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

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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 (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
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.

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 wresting 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. 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. 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.
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-born 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?

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 VBIIED 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

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Figure 3. Description of IEDs.  
*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

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Table: DDG IED classification matrix.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Means of containment</th>
<th>Typical means of Initiation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Timer</td>
<td>Remote Controlled (RCIED)</td>
</tr>
<tr>
<td>(a)</td>
<td></td>
<td>(b)</td>
<td>(c)</td>
</tr>
<tr>
<td>1</td>
<td>Letter bomb</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pipe bomb</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Person-born IED (PBIED)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Mortar or rocket</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Buried bomb</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Box/briefcase/bag</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Vehicle born IED (VBIED)</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4. DDG IED classification matrix.

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

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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.