



NDMUN22

Innovations in Mine Action

(Part I)

Chair: Ms. Celine Francois, Senior Programme Officer, West & Central Africa and Colombia Programmes, UNMAS

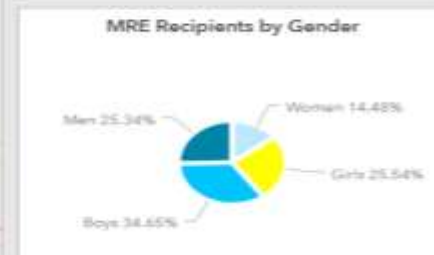
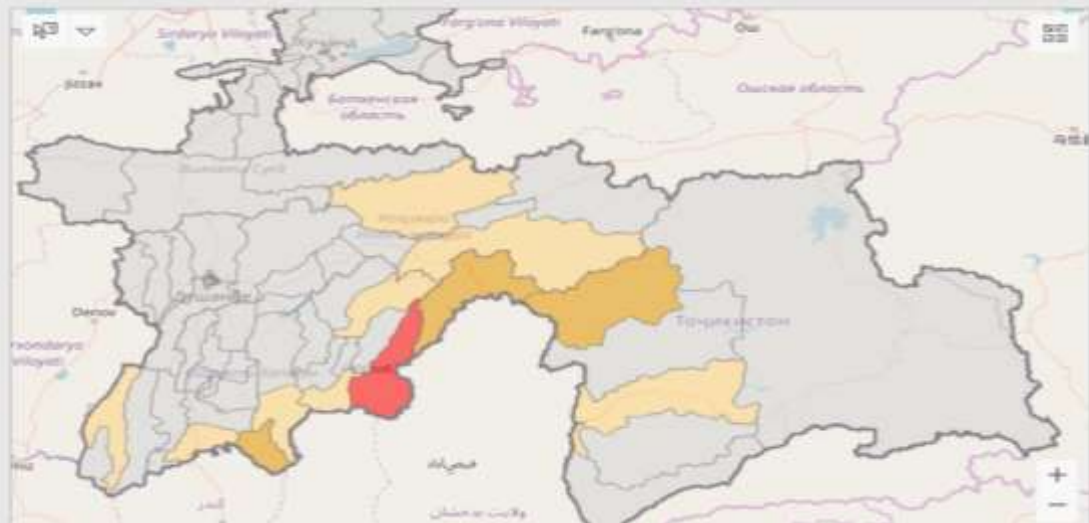
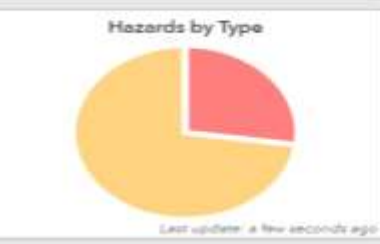
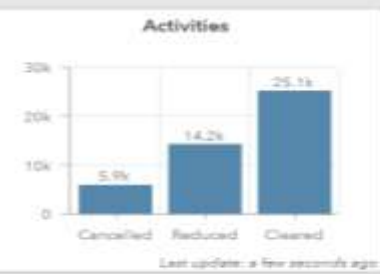
Panelists:

- **Mr. Henrik Rydberg**, Consultant Information Manager Advisor, GICHD
- **Mr. Roly Evans**, Advisor, Land Release, Operational Efficiency & Training Development, GICHD
- **Dr. Sandra Bialystok**, Digital Media Coordinator, GICHD
- **Mr. Nick Torbet**, Head of Programme Development / Global Chief Technical Advisor (IEDD), The HALO Trust
- **Mr. Jean-Guy Lavoie**, Programme Manager, UNMAS Mali
- **Mr. Paul William Fotheringham**, Founder, 3D LifePrints
- **Mr. Will Meurer**, IED Threat Mitigation Advisor, UNMAS

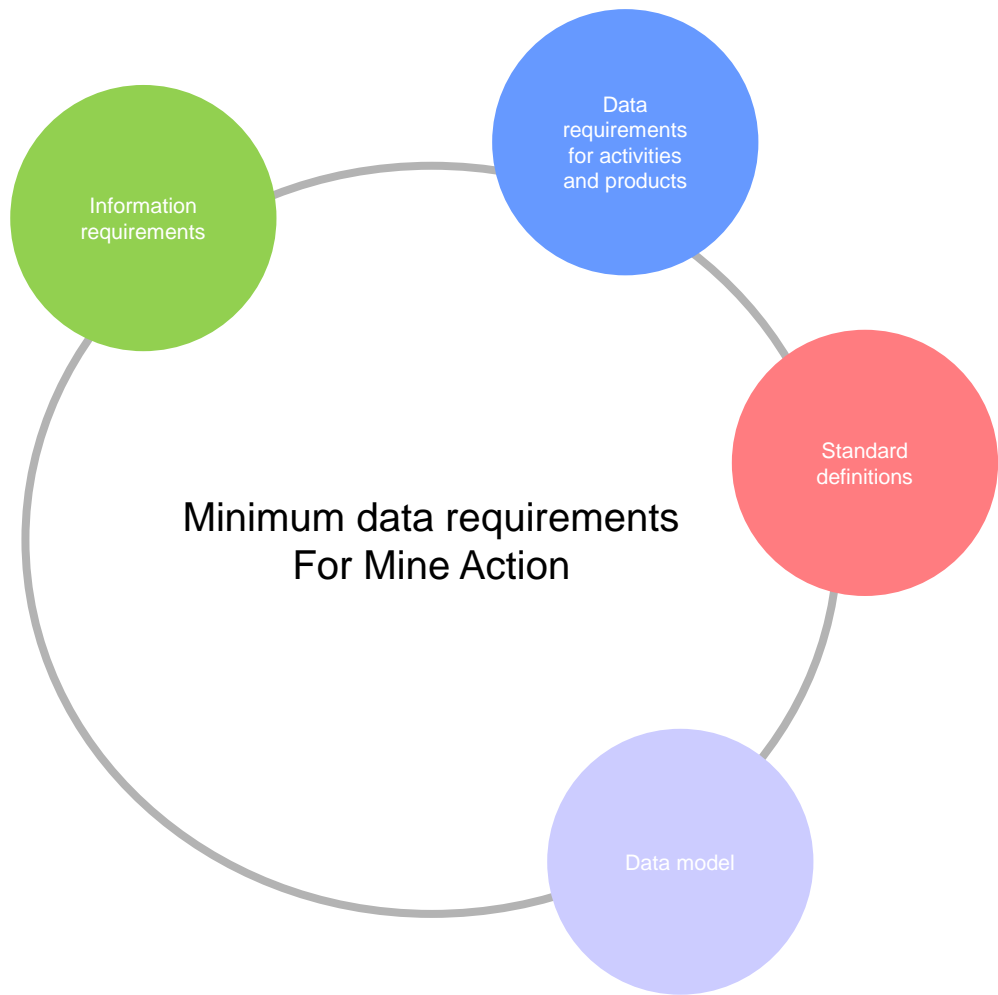
Innovations in Mine Action

22nd International Meeting of
National Mine Action Programme Directors and
United Nations Advisers

Part I



Minimum data requirements for Mine Action



Information requirements

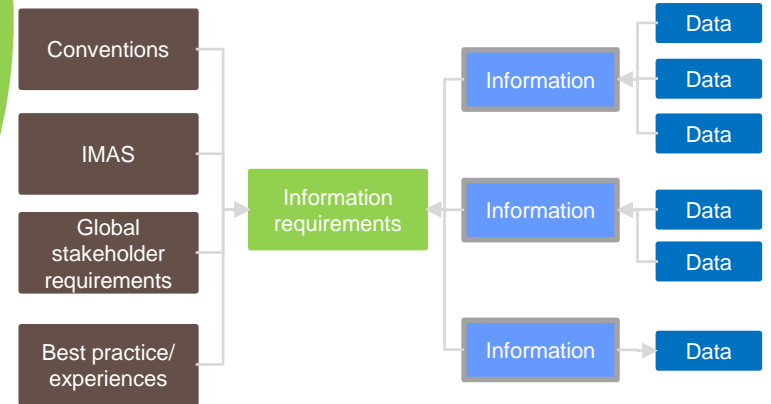
Global information requirements collected from Mine Action stakeholders
Through research, workshops and consultations

