

Update -- U.S Humanitarian Demining Projects for 2008

The U.S. Department of Defense Humanitarian Demining Research and Development Program has several ongoing projects that are being carried out in mine affected countries. There are two major detection projects taking place.

As part of the ongoing HSTAMIDS Long Term Operational Evaluation (ITEP Project 2.4.2.11), the Handheld STAnd-off MIne Detection System (HSTAMIDS) continues to be evaluated in actual operations in a variety of challenging locations. For an extended period (nearly two years), the system has been operationally employed in more than 50 minefields as the primary detector by local deminers managed by the HALO Trust. Long Term Operational Evaluations have taken place in Afghanistan (May-July 06), Thailand (September 06- Mar 07) and are ongoing in Cambodia since April 06. The operations with The HALO Trust, the lead NGO for HSTAMIDS fielding, have led to the development of new time and cost saving operating procedures and demining team organizational structures that take advantage of the system's superior probability of detection and remarkable clutter rejection capability. The Mines Advisory Group (MAG) in Cambodia has completed training on the HSTAMIDS. The system is now in use by both The HALO Trust and MAG in Cambodia. The Cambodian Mine Action Center (CMAC) has also established a project with the US to train and operate with HSTAMIDS currently scheduled to begin in late 2008. In HALO Trust operations in Cambodia to date, the system has processed over 800,000 detections and achieved a clutter rejection ratio of 94% while locating all of the more than 2,900 mines of 14 different types in over 50 challenging minefields. The HALO Trust has established an HSTAMIDS training site in Cambodia to support HALO Trust operations in other mine-impacted countries in Asia and Africa. HALO's Afghan deminers are now in training and will conduct operations later this year.

The Mine Stalker, a ground penetrating radar (GPR) system developed with NIITEK (Project 2.2.2.3) combines the GPR system that employs a 2.4 meter, three-section antenna array integrated on a remote control platform. The system is computer controlled with GPS tracking. It also allows for real time detection and marking of anti-tank (AT) landmines. The system is currently in Cambodia for another round of testing. The system is under evaluation against the anti-tank mines found in SE Asia at an extensive field test site constructed with six different soils from all over Cambodia by the US program. The site has multiple lanes and realistic rural road conditions. It is co-located with the Explosive Harvesting Facility and the CMAC Training Center. Early results are very encouraging. The system has achieved a Probability of Detection of 100% including testing with vegetation, pot holes, and uneven terrain. False alarm rates per square meter range from 0.007 to 0.2 depending on the soil type. The smaller, initial prototype Mine Stalker system was first evaluated in Angola and Namibia with promising results. It achieved a Probability of Detection of 99.6%, operating against a variety of threats, which include the challenging low-metal AT mines.

There are three ongoing mechanical systems deployed overseas as a result of U.S. ITEP Projects.

The Tempest (Project 3.2.6) is a small commercial-off-the-shelf remote controlled system for medium vegetation clearance, metal debris reduction and tripwire elimination. It is produced locally in Cambodia. Operational field evaluations of the Tempest Mark 6 are ongoing in Cambodia with MAG and HALO in Thailand and Ecuador. The Mark 6 variant offers improvements in the remote control system, hydraulics and has tracks instead of wheels, which are improving mobility and availability in a variety of challenging locations, as well as lowering the force of the system's footprint.

The Mini-Mulcher (MAXX) (Project 3.2.9) is a remote controlled excavator based system for medium vegetation clearance. It has undergone Operational Field Trials in Rwanda and Namibia and is currently undergoing an operational field evaluation in Guinea Bissau. The MAXX+ Vegetation Clearance System (Project 3.2.31) is a small, remote controlled, excavator-based system for medium vegetation clearance and soil sifting in various environments. The system has an extensive set of interchangeable tools. It can operate with a mulcher, sifting fork, rotar bucket, and standard construction style bucket. It's "reach-in" configuration places tools at the end of a 360 rotating articulating arm to clear vegetation with a 5 meter reach. It has completed an operational Field Evaluation in Sri Lanka from June 05 – Aug 06 with the Sri Lankan Army and deployed to Cambodia in Dec 2006 with MAG where it is still in operational use.

In partnership with HALO Trust, (Project 3.2.13), the U.S. is conducting an Operational Field Evaluation of the Rotary Mine Comb in Angola. The rotary mine comb is capable of extricating and removing buried AT mines from the soil and pushing them to the side of the vehicle path. The Rotary Mine Comb is currently involved in route clearance operations in Angola, with operator training complete and routes to be cleared identified. The Pearson rotary mine comb has shown promising results in developmental testing for safely removing mines from the road bed for which there are numerous applications in Africa and Asia.