



ITEP Test and Evaluation of Humanitarian Demining Equipment, 2006

The following summary provides an update on collaborative test activities that were initiated during 2005 and continue in 2006, including also some of the new test and evaluation efforts that are envisaged by various ITEP Participants.

Systematic Test and Evaluation of Metal Detectors (STEMD, [ITEP project, 2.1.2.3](#))

The first two of the three originally planned regional field trials (Laos, Mozambique, Croatia) to evaluate the current fleet of available metal detectors, were carried out during 2005. The corresponding final reports are available at the ITEP reports website. The third and last regional trial was originally postponed by the JRC/EC and then cancelled. Germany is now assessing the possibilities to run the remaining STEMMD trial in 2006. This last STEMMD trial would then probably be combined with another trial ([ITEP project, 2.1.2.8](#)), evaluating two Russian metal detectors for humanitarian demining.

Evaluation of metal detector arrays for humanitarian demining ([ITEP project, 2.1.2.5](#) and [2.1.2.6](#))

Two metal detector array evaluation projects are planned for 2006. The first project ([ITEP project, 2.1.2.5](#)), to be carried out by Canada in collaboration with the Netherlands and Germany, intends to evaluate several vehicle-mounted metal detector arrays in a controlled environment based on the CEN Workshop Agreement on T&E of Metal Detectors ([CWA 14747-2003](#)) and the procedures developed by the International Pilot Project for Technology Co-operation ([IPPTC](#)). The second project ([ITEP project, 2.1.2.6](#)), led by the Netherlands (partners still to be defined), will then continue this testing in less controlled conditions (different soil types) and in mine-affected countries.

Handheld Stand-Off Mine Detection System (HSTAMIDS) Operational Field Trails and Demonstrations Project ([ITEP Project, 2.4.2.6](#))

The three planned field trials which started at the end of 2004 are now finalized. The main objective of the trial, to evaluate the performance and suitability of the HSTAMIDS dual sensor detector in multiple humanitarian demining environments was fully accomplished. Trails were carried out in Thailand, Namibia and Afghanistan. A final test report is expected to be released soon. In the course of 2006 Long Term Operational Evaluations of the HSTAMIDS are underway in Cambodia (started in April 2006) and Afghanistan (started in May 2006), with an additional one in Thailand beginning in June 2006. During these evaluations, the system will be operationally employed as a primary and sole detector for extended periods (up to a year) by local deminers in a variety of



environmentally and threat diverse minefields. Data will be collected on system and operator performance. Periodic status reports will be provided.

Assessment of the dual sensor detector MINEHOUND ([ITEP Project, 2.4.2.4](#))

Three long-term trials of the detector initiated in summer 2005 and ran partially in parallel in Cambodia, Bosnia and Angola. The main objectives of these trials were to determine the reduction in false alarm rate when a dual-sensor detector is used in the minefield, and to gather data on the performance of the MINEHOUND with respect to depth and soil type. Almost all ITEP Participants sent representatives to act as “ITEP invigilators” during one or more of the regional trials. ITEP invigilators observed the testing of the deminers carrying out the main trial from the required safety distances and implemented additional tests to acquire more data on the performance of the detector. All trials have now been completed. The trial report, as well as the lessons learned report is due for publication by mid-2006.

Test and evaluation of available dual sensors to be used in humanitarian demining ([ITEP Project, 2.4.1.3](#))

This activity is planned to be executed by Germany, in collaboration with other ITEP Participants (partners still to be defined). It is the objective that the tests will include all available dual sensor detectors which may be employed in humanitarian demining, and should allow to compile a “state of the art” report. The project has been conceived in two stages. The first stage (2006) will include the preparation of an optimal reliability test design for dual sensor detectors and the evaluation of dual sensor detectors in a controlled test area. During the second stage (2007), trials will be performed in real minefields with only those detectors that passed the first stage reliability trial.

Test and evaluation of the Bozena-5 medium flail ([ITEP Project, 3.2.33](#)), the MineWolf tiller ([ITEP Project, 3.2.34](#)), the MV-10 flail+ tiller([ITEP Project, 3.2.35](#)) and the MV-20 flail + tiller ([ITEP Project, 3.2.36](#))

A set of mechanical demining equipment, mainly flail and combined flail/tiller equipment, will be tested during 2006 by Canada, in collaboration with Sweden and possibly other ITEP Participants. The trials will be run in Croatia using the Croatian Centre for Testing Development and Training (CTRO) [Cerovac](#) test site and with assistance from Croatian test engineers of the CTRO. Next to completing the data set on baseline CWA 15044 machine performance and survivability characteristics, the tests are also intended to further evaluate the CWA 15044 test protocol in order to formulate an update of this protocol at the beginning of 2007.

Comparative in-country trial of the MV-4 and Bozena-4 mini-flails ([ITEP Project, 3.2.41](#))



A comparative trial of the MV-4 and Bozena-4 mini-flails will be carried out by Sweden, in close collaboration with Canada and the United Kingdom, during the last quarter of 2006 at the [International Mine Action Training Centre](#) (IMATC) in Kenya (Nairobi). The main trial aims are to evaluate the in-country performance of the MV-4 and Bozena-4 for deployment in Sudan and to quantitatively assess the effect of hammer wear on the flail performance.

Test and Evaluation Workshop for Mechanical Demining ([ITEP Project](#), 7.2.4)

The Workshop on Test and Evaluation of Mechanical Equipment ([ITEP Project](#), 7.2.4) will be run by the United Kingdom, supported by Sweden, Canada and possibly other ITEP Participants at the end of the above described comparative flail trial. It is intended that the Workshop attendees will be given a trial demonstration after which the trial methodology will be discussed. The Workshop objectives are to inform people about the CWA 15044 test procedures, to advice on how they can conduct acceptance testing, and to seek feedback and input from other entities that are also involved in mechanical demining equipment testing.

CEN Workshop (CW 26) on a Test Methodology for Personal Protective Equipment (PPE) for use in Humanitarian Mine Action ([ITEP Project](#), 5.1.2)

This Workshop will start in June 2006 with involvement of several ITEP Participants. The responsibility for the workshop will be equally carried by the Swedish Standardisation Institute (SIS) and the GICHD.

Plans also exist to update the CWA on T&E of metal detectors ([ITEP Project](#), 2.1.1.1), including amongst others recent developments in the area of soil characterization for electromagnetic sensors ([ITEP Project](#), 2.4.1.2).

Next to the above listed collaborative test and evaluation activities, there are numerous trials that will be run by the individual ITEP members and for which information will be made available through the ITEP channels. They include amongst others APOPO-PARADIS field tests ([ITEP Project](#), 1.2.4), an evaluation of conditioned bees for detecting of buried landmines ([ITEP Project](#), 2.3.2.6), and the test and evaluation of the improved "MINE STALKER" NIITEK Ground Penetrating Radar system ([ITEP Project](#), 2.2.2.3).