Conventions – APMBC, CCM, CCW

IMAS

Stakeholder requirements

Experience and best practice



Data requirements for activities and products

Data requirements grouped in elements based on
MA activities and products

Required data fields per element

Definitions of data types

Naming conventions for data fields
to enable easy identification

2.11 Accident

Information	Data Field	Field Name
Report info	Accident ID	<u>acc_id</u>
	Accident report date	<u>report_dt</u>
	Organisation	<u>org</u>
Location	Geographic location reference point	<u>ref_point</u>
Accident details	Accident date and time	<u>acc_dt</u>
	Accident/incident	<u>acc_inc</u>
Accident device	Device category	<u>dev_cat</u>

Standard definitions

Definitions for key terms and measurements

Domain lists

Methods and units for measurements

Activity at time of accident

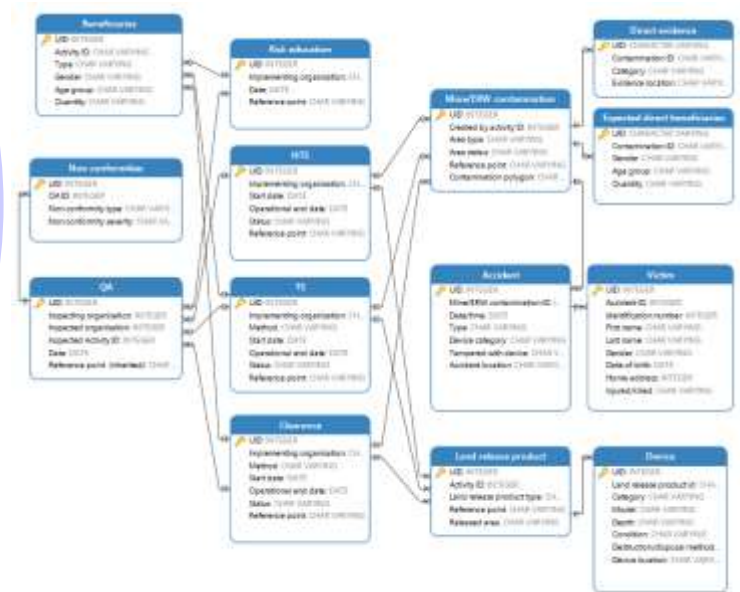
- Collecting food
- Collecting wood
- Construction
- Farming
- Handling Mine/ERW

Data model

A suggested model for the storage of minimum data requirements

Scalable

Open for change



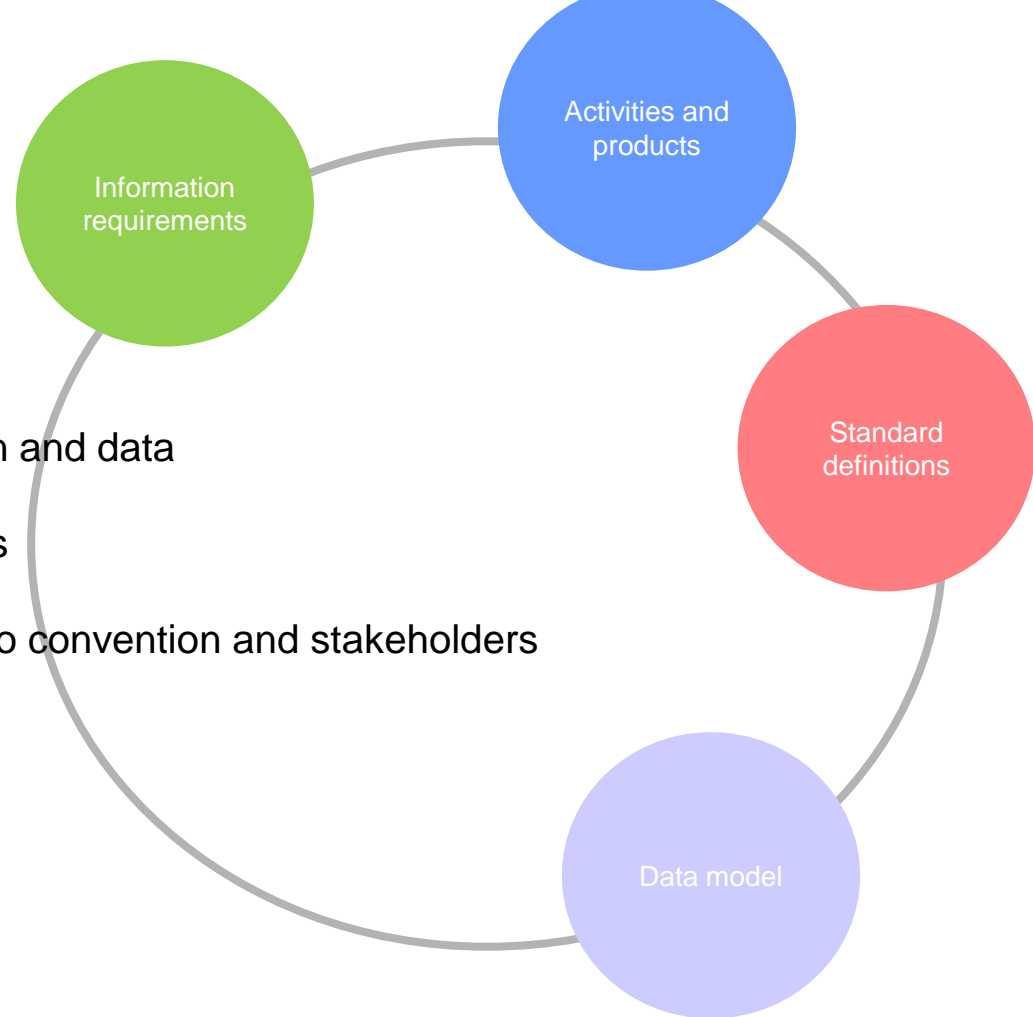
Results

Consistent collection of key data globally

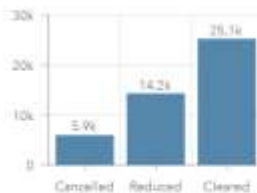
Common understanding of MA information and data

Ability to compare data between programs

Ensuring availability of data for reporting to convention and stakeholders



Activities



Last update: a few seconds ago

Hazards by Type



Last update: a few seconds ago

Number of Victims

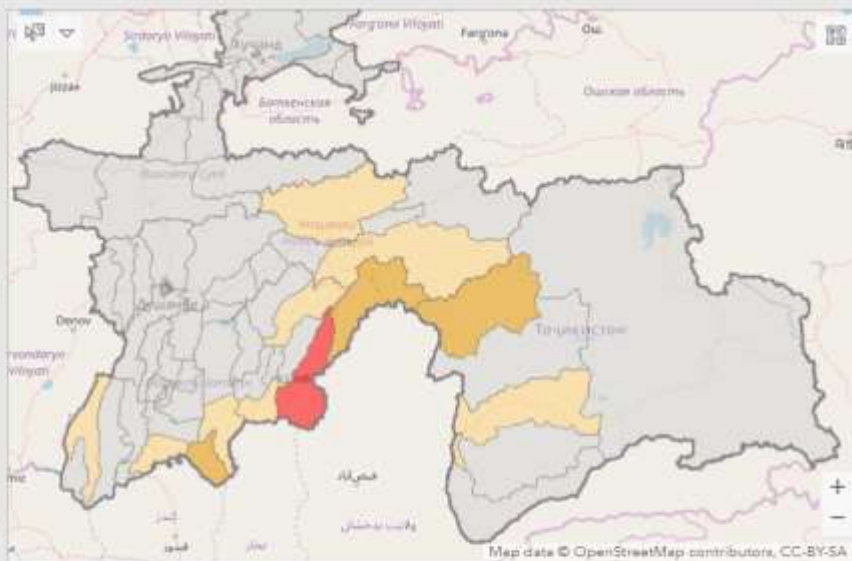
838

Last update: a few seconds ago

Contaminated Area Released



Last update: a few seconds ago



Legend

Current Contamination

remaining:

