidents, both in terms of containment and means of initiation, is important. By understanding the problem in terms of C-IED efforts, the community can appropriately target risk education messages with safe behavior.

As previously stated, while IEDs can consist of legacy weapons, they are unlike ERW (in the context of HMA) in that they are often active. While some countries may have fields of

Ser	Means of containment	Typical means of Initiation						Remarks
		Timer	Remote Controlled (RCIED)	Command Wire (CWIED)	Victim operated (VOIED)	Suicide	Other	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1	Letter bomb				x			
2	Pipe bomb	x						
3	Person-born IED (PBIED)					x		Suicide vest
4	Mortar or rocket						x	May be an improvised weapon or factory-made weapon using improvised launcher
5	Buried bomb		x	x	x			Improvised mine when operated by victim
6	Box/briefcase/bag	x	x	x	x			Includes typical roadside bomb, such as palm oil container
7	Vehicle born IED (VBIED)	x	x	x	x	x		Could be divided into small, medium or large

Figure 4. DDG IED classification matrix.
Figure courtesy of the author.

legacy improvised mines such as Sri Lanka, these are still the exception rather than the rule. The entire HMA sector is based on the assumption that when a conflict is over, the population will be united in wanting ERW removed. In an active conflict, clearance of active IEDs by HMA actors may be seen as a hostile act. While it may be possible for commercial civilian operators to deal with this, it is difficult for NGO actors to take a similar position. NGO personnel must already deal with the dilemma that they cannot be truly impartial, and an NGO that clears active IEDs is effectively taking part in the wider counterinsurgency. The security implications for the staff of that NGO are significant. Yet, some donors are asking NGOs to undertake IED disposal (IEDD); thus a wider understanding and discussion of the issues are critical for everyone's clarity of purpose.

DDG has already looked at creating a more detailed risk analysis for organizations wishing to undertake IED risk education. Furthermore, DDG is working to understand the steps needed for a humanitarian organization considering whether or not to undertake IEDD as humanitarian action: both of which might merit further discussions in later papers. ©

See endnotes page 64

The original article first appeared in the Counter-IED Report, autumn 2016 edition. It has been edited for The Journal.

Dr. Robert Keeley
Chief Technical Advisor
Danish Demining Group



Dr. Robert Keeley is a former British Army bomb disposal officer who has worked in humanitarian mine action since 1991. His work has taken him to many countries including Afghanistan, Bosnia, Cambodia, Croatia, Kuwait, Libya, Mali, Nigeria, Somalia, and Yemen. His work has encompassed a wide range of mine action and explosive ordnance disposal activities, including design and provision of mine risk education projects and victim assistance. Between 2002 and 2006, he researched and completed a Ph.D. in Applied Environmental Economics at Imperial College, London. His thesis was entitled "The Economics of Landmine Clearance." Since 2014 he has been the chief technical advisor for Danish Demining Group.