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What Ever Happened to…?

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International Mine Action

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Conclusion

The operators followed a very strict testing procedure in accordance with international testing standards, which contributed to the overall results being regarded as representative under testing conditions. In these conditions, there was an astonishing difference between the flail and the tiller. It became apparent in the case of the flail that under dry conditions the operations are heavily affected by limited visibility due to dust. Whether the machines were remote-controlled or manned, lack of visibility affected the performance of the operators because they couldn’t see where to “drive” the machine.

The two Bozena tiller machines both adequately cleared the test lanes, although the Bozena-4 was the slowest machine, clearing to an average depth of 19.44 centimeters (7.65 inches) in a total time of 26.10 minutes. The Bozena-5 flail cleared its lane to an average depth of 25.06 centimeters (9.87 inches) in 16.53 minutes. Both Bozena machines were unmanned.

The superiority of the two MineWolf tillers in terms of clearance capacity was indiscernible among operators. The larger MineWolf cleared the two 50-meter (55-foot) lanes in 5.35 minutes. This corresponds to an hourly clearance capacity of 3,328 square meters (3,980 square yards). It also seemed that having the machine manned adds to more control when operating. The Mini MineWolf, on the other hand, received positive remarks for very good clearance results despite its compact size. This machine cleared consistently to a depth of over 20 centimeters (7.87 inches).

Although the MineWolf and MiniMineWolf tillers demonstrated superior results under these test conditions, the use of a flail is sometimes preferred in certain circumstances, for example, shallow top soil over bedrock. For this reason the MineWolf machines may also be fitted with a flail, according to the manufacturer.4

Humanitarian Demining 2007—Mechanical Demining was a well-organized and important symposium for the international mine action community. In just one week, participants from 35 countries learned the value of various demining technologies and had the opportunity to witness several demining machines in action. Several people commented that the controlled nature of the testing made it very easy to follow and comment.

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The Flail Machines

The tillers in terms of clearance capacity were indifferent among operators. The larger MineWolf cleared the two 50-meter (55-foot) lanes in 5.35 minutes. This corresponds to an hourly clearance capacity of 3,328 square meters (3,980 square yards). It also seemed that having the machine manned added to more control when operating. The Mini MineWolf, on the other hand, received positive remarks for very good clearance results despite its compact size. This machine cleared consistently to a depth of over 20 centimeters (7.87 inches).

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The idea of forming the Japan Alliance for Humanitarian Demining Support was conceived by Hiroshi Tomita in November 1992 when it was discovered that a ground-penetrating radar tool developed by his company, Geo Search, which was used for the detection of sinkholes under roads in Japan, could detect an anti-personnel mine in a sandbox. This discovery started a period of research that led to the development of a mine-detecting GPR tool called Mine Eye. Since Geo Search was too small a company to fund a large-scale development programme, Tomita recruited the moral and practical support of major industrial companies operating in Japan such as Toyota, Honda, IBM, Omron and Seicom to help with development.

Practical Experience Needed for Product Improvements

The JAHDS was founded as a nonprofit NGO to support mine action in March 1998 and donated funds and equipment to examine mine-action NGOs. In return, the NGOs were asked to assist in Mine Eye development by providing access to minefields and trials and reports, but such support was difficult to obtain.

Consequently in January 2001, JAHDS set up its own small mine-clearance team, preferring to work in Thailand. It created a clearance team in alliance with the General Chartchai Choonhavan Foundation, a Thai NGO. Since the border demarcation adjacent to the Preah Viharn (Khan Pha Viham) temple area was still contested by Thailand and Cambodia, the first demining task JAHDS undertook was at Sadok Kok Tom, another temple near the main road between Thailand and the Angkor Wat complex in Siem Reap, a main artery between Thailand and Cambodia. This site was identified by Norwegian People’s Aid in 1991 as being of high priority for clearance, and this was endorsed by both the Thai Mine Action Center and provincial authorities. Clearance began in December 2002 and was JAHDS’ first demining experience. It was carried out successfully and without incident.

JAHDS Makes Use of Clearance Skills

After the successful clearance of the temple at Sadok Kok Tom, the situation at Preah Viharn was sufficiently resolved for JAHDS to work there. The JAHDS demining team reformed itself, splitting off from the GCPF, and recruited another group of deminers from the Kachin National Liberation Army. These deminers undertook a six-week basic course at the Thai Army Engineer School in Ratchaburi province and were then added to a field team by Johan van Zyl, an experienced mine-clearance team leader who had also trained the deminers at Sadok Kok Tom.