Heavy

Medium

Light

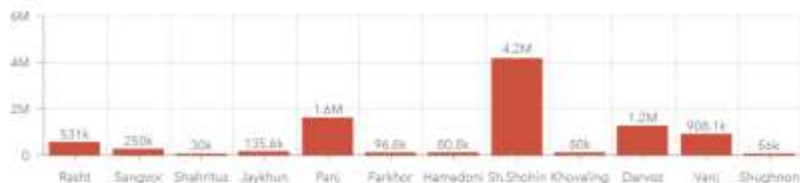
None

MRE Recipients by Gender



Last update: a few seconds ago

Contamination by District (sq.m)



Last update: a few seconds ago

MRE by District



Wednesday, October 24, 2018



E-LEARNING PLATFORM CASE STUDY LIBRARY

WHAT IS THE CSL?

- Too much experience is left in the field and lost – we want to help change that.
- The new GICHD Case Study Library (CSL) captures and records best practice from the field.
- This best practice is then presented online in a way that maximises engagement from as many Mine Action participants as possible.



Capturing best practice from the field

WHAT IS THE CSL?

- The CSL will complement existing journals and guides by providing a platform for recording operational detail with many illustrations.
- We will present a range of operational activities that may fall under Mine Action.
- These might be classical land release activities, EOD, MRE activities, VA activities, AMD activities.
- We are keen to work with partners to show their good work in the field.



GICHD CASE STUDY LIBRARY



CASE STUDIES SO FAR

- Clearance of Pattern minefield in the Falklands/Malvinas.



Capturing best practice from the field

CASE STUDIES SO FAR

- Clearance of the Skallingen Peninsula.



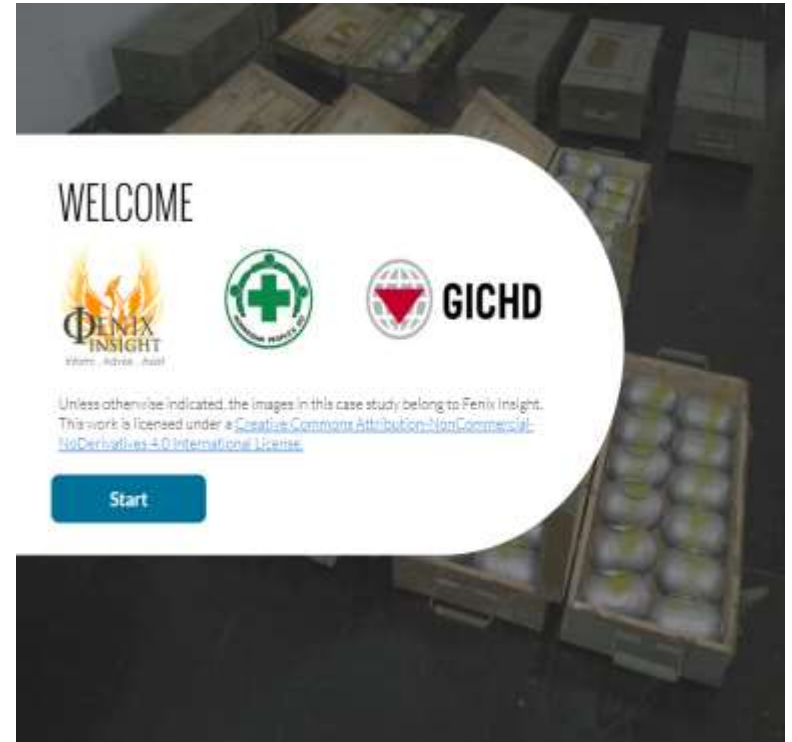
GICHD CASE STUDY LIBRARY



Capturing best practices from the field

CASE STUDIES SO FAR

- Disarmament of Cluster Munition Stockpiles (SHADOW).



CASE STUDIES SO FAR

- The Ageing of Ammunition.



CASE STUDIES SO FAR

- Key Performance Indicators in Mine Action.



CASE STUDIES SO FAR

- Use of GIS in Mine Action.

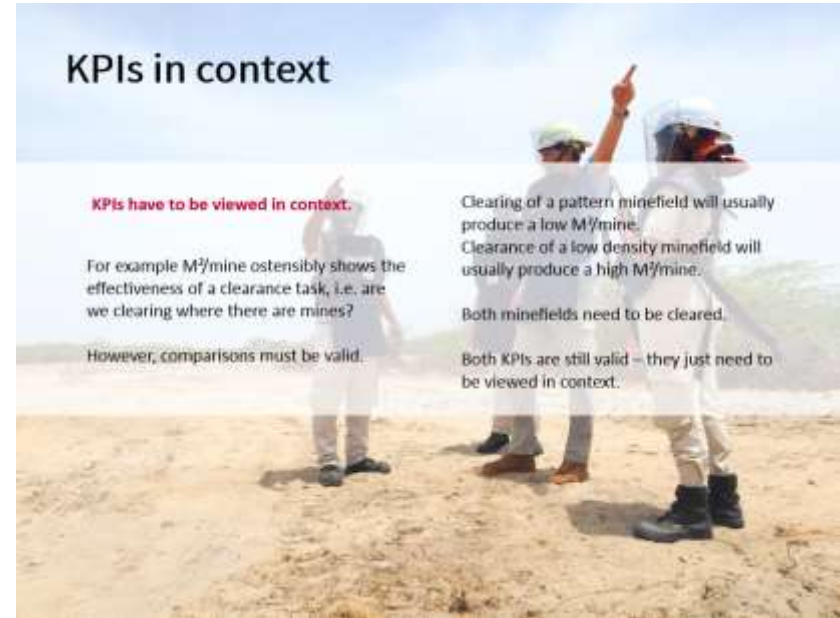


This series of case studies disseminates results and practical advice on UAS operations. We encourage you to share your own UAS case studies.

- Explore **WHAT** unmanned aerial systems (UAS) imagery enhance land release activities through case studies.
- Learn **HOW** to enable your organization with UAS operations.

PARTNERS

- The GICHD is looking to partner with Mine Action operators in order to capture their best practice and present it in a professional and educational way.
- Partners have editorial control over content.
- Full credit is of course given to partners and donors.
- GICHD does all the work.



PLEASE COME TO FIND OUT MORE

- The CSL stand is in the corridor.
- Please come and talk with the GICHD Training Development Team to see the content we have already and discuss possible collaboration in the future.





Why VR







كان يشرب ويتأخر بذلك في أشعاره، فقد قال
شعبة كرم بروج
لمشرفها الساتي ومشرها يحي



عاب الغراب صفت: مع الر وسح لئمه طيب من النبي يبري

ومع اللاغل على كفتيها العبد لعنه الله: —
فقد ذكر المؤرخون كلهم، أن يزيد احتقل يقتل الإمام أبي عبد الله

CREATORS CLUB

SUMMER 2019









MOSTRA INTERNAZIONALE D'ARTE CINEMATOGRAFICA



MOSTRA INTERNAZIONALE
D'ARTE CINEMATOGRAFICA
LA BIENNALE DI VENEZIA
29.00





Home
After War

Gayatri Paramasivan
Jessa Goodwin





Thank You!



gichd.org



War amongst the people: Urban Survey in the Middle East and North Africa



Nicholas Torbet
Head of Programme
Development/Global CTA IEDD













Where the new challenges lie...



Where the new challenges lie...



Where the new challenges lie...





Where the new challenges lie...





