THE DEPARTMENT OF DEFENSE
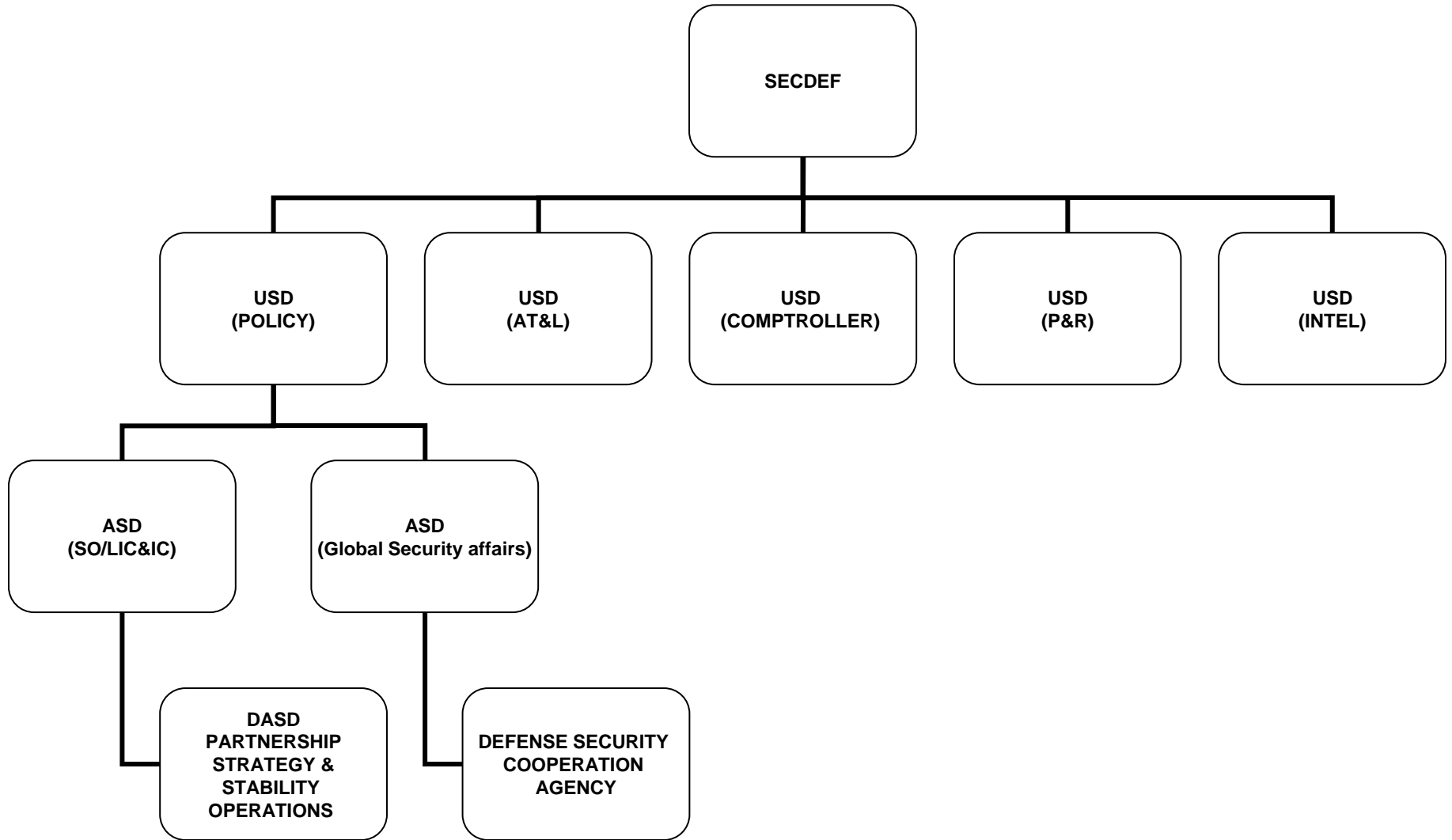
Defense, Diplomacy and Development

Colonel Leo Bradley

Chief, Explosive Ordnance Disposal & Humanitarian Mine Action
OASD Partnership Strategy & Stability Operations

Office of the Secretary of Defense

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Definitions

❑ **Explosive ordnance disposal:** (JP 1-02, NATO) The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of unexploded explosive ordnance. It may also include explosive ordnance which has become hazardous by damage or deterioration. Also called **EOD.**

Definitions

- **explosive ordnance** (JP1-02, NATO): 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; demolition charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices; and all similar or related items or components explosive in nature.

