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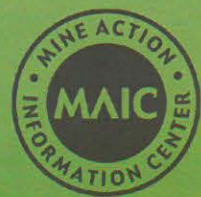
**On the
Ground
in Iraq**



The Role of the Military in Mine Action



Prince, a dog trained in detecting landmines, sits by a Nicaraguan soldier during a celebration for the 24th anniversary of the Nicaraguan army at a military base some 15 kilometers (9 miles) west of Managua, Nicaragua. c/o AP



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table of

CONTENTS

focus

The Military in Peacekeeping Operations 2
by Bob Kudyba and Andrea Poelling
The Role of the Military in Mine Action 6
by Ian Mansfield
The U.S. Department of Defense Humanitarian Demining Training Center:
A Center of Excellence 10
by Lloyd D. Carpenter, Paul Arcangeli and Rodney A. Robideau
Canadian Military Support to Humanitarian Mine Action 12
by Rohan Maxwell
The Quick Reaction Demining Force: The United States' Response
to Humanitarian Demining Crises 16
by Hayden Roberts
Mine Action Training in Argentina 18
by Carlos Nielsen
The Israeli Defense Force's Humanitarian Demining Efforts 20
by Aharon Etengoff, Gerald Steinberg and Jennette Townsend
Humanitarian Demining Efforts in the Occupied Palestinian Territories 22
by Jennette Townsend
Rethinking Humanitarian Demining for Coalition Forces 24
by MAJ Tom Barnett and CPT Kyle Shaffer
The Military in Mine Action: An Interview With LTC Bob Crowley, U.S. SOUTHCOM 28
by Nicole Kreger
The Role of Military Technical Advisors 31
by Rohan Maxwell
The Use of Belgian Military Experts in EOD 35
by Vincent Muylkens
Humanitarian vs. Military Mine Action 38
by Nicole Kreger
Mine Injury Casualties Report from the Iraq-Kuwait DMZ 42
by B. Schneider, V. Ehmman, M. Gebler, M. Pohlers, J. Bronnert,
M. Schneider, V. Bartke, H. Woltering and B. Domres
Jordan's Military in Mine Action 45
by Kristen Frahler
Humanitarian Demining Within the American Continent:
A Silent and Successful Reality 48
by Colonel Mellado

notes

ERW: States Conclude a Protocol 51
by Paul Ellis
The Sdok Kok Thom Integrated Demining Project 54
by Paddy Blagden
On the Ground in Iraq 56
by Jo Foster
ITEP/JMU Database of International Experiences: Supporting the Test
and Evaluation Community 60
by Franciska Borry
International Conference Assembles Military Considerations Within
Mine Action Technology Trends 62
by Jan Cornelis and Hichem Sahli

feature

A Profile of Afghanistan 64
by Kimberly Kim
Jaipur Foot Camp Brings Renewed Hope to Landmine Victims in Kabul 68
by Mahendra Mehta
Operation Enduring Freedom: The Role of Polish Engineers in Afghanistan 70
by Col. Boguslaw Bebenek, Hanna Madziar and Capt. Wojciech Chyla
After the Taliban: Opportunities and Challenges in Mine Action in Afghanistan, 2002-2003 72
by Patrick Fruchet

editorial

The Ottawa Covention in Perspective 75
by Dennis Barlow

The Military in Peacekeeping Operations

Introduction

In 2003, the United Nations Mission in Ethiopia and Eritrea (UNMEE) Mine Action Coordination Center (MACC) implemented a revised work plan that focused on mandate-specific activities and UNMEE Peacekeeping Force (PKF) demining assets. The novel and successful integration of the Force Mine Action Centre (FMAC) with the MACC represents a first in UN peacekeeping history, as Force demining assets are now coordinated by a single body and they work to International Mine Action Standards (IMAS). Unanticipated national events in mine action in Eritrea in 2002 prompted an opportune moment for the UNMEE MACC to demonstrate the key role that military demining components can play in humanitarian mine action when effectively integrated.

Background

Between 1998 and 2000, a devastating two-year border conflict between Ethiopia and Eritrea left behind an abundance of mines and UXO in the countries, particularly along the border shared by the two countries. In Eritrea, this legacy compounded an already serious landmine problem—a result of the nation's long struggle for independence.

After the countries' signing of the "Agreement on Hostilities" in 2000, the UN Security Council promulgated Resolution 1320, which authorized a UN peacekeeping mission—the UNMEE—as well as established the Temporary Security Zone (TSZ) between Ethiopia and Eritrea. This resolution states that a key mandate of UNMEE is "to coordinate and provide technical assistance for humanitarian mine action activities in the TSZ and area adjacent to it." In support of this mandate, the UN Mine Action Service (UNMAS) of the UN Department of



Peacekeeping Operations (DPKO) began implementing a mine action assistance programme, establishing the MACC as part of UNMEE in mid-2000. By November 2000, the MACC was fully established. Since then, it has played a leading role in management and coordination of all mine action activities in the Mission area.

2000–2002

Between August 2000 and July 2002, the MACC responded to numerous requests for assistance to non-governmental organizations (NGOs) conducting mine action operations in the TSZ as well as observed the PKF demining and UXO clearance programs. In addition, with the official agreement of the government of Eritrea

(GoE), the MACC, during this period, concentrated much of its efforts on the critical need to coordinate all NGO mine action activities and to assist the GoE to build national capacities for mine action. The MACC worked to balance the creation of an indigenous humanitarian mine action capacity and to coordinate the PKF mine action requirements. Indeed, it expended considerable resources in the creation and deployment of the national mine action capacity and ensured that these assets worked safely and efficiently alongside the UNMEE assets. Until mid-2002, this UN mine action structure and support functioned well and served the interest and needs of all affected parties in the country, in particular all those working and living in the TSZ and adjacent areas.



Events of July 2002

Unanticipated national events in mid-2002, however, disrupted the UN mine action operations in Eritrea. In July 2002, the GoE enacted a new national policy for mine action. It issued Proclamation No. 123/2002, which dissolved the entire national mine action configuration and put into place new structures: first, the Eritrean Demining Authority (EDA) and later the Eritrean Demining Operations (EDO). Representing a significant change of attitude within the national mine action programme, this also brought about the loss of humanitarian mine action capacity in the TSZ. The GoE directed a majority of international NGOs (INGOs) to leave the country. By early September 2002, the only non-UN mine action agencies that were permitted to remain in the country were the HALO Trust and RONCO Consulting Corporation, which is contracted to the U.S. Department of State. The HALO Trust was subsequently asked to leave in June 2003.

Abruptly deprived of essential activities, the UNMEE MACC was forced to reconsider the realities for carrying out its mandated responsibilities. By removing three major mine action international NGOs with less than a month's notice, the original transitional concept from emergency to development mine action for Eritrea had to be entirely revisited. Thus, immediately following the

adoption of the new national policy for mine action, the UNMEE MACC re-examined its mine action role, with a view to redefining its objectives and activities while at the same time confirming its resource requirements.

Establishing the Force Mine Action Center

In the fall of 2002, the MACC prepared a revised work plan focusing on the restructuring of existing mine action elements within the MACC and UNMEE, including resources under command and control of UNMEE PKF, the UN Military Observers (UNMO) and the MACC, to continue to carry out its primary responsibilities as mandated, first and foremost, by the UN Security Council. These are as follows:

- UN Security Council Resolution 1320 (2000): "To coordinate and provide technical assistance for humanitarian mine action activities within the TSZ and areas adjacent to it."

- UN Security Council Resolution 1344 (2001): "To facilitate mine action in coordination with the United Nations Mine Action Service, in particular through exchanging and providing existing maps and other relevant information to the United Nations."

- UN Security Council Resolution 1430 (2002): "Demining in key areas to support demarcation."

The rapid MACC restructuring process focused on establishing an integrated civilian and military mine action headquarters within UNMEE by combining the PKF's Mine Action Cell (MACE), the Explosive Ordnance Disposal (EOD) Officer and the UNMEE Mine Risk Education (MRE) Cell with the structural components of the MACC Operations Section. This unique integrated mine action establishment is referred to today as the Force Mine Action Center (FMAC).

At the same time, the United Nation's responsibility for assistance in national capacity-building shifted entirely to the UN Development Program (UNDP) and the UN International Children's Emergency Fund (UNICEF). The MACC now only assists UNDP and UNICEF with their capacity building efforts.

With the aim of implementing UNMEE's mine action mandates, the MACC/FMAC became fully responsible for prioritization and issuance of all UNMEE mine action tasks. It has both coordination and operational functions covering all aspects of mine action including MRE, EOD, medical coordination, mine clearance, demining for demarcation as well as an emergency response function, and as such is responsible for providing support to the PKF in the TSZ and adjacent areas. In this capacity, the MACC/FMAC is now able to put into effect a consistent and well-coordinated UNMEE

by Bob Kudyba and Andrea Poelling, UNMEE

mine action response in the mission area.

MACC/FMAC Assets

The MACC/FMAC manages and coordinates a full set of PKF demining assets. These assets currently include a Kenyan Engineer Company, which consists of two humanitarian-trained manual demining troops;¹ a Slovakian demining company, which is made up of both a manual and a mechanical demining capacity; and a Bangladeshi demining company, which consists of manual deminers as well as a mine detection dog (MDD) team. In addition, the MACC employs MECHEM, a South African civilian contractor, for road clearance operations, as well as an Emergency EOD field team and two MRE field teams.

The primary role and responsibility of the Force demining assets is to support the mobility and safety of the PKF as well as to provide specialist operational capability. Once demarcation commences, the main focus of work for the Force demining assets will be the clearance of roads and access routes to pillar sites as well as clearance of the actual pillar sites along the delineated border between the two countries. Current preparations for demining in support for demarcation intend to deploy the Force demining assets as an integrated operation, where all assets work alongside each other in a mutually supportive manner.

The Emergency EOD field team is tasked to support the Force demining assets in their effort to respond to immediate needs for disposing of UXO. Most commonly, UXO is discovered by members of the local population, who report these discoveries to the MACC MRE field teams. The MRE teams are then responsible for submitting the discovery reports to the MACC/FMAC headquarters, including the MACC EOD team. In most cases, the MACC EOD team is subsequently tasked to dispose of these UXO in the field. The EOD team and the MRE teams have an excellent and effective working cooperation, which enables a quick response to UXO discoveries.

The MACC MRE teams regularly deploy to the three sectors of the Mission area within the TSZ and adjacent areas, where they carry out community-level interventions, providing much-needed mine risk training to an average of 2,000 men, women and children per week.

The MACC MRE personnel also

conduct landmine safety training for mission personnel, both military and civilian, and other humanitarian actors operating in Eritrea.

In 2002, the MACC determined a need for a road verification/clearance capacity for locating presumably deep-buried mines and UXO and for increasing the safety of movement and mobility of the PKF and humanitarian operations in the TSZ. The first to be contacted to do this job was UXB Africa (Pty.) Ltd.

During UXB's contract period until 2003, the UNMEE MACC planned the operations and tasked the route clearance capacity. In mid-2003, with the realisation that deep-buried mines did not pose the threat that was initially assumed, the MACC recommended that the contract of UXB not be extended. UXB concluded operations in Eritrea in mid-July 2003.

In mid-2003, the route clearance/verification contract was relet, this time to address the need to clear roads in support of the border demarcation process of the Ethiopian Eritrean Boundary Commission (EEBC) more rapidly as well as to address the existing threat of newly laid mines (30 newly laid mines on roads were reported in 18 months). This time, the contract was awarded to MECHEM. MECHEM has three clearance components: a mechanical team, a manual team and an MDD component.

MACC Management and Coordination

All mine action tasks carried out by the Force demining assets are closely planned, coordinated and supervised by the UNMEE MACC/FMAC. An experienced set of both civilian and military staff members of the MACC/FMAC is responsible for the receipt of tasking requests, issuance of tasking orders, monitoring of tasks, implementation of quality assurance as well as supervision of activities in completion of task orders.

The operations section of the MACC works alongside the FMAC. Three Liaison Officers (one from each demining contingent) work at the FMAC. They are in charge of directly liaising and coordinating tasks that are issued by the MACC operations section. These officers report to the civilian Operations Officer of the MACC, who is responsible for the coordination of the assets and tasking priorities.

In addition, there are military officers working at the MACC/FMAC. These officers are in fact UN Military Observers (UNMOs) seconded to the MACC for specific assignments. For example, two UNMOs act as FMAC MRE Officers; one acts as the Project Officer Demining for Demarcation; one acts as the Field Mine Action Liaison Officer; and one acts as the Mine Action Liaison Officer in Addis Ababa, Ethiopia. In total, there are currently five UNMOs seconded to the MACC in rank from Major to Lieutenant Colonel.

The civilian international staff of the MACC are predominantly ex-military staff from a variety of countries. The majority of them have considerable demining and operational management experience. At the MACC, they fill positions such as Programme Manager, Chief of Operations, Operations Officer, Regional Liaison Officers, EOD Officer, Chief of Information, Logistics Officer and Programme/Training Officer. As a team, they are responsible for the smooth functioning of the UNMEE MACC.

The Future

The largest task yet awaiting the MACC/FMAC is the continuation of coordinating clearance tasks of roads, access routes to pillar sites as well as pillar sites in Sectors Center and West to support the demarcation project of the EEBC. Originally, it was intended that this project would commence in 2003. However, due to the political stalemate between the two countries concerning the delineation of their border, the EEBC has been unable to proceed with demarcation. As a result, the sites for pillars in Sectors Center and West of the TSZ remain undecided, holding back the Force assets to demine the necessary areas in preparation for marking the border. Pillar sites in Sector East have already been identified and cleared in preparation for demarcation as this was underway prior to the disagreement between the two countries concerning the way ahead of the EEBC. In the interim, while the international community anticipates an agreement between Ethiopia and Eritrea concerning demarcation, the Force demining assets will continue to effectively conduct UNMEE and humanitarian clearance tasks in areas where populations are most affected by the threat of mines and UXO. Currently, this requirement is greatest in the minefields of the Shilalo region in Sector West.

Demining Statistics

Since its inception, the MACC has coordinated, managed or supervised the following clearance operations:

- Clearance of 51,058,794 sq m of land
- Clearance of 9,277 km of roads
- Disposal of 3,739 AP mines
- Disposal of 2,514 AT mines and 48,256 items of UXO

These figures are the results of a combined military and civilian composite of demining operations since the beginning of the MACC through January 2004. They are a reflection of the commitment and cooperation to demining operations across the Mission area—an achievement that has been realised through joint efforts among contributing local authorities, NGOs and Force demining assets.

Conclusion

The integration of a MACC into a peacekeeping operation has witnessed a successful management of assets coupled with a unique skills base. This is the first time in UN peacekeeping history that a peacekeeping mission has effectively incorporated into the establishment of the mission structure an integrated civilian and military mine action headquarters. This unprecedented achievement has been accomplished in addition to mine clearance of large areas of land in Eritrea and a significant reduction of the landmine and UXO threat for the local population. Being the first UN mine action establishment to effectively integrate all civilian and military mine action components of a UN peacekeeping mission within a single headquarters structure, the UNMEE MACC has the potential to serve as a template for the creation of future mine action centers that are part of UN peacekeeping operations where a mine action element is required.

**Photos clo the authors.*

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NGOs, continued from page 41

the needs and goals of the other. As John Wilkinson points out, "... it's the same thing, but different sides of the same coin,"³ and getting those two sides to work in concert with one another is key to the progress of humanitarian demining and will undoubtedly benefit both as they work towards the mutual objective of a world safe from mines and UXO.

Biographical Information

Hugh Morris attended Sandhurst Military Academy and completed 10 years of military service in the British army where he retired as a Captain. He then joined MineTech International, where he was the Operations Manager, managing various contracts around the world (Bosnia, Kosovo, Nicaragua, Sri Lanka, Iraq, Kuwait, Somaliland, Ethiopia, Azerbaijan), many of which involved working alongside different militaries. For the past four years, he has been the Operations Director of MineTech International.

Chuck Meadows is a retired U.S. Marine Corps Colonel with 26 years of active service. His organization, PeaceTrees Vietnam, has been operating in cooperation with the Vietnamese army engineers for the past seven years.

John Wilkinson spent 34 years in the U.S. Air Force (11 active duty and 23 in the Reserves), and concurrently with his time in the Reserves, 23 years at the U.S. Agency for International Development (USAID). Mr. Wilkinson has been RONCO's Vice President of Operations since October, 2001, following retirement from both the Air Force and USAID. RONCO has been demining with and for the U.S. Army in Afghanistan since early 2002. They also have extensive experience working with military organizations in places such as Iraq, Eritrea and the Central Asian Republics.

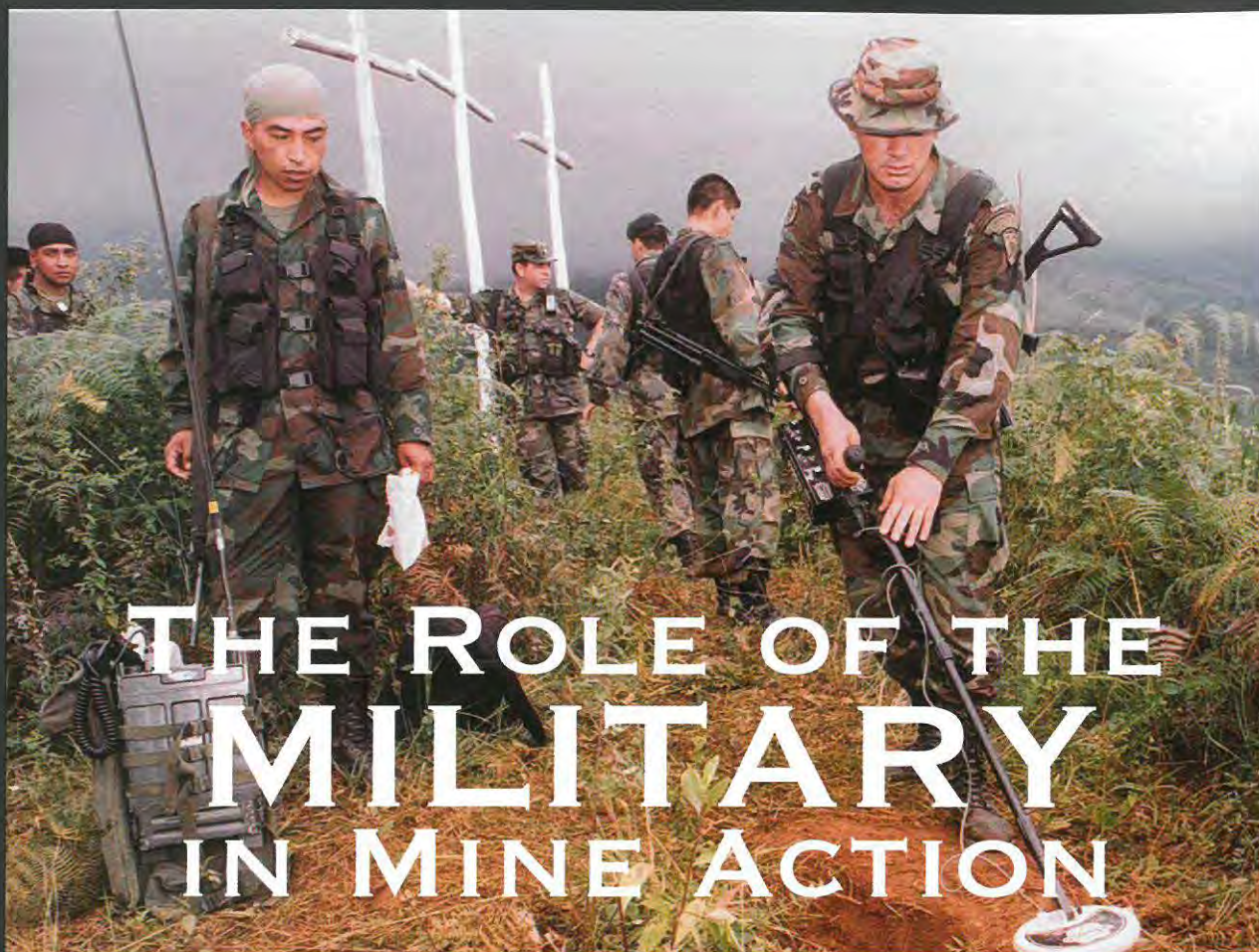
Paddy Blagden spent 34 years in the British army, and has worked in mine clearance since 1991. He has studied the demining activities of a number of armies, most recently when advising a Japanese NGO (JAHDS) in Thailand, where the organization worked alongside the Thai army's Humanitarian Mine Action Units.