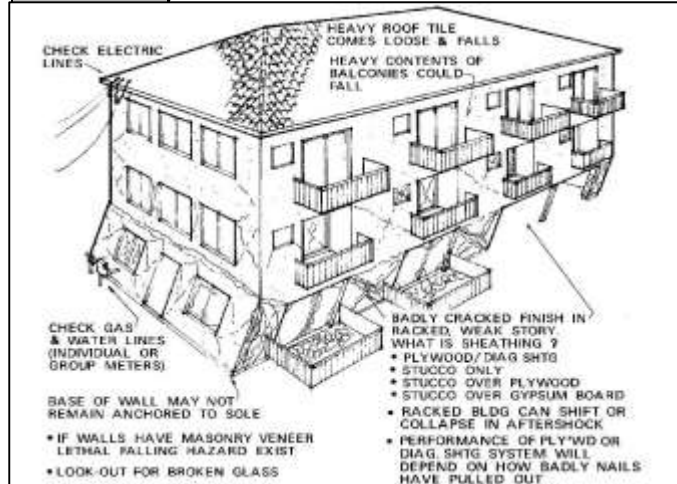
Innovations and Opportunities: Survey Enabling Reconstruction



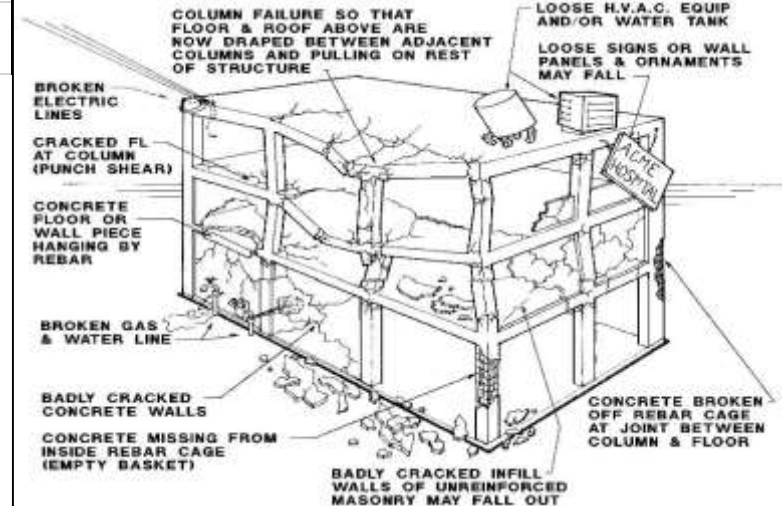


Innovations and Opportunities: Harnessing expertise outside of Mine Action

1. Multi Story Light Frame Building	
Characteristics	<p>Mostly wood frame, box type – up to 4 floors</p> <p>Residential or Light Commercial</p>
Expected damage	<p>Earthquake – Common failure is ductile racking (tilting) of first story. Tilted floors/stories may subsequently collapse following aftershocks</p>
	<p>Explosion – Walls become disconnected from floors (horizontal diaphragms), leading to part or total collapse.</p>
	<p>Fire – Rapid combustion and collapse unless fire resistant. Light wood truss systems are especially hazardous</p> <p>High energy/non-explosive projectile impact – Little resistance to collapse in immediate area of impact. Remainder of structure remains stable</p>



6. Heavy Floor Buildings	
Characteristics	<p>Concrete frames, may have concrete walls or brick/masonry infills</p> <p>Office, commercial</p>
Expected damage	<p>Earthquake – Brittle failures of columns and beam/column connections, leading to partial or pancake collapse. Aftershocks cause added collapse, falling hazards and shifting</p>
	<p>Explosion – Failures of columns, slab or beam connections leading to loss of column stability and collapse/pancake collapse</p>
	<p>Fire - Good resistance to fire, but fire may cause spalling of concrete surfaces</p> <p>High energy/non-explosive projectile impact - Damage limited to area of impact. Could leave damaged columns/beams of questionable strength.</p>





Innovations and Opportunities: Mobile technology and structures





Innovations and Opportunities: Mobile technology and structures

1. Building General				2. Building Detail			
1.1 Associated Task ID	[auto-generated]	1.2 Building ID (A,B,C...)		2.1 Floor/story assessment (delete/add floors as required)	Floor status	Column/wall damage class	Remarks
1.3 Building category (drop down list/free text)		1.4 Number of stories/floors		Roof	<input type="checkbox"/> Intact	<input type="checkbox"/> I <input type="checkbox"/> II	
					<input type="checkbox"/> Partial collapse	<input type="checkbox"/> II <input type="checkbox"/> IV	
1.5 Building use	<input type="checkbox"/> Administrative	<input type="checkbox"/> Educational	<input type="checkbox"/> Medical	4	<input type="checkbox"/> Complete collapse	<input type="checkbox"/> V	
	<input type="checkbox"/> Residential	<input type="checkbox"/> Industrial	<input type="checkbox"/> Commerical		<input type="checkbox"/> Intact	<input type="checkbox"/> I <input type="checkbox"/> II	
1.6 Building status	<input type="checkbox"/> Intact	<input type="checkbox"/> Partial collapse	<input type="checkbox"/> Complete collapse	3	<input type="checkbox"/> Partial collapse	<input type="checkbox"/> II <input type="checkbox"/> IV	
1.7 Hazard status	<input checked="" type="checkbox"/> Confirmed	<input type="checkbox"/> Suspected	<input type="checkbox"/> No evidence		<input type="checkbox"/> Complete collapse	<input type="checkbox"/> V	
1.8 Hazard Type	<input type="checkbox"/> Minefield/Victim operated IED	1.9 Estimated area of building floorplate (sqm)		2	<input type="checkbox"/> Intact	<input type="checkbox"/> I <input type="checkbox"/> II	
	<input type="checkbox"/> UXO/battlefield (non-victim operated)				<input type="checkbox"/> Partial collapse	<input type="checkbox"/> II <input type="checkbox"/> IV	
1.9 Non-explosive hazards	<input type="checkbox"/> Gas supply	<input type="checkbox"/> Toxic industrial chemicals	<input type="checkbox"/> Falling debris	1	<input type="checkbox"/> Complete collapse	<input type="checkbox"/> V	
	<input type="checkbox"/> Bio-hazards	<input type="checkbox"/> Structural collapse	<input type="checkbox"/> Confined/underground spaces		<input type="checkbox"/> Intact	<input type="checkbox"/> I <input type="checkbox"/> II	
	<input type="checkbox"/> Electrical cables	<input type="checkbox"/> Other _____	<input type="checkbox"/> None		<input type="checkbox"/> Partial collapse	<input type="checkbox"/> II <input type="checkbox"/> IV	
1.10 Number of visible entry points (doorways)		1.11 Estimated year of construction (to nearest 5 years)		-1	<input type="checkbox"/> Complete collapse	<input type="checkbox"/> V	
1.12 Current occupation by civilians	<input type="checkbox"/> Fully	<input type="checkbox"/> Partial	<input type="checkbox"/> No		<input type="checkbox"/> Intact	<input type="checkbox"/> I <input type="checkbox"/> II	
				2.2 Photo attachments			
				2.3 Sketch map attachments			

Sirte Field Assessment



ay Dollar



DCA
actalliance

Questions?