- **unexploded explosive ordnance** (JP1-02, NATO) Explosive ordnance which has been primed, fused, armed or otherwise prepared for action, and which has been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material and remains unexploded either by malfunction or design or for any other cause. Also called UXO. See also explosive ordnance. (JP 3-15)
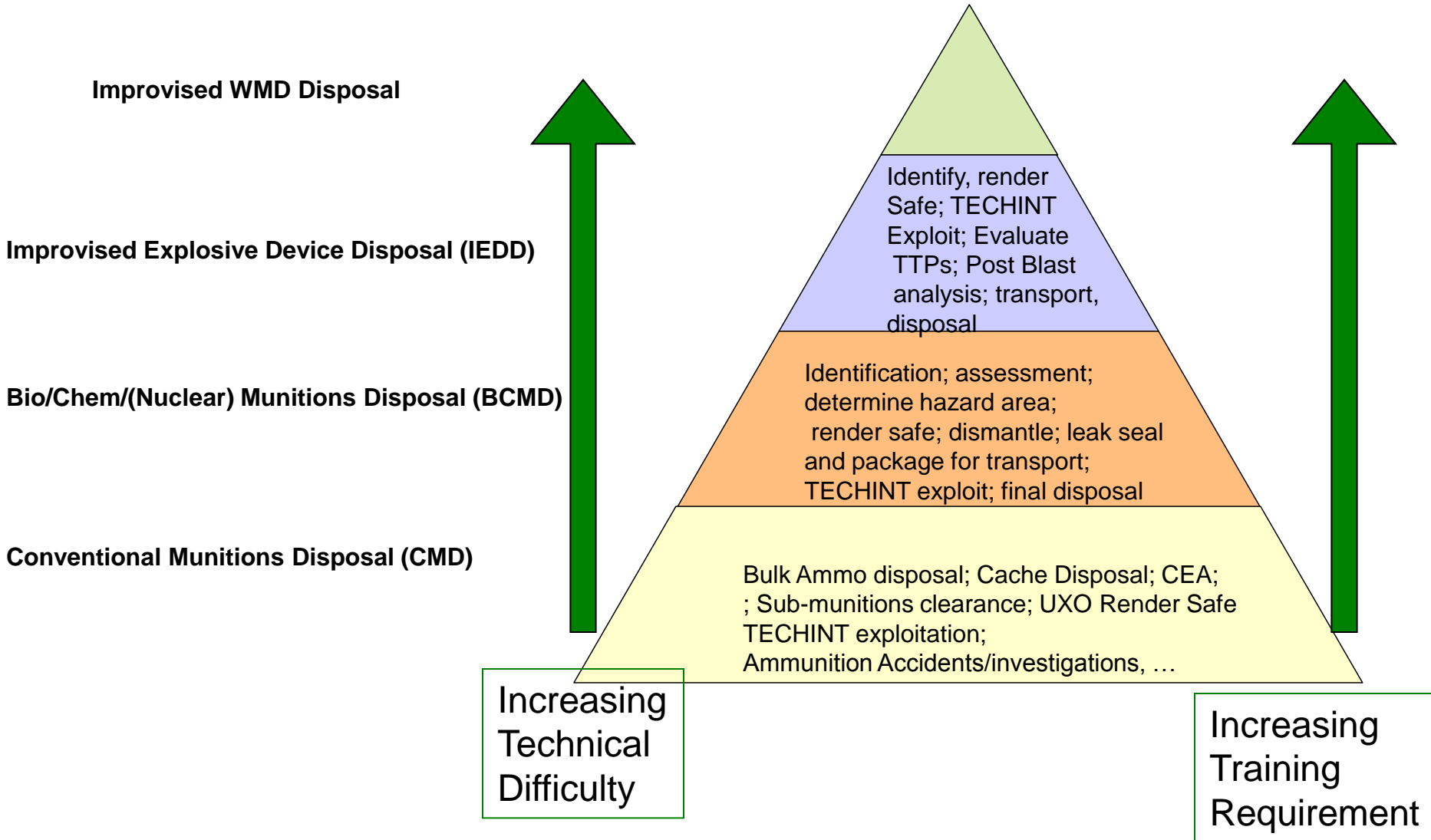
Definitions