Endnotes

1. Telephone interview with Hugh Morris of MineTech. March 10, 2004. For more information on MineTech, please see <http://www.minetech.co.uk/>.
2. Telephone interview with Chuck Meadows of PeaceTrees Vietnam. March 9, 2004. For more information on PeaceTrees Vietnam, please see <http://www.peacetreesvietnam.org>.
3. Telephone interview with John Wilkinson of RONCO. April 1, 2004. For more information on RONCO, please see <http://www.roncoconsulting.com/>.
4. Telephone interview with Paddy Blagden of International Mine Action. April 15, 2004.
5. E-mail correspondence with Paddy Blagden. May 11, 2004.

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THE ROLE OF THE MILITARY IN MINE ACTION

INTRODUCTION

This article is drawn from a study conducted by the Geneva International Centre for Humanitarian Demining (GICHD) entitled *A Study of the Role of the Military in Mine Action*, published in September 2003.¹ The study was commissioned by the United Nations, and sought to address issues such as the suitability, appropriateness and capability of the military to undertake mine action. The findings show that while using military actors in mine action is not always appropriate, militaries can play a positive role.

SELECT FINDINGS FROM THE GICHD STUDY

The Use of the Military in Mine Action

Two main types of military personnel have the potential to carry out mine action tasks: the members of the national armed forces of the mine-affected country ("local military forces") and military units or individuals from armed forces other than those of the affected state ("visiting military forces"). Local military forces may be carrying out a national mine action programme, acting either as the national authority or as a component of a nation-

al programme, or may be providing soldiers to be trained as deminers under a "military to military" training scheme. These schemes normally involve the military from a western army assisting the local military of a developing nation.

Visiting military forces may be composed of military units and individuals deployed under a UN or other peacekeeping mission, on a landmine-specific assignment or under some other arrangement. Visiting military forces may include individual instructors or Technical Advisers (TAs) assisting in UN-sponsored mine action programmes, instructor teams under bilateral "train the trainer" programmes or specialists in support of specific parts of national programmes, such as teams establishing mine detection dog (MDD) projects, mine risk education (MRE) projects, or information management systems. Assistance may also include the provision of equipment, but experience has shown that heavy military minefield breaching equipment (usually based on a battle tank) is not suitable for humanitarian demining.

The Use of Local Militaries

Local armed forces begin with some advantages in mine clearance. They typically have experience with landmines and other UXO, their salaries are already paid, they possess a logistics system,

including communication and medical back-up, and are organized to operate as a team. Local military forces may have the necessary equipment for demining, but if not, this can be provided by visiting forces bilaterally or multilaterally.

Thus, in many contexts, military forces have been widely used in mine action, including humanitarian demining, although with varying degrees of success. In Nicaragua, for instance, all demining has been carried out by the Nicaraguan army and its effectiveness has been greatly enhanced by support from visiting military forces operating under the auspices of the Organization of American States (OAS). On the other hand, in Bosnia Herzegovina, the use of entity armed forces (EAF) in demining has been expensive and demining accidents have been unacceptably high in the initial phases when compared to commercial companies and non-governmental organizations (NGOs). In Cambodia, the armed forces have made a relatively limited contribution to humanitarian demining to date, though the study recommends that their role and contribution be reviewed. This is due to the recent improvements in organization, training and equipment of the Royal Cambodian Armed Forces (RCAF), as well as the declining donor funds for the civilian mine action structures in-country.

Military forces often operate in environments where information is restricted and controlled, and they may be reluctant to provide data and information to others. This makes coordination difficult, if not impossible, and duplication and gaps likely. In many contexts, local military forces are reluctant to accept coordination or instruction from a civilian authority. For example, this appears to be the case in Cambodia. In Lebanon, the military has seemed reluctant to take external advice on mine action, although information sharing has reportedly improved. Similarly, in Nicaragua, after early difficulties, coordination with the National Demining Commission and visiting military forces seems to have significantly improved.

The study did not find much evidence of the use of the military in the other areas of mine action. While the military may be able to provide warnings about the technical dangers of landmines and UXO, they are not suited to undertake community-based MRE programmes, where social issues and helping to develop alternative coping mechanisms are important. In a few cases, the local military may have provided immediate medical care to a civilian mine victim, though they do not become involved in the provision of prosthetics or rehabilitation activities. Very few militaries anywhere in the world have played an active role in calling for a ban on AP landmines. The one other area where the local military has been seen to play a significant role is in stockpile destruction in those countries that have signed the AP Mine Ban Convention (MBC). Destroying stock-

piles of mines requires logistic support, such as inventory control, transport and unpacking prior to destruction. The local military can undertake these labour-intensive tasks.

Visiting Military Forces

Many armed forces possess considerable expertise in mine action, including managing and overseeing demining and explosive ordnance disposal (EOD) programmes, especially in emergency situations. The positive elements they may bring are experience, knowledge of techniques and advanced EOD skills, and in a number of cases, some knowledge of the International Mine Action Standards (IMAS). A number of the case studies in the GICHD report, notably Bosnia-Herzegovina and Nicaragua, show that demining accidents have been reduced due to training and oversight from visiting military forces.

However, in mine-affected countries where there is both local military and civilian involvement in the mine action processes, visiting military forces tend to view their mission as fulfilling a rather narrow service. Cooperation and coordination with civilian structures are not always accorded adequate priority, which can lead to compartmentalization of the assets being delivered. Certain missions may even be undertaken without any direct knowledge of the civilian organizations operating in the same theatre.

Bilateral arrangements between militaries can be appropriate when the local military is largely or entirely in charge of a country's mine action programme. Such agreements, however, may not provide an adequate planning and programming framework when there are multiple local and international actors involved, as programming complexity increases geometrically as the number of actors increases. As an example, it is possible that a National Mine Action Authority (NMAA) or a UN Mine Action Centre (MAC) may be working in conformity with locally

Clearing mines for humanitarian purposes demands specific expertise, which may not necessarily be gained as a result of ordinary military training or experience. Also, morale among deminers serving in local military forces may be low, depending on salary and conditions, and conscripts do not make the best deminers. It should not be forgotten that military deminers are first and foremost soldiers and as such will be used as combat engineers if hostilities re-emerge. In the aftermath of an internal armed conflict, the national army may not be perceived as neutral and may not be welcomed by affected communities. In these situations, it is better not to use the military or assign them tasks that do not bring them into contact with a community, such as the clearance of military barracks or airfields.

adapted standards, but a visiting military force may be training on a different interpretation. The IMAS represent an international set of standards that may be adapted and interpreted differently by each host country, making no two countries' technical procedures or standard operating procedures (SOPs) exactly alike. Often, such disparities will become evident only late in the programme cycle as an increasing amount of operational responsibility is assumed by the national authority. The implications of this may involve duplication, unnecessary cost or the need to re-clear land. Again, the need for a strong, central national coordination body established early in the life of a programme is seen as important in avoiding these situations.

UN peacekeepers have rarely engaged in large-scale humanitarian demining or EOD tasks (Kosovo being a notable exception).

by Ian Mansfield, Operations Director, and Eric M. Filippino, Head, Socio-Economic Unit, GICHD

Thus, although UN peacekeepers have been present in Lebanon for more than two decades, they have typically conducted only mine clearance to support their own operations, and according to their own national military procedures. Though this may be consistent with the obligations of parties to a conflict under international law to be responsible for mines, booby-traps and other explosive devices laid by those parties, it does not necessarily lead to substantial remediation of the problem in humanitarian terms. In fact, throughout the more than 20-year experience in Lebanon of the UN Interim Force in Lebanon (UNIFIL), as seemingly simple a task as the handover of records, concerning the mine clearance work between incoming and outgoing contingents, appears not to have been accomplished.

Use of Military TAs

Visiting militaries have often assigned military personnel to serve as TAs to the various MACs and project implementation units. Many of these have performed admirably, and the secondment of active military personnel appears to have been a successful strategy for getting a mine action programme up and running in an emergency phase and in highly specialized roles, such as EOD.

However, the GICHD study has concluded that the overall contribution of these secondment programmes has proven modest in the long term. There have also been criticisms of the role played by some TAs, on the basis of unclear chains of command and reporting lines and confused terms of reference. It has also been claimed that coordinating authorities have sometimes failed to exploit fully their skills and potential contributions to the programme. Thus, a number of the case studies in the GICHD report, while acknowledging an important role for in-kind military advisers at the outset of a mine action programme, express concern about their contribution over the longterm in a development context. This is the case in Bosnia-Herzegovina and Cambodia in particular, where TAs may not necessarily have been equipped with the skills needed to sustain mine action. Nor are TAs necessarily experienced in building local capacities through advising their local counterparts.

In 1999, in Cambodia, for instance, the Cambodian Mine Action Centre (CMAC) hosted 76 TAs, both military and civilian. A review by UN Development Program (UNDP) concluded that, "*while the military has made an impressive contribution in developing capacity within the CMAC, particularly technical capacity, in general military advisers are less suited to meet the training needs and capacity demands CMAC now faces.*" Indeed, TAs may end up learning more about mine action than do their national counterparts. These difficulties are compounded by tours of duty—typically six months—that are often too short for the individuals to make an effective contribution to the programme.

TAs can represent a significantly high cost for a mine action programme. The incremental costs associated with any foreign duty assignment of personnel from visiting military forces may be at least as high as the full cost of engaging equally well-qualified civilian personnel for the same assignment. In addition, a different framework for employment would allow for the termination of the assignment of an employee whose performance proved to be unsatisfactory—something that cannot readily be done with personnel seconded on a temporary basis from a visiting military force.

Enhancing Combat Capacity

The provision of assistance to local military forces for mine action purposes, in the form of training and/or equipment, has sometimes been controversial as these can also enhance combat capacity. The nation providing military assistance must carefully consider the potential ramifications of supplying training or equipment to a military force. The historical evolution of the conflict, the current peace and reconciliation developments as well as the nature of the military structure and deployment must all be weighed against the potential benefits of military support for mine action prior to the provision of assistance. There is no real mechanism to decide this, as most military-to-military assistance is provided on a bilateral basis.

CONCLUSION

The GICHD study on the role of the military in mine action found that the military has played a significant role in a number of national mine action programmes. This can be either through involvement by the local military forces or with support from a visiting military force. Invariably, at the end of a conflict, local militaries will need training and equipment to enable them to undertake humanitarian demining tasks according to international standards. The decision to provide such support will need to be carefully weighed against the risk of enhancing their war-fighting capabilities, and what phase of the post-conflict period it is. The study was unable to determine if it was cheaper to use the military for demining tasks, as productivity and cost effectiveness are areas that require further study in the whole mine action sector. The use of visiting military forces on the other hand, has been found to be most effective in the emergency or start-up phase of a national mine action programme.

Wherever there is a mine or UXO problem, humanitarian and developmental initiatives necessarily involve a high degree of contact and interaction among military personnel, non-military mine action personnel and local communities. Military capabilities, if properly directed and controlled, can bring important skills and organizational assets to complement many mine action activities, particularly in the emergency or start-up phase of a programme. Military organizations are normally trained to be mission-oriented and to complete these missions as quickly and efficiently as possible. This works well for almost all military problems, and indeed for many humanitarian problems like infrastructure repair, but establishing national mine action programmes under post-conflict conditions normally requires a longer-term approach than a military "task-oriented" one. Military actors are unlikely to have the best idea how mine clearance fits into the larger mine action picture.

The component activities of mine action have to be closely coordinated if they are to work at all and military staff are well-versed in the concept of how many interlocking components make up a plan. Mine action plans require a similar degree of integration, but this planning has to take place with a number of different agencies, both military and non-military, which often have different perspectives and agendas. All the actors must be prepared to submit to overall coordination and direction. This does not mean interfering in the established military "chain of command," but that the broader issues like national strategies and priority setting for all the aspects of mine action are

developed in a consultative manner with the full range of actors.

* Copies of the study, *The Role of the Military in Mine Action*, are available in hardcopy from the GICHD or can be downloaded from the GICHD website at www.gichd.ch.

* *Photo clo AP.*

ENDNOTES

1. See www.gichd.ch.

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HDTC, continued from page 11

of epidemiology and public health methods of assessment to analyze and present data used for planning and monitoring. Additionally, the HDTC hosted representatives from the Psychological Operations unit to discuss specific needs and recommendations. This interactive course development process allowed the center to update and implement changes for subsequent classes.

New Plans for Training

The HDTC is planning to add two additional training modules to its curriculum. The first is a Level 1 UXO Clearance course that will enhance training of technicians to perform battle area clearance (BAC) in contaminated areas. Students attending this course will graduate with specialized knowledge gained from hands-on training and mission-specific lesson material in-hand for use in teaching students in the specific host nation.

The second new training module pertains to an information database manager's course on the Information Management System for Mine Action (IMSMA), the Geneva International Center for Humanitarian Demining (GICHD) standardized mine action database. The HDTC responded to requests from its "customers" to add this module to our curriculum and

already uses a version of IMSMA that incorporates digitized maps of the local training area at Fort Leonard Wood. This allows students to work with actual survey data collected from simulated hazard areas and incorporate them into IMSMA.

Final Comments

Landmine clearance is a deadly serious business. With this ever in mind, the HDTC staff works diligently to conduct all training in accordance with IMAS and to find and teach safer ways to perform HMA operations, thereby fully supporting the U.S. government's Mine Action Program.

**Graphics clo the author.*

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THE U.S. DEPARTMENT OF DEFENSE HUMANITARIAN DEMINING TRAINING CENTER

A CENTER OF EXCELLENCE

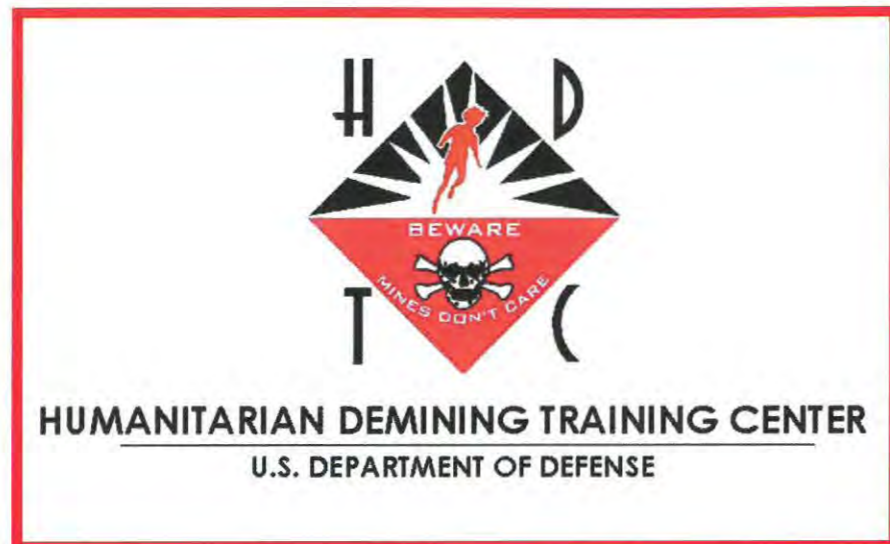
Introduction

Humanitarian mine action (HMA) is a field known for its paradigm shifts. Just as technological advances create more efficient and less expensive alternatives to old products and methodologies, emerging technologies offer newer and safer ways to detect landmines. Integrating these advances into the HMA community and thereby the training curriculum, is one challenge faced by the staff of the U.S. Department of Defense Humanitarian Demining Training Center (HDTC).

Background

Established in 1996, HDTC is located at Fort Leonard Wood, Missouri, and is the U.S. Department of Defense training facility for HMA. The center is in a modern 15,000 sq ft. building set amid the rolling hills of the Ozarks. In December 2003, the Under Secretary of Defense (Comptroller) directed HDTC be transferred to the Defense Security Cooperation Agency for oversight and direct supervision.

The typical student attending the two-week HMA course comes primarily from the Army's Special Operations Forces (SOF). The students come to the HDTC to prepare them to deploy on HMA training missions in one of the 43 mine-affected nations presently supported by the United States. These missions range from establishing a new program to maintaining on-going mine action initiatives. SOF soldiers are well-suited to perform HMA missions due to their experience working overseas in small units, their ability to work independently and an innate cultural awareness. The last trait is extremely important, since these "unofficial ambassadors" represent the United States—its people, government and military—to the citizens of the host



nation. The contact these soldiers have with their counterparts and students may be far more personal and intense in nature than that which many diplomats experience.

Training Curriculum

The basic HDTC curriculum is the same for all students during the first week. This common-core training focuses on the basic premises of mission planning, U.S. Policy, and the International Mine Action Standards (IMAS). All students are exposed to the rigors of demining during an introduction to the use of mine detectors and basic mine clearance procedures. It is during this training that all students don protective equipment and locate and expose a mine in a one-meter training lane while at the same time practicing safe and proper techniques and procedures. While the novelty of the task first amuses the soldiers, this training quickly demonstrates the difficulties and tedium of clearing vegetation, avoiding trip wires and finally, of preparing the mine for destruction in place.

During the second week, students are trained according to their specific responsibilities for the upcoming mission. Generally speaking, Special Forces soldiers focus on demining skills throughout the second week of training, as it will be their responsibility to train deminers in the host nation. These particular soldiers arrive at the HDTC with many of the skills necessary to teach demining; they are experienced trainers, possess advanced language skills and have extensive training with explosives.