UNMAS



**IED threat awareness in Mali:
A field IED-GIS pilot project for peacekeeping**

5 February 20



123 IED incidents in 2017
200 IED incidents in 2018

– locating IEDs before

MINUSMA victims 2013 - 2018
421 victims
67 killed
354 injured



MINUSMA troops have located over 50% of IEDs on main supply routes in 2018

Challenges:

Ground navigation challenging

Availability IED maps at tactical level

Limited awareness of high risk areas

Unknowingly entering high risk areas

Limited deployment of Search assets





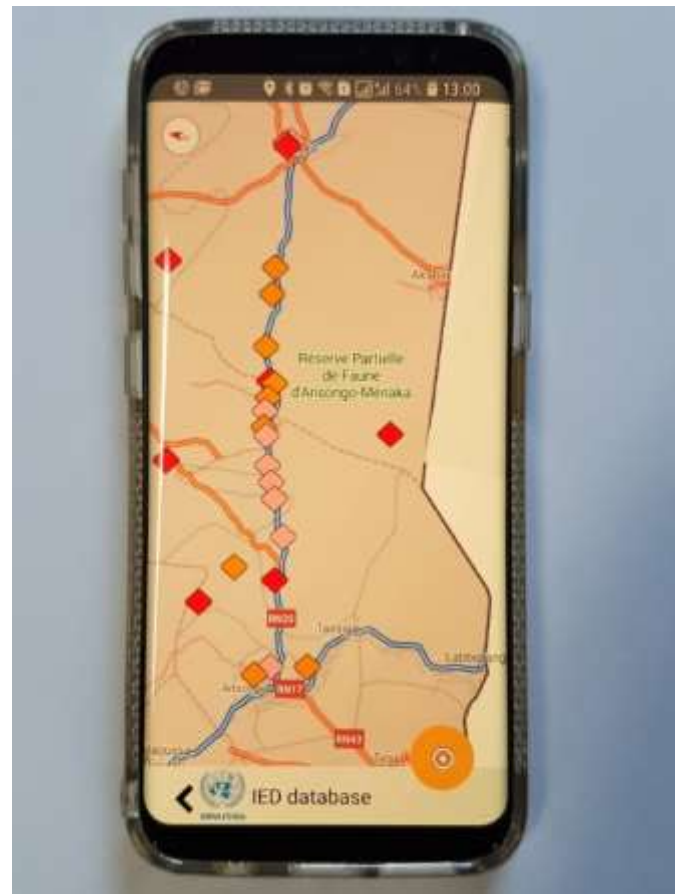
GIS software

IED threat on
smartphone or tablet

IED type and color-
coded date range

High risk areas
marked

Minimal training
required





Current position updated

GPS (no network necessary)

Precision meters



Click on event for more info



CONTACT

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Senior
Programme
Manager, Mali

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12

Jean.Lavoie@un.org



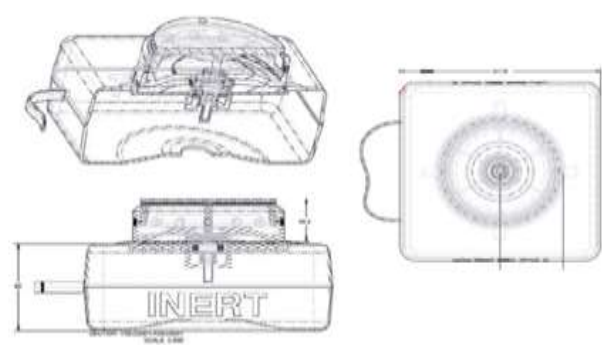
Thank you



Utilising 3D technologies for enhanced EOD and IED Threat Mitigation training



GPR / METAL signature comparable SURROGATES FOR DETECTOR & EOD TRAINING



Artificially RUSTED 3d printed REPLICAS



IED THREAT MITIGATION TRAINER



Problems

TIME CONSUMING TO
MAKE FOR TRAINER
GIVES DETAILED

KNOWLEDGE TO
STUDENT

CAN BE EASILY STOLEN /
MIS-USED

DOESN'T COVER ALL IED
ACTIVATION MODES
CAN'T BE RE-USED / NOT

ROBUST TO disruption /
SEPARATION techniques

CURRENT SOLUTIONS
CAN COST UP TO \$1200

STATIC / LIMITED
FUNCTIONALITY

solution

STANDARDISED DESIGN /
READY TO GO

BLACK BOX SOLUTION

GPS TRACKABLE /
DEACTIVATE FAILSAFE
RADIO, TREMBLER,
MERCURY, TIMER, &
Pressure modes

RE-USABLE / ROBUST

SIGNIFICANTLY CHEAPER
DEVICES

FUNCTIONALITY EASILY
ADDED / MOBILE PHONE
CONTROL INTERFACE



WWW.3DLIFEPRINTS.COM

Appendix 1 – 3d printed calibre guide





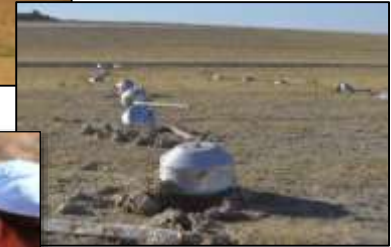
UNMAS

SMART

**IED Threat Mitigation Technology Roadmap
(SMITMiTR)**

Bridging the GAPS

Mine Action







(S)VBIED GOA

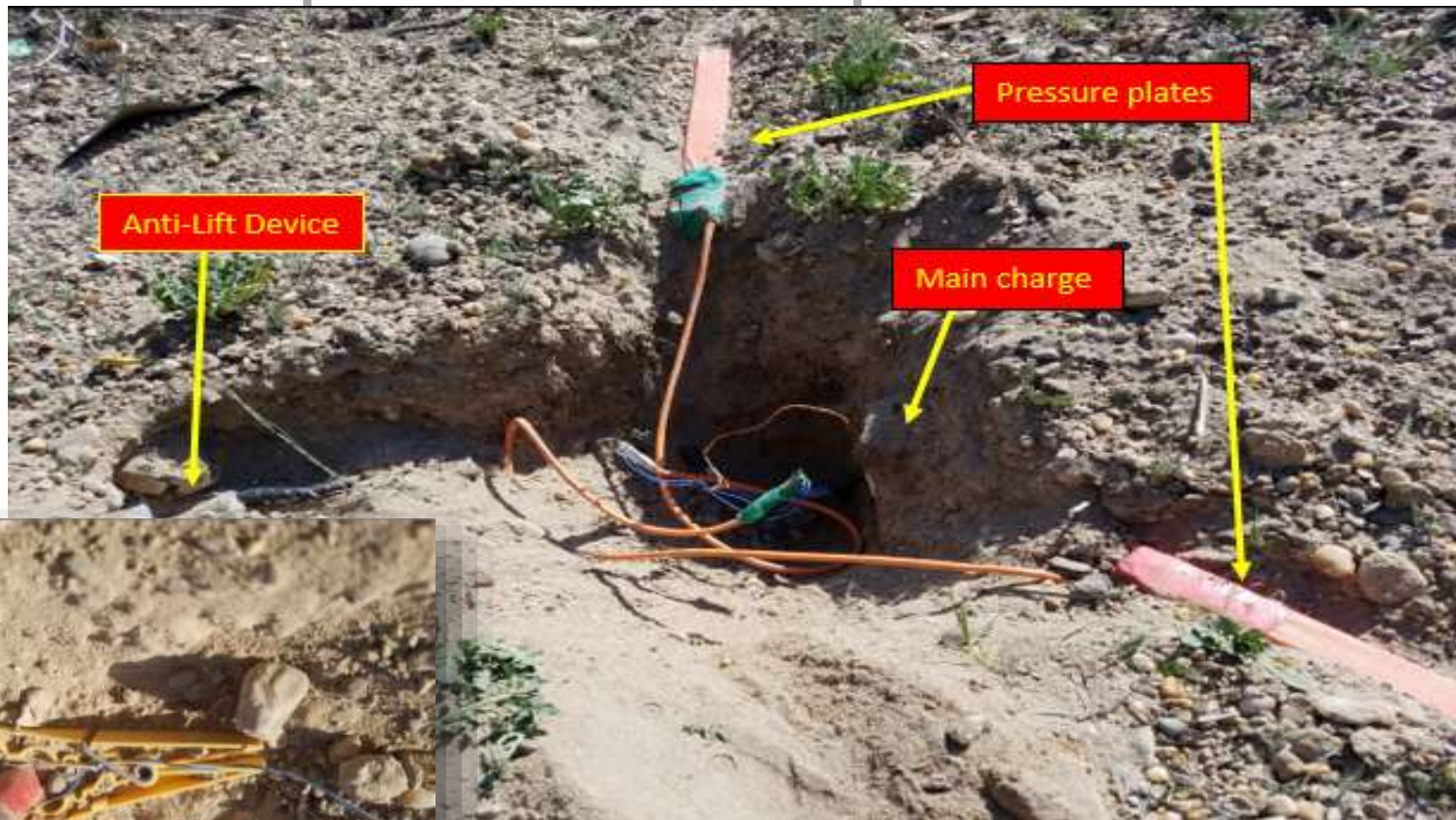
Two (S)VBIEDs Ber Ocktober 2018



Main charge of conventional munition
and 400-600 KG of HME



Complex Victim Operated IEDs



Complex Victim Operated IEDs









Can you see the threat?