❑ **<u>explosive ordnance disposal procedures</u>** (JP 1-02, NATO) Those particular courses or modes of action taken by explosive ordnance disposal personnel for access to, diagnosis, rendering safe, recovery, and final disposal of explosive ordnance or any hazardous material associated with an explosive ordnance disposal incident.

- a. access procedures — Those actions taken to locate exactly and gain access to unexploded explosive ordnance.

- b. diagnostic procedures — Those actions taken to identify and evaluate unexploded explosive ordnance.

- c. render safe procedures — The portion of the explosive ordnance disposal procedures involving the application of special explosive ordnance disposal methods and tools to provide for the interruption of functions or separation of essential components of unexploded explosive ordnance to prevent an unacceptable detonation.

- d. recovery procedures — Those actions taken to recover unexploded explosive ordnance.

- e. final disposal procedures — The final disposal of explosive ordnance which may include demolition or burning in place, removal to a disposal area, or other appropriate means.

EOD Capability Development

Improvised WMD Disposal

Improvised Explosive Device Disposal (IEDD)

Bio/Chem/(Nuclear) Munitions Disposal (BCMD)

Conventional Munitions Disposal (CMD)

Identify, render Safe; TECHINT Exploit; Evaluate TTPs; Post Blast analysis; transport, disposal

Identification; assessment; determine hazard area; render safe; dismantle; leak seal and package for transport; TECHINT exploit; final disposal

Bulk Ammo disposal; Cache Disposal; CEA; ; Sub-munitions clearance; UXO Render Safe TECHINT exploitation; Ammunition Accidents/investigations, …

Increasing Technical Difficulty

Increasing Training Requirement

EOD Partnering

- **EOD**
- **C-IED**
- **HMA**

The ERW Problem

Unsecured Explosive Ordnance is a Leading Cause of Global and Regional Instability

Mines and Development

❑ Landmines and other explosive remnants of war (ERW) impede post-conflict reconstruction and development efforts in many mine-affected countries because they:

- threaten community safety

- hinder the safe return of internally displaced persons (IDPs) and refugees to their communities

- damage infrastructure essential for economic development and increase rebuilding costs

- limit access to health care, education and other basic social services

- prevent the use of assets vital to sustainable livelihoods. For example, water sources, irrigation channels and land used for agriculture, grazing, housing/resettlement and commerce

- deter public and private investment and economic development through increased uncertainty, cost and delays resulting from suspect presence of landmines

GICHD Publication "Linking Mine Action and Development ODCA" November 2008

Stability Ops: Disarm, De-mobilize, Reintegrate

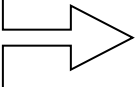**Armed Military/ Insurgent Forces**
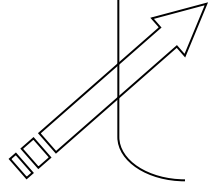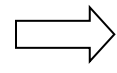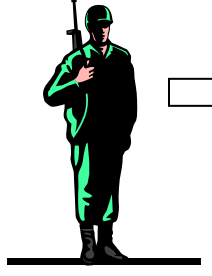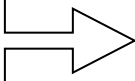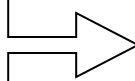
Abandoned Explosive Ordnance (AXO)
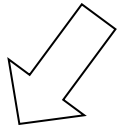
Weapons/ Equipment → **Depot: Collect, inventory, Inspect, store, re-issue, dispose**