Civil Affairs soldiers arrive already trained and experienced in working with ministerial levels of government. This background lends itself well to the program management and infrastructure development aspect of HMA. These students are given additional training on general management, the U.S. Department of State's Country Plan Assessment, the host nation's current work plan, and an overview of other organizations involved within the country. Armed with this knowledge, these soldiers are called upon to teach or assist in strategic planning, coordi-

nate efforts with other HMA activities, and advise in logistical planning.

Additional Components of HMA

Mine risk education (MRE) is a vital aspect of HMA, allowing the greatest reach and influence at the lowest program cost. To achieve this goal, soldiers from the U.S. Army's Psychological Operations organizations bring product development skills to the table. These skilled warriors receive much of the same training as Civil Affairs soldiers regarding the HMA situation in a host nation. Additionally, they receive mission-focused training on MRE methodology, identification of at-risk groups, and integration of community-based MRE efforts into the larger country-wide program.

Another group of soldiers supporting the U.S. government's HMA effort come from the U.S. Military's Explosive Ordnance Disposal (EOD) specialty. These highly trained technicians hail from all branches of the Armed Forces. A typical class may include soldiers, sailors and Marines. It is this specific diversity that often strengthens the group's skill sets and experience level. EOD students receive the same basic HMA instruction as all students attending training at the HDTC. Since they already possess a strong background in the UXO disposal, their mission preparation concentrates primarily on the type of threat and the type of training they will have to plan for the host nation. EOD technicians leave HDTC with a perspective of how to address explosive contamination from an HMA perspective.

HDTC Museum

Students and visitors are often surprised at the level of sophistication awaiting them at the HDTC. The HDTC Museum is at the reception area, where all manner of mines, ordnance and interactive displays are available for evaluation. The inert mines are displayed on shelves, intact or as cut-away models, or even in an underground side-view of emplacement. The museum includes an ever-expanding variety of fuses, anti-handling devices, bombs, rockets, sub-munitions, detectors, protective equipment and ammunition.

Given the center's varied contacts throughout the HMA community, many different people, organizations and agencies have come together to provide inert samples of the

many items found in countries where the U.S. government HMA program is involved. More than just an interesting place to visit, the museum allows students and visitors an opportunity to safely see and touch "the real thing." This enhances the learning experience, and gives all a keener understanding of the threat from these indiscriminate killers.

Teaching at the HDTC

Course Managers at the HDTC all have a primary area of expertise. In addition, they each fill alternate or assistant instructor positions in one or more other courses. At first glance, this broad-reaching collaboration may appear less difficult than it is in application. The expectation is that all staff members reach beyond the Center's current activities and scope to become subject matter experts in one or more HMA-related areas. This directly supports the Department of Defense's vision for a "Center of Excellence" in HMA training.

With over 100 acres of land available for training, the HDTC provides students with full-scale layouts of mine clearance operations, to include associated support areas. Each area is constructed in accordance with provisions of the ISMA. Other lanes show examples of indigenous marking systems used in clearance operations throughout the world. One particularly interesting display depicts landmines that were emplaced several years ago, with vegetation and terrain allowed to "age" naturally. Purposely, the area is not maintained or changed in any way so students are able to observe mines that have become more or less visible, changed color, become rotted or migrated due to the effects of weathering. What students leave with is an innate understanding of the effects nature may have on actual mined areas. Fallen limbs and heavy undergrowth underscore the difficulties faced by deminers in many parts of the world.

The HDTC staff is comprised of experienced professionals—most with prior military experience. These staff members have extensive backgrounds in

areas such as EOD, engineering, Information Technology and Special Operations. Along with U.S. personnel, a military representative of the Royal New Zealand Army also augments the staff. While the bulk of the HDTC staff is U.S. government employees, the New Zealand Army representative is the only current active-duty military member of the staff, and brings in-depth experience gained throughout his engineering career.

The HDTC has deployed its staff members on military training missions and assessments to numerous countries to augment and advise military HMA team trainers. These deployments provide several direct benefits: they provide a ready source of information to the military training team and they allow staff members to gain firsthand observations of HMA operations throughout the world. This in turn ensures that the HDTC is up-to-date on the latest techniques and technology in use by the HMA community.

Another way the HDTC continues to evolve is through feedback from the "customer," namely, the students or their units. Recently, Psychological Operations students indicated additional areas they felt would be beneficial to their training and understanding of HMA. In response, the HDTC sent a representative to attend training with the United Nations Children's Fund (UNICEF) and the Centers for Disease Control and Prevention (CDC) in Atlanta, GA. This training focused on the latest findings and associative relevance

continued on page 9, HDTC



—by Lloyd D. Carpenter, Course Manager, Paul Arcangeli, Director, and Rodney A. Robideau, Technical Director, HDTC



CANADIAN MILITARY

Support to Humanitarian Mine Action

Introduction

Humanitarian mine action tasks for the military are almost exclusively assigned to the Canadian Military Engineers (CME). During the Cold War, the CME spent a great deal of time training for mine warfare, while maintaining a keen eye on the North Atlantic Treaty Organization's (NATO's) Central Front. Fortunately, the CME did not have to exercise their full capabilities. However, some of the skills the CME had acquired proved useful in unexpected ways as the confrontation between NATO and the Warsaw Pact began to fade.

Between 1989 and 2003, Canadian soldiers participated in three significant humanitarian mine action programs in Pakistan, Afghanistan, Cambodia and Bosnia-

Herzegovina (BiH). In addition, smaller numbers supported survey programs in Mozambique and Angola. Canadian troops deployed to Kuwait, Iraq, Croatia, BiH, Somalia, Rwanda, East Timor, Kosovo, Macedonia, Ethiopia/Eritrea and Afghanistan conducted mine and UXO clearance, which contributed to the overall demining effort.

Pakistan/Afghanistan

The Soviet occupation of Afghanistan in 1979 created a severe mine threat in Afghanistan and a large Afghan refugee population migrated to neighboring Pakistan and Iran. The 1988 Geneva Accords set the terms for Soviet withdrawal, but the way home for the Afghan refugees was—all too literally—far from clear. The first human-

itarian mine action programs and the first general usage of the term “humanitarian demining” developed in response to this situation.

The United Nations, which had established an office in Islamabad to coordinate the humanitarian demining effort, proposed to address the mine threat there by training select refugees in basic mine clearance and mine awareness. When the projected large-scale repatriation of refugees began following the withdrawal of Soviet troops early in 1989, it was anticipated that this selection program would provide refugees with needed skills and capabilities. In preparation for humanitarian demining efforts, the Mine Awareness and Clearance Training Program (MACTP) was established in August 1988. The United Nations appealed to member states to support the new program. Nine countries, including

Canada, agreed to provide military personnel, the first of which began to arrive in February 1989. Canada also provided a Colonel to the MACTP Headquarters to act as the Assistant Controller and Senior Technical Advisor. Between March 1989 and July 1990, four 12-member CME teams rotated through the MACTP.

Initially, the MACTP had two goals. The first was to train 15,000 Afghan men who were then distributed according to place of origin so as to ensure their knowledge concerning the basics of locating, neutralizing, and destroying mines and booby traps. The second goal was to provide mine awareness, which consisted of recognition of mines and potential mine locations, self-extraction from a mined area, and marking techniques. Subsequently, when the pace of refugee return proved slower than expected and more training time became available, the following positions and additional courses were added: basic mine clearance instructor, unit leader, small unit operations and survey.

During the developmental stages of humanitarian mine action, issues such as the broader management of clearance operations and quality assurance were not addressed. Training was conducted in two camps near Peshawar and Quetta, each with a capacity for an average of 250 students. Pakistani army engineers, who also served as additional camp support and administration, established both camps. Working out of these facilities, MACTP personnel trained some 11,000 Afghans in 15 months. Canadian personnel conducted training, updated curricula and verified the technical content of the demining courses.

Mine awareness training was conducted under the auspices of the International Rescue Committee (IRC) on behalf of the United Nations. IRC mine awareness training presented a particular challenge to female refugees, as Afghan culture restricts the use of male trainers for the refugee women and girls. This difficulty was resolved through a peculiarity inherent in the Canadian training system. All CME officers are required to train for both combat engineer and garrison infrastructure support tasks. Female officers, who were at that time prohibited from serving in combat units, nevertheless had to undergo the relevant training. This inequity ended the following year when the restriction was lifted.

Canada was thus in a position to provide qualified demining instructors who could go into the camps to train female refugees. Three members of each 12-member team were women. These officers assisted IRC with curriculum development, taught different aspects of mine awareness to Afghans of both sexes and monitored the instructors once they began to teach their own courses. By July 1990, an average of 40,000 refugees per month were receiving mine awareness training. However, access to female refugees continued to remain problematic due to continued cultural obstacles and a limited number of female instructors.

The last of the 50 Canadians to serve with the MACTP left Afghanistan and Pakistan in July 1990. The program had begun to diversify some time earlier with the start of clearance operations within Afghanistan and continued to evolve as the number of qualified Afghans increased. The number of foreign instructors decreased as the scope of clearance operations expanded. In the long run, however, the use of unpaid civilian deminers who lacked logistic and medical support was not viable, and focus shifted to non-governmental organization (NGO) and commercial operations. In this respect, the MACTP

concept of civilians clearing mines around their villages proved to be invalid. This was not a reflection on the trainees or on those who had provided the training; rather, this was a reflection of the nature of demining, the requirement for reasonable salaries and the availability of appropriate support.

Cambodia

In October 1991, after decades of aggression, the government of Cambodia and its opponents agreed to end the conflict by permitting the United Nations to run the country for 18 months. The United Nations was also responsible for conducting elections and supervising demobilization. United Nations troops began to arrive at the close of 1991 and began to withdraw in mid-1993, having shepherded the country through a reasonably successful set of elections, despite the fact that the Khmer Rouge had not cooperated. It was clear from the beginning of the United Nations mission that Cambodia faced an extreme mine threat; one that continued to increase until the final round of fighting weakened at the end of the 1990s.

United Nations forces conducted mine clearance efforts in Cambodia, which included limited survey, marking and mine awareness activities in order to support their own operations. During 1992, United Nations personnel contingents began to train Cambodians under the auspices of the Mine Clearance and Training Unit (MCTU). In 1993, with United Nations withdrawal nearing, the MCTU evolved into the Cambodian Mine Action Centre (CMAC). The CMAC is a government agency with foreign civilian and military Technical Advisors, financed through a United Nations Development Program (UNDP) trust fund, with the United Nations Office of Project Services (UNOPS) as the executing agency. CME members were heavily involved in this process. The Canadian government agreed to provide continual military support to CMAC. Incidentally, the term “mine action” appears to have been coined in the process of naming CMAC.

Initially, the 12-member Canadian group was the largest national demining contingent, comprising more than one-third of the first group of military Technical Advisors. However, the Canadian group was gradually reduced to seven, until finally the Canadian commitment was terminated in 2000. Members of the Canadian contingent occupied a range of positions including that of Chief Technical Advisor, which would remain a Canadian post until mid-2000. Other Canadians served as Technical Advisers in the field and as operations and technical development staff at the CMAC headquarters. The Canadians and other technical advisers assisted with mine clearance operations, planning, procedures, equipment testing, acquisition, mine awareness and information management. In 1999, seven Canadians occupied four positions at CMAC headquarters, including that of Chief Technical Advisor, and three positions in two of CMAC's four demining units.

International support helped CMAC establish itself rather quickly. By the middle of the decade, the organization could field 42 platoons of deminers with the requisite administrative and logistics support, as well as survey, mine awareness and training elements. By 1997, there were approximately 2,500 national staff and 50 expatriate technical advisers employed by CMAC; in 1999, there were some 60 platoons with nearly 2,800 national staff and 50 expatriate technical advisers. The CMAC provided approximately three-quarters of Cambodia's

by Rohan Maxwell, Major, Canadian Army

demining resources.

Unfortunately, this success was marred by increasing concerns about mismanagement and corruption, and funding eventually ceased. Lack of funding led to a halt in operations in late 2000, when the organization could no longer sustain itself. The situation was eventually resolved by implementing a national mine action authority, thus separating responsibility for clearance operations from the strategic planning, quality assurance and oversight of those operations. Following previous setbacks, a chastened and reorganized CMAC resumed operations, focusing on clearance. Wider demining responsibilities had been transferred to the newly created Cambodian Mine Action Authority. The success of the changes helped to significantly restore donor confidence.

Bosnia-Herzegovina

The fighting that swept across the western Balkans during the 1990s left BiH with a significant mine and UXO problem. After the signing of the Dayton Accords in late 1995 and the subsequent deployment of the NATO-led Implementation Force (IFOR, later the Stabilization Force or SFOR) in conjunction with a variety of organizations ranging from NGOs to indigenous armed forces, the collaborating organizations began to conduct mine action operations. In May 1996, the United Nations Department of Humanitarian Affairs established a mine action center (MAC) in BiH. The MAC operated under a mandate from the Department of Humanitarian Affairs to act as the lead agency for all mine action activities in the country. These responsibilities were turned over to the newly created Bosnia-Herzegovina Mine Action Center (BHMAT) in July 1998.

The situation in post-war BiH was further complicated because the country was divided into two Entities. Each had substantial powers that, by design, left the State government with limited spheres of authority and responsibility. For example, each Entity maintained its own armed forces and civil protection forces. The division between State and Entity levels meant that BHMAT's authority was limited, even though its responsibilities included the accreditation of demining companies, the promulgation of national standards (including technical standard operating procedures and accident investigation), and the coordination of information management and centralized financial management (including donor funds). Furthermore, the coordination of daily operations was the responsibility of two Entity Mine Action Centers (EMACs), reporting to their respective Entity governments and acting through a number of regional offices. The EMACs enjoyed significant latitude in planning and conducting operations, which would eventually lead to severe difficulties.

Canada's involvement in humanitarian mine action in BiH began in 1997 when six military personnel were dispatched to support the United Nations MAC. The initial six Canadians would be the beginning of a five-year commitment that would involve some 60 Canadians serving in six-month rotations. In the beginning, the Canadians made up approximately one-fifth of the BiH military Technical Advisers, although this proportion diminished over the years. At various times, Canadians worked at the regional, entity and state levels and were involved in training, operations, information management, supply and finance. For example, in 1999, the four-member

Canadian contingent occupied several posts including the following:

- Quality Assurance Adviser (BHMAT)
- Finance Adviser (EMAC)
- Two field-level Technical Advisers at regional offices

Demining operations in BiH were conducted by a wide variety of agencies including NGOs, commercial companies, teams equipped and managed directly by the United Nations High Commissioner for Refugees (UNHCR), Civil Protection forces in the Entities and demining units of the Entity armies. Although not part of BHMAT, some members of the Canadian IFOR/SFOR contingent in BiH had acted and continued to act as mine monitors, ensuring that indigenous armed forces conducted mine clearance operations in accordance with their obligations under the peace accords.

Over the years, mine action in BiH was accompanied by frequent allegations of corruption, mismanagement and misuse of influence. Not surprisingly, donors lost confidence and began pulling funding from the operation as the 1990s progressed. Activities slowed and in late 2000 operations were sharply curtailed due to lack of funds. The development of legislation to centralize mine action under BHMAT and to clearly subordinate the Entity offices to the central agency eventually resulted from international pressure. This legislation was enacted in early 2002, thus beginning the process of restoring donor confidence. The situation has been gradually improving since then.

Research and Development

Drawing on the Canadian Landmines Fund (established to support implementation of the Convention on Anti-Personnel Mines), the Canadian Centre for Mine Action Technologies (CCMAT) was created in August 1998 as a partnership among the ministries for defense, foreign affairs and industry. Working from defense research facilities and drawing on the capabilities of the defense research staff, CCMAT's mandate is to investigate and fund industrial participation in the development and commercialization of promising new demining technologies. As part of this effort, the Centre facilitates the adaptation of military equipment for commercial use and the application of military research efforts by commercial firms. CCMAT projects cover a range of activities, including the utilization of surrogate mines to support the testing of mechanical demining equipment, mechanical and handheld equipment trials, protective equipment, explosives technology, and victim assistance technology.

The Canadian defense research establishment proper has invested significant resources in the development of countermine technology. Much of this effort is focused on military operational requirements, but there is potential for humanitarian demining applications. Some projects, such as the use of high-energy microwaves to neutralize mines, are still a long way from the field; other projects such as the Improved Landmine Detection System (ILDS) are in operational use. ILDS is a remote-operated vehicle equipped with a variety of sensor arrays. It is currently being used by Canadian troops in Afghanistan.

Conclusion

My purpose in writing this article was to provide more information about the involvement of Canadian military personnel in

humanitarian mine action and the several organizations and individuals which they worked alongside. It is undeniable many valuable lessons were learned during the period covered by this overview, and it is equally obvious that many issues remain the subject of debate. I am certain that the people whose efforts form the basis of this article would join me in welcoming that debate, as it is essential to the continued improvement of humanitarian mine action.

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The Quick Reaction Demining Force:

The United States' Response to Humanitarian Demining Crises



Introduction

Humanitarian crises, particularly crises in which landmines are involved, may occur without warning and require an immediate response. Examples of such crises include Hurricane Mitch, which struck Central America in 1998, the rapid, post-air war return of refugees to mine-infested Kosovo in 1999, and tropical cyclones Hudah and Eline that ravaged Mozambique in 2000, displacing thousands of landmines. To respond to such emergency situations quickly and efficiently, the United States developed a Quick Reaction Demining Force (QRDF).

Overview of the QRDF

In April 2001, the U.S. Department of State's Office of Humanitarian Demining Programs (now the Office of Weapons Removal and Abatement), in cooperation with the Republic of Mozambique, established the QRDF as a result of lessons

learned from the immediate post-conflict situation in Kosovo, where threats to returning refugees existed. The QRDF is a permanent, professional humanitarian demining group composed primarily of four 10-man teams of Mozambican mine clearance specialists augmented by eight mine detection dog (MDD) teams of one dog and handler each. The teams can be deployed worldwide within 14 days of activation to provide immediate demining assistance in emergency humanitarian situations. The QRDF is deployed to demining crisis situations as directed by the U.S. government. The force incorporates proven demining procedures, including the use of MDDs and specially designed mechanical equipment, and is outfitted with demining-specific tools and materials. Once deployed, the teams locate, identify, map, record and destroy landmines, UXO and improvised explosive devices (IEDs) found in the areas designated for clearance. The United States oversees recruitment, provision of equipment, training and supervision of QRDF personnel within and outside

the Republic of Mozambique. The United States has also established an independent management unit in Maputo to manage QRDF operations in coordination with Mozambican authorities. In between deployments outside Mozambique, the QRDF engages in humanitarian demining in support of Mozambique's National Demining Institute, which allows the QRDF to both perform valuable service in that mine-affected nation as well as keep its professional skills finely honed.

