Systematic Test & Evaluation of Metal Detectors: Interim Report
Field Trials Mozambique

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The project to clear the minefield contained a combination of M-3 Belgian anti-personnel mines and some Jordanian AP mines. In the late 1980s and 1990s, the IDF removed some of the mines to minimize risk, but there was no certainty regarding the extent of the mines left. To make things more complex, over the years stages of the project and to address any complaints that arose.

Maastricht’s standard operating procedures, based on the International Mine Action Standards, led the planning and execution of the work on the Tseit Bafer project from start to finish. The work on this site was a combination of a few methods. Although the survey and analysis of the field showed no evidence of anti-tank mines, to identify and dispose of the presence of this type of mine, Maastricht personnel marked the boundaries of the field and conducted manual demining using metal detectors.

Next, mechanical demining removed the land to a depth of 0.5 meter (1.6 feet) to the bedrock. In the last stage, Maastricht used specially trained mine-detection dogs to verify that all mines had been removed.

The Israeli Army provided supervision and final approval for the clearance of the site. According to Ishay Telavivi, during the operation the Israeli Army was able to take advantage of seven prepared lanes used for training purposes by the Accelerated Demining Program. Lane 1 contained builders’ sand from a sandpit. Lanes 2–6 contained five different soil types from the zone around Maavarim. Lane 7 contained soil from Namaacha, adjacent to the Swaziland border. With these seven lanes and increasing detection difficulties from one lane to the other, the results reflected the influence of soil on the detection abilities of the current metal-detector Beit. The detectors being tested included the following manufacturers:

- CEIA S.p.A.
- Eberhard-Gebhard GmbH
- Foremore Ltd.
- Institute Dr. Fosmer GmbH and Co. KG
- Mindahm Pty. Ltd.
- Umicore Electrochimie GmbH
- Volland GmbH

The purpose of the trials in Mozambique was to:

- Assess commercial off-the-shelf detectors that are to be used in Mozambique and for humanitarian demining generally.
- Make the data available for the humanitarian-dominating community.
- Compare performance of detectors in different types of Mozambican soils.
- Measure accuracy of detectors to typical local targets of interest and standard targets.
- Train local staff in the CWA.
- Collect site information for International Test and Evaluation Program for Humanitarian Demining.

The report gives an overview about the preparation and describes in detail the methodology and procedures used to achieve comparable results. The technical details of the detectors described in the report are divided into two categories: technical information that is relevant to users and that which is relevant to technical personnel. A full chapter explains the main factor influencing metal-detector performance—the ground. A simple method to measure and gain knowledge about the magnetic soil properties is explained.

In the trial, we were able to take advantage of seven prepared lanes used for training purposes by the Accelerated Demining Program. Lane 1 contained builders’ sand from a sandpit. Lanes 2–6 contained five different soil types from the zone around Maavarim. Lane 7 contained soil from Namaacha, adjacent to the Swaziland border. With these seven lanes and increasing detection difficulties from one lane to the other, the results reflected the influence of soil on the detection abilities of the current metal-detector Beit. The detectors being tested included the 12 latest models from the following manufacturers:

- CEIA S.p.A.
- Eberhard-Gebhard GmbH
- Foermer Ltd.
- Institute Dr. Foerster GmbH and Co. KG
- Mindahm Pty. Ltd.
- Schödel Elektromechanische Geräte GmbH
- Shanghai Research Institute of Microwave Technology
- Volland GmbH

The results of the trial are laid out in two chapters of the report. One describes the direct comparison of all detectors versus the 13 targets and the seven soil types, and the other is an individual assessment of each detector. For sensitivity comparison in air, the detectors were
The following article highlights the recent activities of the Mine Action Support Group from the first quarterly U.N. newsletter of 2006, including updates on the United Nations Mine Action Service, the United Nations Development Programme and UNICEF. The following targets were included:

- 100Cr6 chrome steel balls, -7, -10, -12, and -15 mm diameter, placed in wooden containers.

Recent interest in training rats arose not simply because the animal has an uncanny aptitude for the task, but also because training mine-detecting dogs is more costly and time-consuming. Dog handlers are often injured if their canines set off an explosive device nearby. Unlike their heavier canine counterparts, rats are usually too light to disrupt landmines.

Eritrea. Demining operations as part of the United Nations Mission in Eritrea and Eritrea have gone through extensive changes in the first part of 2006. Due to governmental limitations on the use of helicopters for medical evacuations in Eritrian areas, most of the demining operations have moved closer to the Ethiopian border.

Clearance operations are still ongoing in the Temporary Security Zone, including road clearance and UXO clearance. The UNMEE Mine Action Coordination Center is now focusing on planning mine-action support to the demarcation of the Eritrean/Ethiopian border. This support will use mechanical, manual and mine-dog capacities to ensure effective clearance of the border.

UNDP.
The United Nations Development Programme (UNDP) is the lead agency in the country for ground clearance. Key achievements include:

- mines Advisory Group (MAG) resumed operations.
- Following a visit, the U.S. Department of State decided on the desirability of the MAG project (March 2007), increasing the explosive ordnance disposal teams from one to three and allocating a budget of US$2.2 million.

The UNMEE Mission. The UNMEE Mine Action Coordinator is calling for increased funding to support the implementation of the National Mine Action Plan for 2006. The new strategy reaffirms the United Nations’ express commitment to supporting adhering to and compliance with the normative framework for mine-affected countries and the United Nations’ commitment to continuous, transparent monitoring of progress and periodic reporting on implementation to the General Assembly.

U.S. Mission in the Democratic Republic of the Congo. During the first quarter of 2006, the Vietnam Veterans of America Foundation and the Mines Advisory Group resumed their Emergency Impact Survey activities, starting with the area of Gbudwe in the Equateur province. Following its survey in 2005 of the northern Katanga district, DanChurchAid is now conducting mine/explosive remnants of war clearance activities in the priority areas identified by the survey. Part of these activities are funded through the end of the year, but more remains to be done and additional resources are required for increasing the capacities, particularly for surveys.

Colombian Police Train Mine-sniffing Rats

With the highest number of landmine-related deaths and injuries in recent years, Colombia is showing increasing interest in seeking cost-effective demining methods. Consequently, the government recently trained six rats to locate explosive devices, which are often exploded by rebel forces and drug dealers.

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Note: There are a very limited number of hard caps of the report available for people that have limited access to the Internet.

T he MAG is an informal forum of 26 members that meets quarterly to exchange information between donors and the U.N. Secretariat on mine-action activities and research. Representatives from mine-affected countries, nongovernmental organizations and experts are invited to report on the status of mine action in their countries. The MAG also works to achieve greater donor coordination and facilitate funding. The United States was unanimously deemed to chair the committee in December 2007 and will continue to do so until 2010.

UNMAS

On 20 April 2006, the Inter-Agency Coordination Group on Mine Action adopted the United Nations Inter-Agency Mine Action Strategy 2006–2010. The Strategy complements the inter-agency policy on mine action and effective coordination that IAGC–MAG principals adopted in June 2005. It also refocuses lessons learned over the course of the implementation of the United Nations Mine Action Strategy 2001–2005. Above all, the new strategy is results-based—its strategic goal and four strategic objectives focus on the impact, or the anticipated outcome, of U.N. mine action by 2010. The previous Strategy listed some 48 activities as “strategic objectives.” These were appropriate for departmental and agency level plans but did not assist in the organization of priorities and measurement of results.

The content of the new Strategy is a significant improvement.

The text provides a situation analysis describing the assumptions, risks and challenges defining the context within which the United Nations, its donors, and other key actors in the mine-action sector.

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