Munitions → **Ammunition Depot: Collect, inventory, Inspect, re-issue, de-mil, dispose, store**

Personnel → **Personnel: Identify, integrate into Armed Forces, re-train, de-mobilize, re-integrate**
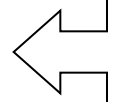
UXO

Landmines

Disposal ← Some Trained in EOD and demining

Propellant Stabilizer Degradation
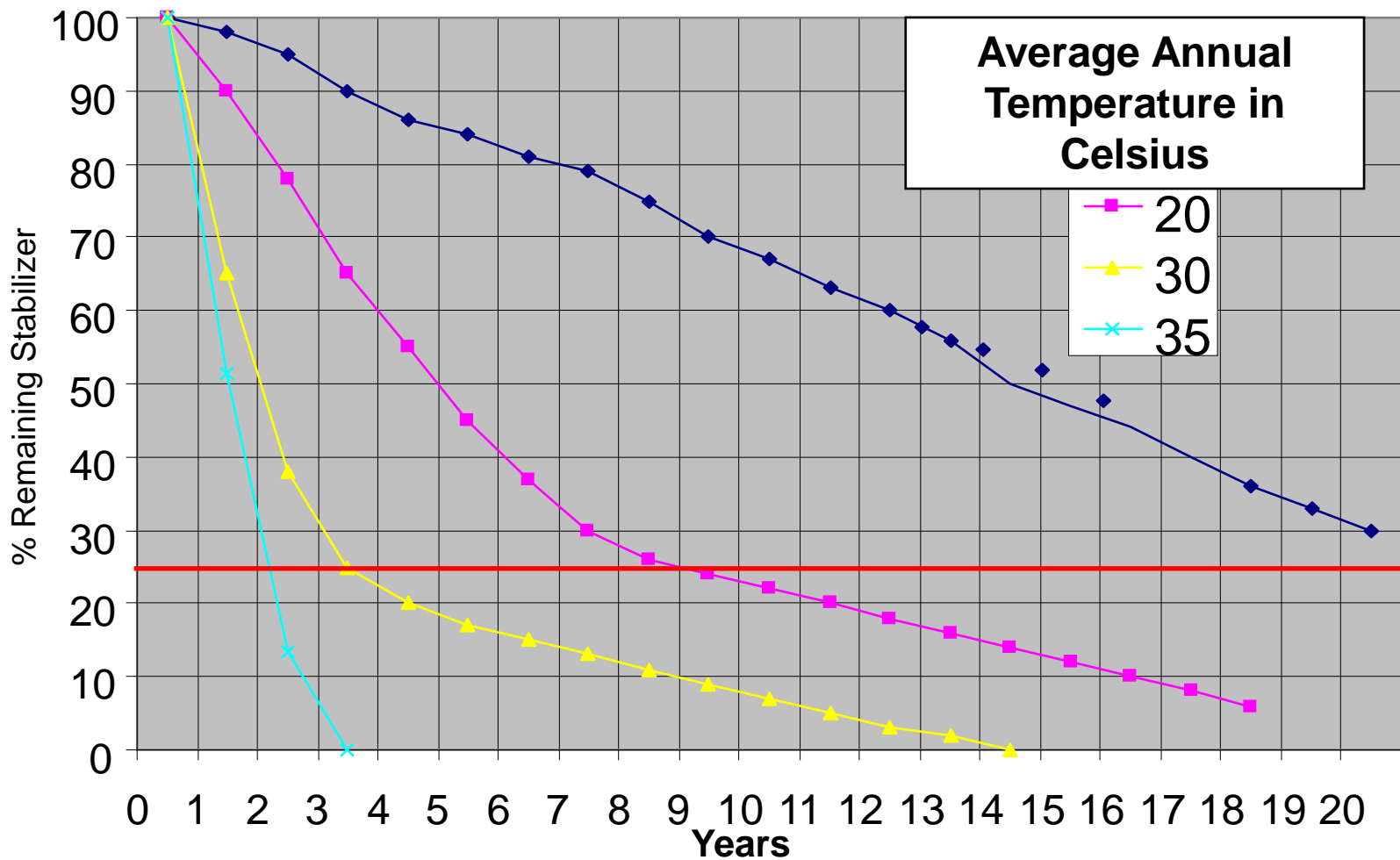
Dangerous Depots