Demining Assistance to Sudan

On January 19, 2002, the government of Sudan and the Sudan People's Liberation Movement/Army (SPLM/A) accepted a formal cease-fire agreement following the mediation of the United States and Switzerland for a war that had lasted 17 years in the Nuba Mountains. This war had resulted in massive population displacement within the region, and landmines had consistently been cited as a major threat to the civil population and a barrier to freedom of movement and generation of income. The government of Sudan believed that between 1989 and February 2002, 1,160 persons became mine victims in the Nuba Mountain region. Following the cease-fire, the displaced population from both within and outside the region had begun spontaneous relocation and movement despite advice from authorities to wait until their security and safety could be assured. The actual presence of landmines in some areas, their suspected presence in others and the inability to differentiate between the two situations all posed real threats to the Nuba Mountains community. The landmines also threatened the implementation of the cease-fire and the sustainability of peace in the Nuba Mountains.

The cease-fire agreement specifically referred to the cessation of mine laying and

the clearing and mapping of mines. The agreement also gave the internationally led Joint Military Commission (JMC)—in which the United States played a leading role—specific responsibility for supervising the mapping and clearing of mines. Immediate demining action was required in this region as it was critical to the success of the first phase of the cease-fire and the operations of the JMC. In addition, heavy rains in Sudan begin in June, which would have made ground movement and mine-related activities impossible or extremely difficult. The QRDF was deployed to Sudan during April-June 2002 to conduct mine clearance operations. The QRDF's mine clearance operations lessened the likelihood of casualties in this area as refugees and internally displaced persons (IDPs) began relocation into areas where mines were known to exist and into other areas suspected of being mined. In doing so, the mine clearance operations contributed to the success of the first phase of the concluded cease-fire between the government of Sudan and the SPLM/A as well as the operations of the internationally led JMC. This initial operation was so successful that a second "ad hoc" QRDF deployment was conducted during the period of March 2003 through January 2004.

Demining Assistance to Sri Lanka

In March 2002, the government of Sri Lanka and the Liberation Tigers of Tamil Eelam signed a cease-fire agreement and began planning for peace talks to take place in a neutral country. The 18-year civil war left many landmines and UXO scattered across Sri Lanka. Because no accurate countrywide survey of the mine/UXO threat has been conducted, an accurate estimate of their numbers and the areas they affect is impossible to calculate. The most heavily mine and UXO-littered areas are Jaffna in the north and the areas directly to the south of Jaffna. The deployment of the QRDF to Sri Lanka was in response to the government of Sri Lanka's request for assistance to resettle some 200,000 IDPs who had to travel through heavily mined areas in the Vanni and Killinochchi regions

and in the Jaffna Peninsula. The QRDF deployment provided an on-site demining capability until the United Nations could begin its program of assistance, which demonstrated the U.S. government's continuing support for efforts to bring peace to Sri Lanka. In early May 2002, QRDF operations began in the key village of Sarasalai about 15 km from Jaffna where Tamil civilians, taking advantage of the cease-fire, were returning to their homes and fields. The QRDF team completed its work on October 25, 2002, by releasing nearly 123,000 sq m of land in this area to Sri



Lankan authorities. The team cleared 980 anti-personnel mines and 42 pieces of UXO and additionally collected and destroyed numerous other pieces of UXO that had been brought to its attention by local residents. In early 2003, the United States demonstrated its continued commitment to humanitarian mine clearance in Sri Lanka by returning the QRDF to render another six months of demining assistance. This provided a bridge of assistance while the United States geared up to support the next step in the demining effort: establishing a humanitarian mine clearance training program for Sri Lankan civilian and military personnel so that Sri Lankans could continue the work in their own country.

Demining Assistance to Iraq

Under the direction of the Department of State, demining contractor RONCO deployed four QRDF teams to Iraq on May 3, 2003, to provide demining and battle area clearance (BAC) assistance to the

Office of Reconstruction and Humanitarian Assistance (ORHA). ORHA served as the initial governing body in Iraq and was eventually redesignated as the Coalition Provisional Authority (CPA). As the governing body, the ORHA/CPA was able to immediately begin rebuilding the infrastructure of Iraq and also quickly remove serious threats of mines and UXO—a task that fell to the QRDF.

Under the direct supervision of a RONCO Task Leader, EOD/Demining Supervisor and MDD Supervisor, the four eight-man demining teams and eight dog handler/MDD teams conducted operations with respect to the reconstruction and threat removal effort being coordinated by the ORHA/CPA along with Coalition Forces (CF). By incorporating proven battle area and mine clearance procedures, with the added asset of MDD teams, the QRDF safely cleared nearly 1.2 million sq m of land, which yielded over 2,000 mines and UXO from BAC and demining tasks in and around farms, wheat fields, power lines, government buildings, and houses and along major highways in the Baghdad area. On August 27, 2003, four months after the deployment to Iraq, the QRDF teams returned to their home base in Mozambique after they responded successfully once again to an imminent humanitarian crisis. Today, the QRDF remains "on call" to alleviate human suffering anywhere in the world while it contributes to the establishment of a mine-safe Mozambique.

**Photos c/o Office of Weapons Removal and Abatement, U.S. Department of State.*

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by Hayden Roberts, *Frazure-Kruezel-Drew Fellow, JMU*

Mine Action Training in Argentina



Background

Argentina has always relied on its military with respect to demining. At the same time, the government has continually taken an active role in promoting the use of military mine clearance throughout the international community. For instance, in 1993, three officers and one non-commissioned officer (NCO) were sent as a team, supervised by the Organization of American States (OAS), to Nicaragua. There they took the role of training the Nicaraguan army in different mine clearance techniques.

A few years later in June 1997, a senior officer was appointed United Nations Program Manager of the Department of Humanitarian Affairs (DHA) Support Program for Mine Action in Angola. In coordination with the White Helmets,¹ eight officers and three NCOs were later appointed to

various Angolan provincial demining brigades until 1998. In January 1999, in coordination with the White Helmets, two senior officers along with one junior officer and one NCO were appointed to be part of a demining team in Central America. Later in July, three officers and one NCO relieved them. At the completion of the year, all team members returned to Argentina.

Humanitarian Demining Training Center—Argentina

Considering the increasing participation of Argentinean military personnel in international demining activities, the army began training its personnel on mine clearance techniques and procedures. These became known as explosive ordnance disposal (EOD) courses, which focused mainly on the safety of operators. This change in direction made a

substantial difference from former military procedures related to mine breaching.

On April 12, 2000, the Chief of the General Staff of the army ordered the Humanitarian Demining Training Center (HDTC) to be created in the Engineer Battalion 601 in Campo de Mayo, Buenos Aires. Later in September of 2000, the first course on humanitarian demining was held, continuing on through 2001. Military units throughout the country sent their engineer personnel to attend.

Since its creation, the HDTC has assumed the responsibility of training its own and foreign personnel in coordination with Joint Peacekeeping Operations Training Center in Argentina (CAECOPAZ). However, the financial difficulties faced by the country during 2002 and 2003 made training of foreigners impossible; thus, the courses were limited to Argentinean personnel.



The U.S. Southern Command, between April and June 2002, organized a course for instructors about mine clearance program management in accordance with the U.S. Department of Defense (DoD) multilateral agreement. They also contributed invaluable equipment for use at CAECOPAZ.

Current Situation

In 2004, there will be the following two courses on Humanitarian Demining:

1. Humanitarian Demining Basic Course: The aim of this course is to train personnel on the necessary techniques to carry on humanitarian demining operations.
2. Humanitarian Demining Advanced Course: The aim of this course is to train officers in the preparation needed for planning humanitarian demining operations.

The HDTC plans to continue exchanging instructors with U.S. training centers in Fort Leonard Wood and especially in Fort Belvoir, which holds a wealth of information pertaining to mine detection dogs. The HDTC has also requested personnel to be assigned to the Engineer Brigade in order to conduct specific research.

The Argentine Marine Corps has engineer personnel that participate in under-

water demining. Most notable is their amphibious engineer course, which takes pride in training the army specifically in amphibian demining operations. Currently, it also includes humanitarian demining training, but in the future this training will be carried out by the HDTC.

Humanitarian Demining Office

On October 1, 2000, the Humanitarian Demining Office was created as part of the Joint Staff. One of the main duties of the office is to ensure the application of internationally agreed procedures on mine clearance. Since 2001, it has organized two seminars a year, in which officers designated by each force are instructed on current UN demining guidelines.

The first seminar is normally held in May or June and focuses on the latest reports issued by the Meeting of States Parties of the Landmine Ban Convention, the Secretary General of the United Nations, the UN Mine Action Service (UNMAS), the International Campaign to Ban Landmines (ICBL) and the *Landmine Monitor Report* (LMR). However, the second seminar, which is normally held in October or November, focuses on the International Mine Action Standards (IMAS) and the different advances on the issue stipulated by the Geneva International Center for Humanitarian

Demining (GICHD).

2004 Seminars

During the Updating Seminar VII scheduled for June 7–11, 2004, the main topic will be based on the "Guide to Mine Action." This guide was recently published by the GICHD and includes issues that are essential for understanding the current enforced doctrine. The second Updating Seminar VII being held in October or November will focus on the analysis of IMAS and other publications issued by GICHD.

Future Plans

In the future, the activities currently planned for the 2004 seminars will most likely be included in regular courses organized by the HDTC for the three military forces. The HDTC will be closely related to the GICHD. The HDTC will train its own personnel, and any foreign personnel, to take part in ongoing activities related to mine activities. The ultimate goal of the HDTC is contributing to the elimination of landmines all over the world.

The Joint Staff of the Armed Forces also plans to reorganize its activities to comply with the following aims: gathering demining information, coordinating and monitoring the application of topics agreed on by the member states' meetings, and implementing actions issued by the UNMAS and ICBL/LMR.

Footnotes

1. An official Secretary for International Humanitarian Assistance.

Photos by the author.

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by Carlos Nielsen, Adviser of Humanitarian Demining

The Israeli Defense Force's

Humanitarian Demining Efforts



uation. In addition, IDF continues to prioritize mine action internally.³

Internal Humanitarian Demining Efforts

All minefields and areas contaminated by UXO are defined as military closed areas; therefore, the IDF Engineering Corps is responsible for any activities on mined territory.⁴ The IDF policy is based on the removal of outdated mines and other munitions. IDF continues to verify the marking and fencing of minefields and suspected areas in accordance with the provisions of the Convention on Conventional Weapons (CCW) Amended Protocol II, which restrict the use of mines, booby traps and other devices. The renewal of fences and markings, where necessary, is carried out within the context of the IDF's verification activities.³

The 2003 *Landmine Monitor Report*, produced by the International Campaign to Ban Landmines (ICBL), reports that in November 2002, Israel disclosed its annual program to destroy outdated mines and stated that no new minefields were put in place within the year. As a follow-up on this statement, in February of 2003, Israel reported that 12 tons of mines were destroyed in 2002.⁴

Recording Measures

During 2003, the IDF began working to improve the recording measures of several minefields and suspected areas via the use of specific global positioning systems (GPS) and other equipment. This equipment will assist in the management and control of minefields and will enable the Israeli Mapping Center (IMC) to update maps with more accurate locations of minefields.⁵

Legislation

Israel has not enacted any additional domestic legislation to implement the provisions of Amended Protocol II.⁴ Israel maintains that the existing Israeli legislation enables the government to implement the provisions of Amended Protocol II without the need for additional legislation. This legislation includes, inter alia, export control legislation covering all defense equipment, know-how and technology. There are also IDF regulations and orders concerning marking, fencing and monitoring as well as demining and disposing of mines, booby-traps and other devices.⁶

Subsequent to Israel's ratification of Amended Protocol II, measures were taken to ensure that the relevant authorities in the IDF were cognizant of the provisions of the Protocol and their implications. In addition, IDF instructions and operating procedures are regularly reviewed to verify their compatibility with the provisions of Amended Protocol II.³

The IDF Engineering Corps maintains a set of detailed regulations and instructions regarding the management of archives and the recording of minefields and mined areas. Moreover, the IDF School of Military Law (responsible for the dissemination of the laws of war within the IDF) includes the provisions of the CCW and Amended Protocol II as part of their curriculum. In addition, lectures concerning the conventions and protocol are provided on a regular basis to commanders of the IDF Engineering Corps.³

Public Information

Information provided for the general population regarding Israel's status vis-à-vis Amended Protocol II was disseminated upon

Israel's ratification of the Protocol. To prevent any accidental entry into potentially dangerous areas, warning signs in three languages (Hebrew, Arabic and English) are clearly positioned on the perimeter of the minefields.³

Organizers of field trips (conducted by schools, youth movements, workplaces and private citizens) are obligated to coordinate their route with the relevant IDF Area Command. In this context, field trip organizers are briefed as to the location of minefields situated in the area (or suspected areas that are treated as mined until cleared and verified) and are given the appropriate mine awareness instructions.⁷

Commercially available land maps, issued by the IMC, contain clear markings regarding the location of minefields. The maps are periodically updated by the IMC based on information available to the IDF.⁷

Criticism of Israel's Internal Humanitarian Demining Efforts

Israel has been criticized for abstaining from voting on every annual pro-landmine ban UN General Assembly (UNGA) resolution since 1996, including UNGA Resolution 57/74 in November 2002.⁴ Israel responded by stating that it views landmines as weapons that should be carefully restricted, but not totally banned, as they are often necessary to prevent aggression and attack, particularly given the threatening environment in the region.²

The *Landmine Monitor Report* cites the United Nations Children's Fund's (UNICEF's) assessment of the situation in the Occupied Palestinian Territories (OPT). In its report UNICEF states:

"Minefields dating from the 1967 Middle East war, located in the first defense line between Jordan and the West Bank, are mostly not properly fenced or marked. Israeli military training zones either are not properly fenced or not fenced at all and UXO is not collected after the end of training. Many of these training zones are situated near populated areas; as a result, civilians come into contact with UXO easily. In addition to that, in most areas of confrontation Israeli and Palestinian UXO and IED are left behind."⁴

Israel maintains that within its borders all minefields are fenced and registered and are updated on a timely basis by the IDF and the National Mapping Authority.⁴

Maavarim: An Israeli Demining Company

Companies like Maavarim complete mine clearance projects within Israel for civilian purposes. However, the IDF Engineering Corps is required to be involved in any contract to remove landmines/UXO within Israel. Like every mine action center (MAC), IDF Engineering Corps has its specific procedures beyond the International Mine Action Standards (IMAS). IDF requires any organizations that complete demining in Israel to adhere to their procedures. For example, a different type of minefield marking, different lane width and much stricter safety procedures are required. They check the organizations' plans and approve them. They are responsible for external quality assurance. They also monitor handover procedures.¹

At present, Maavarim is involved in a 2–3 month project in Ramat Hovav for the Industrial Council of Ramat Hovav. The project aims to clear an area that was a fire zone in southern Israel, near Beer-Sheva. The area, contaminated with UXO, will be cleared for development.¹

Maavarim, in conjunction with the Turkish company ARMADA and others, is also in the process of planning to clear mines along the border to allow the area to be used for agriculture. During 2003, Maavarim checked suspected areas for the Jordan Gates Project. The project will establish a free trade area.³

In addition, Maavarim has contributed to international mine clearing efforts: Maavarim experts conducted mine awareness workshops for Kosovo refugees in Albania prior to their return home.³ In 2002, Maavarim cleared 700,000 sq m, including a railway station in Sunja and a main road in Sibenik, in a World Bank-funded project in Croatia.⁴

International Humanitarian Demining Efforts

During 1995–2001, Israel, in conjunction with UNICEF, participated in a mine awareness project conducted in Angola. The project was established to educate the local population in various regions of the country about the hazards of mines. Israeli involvement in this project increased during 2002 when four Israeli volunteers, financially sponsored by the GOI (government of Israel), operated in the area.³

In 1997, Israel conducted a joint mine clearance project with Jordan in the Arava Valley to allow for agricultural use of

the area.³ In 1998, Israel, Jordan, Canada and Norway participated in a quadrilateral project aimed at mine clearance in the Jordan Valley and medical rehabilitation for Jordanian mine victims. As part of the quadrilateral effort, Israel organized and hosted a workshop on the rehabilitation of mine victims in April 1998.³

Rehabilitation Programs

Israel offers treatment and rehabilitation to Israeli citizens and to residents of the Mediterranean region.³ The Israeli medical establishment treats and rehabilitates individuals who have lost their limbs or have suffered multi-system injuries as a

continued on page 23, *Israeli Defense Force's Humanitarian Demining Efforts*

Introduction

The Israel Defense Force (IDF) Engineering Corps is the mine action center of Israel.¹ Currently, IDF is engaged in various activities in response to the Palestinian terror campaign and does not have the resources to participate in international demining programs.² However, the Israeli government views the issue of international cooperation in the areas of mine clearance, mine awareness and mine victim rehabilitation to be of major importance, despite the difficult budgetary sit-

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humanitarian demining efforts In The Occupied Palestinian Territories

Introduction

In an August 2002 assessment of the Occupied Palestinian Territories (OPT), the United Nations Children's Fund (UNICEF) reported that the following areas in the OPT are not properly fenced, marked or cleared:

- Minefields from the 1967 Middle East war—unmarked minefields were reportedly found between Jordan and the West Bank, in the Jordan Valley and in other strategic areas in the West Bank.
- Israeli military training zones.
- Areas of confrontation between Israelis and Palestinians.¹

Though no minefields have been officially declared in the Gaza Strip, Ayid Abu Qtaish, mine awareness coordinator of Defence for Children International (DCI), Palestine Section, has no doubt the area is contaminated.²

Israel Defense Forces (IDF) and the Palestinian National Authority (PNA) have drawn criticism for their humanitarian demining (HD) efforts, or lack thereof. However, a National Mine Action Committee, composed of both Palestinian and international organizations, has taken the lead in mine awareness efforts in the OPT.