Come to the workshop on Friday 8 February 11.45
to find out more

13.05.2017 09:23

UNMAS

WEEKLY IED REPORT
01 January, 2019

IED Incidents
● Explosion ● IED

IED EVENTS by TYPE

Explosion	6
IED	2

WEEKLY DISTRICT WATCHLIST

Alqoya	1
Beed	1
Beel Poyne	1
Dimoon	1
Hoodon	1
Jawaana	1
Naboon	1
Waddan	1

IED EVENTS by SECTOR

Sector 1	3
Sector 3	1
Sector 4	1
Sector 5	1
Sector 6	2

IED EVENTS by DATE

Dec 25	1 (Explosion)
Dec 27	3 (Explosion), 1 (IED)
Dec 28	1 (Explosion)
Dec 29	0
Dec 30	1 (IED)
Dec 31	1 (Explosion)

IED INCIDENTS
8

TOTAL CASUALTIES
18

FATALITIES

AMISOM	CIVILIAN	SSF	BELLIGERENT
0	1	1	0

INJURIES

AMISOM	CIVILIAN	SSF	BELLIGERENT
2	7	6	0

TARGETING MSRs

YES	25%
NO	75%

ASSESSED TARGET

SPF 1	1
AMISOM 2	2
Chil Servant	1
SNA 4	4

DATE	TIME	DISTRICT	REGION	SECTOR	ASSESS	TARGET	IED TYPE	EMPLACEMENT	INCIDENT DETAILS
31 December, 2018	1400	Hoodon	Banadir	Sector 1	SNA		Explosion	UVIED	31.12.18, approx 1435 Hrs, Tarkabunka, Hodan District. SNA officer was targeted by UVIED while he arrived at his homestead near Tarkabunka within Hodan District. During the explosion the officer was not in the vehicle but five civilian women who were resting next to the homestead were slightly injured.
30 December, 2018	1100	Jamaame	Lower Juba	Sector 6	SNA		IED	RCIED / Roadside	30.12.18, approx 1100 Hrs, Sunguni, Jamaame District. Reports received on 30 Dec 18 indicate that a remote controlled IED was discovered inside SNA DP at Sunguni FOB.
28 December, 2018	1400	Belet Weyne	Hiraan	Sector 4	SPF		Explosion	UNKNOWN	28.12.18, approx 1430 Hrs, Beletweyne Town, Hiraan Region: An IED functioned at the entrance to the SPF former commander residence injuring an expectant woman who later succumbed to injuries and damaging two houses. The targeted former SPF Commander was not in the house at the time of the incident.
27 December, 2018	1200	Algooyo	Lower Shabelle	Sector 1	AMISOM		Explosion	UNKNOWN	27.12.2018 at approx 11:30 Hrs, ABIDI about 2.5 KMs from LAFOOLE Trading centre, Algooyo District, Lower Shabelle, an AMISOM/UPDF Logistical convoy from Arbiska BG24 Hqs was targeted by an IED attack in which 01 x AMISOM EOD vehicle was damaged while 02 x AMISOM/UPDF soldiers (the driver and EOD Team Leader) severely injured.
27 December, 2018	1400	Kismayo	Lower Juba	Sector 6	SNA		Explosion	OTHER	27.12.2018, approx 1430 hrs, an IED that were planted in a cafe used by SNA to drink tea in BulaGadusad, approximately 32 Km Northeast of Kismayo, has exploded. 01 SNA soldier was killed, 03 SNA soldiers and 02 children injured.
27 December, 2018	1200	Waaber	Banadir	Sector 1	Civil Servant		Explosion	UVIED	27.12.18 at 1215 Hrs, Waaber District, Mogadishu. The Administrator of the Somalia Prime Minister's office was targeted with UVIED as he was driving his white Toyota Harrier JVD March 1st within Waaber District. The Administrator was slightly injured in the incident and rushed to Denul Shifa Hospital in the city, Mogadishu. There were no other casualties as a result of this incident.
27 December, 2018	1300	Baalad	Middle Shabelle	Sector 5	AMISOM		IED	BURIED	27.12.18, approx 1300 Hrs, Goleley village, AMISOM BDNF Route Search team discovered an IED at Goleley which was targeting an AMISOM return supply convoy from Jowahar Airfield to Mogadishu. The device was successfully destroyed in situ by AMISOM and the convoy continued its way to Baalad.
25 December, 2018	1000	Dinsoor	Bay	Sector 3	SNA		Explosion	BURIED	25.12.18, approx 1000 Hrs, Dinsoor town. An IED targeting SNA check point in the Dinsoor town exploded injuring 3 SNA soldiers. The IED was emplaced in a small shade where SNA soldiers use it as a check point. One of the casualty was CASEVAC to Baidoa AMISOM Level 2 Hospital.