❏ **2008**

- 10 July - Kagan, Uzbekistan: 3 KIA, 21 WIA

- 3 July - Sophia, Bulgaria: 6KM evacuation

- 15 March – Albania: 24 KIA, 300+ WIA destroyed 400 homes

❏ **2007**

- 29 December - Medellin, Columbia: 2 KIA, 7 WIA

- 26 July Aleppo – Syria: 15 KIA, 50 WIA

- 17 June - Mbandaka, Democratic Republic of Congo: 3 KIA, 52 WIA

- 7 April - Khartoum, Sudan: no reported casualties. Airport closed temporarily

- 22 March - Maputo, Mozambique: 100+ KIA, 500+ WIA

U.S. Tactical Explosive Mishaps

DOHA

FOB MAREZ

FOB FALCON

DOD Humanitarian Mine Action

❑ **The DoD Humanitarian Mine Action Training Program**

- Authorized by 10 USC 407
- Planned and executed by GCC as part of TSC plan
- DSCA approves and funds through Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) appropriations
- OSD SO/LIC&IC provides policy oversight and coordinates with DOS weapons removal and abatement program

❑ **Humanitarian Demining Research and Development (HD R&D) Program**

- Executed by Army's Night Vision and Electronic Sensor Lab
- Develops, demonstrates and validates demining technology
- Provides equipment prototypes to NGOs and partner nations
- Technology is evaluated against actual threats in real world environment

DoD HMA Process

Preconditions for U.S. Assistance

POLICY

❑ **Host Nation must submit a formal request for assistance through the U.S. Embassy**

- Hostilities have ceased
- Workable peace agreement is in place

❑ **USG Policy Coordination Committee (PCC) Sub-group on Humanitarian Mine Action**

- Chair – DoS, Office of Weapons Removal and Abatement
- Co-Chair – DoD, Office of Stability Operations Capabilities

❑ **Policy Assessment Visit (PAV)**

- Representatives from DoS / OSD / COCOM conduct PAV. Based on results of this visit, USG decides whether to initiate/restart a HMA program with that country.
- If approved, COCOM conducts a….

❑ **Requirements Determination Site Survey (RDSS)**

- …which identifies specific goals, objectives and resource requirements

DoD HMA Process
DoD Development of Country Programs

❑ **Country Team and COCOM coordinate possible initiatives**

❑ **COCOM Prioritizes proposals and submits to OSD**

❑ **OSD staffs proposals with DoD/State/interagency and approves appropriate projects**

❑ **COCOM tasks units to execute projects**

❑ **Country team and COCOM evaluate effectiveness**

Humanitarian Demining Prohibitions

No member of the US armed forces will:

"engage in the physical detection, lifting, or destroying of landmines or other explosive remnants of war (unless the member does so for the concurrent purpose of supporting a US military operation); or

provides such assistance as part of a military operation that does not involve the armed forces.

Title 10, United States Code, Section 407

HUMANITARIAN DEMINING TRAINING CENTER
U.S. DEPARTMENT OF DEFENSE

www.wood.army.mil/hdtc/

Angel Belen – Acting Director

Angel.belen@us.army.mil

573-563-6199

HDTC Role in HMA

❑ **Train U.S. Military Forces** to provide Train-the-Trainer Humanitarian Mine Action instruction in Mine Affected countries.

❑ **Collect and disseminate information** on Mine Action for U.S. Government agencies to facilitate execution of the U.S. Humanitarian Mine Action Program.