HD Efforts by IDF and PNA

In February 2003, Israel outlined its stockpile destructions efforts, stating that 12 tons of mines were destroyed by the military in 2002. However, Abu Qtaish of DCI told *Aljazeera* that Israel's efforts were not enough. Qtaish told *Aljazeera*, "Practically speaking, there has been no mine clearing. There is a big difference between clearing minefields for military purposes and clearing them for humanitarian purposes. In the latter case, the number of mines must be zero."³

Israeli HD efforts have also been criticized. Last year, IDF declared the village of Husan, in the West Bank, a mine-free zone. *Aljazeera* reports that, following the announcement, three people from the village died when a mine exploded.³

Conversely, the PNA has made no recent official statement about banning anti-personnel mines. Palestinian groups have access to both anti-personnel and anti-vehicle mines. Media reports indicate that these groups are using landmines and explosive devices, made from the explosives taken from landmines, in attacks against Israeli soldiers and civilians.¹



March 2004: Four soldiers were wounded when an explosive device detonated underneath an IDF tank in the northern Gaza Strip.⁴

April 2003: Four IDF soldiers were injured in the Gaza Strip when the armored vehicle they were traveling in struck a landmine.⁵

February 2003: Four IDF soldiers were killed when an improvised Palestinian landmine destroyed their tank in the Gaza Strip.⁵

March 2002: Three IDF soldiers were killed when their tank ran over a mine planted on the Karni-Netzarim road in the Gaza Strip.⁶

February 2002: Three IDF soldiers were killed and a fourth wounded when an 80-kg mine exploded underneath their tank in the Gaza Strip.⁶

November 2000: Two Israeli civilians were killed and nine others, including five children, were injured when a schoolbus struck a roadside bomb in the Gaza Strip. Three of the injured children lost limbs in the attack.⁷

HD Efforts by the National Mine Action Committee

In response to the lack of mine action in the OPT, a National Mine Action Committee was established by the International Committee of the Red Cross (ICRC), UNICEF, the United Nations Relief and Works Agency (UNRWA) and the Palestinian government.¹ The Palestinian Red Crescent Society, DCI in Palestine, and the Palestinian Ministries of Education, Youth and Sports, Interior, and Health are also members.³ The committee, which was established in August 2002, coordinates mine action activities in the OPT. Activities include:

- Teaching MRE
- Developing a national mine action plan
- Ensuring UXO awareness messages are consistent and coherent
- Carrying out surveys to assist in the appropriate design and prioritization of activities¹

Abu Qtaish told *Aljazeera* that the emphasis on MRE and awareness activities versus landmine removal activities is due to Israeli restrictions on removal of landmines. A Canadian initiative to demine the village of Husan near Bethlehem was stopped short due to an Israeli ban on the import of mine-cleaning materials and restrictions on the method of clearing.³

Future Danger

DCI emphasized the increased danger that comes with the possible re-deployment of the Israeli army and the hand-over of those areas to the PNA. The fear is that, with

the increased mobility of Palestinians in the areas, the number of landmine/UXO accidents will increase. DCI has made it a part of its agenda to address this issue in hopes of avoiding the high number of casualties that occurred following the Israeli withdrawal from southern Lebanon.²

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Israeli Defense Force's Humanitarian Demining Efforts, continued from page 21

result of landmines, UXO, IED and other devices.⁸

The *Landmine Monitor* reports that, in recent years, Israeli rehabilitation specialists were sent, under the auspices of the United Nations and Israeli Foreign Ministry, to Sri Lanka, Vietnam, El Salvador, Croatia and Slovenia. Israel also has a rehabilitation exchange agreement with Armenia, Cyprus, Greece, Turkey and several states of the former Soviet Union.⁴ The *Landmine Monitor*

Report also mentioned that the Israel Ministry of Foreign Affairs funds an economic rehabilitation program in Guatemala. The microfinance program seeks to encourage landmine survivors to start their own business.⁴

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Photos c/o AP.

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by Jennette Townsend, MAIC

Introduction

When you first arrive as a member of the Multinational Brigade North (MNB(N)), you are full of promise. You know your team of highly trained professional soldiers will make a difference in the lives of those that live in BiH. Then it sets in. Your six-month tour of duty doesn't allow you time to finish what you start. So what is it you can do to make a difference in only six months? This is the exact question that started the process of developing the U.S. Army National Guard Demining Initiative in BiH. This initiative was undertaken by the U.S. Army's National Guard, an adjunct to the U.S. Armed Forces. There are multitudes of issues you can work to resolve in Bosnia-Herzegovina (BiH). MNB(N) plays a supporting role in most of these, but we wanted to do something more. We wanted to bring a fresh idea to the area of operation (AO) that would make a significant impact on one of the many critical issues facing BiH. To make our choice, we focused on two key concerns: "What will have the biggest impact on the daily lives of the people?" and "What will instill confidence in the international community to speed up economic recovery?" We chose the issue of demining.

Rethinking How We Do Demining

The Modern Peacekeeping Environment

So why choose demining? As a military officer, I have always been told to state the bottom line up front no matter how bad the situation. So here it is: seven years after Dayton, progress in clearing mines in BiH is far from what is required to create a safe and secure environment. Containment (marking/fencing) efforts are almost non-existent.

Impact on Stabilization Forces (SFOR)

The mine threat in BiH is widespread, of low density and dispersed. The IEBL is the dividing line between the entity

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armed forces at the end of hostilities as defined by the Dayton Peace Accord (GFAP). This heavily mined area is probably the single most important factor affecting our continued support of two key military tasks.

"Provide a Safe and Secure Environment"

The first key military task affected is our ability to "provide a safe and secure environment" in BiH. So far in 2003, mine strikes have caused 13 deaths and five serious injuries¹ in the MNB(N) Area of Responsibility (AOR) alone. More than 2,100 sq km of BiH requires a "Technical Survey" to determine if the area is mined.² Technical evaluations have estimated that 400 sq km to 1,000 sq km of this suspect area will require "Clearance Operations" of some sort³ that include mechanical and manual clearing techniques. The key property of these operations is they must meet humanitarian demining standards if we are to provide a permanent solution for a safe and secure environment.

Hold on a minute. Military teams don't perform humanitarian demining. So why are we focusing on this issue? Mainly

because we have to. In the modern world of the coalition forces, the military is not always provided with defined limits for tasks that their forces must effectively perform to meet coalition objectives. This is especially true in the world of Stabilization and Security Operations (SASO) like the tasks we are currently performing in BiH and will soon perform in Iraq.

As we have seen in recent headlines, our military leaders are also realizing this truth. As you read this article, military leaders are working to implement these new priorities before they become roadblocks to security around the world. If we are to be successful in this transitional process, we must be active at all levels of expertise. While military leaders are focused on changing policies that address our demining limits, we at the tactical level must be ready to respond with a well-developed plan of action to meet these new SASO priorities. The plan we are proposing is the first step in meeting one of these new priorities. Our proposal combines the critical strengths of solid leadership and unified command that military organizations possess with

the technological advantages of a modern, well-equipped humanitarian demining team. Such military organizations are something the U.S. Army National Guard is uniquely suited for. The U.S. Army National Guard in itself is an exceptional organization known worldwide for its ability to quickly adapt to the ever-changing requirements of international security environs. Our success in managing dynamic peacekeeping operations is well-known.

The U.S. Army National Guard is currently involved in the New Horizons exercises that focus on developing emerging doctrine and operational skills for humanitarian and civil assistance missions. These mandates, combined with our operational experience in peacekeeping operations, will thrust the U.S. Army National Guard into the forefront of modern humanitarian doctrinal development. This is why I say we must perform this mission of thinking outside the military norms of yesterday.

"Maintain Freedom of Movement"

The second key military task affected by the BiH mine risk is our ability to "maintain freedom of movement." Freedom of movement is a key ingredient in eliminating threats to economic development and to allow displaced persons and refugees (DPRE) to return. But today's slow and inconsistent demining processes are unable to meet the demands of these humanitarian missions. Over the past few years, the average clearance rate of all demining operations in BiH is six sq km per year. That's about 1.5 percent of the suspected area of risk. The cost to date for all demining in BiH is \$100 million (U.S.) or an average of \$16.6 million per year. To accomplish even this minimal level of success involves the work of the Armed Forces in BiH (AF BiH) demining teams and the efforts of 42 non-governmental organizations (NGOs)/commercial activities that are accredited to demine by the Bosnia-Herzegovina Mine Action Center (BHMIC). These NGOs and commercial activities provide most of the mechanical support (flails and vegetation cutters) required but at a premium cost. The AF BiH demining teams have far less equipment but they have the most experienced and well-trained deminers available; plus their hearts are in it. Of this six sq km total per year, the International Trust Fund for Demining (ITF) stated that NGOs and commercial activities completed 2.3 sq km in 2002.⁴ Based on this

finding, the AF BiH deminers appear to perform the bulk of the demining efforts with the least amount of equipment and personnel.

The International Community's Influence

Let us not forget the International Community (IC) is also watching. Based on various inputs from groups such as the Organization for Security Cooperation in Europe (OSCE) and other key diplomatic agencies, the IC goal for demining success in BiH was determined to be 12 sq km per year.⁵ The IC feels this level of reduction is a key indicator for the economic growth of BiH and is one of the "confidence" barometers they use to judge the ability of BiH to create the secure and stable environment that is paramount for joining the European Union (EU). This confidence level equates to investment opportunity and faster economic recovery for BiH. So here's some more bad news. Based on the success of the current demining approach in BiH, it will take 60 to 200 years to demine BiH. The United Nations Development Program (UNDP) estimates the funding required to accomplish this demining at \$26 million per year.⁶ It is easy to see we lack the funds, we lack the time and we lack the patience to sacrifice the life of another innocent human due to our inability to change an outdated military paradigm.

What Do We Change?

The question for our team now is "What do we change?" 1LT Richard Weber, Officer in Charge (OIC) of the SFOR 12 Mine Cell, completed the initial concept for a Demining Brigade in early 2003. The original concept was to develop a Demining Brigade that could meet BiH domestic mandates as well as other international mandates. 1LT Weber's unique design integrated the strengths of a military organization with the technological advantages of a modern humanitarian demining team. There have been various equivalents of lesser size (i.e., Berlin Wall team, etc.) but never before has there been such a forceful effort to make humanitarian demining a permanent military mission. Before handing over the reins to SFOR 13, 1LT Weber developed a well-thought-out technical design for the brigade that became the basis for the Table of Organization and Equipment (TOE) used in our current design. Based on this initial design, SFOR 13 was ready to move the concept to the next level by

building military and diplomatic support for the initiative

Time to Take It Up a Notch

Building Diplomatic and Military Support

To build this support, we needed to show why this humanitarian demining team would be successful where others failed. So what are the failings the initiative needed to answer? While some of the lack of success may be attributed to the nature of the mine threat, much is due to inefficiency, mismanagement and the appearance of corruption in the bureaucracy. To answer these concerns, we concentrated on four critical areas of focus.

1. An integrated demining effort is required: First was the need for a demining operation that is integrated from the state level down to the individual deminer. The current method of demining does not adequately integrate demining operations and wastes valuable time and resources. Military clearance procedures, although well integrated and fast in nature, do not provide the 99.6 percent clearance level mandated by International Humanitarian standards in SASO environments. Our initiative must integrate mechanical means, manual demining efforts, Explosive Detecting Dog Teams (EDDTs) and containment practices. Although we use these four methods today, they are not integrated at the level required to be consistently effective. NGOs, commercial activities, and AF BiH are all used to perform these tasks in a fractional manner due to competing agendas and interests.

2. The BHMIC and government control: The BiH Demining Law of February 2002 set standards for BiH demining in line with international protocols. This law is crucial leverage for the success of demining in BiH and must be fully supported by our proposal. This law allows the BiH government to endorse the BHMIC by providing two key mandates:

- The BHMIC is the sole national authority for the coordination of mine clearance.
- The BHMIC is the only institution responsible for national standards and quality assurance.

Since the formation of the BHMIC and the reorganization of its

< rethinking Humanitarian Demining for coalition forces >

by MAJ Tom Barnett and CPT Kyle Shaffer,
MNB(N), SFOR 13, 35ID(M), ARNG

In his book *Progress in Humanitarian Demining: Technical and Policy Challenges*, Richard Garwin has estimated it will take 1,000 years to demine the world based on today's technology and practices. A thousand years is too long to wait for a mine-free world. We must act now to change the world we are handing to our children and their children. As today's military leaders, it is our duty and our responsibility.

regional offices, some institutional coherence has been achieved. However, many national interests continue to prevail in the decision cycle for prioritization and resources allocation. By providing the BHMALC with the operational tools necessary to double its success rate, its ability to manage relevant national interests will be substantially reinforced.

3. Donor Fatigue: The general decline of world economies has caused international charitable aid and donor government funds to decline from previous years' contributions. One such example is a substantial donor to BiH demining efforts, the Canadian International Development Agency (CIDA). For 2003–2008, their funding is reduced to \$750 million as compared to \$1.0 billion over the previous five-year period. Aggravating this lack of funds is the lack of progress toward BiH unification. This is affecting donor focus on BiH and is allowing other more successful countries to take funding precedence. These IC donations are usually funneled through two main support areas: NGOs and the ITF.

• NGO Aspects: NGOs provide exposure and financial conduits for international institutions and donors. Some NGOs provide only management services and some only provide mine-clearing resources, while others even undertake demining operations as quasi-commercial activities. However, commercial activities tend to bid on the "easier" jobs as profit and risk factors limit their investment in the full range of equipment available. NGOs are also usually the first to attract international donors, as donors don't pay directly to governments due to suspicion of corruption. Bear in mind that with the exception of canine countermining, NGOs are not critical to BiH demining based on activities to date.

• The ITF and Commercial Aspects: Commercial demining is paid for by international donors and thus competes with NGO and AF BiH demining efforts for funding. Commercial demining teams also suffer from the stigma of corruption throughout BiH. This corruption manifests itself in many ways and casts suspicion on the BHMALC and the ITF. The ITF is the major funding tool for commercial demining in BiH. But these funds are waning also. In an article on the ITF website, Mr. Cemperek, ITF Director, stated, "There are a lot of changes in the donors' deci-

sions as to where they want to place their money, we are afraid that the donations will go down and not up."⁷ We wish to maintain our relationship with the ITF but reduce our dependence on NGOs and commercial operations.

4. AF BiH Aspects: Here's the bottom line for the AF BiH: The Instructions to Parties (ITP) obligates the AF BiH to demine and they are also obligated to sustain this capability. AF BiH deminers are capable manual deminers but lack consistent funding. The BiH government is providing most of the administrative costs, but this support may not survive the AF BiH restructuring now underway. The reality is that since Dayton, AF BiH demining has been largely sustained by donated capital and equipment. Donations have also maintained this equipment, bought consumables, and purchased accident insurance that is required on the demining laws. While factional interests sometimes still prevail, at the grassroots level, AF BiH soldiers wish to maintain their demining momentum. A commitment to demining is not so obvious at the senior level of the AF BiH command. AF BiH commanders view demining as a drain on the already austere defense budget and do not support incorporating the current 470 deminers into the new force structure. If we are to be successful, we must integrate demining units into the proposed 12,000 soldier-restructuring plan and maintain a minimal force for combat engineers (mobility/counter-mobility). What the AF BiH Commanders fail to understand is that the IC sees their current demining components as the only element of the AF BiH producing a positive contribution to BiH unification. As the AF BiH restructure to join Partnership for Peace (PfP), BiH demining expertise is seen as the specialized contribution the AF BiH can make as a potential member of North Atlantic Treaty Organization (NATO). In this sense, our demining initiative has global implications.

Implications for the Future

Although it was a bold design, the implications of funding challenges, the changing nature of the AF BiH restructuring, and the IC's reduced commitment to BiH demining demanded that we make changes to ILT Weber's initial design. After review of the

design by the MNB(N) Commander, the Stabilization Force (SFOR) Commander and staff, the U.S. Ambassador to BiH, the OSCE, the Office of the High Representative (OHR), and other members of the IC, we modified the initiative to meet the new sociopolitical dynamics. CPT Kyle Shaffer, OIC of the SFOR 13 Mine Cell, assisted by MAJ Tom Barnett, SFOR 13 Joint Military Affairs Liaison Officer to SFOR and IC, answered the challenges posed by these forward looking diplomatic and military leaders. The design now focused on creating a more flexible military demining unit with a humanitarian mission at the state level of BiH that can be phased in based on national and international mandates. The design focused on several key objectives that must be supported. Specifically, the design must:

- Provide significant performance improvements for AF BiH demining rates
- Be supported by a sustained, adequate and regular funding arrangement
- Be integrated into the ongoing AF restructuring efforts
- Concentrate responsibility and capabilities under one management organization
- Create a single organization with domestic and international mandates
- Be supported by a legitimate NATO/EU supervisory team

Our Proposal for Military Demining Team with a Humanitarian Mission

The Essential Elements

The design we are proposing concentrates responsibility and capabilities under one management organization. This will allow the unit to immediately address any priorities designated by the BHMALC regardless of location or size. The design creates a single organization with domestic and international mandates. Once fielded and proven in BiH, this design can be emulated in any of the 60 other nations requiring humanitarian demining. This will provide NATO and the world with a capability that has never before been seen in military organizations, but that will soon be mandated by the changing face of military stabilization operations. Through the use of NATO/EU supervision, the proposed unit will reinforce the legitimacy of the BiH demining effort, which will in turn attract sustained IC funding for state-of-the-art equipment and training. This influx of equipment

alone will enable the unit to realize significant performance improvements for AF BiH demining operations. Our proposed demining unit improves the security and long term stability of BiH by accelerating the removal of the de facto BiH "Berlin Wall." It also enhances the AF BiH restructuring plan, enhances BiH prospects for PfP cooperation, and provides a highly capable team for the implementation of humanitarian demining in NATO stabilization operations. This demining initiative is an investment in a focused solution to the BiH mine problem as well as having implications to meet global mine threats. This fact alone will make our proposal a key contributor to the U.S. Demining 2010 Initiative that aspires to clear the world of mines by 2010. The key is the simplicity of the basic units and the flexibility that they provide. So what will the demining units look like?

Based on the key objectives above, the demining initiative we are proposing is formed from two key structures. These base structures are a Heavy Humanitarian Demining Company and a Light Humanitarian Demining Company.

The Heavy Humanitarian Demining Company (HDC(H)) provides a combination of manual deminers, EDDTs, and mechanical clearing equipment to answer the needs of complex terrain minefields. This company provides additional mechanical assets that are currently not part of AF BiH demining teams. The new combination of mechanical assets will allow the HDC(H) to clear more congested terrain at smaller levels. Should heavier equipment be required, the battalion headquarters is equipped to handle this need. The HDC(H) provides more readily available mechanical assets throughout BiH without the current dependence on commercial activities. This will allow the HDC(H) to mechanically prepare minefields more quickly and ease the work of the manual deminers they support.

The Light Humanitarian Demining Company (HDC(L)) is focused on manual demining, which is the only method to date that can clear minefields to humanitarian standards. Although it focuses on manual demining operations, it may assist in preparing areas for mechanical clearing and EDDT. The key here is to retain the skills and experience of the current manual deminers in this company. The light company may also be

used to perform surveying that is now performed by the regional mine action centers and commercial activities.

Based on mission requirements, these companies will be task-organized and placed under the control of a Humanitarian Demining Battalion (HDBN) command team. The battalion headquarters is a key component as it provides the additional heavy demining assets required in support of demining operations in BiH. Our goal is to place these more technologically advanced demining systems directly in the hands of the BiH demining units, allowing them to complete the more difficult demining tasks. This is a dynamic step for a demining unit that until now was incapable of handling most mechanical demining activities. Rather than depending on commercial companies for this equipment, the demining battalion headquarters provides this equipment at key locations throughout BiH when required. Based on how the HDBN is organized, we calculate a demining rate of 12–24 sq km per year⁸ can be achieved.