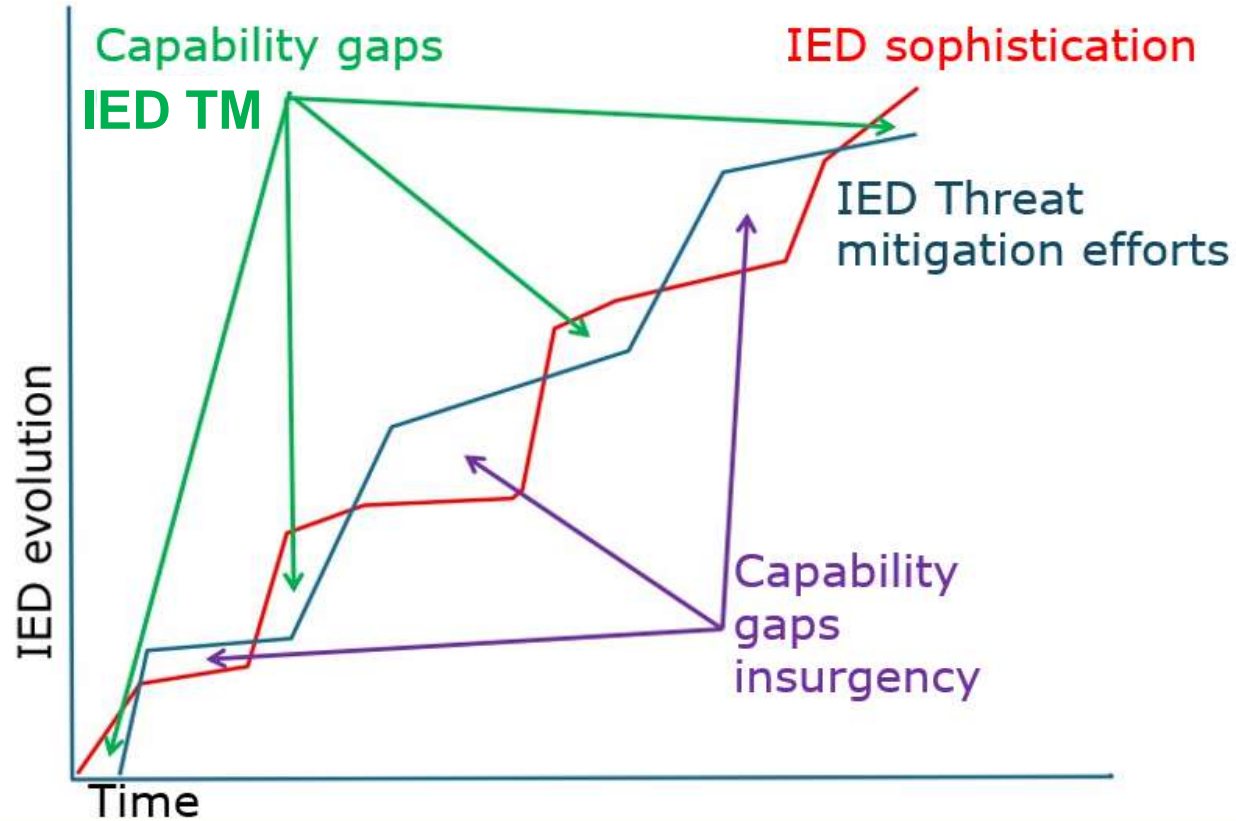


20190115 - IED WEEKLY REPORT - 08 to 14 JAN 19 - ENGLISH.pdf

DATE	TIME	DISTRICT	REGION	SECTOR	ASSESS TARGET	IED TYPE	EMPLACEMENT	INCIDENT DETAILS
14 January, 2019	1800	Hoodon	Banade	Sector 1	UNKNOWN	Explosion	UVIED	On 14.01.19 at approx. 1800hrs, a vehicle (reported to be a white Toyota Premio) exploded near the Village Restaurant parking area within Hoodon district. One civilian injury was reported, and several vehicles that were parked within the same parking lot were also reported to have sustained damage.
14 January, 2019	1900	Marka	Lower Shabelle	Sector 1	UNKNOWN	Explosion	UNKNOWN	At 19:00 on 14 January 2019, an explosion occurred in the area of the Marka primary school. Details are unknown at the time of this report. UPOF EOD Team from Gedi/Jale have been deployed to investigate.
14 January, 2019	1300	Qoryoley	Lower Shabelle	Sector 1	AMSOM	IED	BURIED	On 14.01.19 at 1315 Hrs, IVO Ibrero village (Qoryoley District) The AMSOM EOD Team from Beidamin (monitored by UNMAS) discovered an IED buried on the route and successfully destroyed the device in situ. The EOD team was supporting a logistics convoy from Qoryoley to Beidamin.
12 January, 2019	1400	Heliwa	Banade	Sector 1	AMSOM	Explosion	BURIED	On 12.01.19 at 1400hrs, an IED initiated at Sukhola village as the AMSOM convoy was passing through the area. 1 x AMSOM driver was injured and 1 x truck was damaged. The damaged vehicle was recovered to EOD Ambulance.
10 January, 2019	1500	Hoodon	Banade	Sector 1	Clan Leader	Explosion	UVIED	On 10.01.18 at approx. 1520hrs, a UVIED exploded in a vehicle (Reg No. A7080) belonging to a local clan leader. The device functioned at Diger junction (within Hoodon district) as the vehicle was being driven. The explosion damaged the vehicle but did not injure the clan leader. It was reported that the clan leader is usually driven by a driver, but during this incident he was driving the vehicle by himself. The UVIED was assessed to have been attached under the front passenger seat where the clan leader typically sits at.
09 January, 2019	1700	Badhwahe	Lower Juba	Sector 2	AMSOM	Explosion	UNKNOWN	engaged AS elements who were in the process of laying an IED. After the engagement, in which AS escaped towards the nearby forested area. AMSOM recovered the following items: 12 volt vehicle battery Motorcycle alarm system (including key fob) 2 electric detonators Small length of detonating cord (blue) Motorola personal mobile radio (PMR) Knife Metallic container (container for main charge) Digging tools Two plastic containers (containing explosive material) 3 bags 3 tubes of glue 1 Assault rifle
08 January, 2019	1300	Hoodon	Banade	Sector 1	CIVILIAN	Explosion	UVIED	On 08.01.18 at approx. 1230hrs, IVO Sonakey (Hoodon District) a vehicle (Reported as a Toyota Surf, Reg No. AE 2883) belonging to the son of an upper house MP (Abdi Cayid) was targeted with a UVIED. The device functioned as the vehicle was being driven. The MP's son was driving the vehicle during the incident, along with another passenger. As a result of the explosion, the driver sustained minor injuries and the passenger lost his leg. The UVIED was assessed to have been located under the front passenger seat.