❑ **Provide SME in support** of U.S. Government Policy and Agendas

❑ **Train to the International Mine Action Standards**

Demining Training Course

- Mine Identification

- Mine detection by visual means

- Mine detection operations and equipment

- Mine detection by probing

- Unexploded Ordnance Identification and Disposal

- Procedures for marking lanes and minefields

- Demolitions

- Booby Traps

- Demining Tools

- Demining Site Set-up

- Clearing Process

- Demining/Disposal

- Minefield Handoff

Tactical Countermining VS. Humanitarian Demining

❑ **Tactical countermining**
- Focuses on enhancing force _mobility_
- Minefields must be rapidly detected in all possible conditions
- _Breaching_ provides for rapid clearance without the need to find every mine

❑ **Humanitarian demining**
- Detection of _each_ landmine more important than the speed of movement
- Goal of demining is to locate and destroy _all landmines/ERW_ within a large designated area
- _Economic considerations_ are important in deciding if and when a specific minefield will be cleared
- _Safety_ is the most important consideration
- _Casualties are unacceptable_

Burundi ERW Training

Kagan ASP Response

❑ 21 Jul 08- ARCENT notified by Defense Attaché .

❑ Uzbeks requested three types of equipment: land mine detectors, water metal detectors, and bomb suits.

❑ DATT's guidance was "let's get there first with the most stuff."

❑ 03 Aug 08- Pre-Deployment Site Survey Team (2 pax) on site.

❑ 21 Aug 08- the Training Team (5 pax) with equipment arrived in Uzbekistan.

❑ 28 Aug 08 all Uzbek / USEMB objectives were met

DoD Humanitarian Demining Research & Development Program

www.humanitariandemining.org

Sean Burke – Program Manager

sean.burke@nvl.army.mil

703-704-1047

HD R&D Organization

Assistant Secretary of Defense Special Operations and Low-Intensity Conflict

Program Funding, Guidance

- **Provides Program Guidance and Oversight**
- **Approve requests for in-country assessments**
- **Approve requests for operational field evaluations**
- **Liaison with other Government agencies (DoS)**

Night Vision and Electronic Sensors Directorate Countermine Division

Program Execution

- **Determine Requirements**
- **Structure Program**
- **Develop/Demonstrate Prototype Equipment**
  - **Contracts with Industry**
  - **In-House Developments Using NVESD Personnel and Shop Facilities**
- **Perform In-Country Assessments**
- **Conduct In-Country Operational Field Evaluations**
- **Assist with Transition Prototype Equipment into Operational Use**
- **Inform demining community**

A cooperative effort

HD R&D Program Objectives

Develop, Demonstrate, and Validate Technologies to be Used in International Humanitarian Demining by:

❑ **Assessing Existing Technologies**

- **Assess commercial off-the-shelf equipment**
- **Integration of mature technologies (e.g. sifting implements)**
- **Thorough evaluation of new technologies**

❑ **Developing New Technologies**

- **Integrate, adapt, and modify commercial off-the-shelf equipment to particular demining missions**
- **New development of equipment if no suitable commercial version exists**

❑ **Transitioning Technologies Into the Field**

UNITED STATES DEPARTMENT OF DEFENSE
HUMANITARIAN DEMINING R&D PROGRAM

FY09 Operational Field Evaluations (OFEs)

Iraq
Sifting Technology

Afghanistan
HSTAMIDS
MANTIS
Orbit Sifter
Sifting Buckets

Thailand
Air Spade
Beaver
Peco Cutter
SDTT
Tempest
Uni-Disk

PR - Vieques
Nemesis M3

Yemen
Improved Backhoe

Ecuador
Long Tools
Tempest

Angola
Air-Spade
Detonation Trailer
HSTAMIDS
JCB Loadall
Mine Stalker
RMC

Cambodia
Badger
Explosive Harvesting
HSTAMIDS (3 orgs)
Long Tools
MAXX+
Sifting Buckets
Storm
Tempest

Vietnam
Large Loop
MDA
Peco Cutter
Shinn/Birdseye Cutters
Walking Tractor

Chile
Air Spade
Multi-Tool Excavator

39 Systems in 10 Countries

AN/PSS-14

Multi-Pattern Coverage

3.5"