The HDBN will report directly to the BiH Standing Committee on Military Matters (SCMM), which is a state-level quasi-equivalent to the U.S. Department of Defense. The BHMALC will continue providing operational direction for the HDBN, but it will also be supported with direct NATO/EU supervision. The NATO/EU supervision provides the required legitimacy that will attract sustained IC funding for state-of-the-art equipment.

Commercial Activities

Commercial activities have not been eliminated from the process. Commercial activities are proficient in conducting technical surveys and will continue to provide this service. However, we propose reducing commercial demining operations to focus funding on the BiH team. This will allow BHMALC to leverage the already austere ITF funds available by focusing commercial activities on smaller and less costly demining projects. This in turn will provide an increase in the success rate of the commercial activities. To support this change, we are suggesting that once the BHMALC has contracted for the commercial activity, the demining battalion will coordinate the execution of the contract and will have oversight of the activity. This will require moving the current Field Operations

Manager from the BHMALC liaison office to the HDBN headquarters to ensure commercial activities are coordinated with the AF BiH activities. Making use of the latest computerized demining support systems, the HDBN will ensure that commercial activities do not "rework" sites, which is seen as the most significant issue for commercial activities.

A Demining Brigade in a Post-Conflict

As we stated earlier, the funds and diplomatic support for a demining brigade cannot be realized. But we are confident that if the proposed demining units are successful, the BiH demining teams will also be able to focus on international mandates. With over 60 countries now in need of immediate demining support, the need for a humanitarian demining brigade in NATO or the EU is inevitable. We view our initiative as the initial step in creating a demining unit that is capable of dynamic growth to meet international demining mandates. This global team has added implications. One such implication is assistance in driving the commercial development of demining technologies. As the demining unit grows in size, it will generate long-term market drivers for enhanced equipment and research from the private sector. This in turn will help make demining more economically viable and accelerate an end to the global demining issue.

Bottom Line

Based on the initial review of costs for the unit, it will require \$20–23 million to implement this plan. Depending on the task organization of the HDBN, the estimated operational cost will be between \$3 million and \$17 million per year and should be totally funded by the BiH government. This will require that we hold BiH accountable for this cost through the restructured AF BiH budget and other BiH government funding. We are also still advocating a strong relationship with the ITF to leverage their funds for commercial activities. If these funds are properly managed by BiH with assistance from the NATO oversight team, we are confident that past dependence on uncertain donor funds can be significantly reduced if not eliminated. If something is not done to significantly reduce BiH dependence on the IC donors, the future of BiH demining is uncertain at best.

continued on page 53, *Rethinking Humanitarian Demining Efforts*

THE MILITARY

An Interview With LTC Bob Crowley, U.S. SOUTHCOM

IN MINE ACTION

Nicole Kreger (NK): What has the military contributed to mine action over the past 15 years?

LTC Crowley (LTC C): I can only talk about what we've done in Latin America, in the SOUTHCOM [U.S. Southern Command] AOR [area of responsibility], for the past 15 years. Even before 15 years ago, before there was a U.S. Humanitarian Mine Action [HMA] Program, which at the time was called Demining Program, we had Special Forces folks down in Honduras training the Hondurans how to demine. First of all, the way the program works is the Department of State has the lead. They have the final determination on whether we're going to have an HMA program with another country or not. So until that determination is made, we can't do any demining training. But when it is made, what we at SOUTHCOM bring to the table is technical expertise, and we've had active demining programs in Guatemala and El Salvador that are closed down now; current programs are in Nicaragua, Honduras, Ecuador, Peru and the new one in Chile.



So what have we done? We helped the Organization of American States [OAS] establish MARMINCA [Mission of Assistance for the Removal of Mines in Central America], which is an OAS program that relies on officers and non-commissioned officers from throughout Latin America in the MARMINCA Center, which is in Managua. We've trained deminers in all the countries I just mentioned, and in addition, we've built regional mine action centers [MACs] in Ecuador and Peru.

What we do from the Department of Defense [DoD] side is a Train-the-Trainer program with three components to it. We'll have a team of experts that's assembled in the United States that is comprised of military Special Forces personnel and sometimes conventional engineers as well. We always have Civil Affairs personnel and information operations specialists that

go down. The team will go to the Humanitarian Demining Training Center [HDTC] out at Fort Leonard Wood where they will be trained to the international standard as deminers. They need to have that certification before they're allowed to go anywhere, and once they get down there, there are three components to the program. The first component is the technical advice and assistance in training: how to identify a minefield, how to mark a minefield, how to clear it, how to remove the mines, working with dogs—the soup to nuts of demining. But manual or even mechanical demining alone is not a stand-alone operation. The two other components are mine risk education—for example, I mentioned the Superman comic books [landmine awareness tools published by DC Comics in cooperation with the U.S. Department of Defense and the UN Children's Fund (UNICEF)]. That's the second aspect—the third aspect is in organizing and running regional mine action centers, which includes the database training that we teach as well as the community outreach and development that our civil affairs personnel work on the demining missions. And we're very close to closing out programs in Nicaragua and Honduras. Ecuador and Peru will take a little while longer. Chile has 273 minefields on their northern border area, and that will take a few years. But in Southern Command, we are postured to be the first regional combatant command that is mine-safe. That's a huge success.

NK: How would you say the role of the military in humanitarian demining has changed or developed over the years?

LTC C: Initially, the program, I wouldn't call it ad hoc, but it took Department of Defense and Southern Command awhile to establish the relationships that we have with OAS, to come up with the exact right template of forces that are needed for a problem. Right now, before any demining mission, we do a comprehensive pre-deployment site survey to identify exactly what the team needs to do when they're down there, and that's done about six months before the mission. During that period of time, the team is gaining the situational awareness of the mine problem on the ground, what the community needs, the type of training the partner nation military needs, and is able to go through a very programmatic process and preparation phase, so that when they go down, it's not a bunch of guys showing up saying, "Hey, we know how to demine. What do you need?" It's a thought-out, well-organized, planned and executed procedure with a number of check-

lists to make sure that we're not leaving anything out and we're addressing all of the requirements that not just the partner nation military but also the community needs. Fifteen years ago, it was not as well-programmed, and that's just a matter of growth and continuity of personnel in key positions and experience in the program.

NK: You were just talking about addressing the community needs—how does the community react or how receptive are they to the military coming in and conducting the demining operations?

LTC C: First of all, all of the countries in which we're currently conducting demining operations—Nicaragua, Honduras, Ecuador, Peru—these are countries that are used to having a military presence because our demining operations and HMA programs started after their conflicts were over. They have gone from a period of either civil war or international conflict where people are killing each other to a period where now the military is coming in and helping them get their land back. The communities are wonderfully receptive. It is absolutely unbelievable. We're received with open arms by community leaders and the population. We're there to help them solve their problem. The community relations is a critical component of it, and that's what our civil affairs personnel work when they're down there. I can't think of an instance where we've had anything but wonderful reception from the community—from the national level all the way on down to the people that are in a particular community of any size.

NK: How would you say the military approach to mine action is different from the humanitarian sector approach?

LTC C: That's a great question. Probably the biggest difference is that we do not actually conduct demining operations. We train the trainers on how to conduct demining operations. And that's a policy decision that the United States has made in which our forces are not authorized to actually pick up or remove mines. Our mission is to train the partner nation personnel in how to do that. Now, if you look at HALO Trust or MAG [the Mines Advisory Group]—a number of the NGOs [non-governmental organizations] go out and they actually conduct the demining operations themselves. Our focus really is on capacity building in the demining area and not the conduct of the demining operations.

NK: When you're saying that you train the trainers, are you usually training the in-country military?

LTC C: Yes, we are. And in the case of MARMINCA, for example, MARMINCA again is an OAS organization, but that's an international group of military personnel. Our focus for the procedures, the actual demining operations, yes, we are training the other militaries on how to demine in their own country.

NK: What would you say are the benefits or drawbacks of using military forces as opposed to an NGO or a corporate organization carrying out demining?

LTC C: First of all, I think it's right that the military has the lead responsibility for demining within their own country. The mines are

there as a result of what had been a military problem, and I think it's most appropriate that the military take care of that problem. I respect the Dickens out of NGOs that do it. It's a wonderful humanitarian piece. But I would rather see somebody in uniform risking his life to do it because it's a military problem, rather than seeing an NGO lose their life or limb. And hopefully our training is such that we won't have accidents where the deminers wind up getting hurt.

NK: Can you give me an example of a success story that you know of of the military in humanitarian demining?

LTC C: The biggest success story we're going to have in the SOUTHCOM area is coming up. Ecuador and Peru were fighting a border war in 1994. Following their ceasefire agreement, the United Nations established the United Nations Mission to Ecuador and Peru (UNMEP). Now, there are still tensions in that area between Ecuador and Peru. It's been a disputed border; the ceasefire agreement reestablished the border. But, later on this year—and we're looking at the fourth quarter—we're going to be conducting a humanitarian mine action mission that is not bilateral in nature. Most of them are—we go to country "X" and work with those people. In this case, we're going to have deminers from Ecuador and Peru train at the Peruvian Engineer School. We will train them in demining tactics, techniques and procedures. Then we will go up to the border area, the Peru/Ecuador border, and those deminers will conduct demining operations on both sides of the border. What does that mean? That means Peruvians are going to be demining Ecuador and Ecuadorians are going to be demining Peru. And then from there, we'll go to Quito, Ecuador, where we'll conduct some follow-on training. That is a multilateral as opposed to a bilateral mission. Absolutely a huge success, and we're looking towards fourth quarter of this year to execute that mission.

NK: Do you think it is important for mine action programs to have visiting military Technical Advisors?

LTC C: It depends on the capabilities of what they have.... Not always. You take a look at Honduras and Nicaragua, right now those programs are almost complete. There are Nicaraguan deminers right now in Iraq that were trained by the United States military. Now those guys are as good as anybody. Do they need us now to tell them how to demine? No. They don't need our assistance at this point. So it depends on the maturity of the program that they have in their particular country. I expect when we get down to Chile and start the program in Chile in 2005, they've got a very professional army, so our technical assistance will hopefully be relatively limited and we won't have to start at the ground floor with the Chileans. So it depends on the capabilities and the particular situation in any given country.

NK: How do you feel the train-the-trainers program has helped our military and host nations?

LTC C: One of the ancillary benefits we get from any operation we do of this nature is the individual contacts and bonding, for lack of a better word, that occurs between professionals. Whether they're mili-

by Nicole Kreger, MAIC

tary professionals or whether they're doctors that are doing an exchange or academics, it doesn't matter. There's a cultural understanding and growth that occurs through this program and our other humanitarian programs that, in the long term, is a huge, huge benefit. So the individual contacts and mutual understanding that develop are as valuable as anything else.

NK: What role do you think the military can play in standards for demining technology?

LTC C: I think the roles that we have right now with the HDTC doing the training they do, plus the OSD SO/LIC [Office of the Secretary of Defense for Special Operations and Low-Intensity Conflict] research and development folks do absolutely tremendous work. I wouldn't say it needs to be adjusted. They will go to a country, look at a particular situation in terms of terrain, weather, where the communities are located—any number of factors—and they'll look at it and say, "You know what might help here is a piece of equipment or some sort of technology that could do this." Well whatever it is they think would work best doesn't exist, so they will go manufacture that, and they'll take it down to this country and they'll test it. And the Office of the Secretary of Defense fully funds that program. We've got equipment down in Honduras right now that they're doing a final test on. The benefits to the partner nation are absolutely tremendous, and from a technology standpoint, it's those guys who work out of OSD SO/LIC at Fort Belvoir, Virginia, that bring a huge amount to the table, whether it's experimenting with unmanned aerial vehicles, with ground penetrating radar to identify mines—those are tremendous technological advances that we can capitalize on.

NK: What do you think is the role for the military in mine risk education and victim assistance?

LTC C: That's two separate questions, so I'd like to answer each separately. In mine risk education, our role is to work with the communities and through the community leaders to help them develop a good solid mine risk education program. You know, kids are kids, and so often, as you know, children are the victims of landmines; people working in the agricultural community are the victims of landmines. Our role is to help the communities in which they live develop strong programs that are coherent, that receive the necessary funding, that are well enough put together so that they're sustained, thereby reducing the number of landmine victims while the deminers go ahead and get an area cleared of mines.

The other question ... that is a great question, and I was talking to the guys from the Polus Center, because in the HMA Program we really don't have a role in victim assistance. But we have other programs within Southern Command that can assist with that. We have a humanitarian assistance program. We have humanitarian and civic assistance programs. I would see an example of an organization like the Polus Center working in Leon, Nicaragua, where we've also worked, primarily after Hurricane Mitch, when Southern Command provided both immediate and long-term disaster relief and reconstruction to Central America. In Leon, they have a victim assistance center that needs renovation or they're trying to build a new one.

We have DoD-funded programs that can help with that type of thing, and that's the type of partnership that I think really goes a long way to the mutual benefit of everybody concerned—the United States, the partner nation, the NGOs we partner with, the United States military, the partner nation military, and the ultimate beneficiary being the members of the community that live there. That's where I think we can make the most money and get the most yardage out of this program.

NK: Do you think the military is better suited for mine action than the humanitarian sector?

LTC C: I wouldn't say that at all. I would say there are professionals in the humanitarian sector, and I would say there are professionals in the military. We are not at all interested in competing. We're interested in working together to solve mutual problems that affect the world community.

NK: That was something you spoke about earlier—partnerships and how important they are. I was wondering how you think the military can complement other organizations working in humanitarian demining.

LTC C: When I was just mentioning the humanitarian assistance program, I think that's a great example. We've partnered with a number of NGOs throughout the region already, both international NGOs, the larger ones, as well as local, community-based civic action groups. Our partnership opportunities are more limited by imagination than they are by funding. Now, we certainly have some real-world concerns; we can't, from a military standpoint, say, "OK, let's go do this type of project in this area" just because somebody's asked us to, but there are many, many cases where there is a confluence of interest, and those need to be pursued vigorously to make sure that we generate a sort of synergy through the confluence of interest and maximize all of our capabilities to achieve whatever particular objective it may be at the time—whether it's education, whether it's health, whether it's, as you mentioned, victim assistance, that's another area that partnerships are certainly viable.

* Photo clo MAIC.

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The Role of Military Technical Advisors

Introduction

In 1989 a multinational contingent of soldiers began to arrive in Pakistan to support a humanitarian mine action program for Afghan refugees. They were, in effect, Technical Advisors (TAs) in the field of humanitarian mine action, and in the years since, military TAs have participated in many other programs. This has not been without its controversial aspects.

For the purposes of this discussion (and acknowledging that some will not fit this description precisely) a military TA is a serving soldier who is attached to a humanitarian mine action program in a training, advisory and mentoring capacity. The military TA differs from visiting military forces in three respects. He or she is not—or should not be—a short-term visitor, but rather is in the TA position for a period of six months to one year. The military TA is not part of a formed military unit, although national contingents within a program are usually under the command of their senior representative for administrative, personnel and disciplinary purposes. Finally, he or she is not armed and may not necessarily wear a uniform.

I must confess a certain bias on my part. I have been a military TA and I am immodest enough to believe that my efforts were not entirely in vain. I have also known and worked with many military TAs, from my own country and from others, and while they were not all well-suited to the task, I believe that most of them did good work. Somewhat inevitably, therefore, I am going to conclude that the use of military TAs is not a bad thing. I have structured this discussion according to what I perceive to be the three main concerns: ability, money and philosophy. Or, more simply, can they do the job, how much do they cost and should they be doing it anyway?



by Rohan Maxwell, Major, Canadian Army



Ability

Much of the debate revolves around the ability of military TAs to train, advise and mentor indigenous personnel in various positions within the organization. These positions can be grouped into three categories: the training and supervision required for specific mine action tasks, such as finding and destroying mines; the training, logistics, planning, and command and control required for daily operations; and strategic planning, including integration with other development activities and resource management.

With respect to the first category, much has been made of the difference between military-style minefield breaching and the exigencies of humanitarian demining. This difference undeniably exists—in immediate combat. However, even in wartime, follow-on activities are expected to achieve a high standard, and post-conflict clearance is expected to reach what is effectively a humanitarian standard. The same is true of military demining activities in the context of modern peace-support operations. It would be disingenuous to suggest that military personnel do not possess the techniques to reach this standard, or the ability to understand and apply the International Mine Action Standards (IMAS).

Experienced mine action workers have stated that military and humanitarian demining do not differ at the point where the deminer and the ground come together,¹ and that military-style training is applicable to the training of humanitarian deminers.² It has also been acknowledged that military personnel can successfully form and train teams of deminers,³ even though many of these trainers lack “live” experience⁴ and even though some countries forbid their personnel from conducting actual demining while working as trainers.⁵ Furthermore, it has been demonstrated that military personnel can effectively teach specific technical tasks such as demining and explosive ordnance disposal (EOD) techniques, although they are not adept at tasks such as mine risk education (MRE), where there is no clear military equivalent.⁶

Since there is an acknowledged need for qualified and experienced instructors,⁷ it appears that there is a valid role for suitable military TAs at this level so long as the tasks coincide with their skills. As with any other job, the key word is “suitability.” Technical skills and knowledge are not sufficient: military TAs, like civilian TAs, must be

of a high caliber, able to transmit their skills and knowledge effectively in a given cultural, environmental and organizational context, and remain in place long enough to be of real value.⁸ Ideally these requirements would be incorporated into the selection process used by the providing country, but there is no guarantee that this will be the case.⁹

It has been suggested that the receiving agency should play a decisive role in the selection process,¹⁰ but this is unlikely to occur under the most typical scenario, where the receiving agency asks for assistance and nations respond by sending the military TAs of their choice. The military personnel management system of the supplying country dominates this process, and it will continue to do so while military TAs are seconded to, rather than hired by, the receiving agencies. This means that the suitability of an arriving military TA will be, to a limited extent, the luck of the draw. This is definitely not the preferred staffing solution; however, my own limited experience working with and within international organizations—and more relevantly the judgement of those with more experience—suggests that this problem is not necessarily limited to the group under discussion.¹¹

Military TAs have also achieved success in the second category, daily operations. One example is given by the Geneva International Center for Humanitarian Demining (GICHD) in *The Role of the Military in Mine Action*: “...military TAs provided an invaluable injection of expertise at a time when Cambodia was struggling to rebuild its government and economy. Foreign military TAs appear to have been particularly effective at getting demining teams on the ground.”¹² This makes sense, since deploying and sustaining large numbers of persons to work on difficult tasks, under demanding conditions, is fundamental to military operations. Given the personnel and material resources (however scarce those might be) and specific tasks within an assigned area of operations, military TAs can perform effectively at this level.