The new team set up camp on Khan Pha Viham, part of the land belonging to the Thailand Department of National Parks, Wildlife and Plant Conservation (DNP) in the Kanchanaburi district of Si Saket province, near the famous temple of Preah Vihean on the other side of the Cambodian border. It began clearance work on ground known to be contaminated with mines and unexploded ordnance. The DNP needed the land for the development of a cultural heritage site, camping ground and educational facility, all connected with the temple and its construction.

Built circa 900 A.D., the temple is 900 metres (984 yards) in length and sets atop a cliff with a sheer drop of about 400 metres (437 yards) on three sides. The temple itself lies in Cambodian territory, but the easiest access is from Thailand because in many places the cliff forms the frontier between Thailand and Cambodia. The temple is usually open from the Thai side because the temple is a candidate to become a UNESCO World Heritage site.2

Mines and UXO were placed at the site when the border area was contested from 1983–1998. The temple is first from Phu Po’s former headquarters. The Thai Army, Vietnamese Army, Khmer Rouge,3 Cambodian Army and some irregular militias fought over the area, leaving behind many mines. A number of army militia camps were set up, and some local valleys were used for rifle- and rocket-propelled-grenade-firing practice, which left an abundance of scrap metal and UXO. These were also burning down and fragmenting mines and at least one artillery shell rigged as a trip wire booby-trap.
From an operational point of view, the clearance was fairly straightforward, although the majority of the area was thinly covered with trees, bushes and tall grass. There were rocky outcrops and steep slopes that made manual clearance very difficult. The area was divided into blocks, and each block was cleared in accordance with priorities determined by the DNP. One of these blocks surrounded an old reservoir, dating from the same period as the temple, with an earthen dam at one end. The clearance was initially managed by van Zyl, and later supervised by Yutaka Okide, aided by Raungpong Lomtrirat, Tripobtrimakda, and Commander Rabiab Maneron. They had a team of 24 deminers and free surveyors. Introduced to integrated demining by van Zyl at Sadok Kok Tom, the JAHDS team made extensive use of hand held geo-sensors, a HAFO vegetation cutter and a Becoma 8 Ralf. In addition to their clearance duties, JAHDS staff carried out mine-risk education in local schools and communities, which was effective, and soon the MRE was passed to the locals by deminers from their own communities. The area cleared was 668,000 square metres (165 acres) and, although there were some differences as to delays of UXO detonation, the work proceeded on schedule. Quality Assurance was carried out by the Thailand Mine Action Centre, but the DNP was confident enough with the clearance that redemining of each site began as soon as JAHDS left the site. It was heartening to see how quickly previously-mined areas were developed for civilian purposes. JAHDS also funded the building of a perimeter-security barrier beside a walkway near the cliff edge. Today the walkway over Cambodia from this walk is breathtaking, but the cliff is almost vertical at this point, and there was a need to prevent people from falling off. And they Finished with a Temple Despite its successful demining experience, JAHDS ceased operating as an NGO at the end of 2005 and the responsibility for the mine-affected area was taken over by the government of Cambodia. This was due mainly to the difficulty of obtaining sufficient funding (close to US$1.8 million annually) from corporations and private donors in Japan. Thailand is seldom seen by international donors as an under-developed country, so foreign visitors see only major cities like Bangkok or the well-developed tourist resorts on Phuket Island. Much of the funding needed for the clearance of Sadok Kok Tom and Khoa Phu Vietham National Park came from private Japanese donors, but the burden of seeking such donations became too high for the small group of enthusiasts involved.

Future Plans Although JAHDS’ NGO operations have ceased, it is expected that the mine-clearance capacity it created will not. A Thai civilian NGO called the Peace Road Organization will continue the project. The JAHDS Board donated all funds and equipment to the new NGO in November 2006, allowing the group to carry out further clearance for the development of this important sector of DNP lands. It could also be highly important for the economy of the local area, especially if a new road is constructed linking Preah Vihar with the complex of temples at Angkor Wat, expanding the “temple circuit” and increasing the number of visitors to this important cultural area. This road would also be a commercial artery because a border market would likely establish itself, further enhancing the economy of the area. In addition, mine clearance would further remove the hazard of mines for villagers who harvest the local forests for timber and roof grass. Construction of the road is expected to be completed by September 2007. Above all, the skills JAHDS transferred to local deminers could be used to create a nucleus for a larger Thai NGO, established in accordance with the latest TMAC mine-action programme, and supporting the work of the TMAC Humanitarian Mine Action Units. There is still much clearance work to be done along the border and this extra clearance capacity is sorely needed.

In Summary The Japan Alliance for Humanitarian Demining Support had six years as a research and development NGO for GPR mine detectors and nearly two years as a mine- and UXO-clearance NGO in Thailand. Of the clearance teams, it could fairly be said, “They started with a temple, and they finished with a temple.” It was a short life perhaps, but a good one.

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