Tx

Rx

Rx

7"-7.5" coil
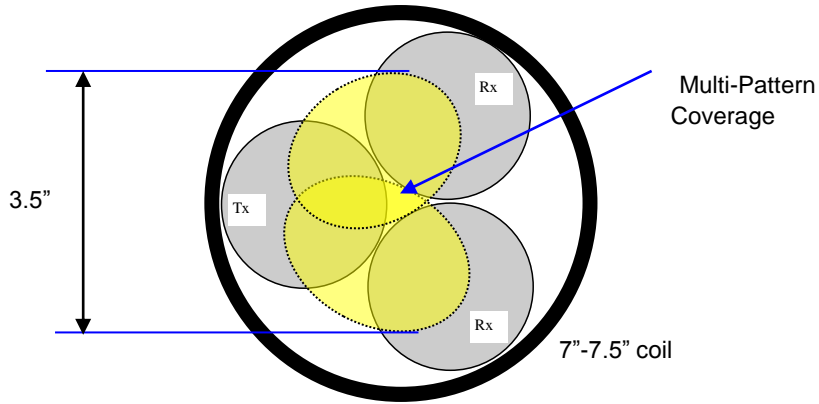
The HD program is upgrading the AN/PSS-14 dual sensor hand-held mine detector employed by U.S. Forces in OEF/OIF in order to provide better detection capability and enhanced training and tactics, techniques, and procedures (TTPs).

SYSTEM OVERVIEW

SPEAKER

WRIST STRAP

MAIN CRADLE ASSEMBLY

ELECTRONICS UNIT (EU)

FOLD POINT

EARPIECE

ADJUSTABLE HAND CONTROL

3 SECTION EXT SHAFT

BATTERY BOX

CAM-LOCKS

SENSOR HEAD

UNIT EST WT : 9.2 LBS
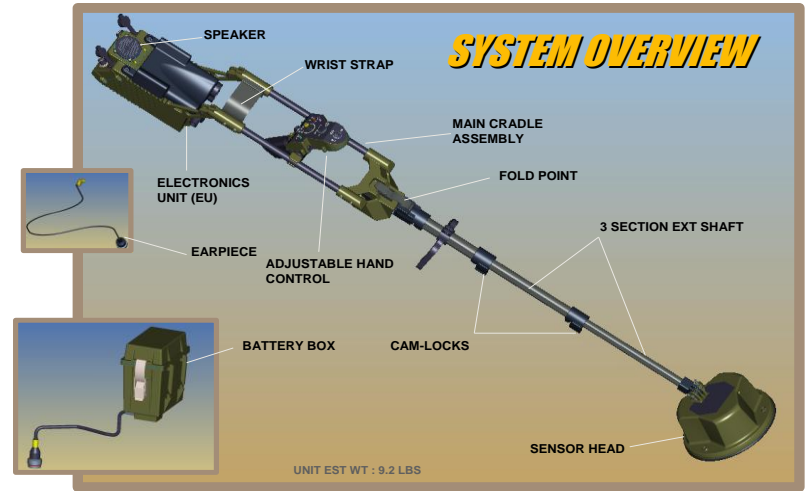
Explosive Harvesting Program

- ❑ **De-mils excess ordnance into demo charges**

- ❑ **Meets almost all of the NGOs requirement for donor charges**

- ❑ **Produces scrap metal available for sale**

Recycling weapons: how it works

Removing explosives from abandoned or stockpiled munitions to create useful charges, used to safely detonate landmines and unexploded ordnances (UXO).

| For example: | **Artillery shell** | **RPG: Rocket propelled grenade** |

First step: Is it safe?

Golden West workers inspect stockpiles to determine whether munitions are stable enough to be cut. If so, painted white and recycled. If not, painted red and destroyed.

Second step: Cut weapon open using a bandsaw.

Cut   Cut

Third step: Steam out the explosive, if necessary.

Steam   Skip steaming

Fourth step: Cut explosive material into a charge.
(In some cases, the ordnance must be melted and recast into a charge.)

Second cut   Skip second cut, already a charge.

Done: Charges weighed, inventoried and stored.

Charge ready.   Charge ready.

Landmine and UXO destruction

Explosive Harvesting Program

Questions?

COL Leo Bradley
Leo.Bradley@osd.mil
703-697-5607