In contrast, most observers appear to believe that the military has little if any role in the third category: strategic planning, resource management and integration with the wider developmental effort. This too makes sense as sustainable development is not a core military skill, or is not likely to become one. As the United Nations Development Program (UNDP) has noted, military personnel can assist in this category, up to a point, but in the long term, the requisite training and assistance should be provided by more appropriate

agencies.¹³ That being said, senior officers in most armed forces have to possess strategic planning and resource management skills if they are to carry out their military duties with reasonable proficiency. This is perhaps most notable in Western military establishments, where the language used in many documents and meetings echoes that found in civilian organizations, and where M.B.A. studies have assumed a status formerly reserved only for advanced military training courses.

A 1997 interview with the (military) Chief Technical Advisor (CTA) of the Cambodian Mine Action Center (CMAC) appeared to show a sound grasp of mine action realities. He discussed the need to build a sustainable demining program with local buy-in, the desirability of a long-term approach by donors and others, and the importance of “weaving together the various parts of the program” by applying business principles. He also spoke of capacity building and of the requirement for a comprehensive national survey and an associated database in order to support long-range planning.¹⁴ The ability of military personnel to adapt to the exigencies of mine action does of course depend on the individuals concerned, but the option of using them should not be dismissed out of hand.

Money

Although some believe that military personnel represent a net savings to the receiving organization because their salaries are already paid,¹⁵ a more common assessment appears to be that military TAs, person for person, are rather more expensive than civilian staff. The GICHD’s comprehensive study states, “...the incremental costs associated with any foreign duty assignment of personnel from visiting military forces may be at least as high as the full cost of engaging equally well-qualified civilian personnel for the same assignment.”¹⁶ If this were true, then it would clearly be a rational decision on the part of the receiving organizations to eschew the use of military TAs. But is it true?

The authors of the study cite two sources in arriving at this conclusion. The first is a paper by the Organization for Economic Cooperation and Development (OECD), which correctly points out that military operations are more expensive than civilian ones: a military airlift will cost more than a civilian one, a military medical facility will cost more than a civilian one, and so on. This is undeniable, even though the extra cost is not borne by the receiving agency (a point that is acknowledged in the paper).¹⁷ As others have noted, it is true that “Military units cost more for a given operation than the equivalent carried out by a civil organization.”¹⁸ However, we are discussing individuals, and it is a bit of a stretch to compare something

like the airlift of relief supplies into Somalia with the deployment of individual military TAs.

The second source is an American analysis that seeks to quantify the incremental cost of deploying an individual soldier on peace support operations in Bosnia-Herzegovina (BiH) or Kosovo. The range given is \$200,000 to \$250,000 (U.S.), and it is essentially calculated by dividing the total annual cost of each force by the number of soldiers involved. The incremental cost per soldier, therefore, includes his or her share of the operating costs of everything used by or in support of American forces stationed in BiH or Kosovo. That is, everything from helicopters to armoured vehicles to camps to ammunition to hospitals, for the richest army in the world.¹⁹ Obviously a military TA, operating *sans* artillery, armored vehicles or attack helicopters will be cheaper. The GICHD study takes this into account by lopping

off a third of the incremental cost, thus arriving at a range of \$135,000 to \$165,000 per year.²⁰

This still seems like a hefty sum; as the study notes, it is “as much or more than appropriately qualified, experienced and motivated civilian personnel would cost (including recruitment and administrative support costs) if recruited directly.”²¹ It is true that the receiving agency would bear the entire cost of a civilian TA, while most of the cost of a military TA would be borne by the supplying nation. This might appeal to a pragmatic mine action manager, who might take the view that if there is to be an incremental cost, it would be better borne by a large government rather than a relatively small mine action program. Still, the price seems inordinately high, irrespective of who is actually paying. If it really were that high, governments would be better advised to conserve their military personnel for other purposes and send the money thus saved to mine action programs for civilian staff.

The trouble is that the math does not work out. The lower end of the proposed range translates to about \$12,000 per month in incremental costs, and it is difficult to arrive at that sum without reaching levels of generosity not normally associated with the military. Salary, medical and dental coverage, insurance, pension contributions and so on are not incremental costs. Neither are living allowances or local operating costs such as vehicles, drivers and interpreters, because they would be the same for any TA, whether military or civilian. This means that the entire incremental cost has to be derived from military allowances, administrative support and transportation costs for deployment, redeployment and home leave. Even if a TA flies home once a month and is an acute administrative challenge, \$12,000 equates to an improbably high monthly allowance. Some militaries are quite generous, but even so it would be difficult to arrive at a monthly incremental cost in excess of \$2,500 or thereabouts. Adding more



than a bit for luck would give an annual incremental cost of, say, \$48,000: hardly enough to recruit, pay and administer a civilian TA.

I have belabored this point because I believe it is chimerical. The oft-repeated assertion that military TAs are more expensive is demonstrably incorrect, no matter who is paying. One simply cannot extrapolate from the per capita incremental cost of a full-scale military operation, or even per capita incremental cost of "borrowing" soldiers from visiting military forces, to the incremental cost of deploying an unarmed military TA with no logistics, communications or infrastructure support beyond that which would also be provided to a civilian TA. While debates over the relative quality of military and civilian TAs cannot be conclusively settled because both groups are comprised of individuals whose abilities vary widely, cost is a quantitative issue that can be eliminated from the debate altogether.

Philosophy

If we accept that the question of ability is at least still open and that the question of money has been addressed, we are left with philosophical arguments. This aspect of the debate is a relatively faint echo of the ongoing controversy over the role of military forces in humanitarian operations, and of the oft-exaggerated "cultural" differences between military and civilian personnel. A key element of this wider controversy—the ability of military personnel to carry out humanitarian tasks—has already been addressed in this article.

Another concern is related to security. This argument suggests that humanitarian workers may be endangered because belligerents won't be able to distinguish between military and civilian personnel who are engaged in similar work, or because humanitarian workers may become targets by virtue of association with the military. However, attacks on humanitarian workers (such as those that have taken place in Afghanistan) are not carried out because of confusion over the military or civilian status of the victims, or because of a perceived taint due to civil-military cooperation; they are carried out because the attackers wish to drive away humanitarian workers.

The last philosophical argument can be summarized as "It isn't their business," with a subtext that the military is only interested in humanitarian mine action because they are looking for gainful employment in order to justify their existence. In response to the first point I would suggest that it's the business of anyone who can make an effective contribution to the effort, and that the only "turf" we should be concerned about is that concealing the mines. As for the second point, the armies that normally provide TAs seem to be busy enough these days. Furthermore, in the smaller armies, military TAs are drawn from a numerically small pool, and those armies are often less than anxious to send scarce officers and non-commissioned officers (NCOs) off to do work that they feel is not the military's business!

Conclusion

Although relative quality is difficult to assess, the average ability of military TAs is on par with the rest of the humanitarian mine action community and the financial and philosophical arguments against their use do not stand up to examination. Military TAs are a useful and usable resource, and since it would be startling indeed to hear a mine action manager complain of a surfeit of resources, I must conclude—as promised—that humanitarian mine action benefits from

the use of military TAs.

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* Photos c/o the author.

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Use of BELGIAN MILITARY EXPERTS

For many years, a large debate over the use of military experts in humanitarian demining has existed. Some individuals are against military demining arguing the military performs different techniques and holds different priorities from humanitarian demining. Others are favourable toward military demining, as they are the majority of demining centres. The Belgian military has been active in demining since World War I (WWI). Still today, explosive remnants from WWI and World War II (WWII) remain a daily concern in the life of Belgians. The minefields have been cleared for many years, yet everyday military experts still dispose of UXO or abandoned explosive ordnance (AXO). It is important to understand this process does not take place during a military operation. Rather it is placed within the framework of helping the population, a type of humanitarian demining.

in EOD

service. The Explosive Ordnance Disposal Service was created on December 1, 1945, to unite all existing bomb disposal units under one single command.

Between 1944 and 1948, the EOD service structure changed constantly as Belgium search for an ideal organization and due to the Bomb Disposal Unit constantly decreasing inside. Likewise, after WWII, the authorities believed an EOD service was no longer necessary. The abolition of this service was again imminent. However, on July 4, 1947, a different decision was made—to reduce its strength to 42 men. Fortunately this decision was never brought to execution, and by the end of 1948, the EOD service consisted of 350 men. The Explosive Ordnance and Obstacle Disposal Service held a temporary unit status until May 1, 1948, when it became an organization of the basic Armed Forces. Between 1949 and 1955, the EOD service saw many changes, essentially as a result of the reorganization of the Armed Forces. At the end of 1955, the EOD service had decreased to 115 personnel.

In October 1971, the army determined the EOD service would no longer be an independent unit. However, the early 1970s consisted of international terrorism, which meant a need for Belgian specialists capable of disposing booby traps, letter bombs, car bombs, etc. Furthermore, the number of left-over munitions from the two world wars exceeded the previous estimates. Each year, the EOD service received 3,000–4,000 requests to dispose of devices of all kinds. Less than three years after its dissolution the EOD service was again created on August 1, 1974.

History

The explosive ordnance disposal (EOD) service was created immediately after WWI. This service was active throughout Belgium, initially as a detachment to each Provincial Recovery Service. In 1922, many landmines were disposed of, giving the impression it would only take a few months to complete the project. Unfortunately, it became clear the UXO problem was far from over. In an effort to tackle this issue, the Ordnance Disposal Service was created on October 3, 1923.

After WWII, numerous Belgian military units were directed to dispose of the obstacles and mines laid in both world wars. These units were sent throughout Belgium. On August 16, 1941, the EOD service was recreated, after the captive personnel were freed, to dispose of all explosive devices and

preserve any devices of military importance. Bomb disposal teams quickly formed in towns that suffered from bombing during the wars and in places where old minefields, ammunition dumps or explosive charges were discovered. The EOD service activities continually exceeded the tasks entrusted to it by staying in constant contact with several resistance groups and with allies. Through this constant interaction, EOD was able to inform London of possible manufacturing errors in fusing systems and of likely causes of non-exploding bombs. The bomb disposal experts also recovered explosives of defused devices and passed on the remaining explosive fillers to resistance groups for sabotage purposes.

On October 16, 1944, the Explosive Ordnance and Obstacle Disposal Service was created as an official addition to the EOD service and Belgian Armed Forces. In the first year, 300 men worked under this

by Captain Vincent Muylkens, Belgian
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The Inter-service Territorial Command (ITC) was founded in 1995 due to a general reorganisation of the armed forces. ITC was established to bring together all bomb disposal units in charge of territorial bomb disposal operations under one command. This was the last major change for the EOD unit.

Current Activities

Today the Belgian bomb disposal battalion comprises 23 officers, 151 non-commissioned officers (NCOs), and 131 corporals and civilians, thus a total of 305 personnel of which 172 are bomb disposal experts (16 officers, 100 NCOs and 56 corporals). The battalion is composed of three companies decentralised to cover the all-national territory.

The first task of the unit is the clearance of UXO and AXO left in Belgium from the two world wars. Despite the proposal to dissolve the unit in 1971, **the bomb disposal unit still reacts today to an average of 4,500 requests a year ranging from hand grenades in aircraft bombs up to 500 kg or more.**

Consequently, the battalion handles an average of 250 tons of ammunition every year. Some 20 tons of "problem ammunition" (suspected chemical ammunition) are recovered each year, especially in the areas of fighting during WWI.

The Battalion's second mission is the dismantling of toxic and chemical ammunition dating from WWI. The dismantling

facility is located at the site of conflict during WWI. During 1998 and 1999, tests were carried out on real ammunition to control the feasibility of the installation. The installation has been operational since October 1999.

The third major task calls for the support of juridical authorities in the field of terrorism and organised crime. This responsibility averages around 150 interventions a year for the EOD Battalion. Suspect devices ranging from letter bombs to car bombs are investigated and rendered safe. The unit is also in charge of post-explosion investigations. The EOD Battalion is always ready to intervene in case of a military air crash to recover ammunition and pyrotechnic elements. It can also rely on diver-bomb disposal experts for diving missions in the hinterland and the territorial water surfaces.

The unit instructs its own bomb disposal experts and organises instructional courses for police forces, juridical authorities and security agents. The basic course to become an EOD operator takes one year. After five years of experience, the non-commissioned EOD officer operator follows an advanced four-month course. Then the NCO can act as an EOD team leader. In 2003, the Ministry of Defence requested that the bomb disposal school develop an EOD team leader course for foreigners to participate in. This four-month course is available to experienced EOD operators.

Belgian military experts continually advise researchers involved in programs to support humanitarian demining. Regularly,

the EOD operators support Belgian universities, the Royal Military Academy and many civilian universities in their studies with the humanitarian demining domain. The EOD experts constantly test new equipment and provide help to the students, based on their field experience.

The last support provided by the Belgian military experts encompasses the technical assistance to treaty and protocol development. Belgian Defence sends military experts and both EOD and non-EOD operators to international workshops and symposiums. During these development processes, the military experts can provide counsel to developing treaties and protocol based on their field experiences.

Beginning in 1990, Belgium began requesting UN support for its humanitarian activities and informing the world of its 70 years of lessons learned.

Thus, the EOD Battalion began participating in operations abroad. One mission called for the protection of their own Belgian troops during deployments abroad. Others were conducted within the framework of humanitarian demining. Numerous units sent EOD experts to Rwanda (1986, 1993–1994), Iraq (1991), Former Yugoslavia (1992–today), Somalia (1992–1993), Cambodia (1994–today), Democratic Republic of the Congo (1997, 2004), Lao People's Democratic Republic (PDR) (1998–today), Albania (1999) and Benin (2001).



The Battalion currently has the following 13 EOD operators abroad:

- **Three military EOD operators are stationed in Kosovo to protect Belgian troops, yet the Belgian EOD operators deal daily with UXO in civilian areas.**

- **Four military operators EOD experts are stationed in Cambodia as technical advisers for the Cambodian Mine Action Centre (CMAC). Between 1994 and 1996, the Belgian experts were involved in the minefields. Their main task was to inform and advise, in the field, the CMAC deminers. Between 1996 and 2000, the advisers assisted in the creation of an EOD branch in CMAC with the cooperation of Dutch colleagues. Since 2000, the Belgian advisers have been alone in the support of an EOD branch. The statistics of Cambodia show that 65 percent of the accidents are due to UXO and 35 percent are due to AP mines. The intention of CMAC is to build an EOD branch able to work throughout the country.**

- **Two military EOD experts are deployed in the southern province of Lao, Champassak, in support of the activities of the Lao National UXO Project (UXO LAO). The Belgian advisers support all the domains, not only the technical and operational, but also human resources, material resources, finance, etc. Since 1998, Belgium has provided technical advisers to assist the operations in the province. During the 15 years of war, bombs were dropped on Lao PDR. Today it is a country covered with tons of UXO. The experience gained in Belgium since 1918 gives Belgium a good opportunity to help Lao PDR to build a long-term UXO disposal capacity to reduce the risk due to unexploded bomb live units (BLUs), bombs and other UXO.**

- **Four EOD operators have been**

deployed in Bosnia since November 2003 to reinforce the Stabilization Force (SFOR) mission. The mission of this team is to assist Bosnia in the storage, transportation and demolition of large stocks of ammunition.

Following the past experiences of Belgium's use of military experts in humanitarian demining has an advantage, even if the humanitarian demining is normally not a military mission. When a country uses military experts to build a national EOD capacity to clear the country, the costs are substantially lower. The majority of armies with an EOD capacity developed them to support military operations. During peaceful times, this capacity is available and the operators can be used to clear the UXO on the national territory. The country does not need to pay twice to develop an EOD capacity for military operations and an EOD capacity for national territory. It is also evident that the experience gained on the national territory can also be used to support programs abroad.

Military experts usually have a military channel that gives them access to technical information. Thus, when the military experts are involved in support of the humanitarian demining, it is easier to get access to the needed technical information. Directly after a conflict, military units are regularly sent to control the peace process. The military EOD operators are able to start with the urgent clearance operations and disposal of UXO. The co-operation with other actors will only provide benefits to the humanitarian situation. A better coordination between military experts and non-military experts is also an advantage for research and development of mine action technologies with a reduction of the costs and an increase in the researchers involved.

Conclusion

In conclusion, AP mines are a problem, but they are unfortunately not the only problem after a conflict. Many statistics demonstrate today that UXO represent an important problem that may be larger than the AP mine problem. The experience of Belgium shows that many decades after the end of the hostilities, large quantities of UXO

still remain on the ground. The demining activities of minefields and the disposal of UXO are major tasks that will take a long time. It is in the interest of the international community to take into account all available resources, included military operators. They perform the same job as the non-military operators with, in some cases, other priorities and other time schedules.

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Humanitarian vs. Military MINE ACTION

Non-governmental organizations (NGOs) and commercial companies are well-known in the mine action community for conducting demining operations all over the world. But there is another breed of deminer that is becoming more and more common—the military. Militaries often have different objectives, tactics, opinions and experiences from professional mine action practitioners, which is frequently reflected in the way they conduct clearance operations. Can two groups so different find some common ground and work towards a world in which they not only coexist, but actually work in tandem to assist one another in carrying out demining?

What Role Should the Military Play?

One contentious topic of debate is whether or not militaries should even be involved in mine action and if so, what exactly their role should be. Because the level of military involvement in mine action currently varies widely from region to region, there are many different views on the subject. There are those that believe their role should be limited, like Hugh Morris of MineTech International, who says, “I don’t think the military have a role in mine action other than in a conflict situation where they cannot bring in commercial [organizations] or NGOs. I think the military have a role to secure their own force protection aims, be able to allow movement of their forces and maybe movement of civilians and movement of refugees. But when it is a post-conflict situation, the military should move on to other tasks, because they’re not civil administrators and they’re not geared to do tasks of a humanitarian mine clearing nature. It requires a lot of men and a lot of time, and I don’t believe any military has the time to do it. So I don’t think they have a role in a post-

conflict situation in any country in the world to clear landmines.”¹ He stresses that although the military, being paid for by the government, may be able to do such tasks for less money, if they are not properly trained and knowledgeable on international standards, then they will not be as effective as commercial or non-governmental organizations. Morris says, “The military have nothing but a military role in clearing mines, and then your NGOs and commercial companies are the ones who will tidy up in a post-conflict situation, unless there is money put into the military, and they’d have to adhere to the International Mine Action Standards [IMAS].”¹

Chuck Meadows of PeaceTrees Vietnam believes that the military should be more involved in the actual clearance of mines: “In my view, any military in any country, their role should be in the removal of any mines ... that they may have used or put down in any conflict that they have been engaged in. Then, in their own countries, I think they would be the appropriate ones to assist in the removal of any landmines that any insurgents,

rebels or terrorists, or anybody else have in fact put in the ground.”² John Wilkinson of RONCO also sees the role of the military as one of involvement in clearance, but in addition he emphasizes that their involvement in this aspect of mine action is more appropriate than in other aspects such as mine risk education (MRE): “... I think that the mine action in terms of the removal of the mines as opposed to MRE is probably more a role for the military to play.”³

Another view is that the military should mainly be involved in the “behind-the-scenes” of mine action, such as providing training, equipment, logistics and planning. Paddy Blagden, an independent consultant of International Mine Action believes this to be best type of involvement in mine action for the military: “There’s so much that the military can do to help the NGOs even without getting near a minefield, and that I’d be far more happy with, because I don’t like seeing soldiers being pushed into doing mine clearance because it’s part of their military duty.”⁴

Collaborators or Competitors?