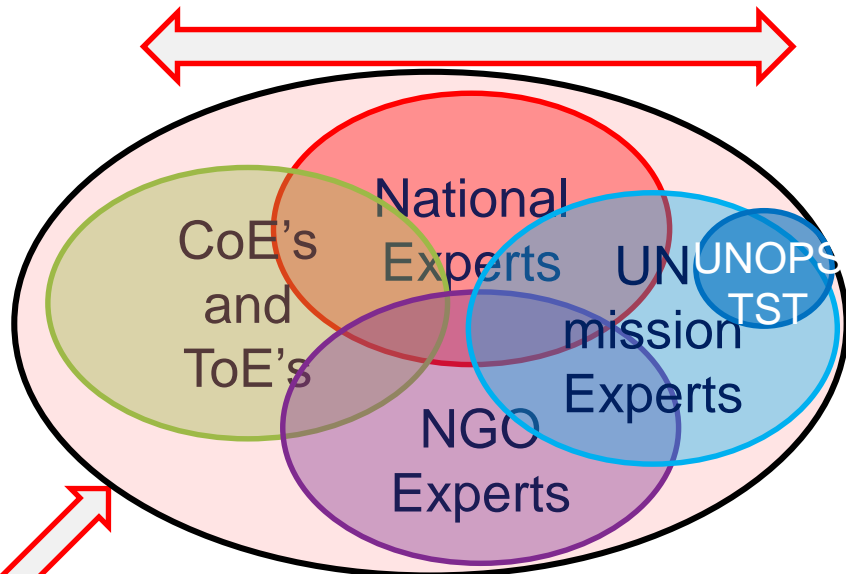
DATE	TIME	DISTRICT	REGION	SECTOR	ASSESS	TARGET	IED TYPE	EMPLACEMENT	INCIDENT DETAILS
21 January, 2019	1800	Helwa	Banadr	Sector 1	AMISOM		Explosion	UNKNOWN	On 21.01.19 at 1745H, an AMISOM logistics resupply convoy returning from Jowhar Airfield to Academy encountered an IED en route. A civilian truck was slightly damaged by the explosion and continued the journey.
21 January, 2019	800	Daynile	Banadr	Sector 1	N/A		Premature Explosion	UNKNOWN	On 21.01.19 at approx. 0820H, IVO Sinka Dheer, Deynile District, there was a premature explosion reported. It was reported to have occurred during AS emplacement on a road. Number of AS militants killed are unknown.
19 January, 2019	500	Jamaame	Lower Juba	Sector 6	SNA		Complex Attack	VBIED	On 19.01.19, at approx. 0500H, AS conducted a complex attack against SNF Bar Sungaluni FOB using 3 VBIEDs, one of the VBIEDs targeted a bridge near by to cut off reinforcements.
19 January, 2019	800	Daynile	Banadr	Sector 1	SNA		Explosion	UNKNOWN	On 19.01.19 at approx. 1700H, Senka dheer, Deynile District. There were 2 explosions targeting SNA vehicles that exploded near Sinka Dheer, in Deynile District. 2 x SNA soldiers were killed while 2 other SNA soldiers were injured in the explosion. The SNA vehicle was reported to have sustained damages.
19 January, 2019	1400	Wanlaweyn	Lower Shabelle	Sector 1	SNA		Explosion	UNKNOWN	On 18.01.19 at approx. 1430H at approx. 1430H, IVO of Wanlaweyne Kai Market, Wanlaweyne District. There was an explosion that targeted an SNA vehicle. 1 x SNA soldier was killed, and 2 x SNA soldiers were injured. SNA vehicle was reported to have sustained damages.
18 January, 2019	1200	Baidoa	Bay	Sector 3	AMISOM		Complex Attack	BURIED	On 18.01.19 at approx. 1200H, an IED targeting an AMISOM convoy exploded followed by small arm fire close to a previous IED incident location. The IED was buried on the MSR, concealed by thick vegetation.
18 January, 2019	900	Bur-Hakaba	Bay	Sector 3	AMISOM		Complex Attack	BURIED	On 18.01.19 at approx. 0900H, an AMISOM convoy travelling from Burhaakaba to Baidoa was attacked in an ambush by AS militants in a vicinity of a small village called Bashmaale (located approx. 17km from Burhaakaba FOB) The IED deployed by AS in the ambush targeted a soft skin logistics truck which was destroyed and affected AMISOM soldiers who were on foot. 2 x soldiers were killed and 6 x unspecified personnel were injured in this incident.
18 January, 2019	1000	Baidoa	Bay	Sector 3	AMISOM		Explosion	RCIED / Roadside	On 18.01.19 at approx. 1030H, an AMISOM truck which was part of a logistics resupply convoy travelling from Baidoa to Burhaakaba encountered an IED that was planted along a secondary road, approximately 3m from the MSR. The truck was not ordered by the convoy commander to use the secondary road but overlook over the front pickup vehicle that was mounted with machine gun. As a result, the truck was severely damaged and 7 soldiers who have been on the truck sustained injuries leaving one of them in a critical condition which later died after reaching in AMISOM Lvl 2 Hospital in Baidoa.
18 January, 2019	1100	Baidoa	Bay	Sector 3	AMISOM		Explosion	UNKNOWN	On 18.01.19 at approx. 1120H, an IED that was emplaced along the Baidoa -Burhaakaba MSR in IVO Ugaan village exploded affecting an AMISOM pick up vehicle mounted with machine gun. The pickup was part of reinforcements en route to support an AMISOM convoy that was recently attacked 2km ahead of the IED incident location. 2 x AMISOM soldiers were injured and the pickup sustained slight damage.
18 January, 2019	1200	Baidoa	Bay	Sector 3	AMISOM		Explosion	UNKNOWN	On 18.01.19 at approx. 1140H, an IED prematurely detonated close to a previous IED that was destroyed by AMISOM EOD team.
18 January, 2019	1200	Baidoa	Bay	Sector 3	AMISOM		Explosion	UNKNOWN	On 18.01.19 at approx. 1155H, a civilian soft skin vehicle that was driving towards AMISOM convoy from Burhaakaba to Baidoa encountered an IED approximately 1km from AMISOM convoy and the vehicle was severely damaged. The driver was killed and 2 passengers were injured.
18 January, 2019	1900	Baidoa	Bay	Sector 3	CIVILIAN		Explosion	UNKNOWN	On 18.01.19 at approx. 1900H an explosion was reported involving a three wheel drive vehicle/rickshaw in Baidoa town which killed 2 civilians and injured 1. It was later verified to be an IED by the SPF EOD Police commander.
18 January, 2019	1100	Baidoa	Bay	Sector 3	AMISOM		IED	BURIED	On 18.01.19 at approx. 1115H, an AMISOM route search team discovered an IED approximately 1.5km from the previous IED incident on the same route. AMISOM EOD team was deployed and destroyed the IED in situ.
18 January, 2019	800	Baidoa	Bay	Sector 3	AMISOM		IED	BURIED	On 18.01.19 at approx. 0715H, an IED that was targeting an AMISOM convoy travelling from Baidoa to Burhaakaba prematurely detonated. At approx. 0842H, AMISOM ENDF Route search team discovered another IED that was emplaced approx. 5km from the first IED that prematurely detonated, and was destroyed in situ by the EOD team without incurring casualties & damages.
18 January, 2019	1100	Baidoa	Bay	Sector 3	AMISOM		IED	RCIED / Roadside	On 18.01.19 at approx. 1100H, AMISOM reinforcement force in support of a previously attacked convoy IVO a small village called Bashmaale was targeted by an IED deployed along the route travelled. The IED was emplaced approximately 2m off the MSR, targeting flanking soldiers.
18 January, 2019	1300	Baidoa	Bay	Sector 3	AMISOM		IED	RCIED / Roadside	On 18.01.19 at approx. 1220H, AMISOM Route search team encountered an IED that was planted approx. 800m from a previous IED that was inflated by a civilian vehicle. The IED was destroyed in situ.
16 January, 2019	1600	Hoodon	Banadr	Sector 1	UNKNOWN		Explosion	UVIED	On 16.01.19 at around 1600H 2 SPF officers were targeted with a UVIED while driving IVO Kalkal Hospital. The officers were driving the vehicle of a Federal MP, Duniya Mohamed Ali and were on their way to pick her. One officer (escort) was killed in the explosion and the driver who was also a police officer was injured.
15 January, 2019	1300	Belet Weyne	Hiraan	Sector 4	AMISOM		IED	UNKNOWN	On 15.01.19 at approx. 1345H, an IED exploded within a tea shop close to the AMISOM Onihsan checkpoint camp, and it was assessed to be an RCIED. 1 civilian and 1 SNA soldier were injured as a result. It was reported that the Tea shop was frequented mostly by SNA soldiers.

IED Threat Evolution and Mitigation



UN SMART IED Threat Mitigation Technology Roadmap (SMiTMiTR)

Scientific Research



UN IED Threat Mitigation ToE



UN SMART IED Threat Mitigation Technology Knowledge and Information Network

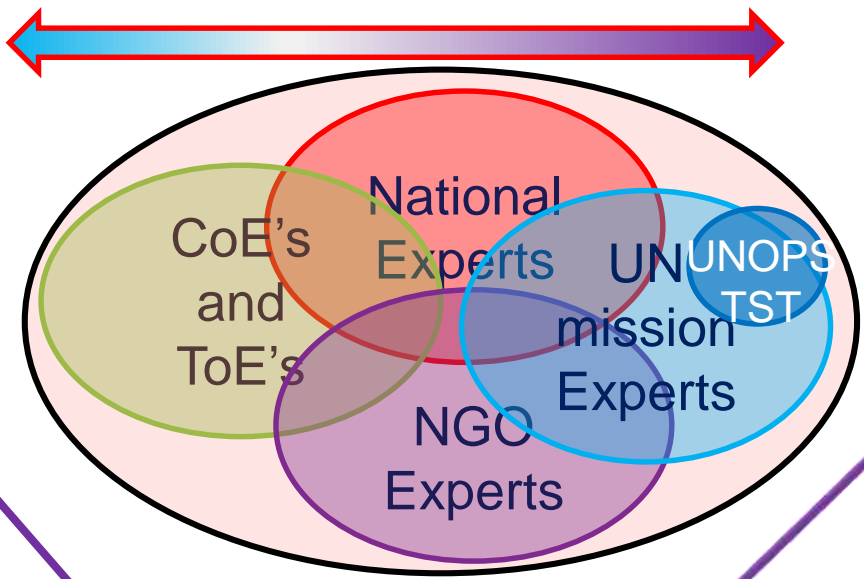
Standardized Current and Evolving IED threat

UN SMART IED Threat Mitigation Technology Roadmap (SMITMiTR)

Scientific Research



UN SMART IED Threat Mitigation Technology Field Lab (SMITMiFL)



UN test report

UN IED Threat Mitigation ToE
UN Standard



UN SMART IED Threat Mitigation Technology Knowledge & information HUB



Standardized Current and Evolving IED threat



UNMAS

SMITMiTR

**UN IED Threat Mitigation by
Bridging the GAPS**

**Thank you for your attention
Do you have any Questions?**



Mechanical Clearance of IEDs



Nicholas Torbet
Head of Programme
Development/Global CTA IEDD





Opportunities...





Opportunities...





How long is too long...



How long is too long...





Simple solutions, produced locally:





Simple solutions, produced locally:







Questions?