GENERAL FEATURES AND TYPES OF IEDs

BY
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IED monitor key findings: 2011-2016

- 7,223 incidents
- 109,696 civilian deaths & injuries
- 23,621 armed actor deaths & injuries
- 81% civilian casualties

Total casualties per year:

- Total incidents per year:

Total civilian deaths and injuries by targeted areas:

- POPULATED AREAS:
  - 91% civilian deaths & injuries in populated areas
  - 99,060 Total reported deaths & injuries in populated areas

- NON-POPULATED AREAS:
  - 41% civilian deaths & injuries in non-populated areas
  - 25,257 Total reported deaths & injuries in non-populated areas

Total civilian deaths and injuries by weapon launch method:

- 57% IEDs
- 22% Ground-launched
- 18% Air-launched
- 3% Combinations or unclear

Data: AQAV, based on English-language media reports
EASY TO CONSTRUCT – WEAPON OF CHOICE BY TERRORIST GROUPS
LETHAL & EFFECTIVE – CAN BE FABRICATED IN ANY SHAPE AND SIZE
“AN IED IS AN EXPLOSIVE DEVICE PLACED OR FABRICATED IN AN IMPROVISED MANNER INCORPORATING DESTRUCTIVE, LETHAL, NOXIOUS, PYROTECHNIC OR INCENDIARY CHEMICAL & FRAGMENTS AND DESIGNED TO DESTROY, DISFIGURE, DISTRACT OR HARASS. THEY MAY INCORPORATE MILITARY STORES BUT ARE NORMALLY DEVISED WHOLLY FROM NON MILITARY COMPONENTS.”

(UNIDIR 2015-ADDRESSING IMPROVISED EXPLOSIVE DEVICES)
COMPONENTS OF AN IED

EXPLOSIVE

CONTAINER

INITIATING MECHANISM

POWER SOURCE

DETONATOR
CLASSIFICATION OF IEDs

VICTIM ACTIVATED
- Pressure, Release
- Pull, Tilt

COMMAND ACTIVATED
- Wire, Remote, Cell Phone, RCIED, LRCT

DELAY/AMBIENT
- Light
- Temperature
- Magnetic Influence
RCIEDs AND CELL PHONE IED
TRENDS, CHALLENGES IN IEDs

• LATEST TRENDS
  • DUAL MECHANISM IED.
  • IEDs IN TANDEM.
  • COMMAND WIRED IED WITH DIRECTIONAL MINES.
  • WI-FI SWITCH BASED IED.
  • VEH BASED IED/SUICIDE BOMBER IED.

• FUTURE CHALLENGES
  • REMOTELY DELIVERED IEDs (DRONE, UAV).
  • RADIOLOGICAL IED.
  • LRCT BASED RCIED.
  • IR CONTROLLER BASED IED.
  • IED WITH NEW TECHNOLOGY BASED EXPLOSIVE, POWER SOURCE.
# IED Design Matrix

## Timings (T1) and Target (T2)

## Placement (P)

**Explosive (E)**
- Standard, Improvised

**Detonator (D)**
- Electrical, Chemical

**Mechanism (M)**
- Command, Delay Command, Delay
- Anti-Handling, Ambient

**Power Source (S)**
- Electrical, Chemical

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**No of Combinations Possible**

\[ \text{No of Combinations Possible} = E \times M \times D \times S \times P \times T1 \times T2 \]
GLOBAL / REGIONAL CHALLENGES

- GLOBAL CHALLENGE
  - WARRANTS COMPREHENSIVE RESPONSE
- COORDINATION & SHARING OF EXPERTISE AND KNOWLEDGE BETWEEN NATIONS
  - WORLDWIDE REACH OF TERRORIST ORGANIZATIONS AND THEIR AFFILIATES
- RESOURCE CONTROL AND PREVENT TRANS BORDER MOVE OF MATERIAL – PREVENT UN-AUTHORISED MANUFACTURE AND TRAFFICKING
- COORDINATED RESPONSE AT NATIONAL, REGIONAL AND INTERNATIONAL LEVEL
ATTACK THE NETWORK, DEFEAT THE DEVICE & TRAIN THE FORCE
CAPACITY BUILDING : MEMBER STATE

- SINGLE WINDOW AGENCY TO COLLECT, COLLATE, ANALYSE INTERPRET & DISTRIBUTE VOLUNTARY INFORMATION IN EARLIEST TIMEFRAME.

- NATIONAL DATABASE FOR DETONATORS AND EXPLOSIVE.

- LEGAL FRAMEWORK FOR EFFECTIVE CONTROL ON PRECURSOR MATERIALS.

- REGULATION TO PREVENT PROLIFERATION.

- TRAINING AND GENERAL AWARENESS ON CIED OPERATIONS.

- NEW GENERATION OF REMOTELY OPERATED EQUIPMENTS - SEARCH, DETECTION & NEUTRALIZATION.
• ROBUST NATIONAL CONTROLS IN PRODUCTION, SALE, SUPPLY, PURCHASE, TRANSFER AND STORAGE OF PRECURSOR COMPONENTS AND MATERIALS.

• MONITORING MECHANISM TO ARREST DIVERSION OR ILLICIT USE OF RAW MATERIALS.

• INSTITUTIONALIZED DESTRUCTION OF SURPLUS MUNITIONS.

• STRINGENT MONITORING MECHANISM ON DETONATORS AND EXPLOSIVES.

• STRICT LICENSING NORMS.
CAPACITY BUILDING: COUNTER IED TRAINING
DISPOSAL
INDIA’S CONTRIBUTION, INITIATIVES : CCW

- SYSTEMATIC TRAINING AWARENESS - SHARING OF TECHNICAL EXPERTISE WITH FRIENDLY FOREIGN COUNTRIES THROUGH TRAINING PROGRAM & CAPSULES (243 TRAINEES)
  - AFGHANISTAN, NIGERIA, RUSSIA, USA, RWANDA, MAURITIUS, SRI LANKA, BANGLADESH, BHUTAN, NEPAL, CAMEROON.
- SUBJECT MATTER EXPERTISE EXCHANGE.
- CONDUCT OF MULTI NATIONAL EXERCISES.
- CONDUCT OF BILATERAL EXERCISES, SEMINARS AND FORUMS.
- CAPACITY BUILDING OF AFFECTED NATIONS.
- UN PEACE KEEPING OPERATIONS.
TRAINING AND VISIT OF FORCES

VIETNAM

POLAND

NAMIBIA

KAZAKSHTAN
TRAINING AND VISIT OF FORCES

NEPAL
AFGHANISTAN
CZECH ARMY
CAMBODIA
REHABILITATION & VICTIM ASSISTANCE
INDIA IS WILLING TO SHARE ITS EXPERTISE, EXPERIENCE AND KNOWLEDGE WITH ALL DESIROUS COUNTRIES TO EFFECTIVELY COUNTER THE IED MENACE