With the military working in many areas alongside non-military mine action practitioners, one might wonder if they see one another as collaborators or competitors. The overall feeling in the mine action community seems to be that the military is not in competition with NGOs and commercial organizations. One reason for this cited by a number of non-military mine action practitioners is that NGOs and commercial companies often hire ex-military personnel for their mine action work. John Wilkinson sums it up as follows: “...[L]et’s face it—many of the people we hire and that everybody else hires are former military, especially to run our field operations. So I’ve never thought that there was a sort of hard and fast division between the two;

I think there’s different areas of interest, different areas of access, different areas of understanding, but all of them can be bridged and can be made to work in a complementary manner.”³

Some non-military mine action workers cite particular cases in which their organizations are working with the military in a harmonious way. As an example of how the two can work hand-in-hand Paddy Blagden tells a story of a Japanese NGO working in Thailand

“...I’ve never thought that there was a sort of hard and fast division between [the military and NGOs]; I think there’s different areas of interest, different areas of access, different areas of understanding, but all of them can be bridged and can be made to work in a complementary manner.”

alongside one of the Thailand Mine Action Center’s (TMAC’s) Humanitarian Mine Action Units (HMAUs), which are composed of members of the Thai army. The HMAU was often unable to use its machines, so the NGO would borrow them, making sure that when the machines were returned, the HMAU could carry on its work with a fully fueled and serviced machine. Thus, the NGO’s deminers could use a piece of equipment too expensive for them to own for only the cost of fuel and servicing. “And this synergistic relationship worked—we got enormous assistance from the army as a result,”⁴ Blagden says.

John Wilkinson says that when RONCO first began working with the U.S. military in Afghanistan, they weren’t sure how to work together, partly because the military didn’t really understand the process of demining and its value. It didn’t take long, though, as he explains: “... [A]s soon as we started working, they understood the value of demining, when we started finding unexploded ordnance and landmines that have been missed by the more cursory ‘mine-clearing’ techniques.”³ But this progress was all but lost when that unit’s rotation ended, and RONCO had to start over with the incoming unit. Soon, however, RONCO’s value was recognized: “... [B]y the time the third unit came in, our presence had been established sufficiently long, and there was enough history of what we’d been clearing and to what effect that the arriving unit immediately said, ‘We want you guys to stay, we want you to continue doing what you’re doing.’ ... [T]hey understood the role that we were playing for them even though we were not of them.”³

What Does the Military Bring to the Table?

So what advantage, if any, is there to having the military involved in mine action? As in the example of Thailand mentioned above, some militaries may have tools at their disposal that are too expensive for NGOs themselves to purchase. As John Wilkinson points out, “they have much larger resources; they have the trained EOD [explosive ordnance disposal] people.”³ If militaries and non-military organizations can work out ways to share these tools, as in the TMAC example, such a partnership can be mutually beneficial to both.

Militaries also may have some more figurative “tools” from

which non-military organizations could benefit. According to Chuck Meadows, “The biggest tool they would have is just experience and training, because in the militaries that I’ve been associated with, part of that organization are EOD folks and engineers that are trained to do that, whereas an NGO by ourselves might not have that personal experience.”² On the other hand, John Wilkinson says, “[I]t’s more of an organizational concept that they have to bring rather than experience.... [Y]ou’ve got a hierarchical system in the military, which, when it is given a mission or undertakes a mission, will turn to and put a lot of resources against and focus its attention on it. I think that organizational structure is something that we in the NGO community could benefit from in terms of how we approach things.... So I think that more what they have to bring is the organizational approach and the way they focus logistics and effort on a particular task.”³

Facing the Challenges

Though militaries can be a valuable resource if they use their assets to mount collaborative efforts with non-military groups, there are still a number of challenges when involving the military in mine action. Perhaps one of the most fundamental is the opinions and prejudices that each group has towards the other. Hugh Morris notes that “...soldiers more often than not consider civilians to be a necessary evil and so are uncomfortable in their presence.”¹ Also, even though non-military organizations may have more experience in humanitarian roles, soldiers may resist learning from civilians. As a former military member himself, Paddy Blagden understands this attitude: “...I can tell you as an ex-military that no military man likes to learn from [civilians].... The last thing you want is a tree-hugger coming along and telling you how to do your business.”⁴ However, he thinks the military men would do well to overcome their unwillingness to learn from civilians, “because I think they would learn quite a lot.... I think that if they can overcome this unwillingness by realizing that they will save lives if they learn from people who are mine clearing the whole time as professionals, then I think it’ll help enormously. If they won’t, then I’m afraid they’ve got to learn the ways that we did (i.e., by making a large number of mistakes), but that is a very painful process, and quite a lot of people can directly suffer as a result.”⁴ On the other hand, as Mr. Wilkinson articulates, non-military organizations can be just as guilty of such prejudice: “...[I]t requires a change of attitude and a change of understanding on the part of the military. It also in some ways requires a change in attitude on the part of the NGOs—some NGOs prefer ‘not to deal with the military.’ Well, the

“...I think the military are being driven by the Bosnians, the Iraqis, the Kuwaitis, these kind of containment and security operations—Afghanistan is another one—to think more and more about the kind of mine clearance that they’re going to be asked to do. And I think eventually they will come around to being much nearer to the NGOs’ way of doing things and the commercial companies’ way of doing things.”

by Nicole Kreger, MAIC

way things are going in terms of military presences, military interests, people working basically on either side of the wire from each other, that makes very little sense."³ Paddy Blagden agrees: "I agree fully ... that NGOs sometimes dislike soldiers as much as the other way round, but it depends very much on personalities within both organizations."⁵ The first step to successful cooperation is for both sides to swallow their pride and be willing to admit that the other has a lot to offer. This step will probably be aided enormously by the fact that a lot of NGOs and commercial organizations are comprised of some former military themselves, which should create opportunities to initially bridge the gaps between the two groups.

Another problem when militaries become engaged in mine action is that they often have different priorities from the NGOs and commercial groups. Hugh Morris describes his experience with priorities differing from the military's: "...[B]e we NGO or commercial, we clear mines to the International Mine Action Standards, and that imposes upon us a number of rules and a number of quality assurance checks.... None of those rules apply to the military, and the military will clear mines as an expedient means of creating a camp, getting to a target, or getting through a minefield barrier."¹ Because of these standards, demining often requires more time and more paperwork than the military is used to. If they don't understand the reasoning behind such regulations, they can be turned off by the way professional mine action organizations carry out demining. John Wilkinson states, "In many ways, a lot of demining, when a military person looks at it, it's kind of like, 'Geeze, it's a huge reporting structure; it's relatively slower than mine clearance; we're not going to be here that long'—those kind of things. And then on the other side of the wire, when an NGO looks at the military, it's kind of like, 'You guys are ignoring too much of the threat; you're just moving through and moving on,' ... and again, we're both doing the same thing, ... it's just a different approach to doing it..."³ This remark also touches on another issue when the military gets involved in mine action: timelines. As mentioned before with RONCO's work in Afghanistan, limited engagement times often mean that mine action practitioners lose ground with militaries when units change, having to re-establish their rapport with the incoming soldiers and possibly re-explain their work. Paddy Blagden reaffirms this problem: "The slight trouble with [militaries] is that although they are initially pretty well-trained, as with most army units there's quite a large amount of turnover."⁴ To overcome this problem, John Wilkinson says, "I think each has to recognize the other's planning timeline and its areas of primary interest.... I think it's an issue of coming closer together and people starting to better understand what each other does, how they do it and why they do it the way they do."³

Militaries are also sometimes reluctant to share information with non-military personnel, which can create difficulties when trying to work together in mine action. John Wilkinson describes this tendency: "... [Y]ou've always got the issue of the military has a classification system and that, for operational security, they often don't share information. I think sometimes it's carried a little further than it needs to be or should be."³ This is probably one of the more difficult problems to overcome because militaries have an inherent level of secrecy to carry on their work. As Hugh Morris explains, there is "a form of fear by various militaries that the various weapons that [are] dropped [are] classified weapons, and if they [haven't] exploded, then we as non-military personnel should not see these weapons."¹ Yet Morris

also thinks that the military's tendency for elusiveness doesn't always hinder information sharing: "...[I]n some cases where it is not a contentious area, the military are pretty good at giving information to the United Nations Mine Action Centers [UN MACs] to pass on to people like us; but in other areas, they become quite reticent because they've dropped weapons that they don't want us to see how it works. So there the synergy is not always that simple."¹ Morris cites Kosovo as an example of a place where information sharing with the military is currently not bad, but he admits that his organization did meet with some resistance when first trying to obtain this information from the military.

Improving Military/Non-Military Cooperation

Obviously, there is great potential for military and non-military personnel to complement one another in mine action. There are a number of cases in countries worldwide that demonstrate such partnership is not only possible, but also quite beneficial. However, most would say that there is still room

"The old distinction between humanitarian demining and mine clearance and this is military and that's civilian I think is breaking down to good effect and to good purpose."¹

for improvement. What suggestions do members of the NGO and commercial sectors of mine action have for improving this relationship?

Many mine action practitioners realize that there is a difference between the military and non-military approaches to mine action. Military minefield breaching or even what they sometimes call "mine clearance" are not the same as demining, and mine action practitioners think the military needs to understand the differences between them and why demining is so important. John Wilkinson states, "I think the military needs to better understand what demining is ... and this requires a change of attitude frankly on the part of the military. We still run into situations where people say, 'Well, we don't do demining, we do mine clearance.' Well yeah, but, when you're sitting in a minefield, you'd better do demining, or when you're sitting in a field of UXO, you'd better do demining."³ Because military and non-military organizations often have different goals in mind when doing their respective types of clearance, they may not understand why the other party takes a certain approach to it; militaries may believe that mine action is too time-consuming, while mine action professionals think the military overlooks much of the problem. The bottom line, according to Mr. Wilkinson, is "we're both doing the same thing—we're both removing mines and detecting and hopefully picking up UXO, it's just a different approach to doing it..."³

The disadvantage that seems to be most agreed upon is that many militaries getting involved in demining are not trained according to the internationally recognized standards. Chuck Meadows expresses this as one of PeacTrees Vietnam's major obstacles: "For us, the biggest challenge is training. It's ensuring the initial training for the folks have been at the United Nations standards."² Paddy Blagden calls for the military to "... carry out clearance to International Mine Action Standards.... I would say that until the military are capable of

doing this, I wouldn't like to see them carry out all that much demining, except in emergency situations, and the reason is because in any one mine-affected nation, there must be one national mine action program controlled either centrally, or regionally but where each region is integrated with the other regions. [I]f you want to get a complete picture of the mine problem in any country, it is not easy and you have to have a central organization ... filling in the database and producing the threat maps and all the rest of it. And if you get an army working off on the side, not providing information into this database, but having a little database of its own, which may not be compatible with IMSMA [the Information Management System for Mine Action], then you'll end up with information that is not getting into the central, national mine plan. And if that quality assurance is not done in accordance with the International Mine Action Standards, you're really not quite sure of what's going on."⁴

Mr. Blagden cites the lack of following standards for major problems with demining in Iran, "...where although areas have been cleared by the army, there have been so many accidents that the contractors working there require the work to be done again by a proper mine clearance contractor. What a waste of time and a waste of funds! If the work was done properly beforehand then it would have been alright."⁴ He also expressed his concern for the lack of safety of military deminers who do not follow these standards: "I am still though very saddened when I hear of accidents among the military. I'm especially saddened when those accidents involve more than one person in an explosion, unless it was an anti-tank or anti-vehicle mine, in which case, it's quite likely to happen that way, provided the people were in a vehicle. The reason for this is that when six people are hurt because they were all looking at an anti-personnel mine and somebody was trying to put a pin in it or at least sort of make it safe, I realize then that there was no demining discipline taking place at the site, that the safety regulations were being totally ignored, that all the safety distances that are compulsory for humanitarian deminers were being also ignored, and that as a result, valuable human lives were, to be honest, squandered, and I think that's a great pity..."⁴ He does believe, though, that militaries are starting to recognize the importance of following the example set by non-military mine action practitioners: "...I think eventually they will come around to being much nearer to the NGOs' way of doing things and the commercial companies' way of doing things. They are already in many cases adopting things like the International Mine Action Standards... [and] they are using the management software, IMSMA..."⁴ Hopefully this trend will continue so that the integration of military and civilian deminers can be streamlined for improved cooperation.

Although they may be reluctant to do so, militaries should be more willing to learn from the mine action community. Hugh Morris points out that because mine action practitioners do demining full-time, the military would be wise to learn from them: "...[S]oldiers that use mine detectors are trained in the use of the mine detector and they might use it for at the most five or six percent of their time on an operation, whereas a commercial deminer ... uses a mine detector for eight hours a day every single day of his life in-theatre..."¹ Paddy Blagden is also a proponent of this idea: "... I don't believe that armies who try to do humanitarian demining look sideways enough at the humanitarian mine clearing NGOs and commercial companies who do the job full-time. Because I think they would learn quite a lot..."

[T]here have been considerable developments in the procedures and equipment available to NGOs, and I am constantly telling armies ... that they would be very wise to look at the kinds of equipments that are being used, and in fact, quite a lot of them are sensible enough to have done so already."⁴

Another suggestion for improved cooperation is for the military to provide support to the mine action community in matters the military may be better suited for than NGOs or commercial organizations and vice versa. Chuck Meadows, for example, believes "... the improvement is really one of being supportive of each other's goals in what we're doing. And in our case, that support is providing whatever the necessary assets. For us that means financial assets, it means equipment—it's working together in a partnership where there is understanding that the host nation is still in charge, but being supportive of what their needs are.... [I]t's not a matter of manpower, it's a matter of training and then being able to provide the necessary equipment in cooperation with the other government officials that oversee that work and efforts."² Paddy Blagden also suggests ways for the military to assist mine action practitioners: "... I believe the military can help the NGO community immensely. They have equipment, they have transport; they have barracks; they have training areas. None of these things the NGOs have in nearly the same quantity.... I believe that there are lots of army barracks that are available that could make very good NGO headquarters—just let them have a corner of the barracks—and there are a lot of army training areas, which NGOs need for training themselves. It's very hard finding a training area..."⁴ Such assets would be incredibly beneficial for NGO or commercial groups and are a way for the military to help without having to commit its own people where it may not have the time, training or logistics to do so.

Along the lines of providing support but not necessarily "on-the-ground" manpower, some in the mine action community propose that military cooperation be more on the administrative side. Hugh Morris has had experiences with MineTech in which this type of cooperation has worked well. "... I do know of places where liaison with the military at the UN MAC level is very good, and that is where it should take place. And this is where the military should be encouraged to open up to the people in the mine action centers and mine action center managers should be selected in their ability to get on with and operate alongside the military."¹ He continues, "I think that we can work particularly well together, and that should be encouraged at the highest possible level, and I think this should be something that should be put together prior to the next war, that civilian organizations, NGOs are brought in straight away to work alongside the military, operating in support of their main aim, which again is force protection, and then we can get on with our humanitarian roles of clearing up the problem for the local population."¹

Conclusion

In many countries throughout the world, NGOs and commercial demining companies are finding themselves having to coexist with militaries, whether they be visiting or indigenous. While there are challenges to this coexistence, there have been success stories and relations are improving constantly as both sides start to better understand

continued on page 5, NGOs

MINE INJURY CASUALTIES

Report from the Iraq-Kuwait DMZ

This article is dedicated to the victims we were unable to help in spite of all our efforts.

Introduction

After the implementation of the UN Iraq-Kuwait Observation Mission (UNIKOM) at the end of the first Gulf War in 1990, a medical team was set up in 1991 to support the UN troops in their difficult tasks in the demilitarised zone (DMZ), a remote desert area between Kuwait and Iraq.¹ The medical team was designed to take care of the medical treatment for the UNIKOM members and the nomadic people living in the DMZ as pointed out in UN Secretary-General reports S/2001/287 and S/2001/913 on the official UN website.²

Despite the continuing mine clearance and the UN Mine Awareness Program on both sides of the DMZ, the management of mine injuries remained a challenging task for our medical teams.³ In addition to these major problems, the usual day-to-day outpatient department (OPD) visits for the military and local staff personnel, dehydrations, scorpion bites, infectious diseases and road traffic accidents also had to be managed.⁴ During the first few years, the medical duties and responsibilities for the troops from 33 nations were carried out by an Austrian and later a Norwegian Medical Team (NORMED). In October 1995, this role was given to Germany, and since then, 15 voluntary German Medical Teams (GERMED 1 to 15), equipped and managed by the Foreign Service of the Knights of Malta from Cologne, were responsible for providing the emergency medical service (EMS) in the desert of the DMZ between Kuwait and Iraq until the second Gulf War began in March 2003.⁵

Mine Injury-Related Experiences During the Missions From 1996 to 2002

The rescue area included 3,800 sq km of the DMZ and the remote desert surroundings. Five ambulances from three rescue stations with seven paramedics equipped with necessary supplies provided 24-hour service for the 1,200 UN personnel and the nearby nomadic population. During 2001, there were about 4,000 regular OPD visits and about 50 calls for casualty evacuations (CASEVACS). Forty percent of the CASEVACS were mine-related and most of these injuries happened on the Iraqi side of the DMZ. Therefore, this problem was greater than the road accident problem and had a political component as well because the injuries happened in the Iraqi territo-

ries to the south of the DMZ where no domestic help was available for the victims. In many cases, the victims had to be transported to the southern paramedics rescue station to get access to the medical service carried out from the United Nations within this area.

The mine clearing was always carried out by the

TABLE 1: CASEVACS for GERMED 12

Road Traffic Accidents	8
Mine Injuries	10
Diseases	3
Others	3
TOTAL CASEVACS	24

Argentinian Engineering (ARGENG) demining specialists. During each of the 75 mine blasting days, ARGENG had to be accompanied by our paramedics.

To prepare the medical teams for their new tasks, mine injury treatment guidelines and the International Committee of the Red Cross (ICRC) classification of the mine-injured patients were discussed and compared with the regional mine injury epidemiology of previous missions. These basic preparations for the medical teams were usually accompanied by weekly concurrent medical education based on the advice of R. Coupland from ICRC as well as M. King and P. Bewes in their handbook *Primary Surgery* (on the web at www.meb.uni-bonn.de/dtc/primsurg).⁶ The basic preparations also included training for special situations as well as some research about possible telemedicine support for medical treatment in these remote areas.⁷ The medical challenges in this remote area required the strict cooperation of the medical team members with representatives of different disciplines within the multinational UN-peacekeeping military environment.

The chain of rescue from the two forward medical posts out in the desert to the UN level one hospital was equipped with rescue equipment nearly approaching the European Standard (EN), and the equipment had to be maintained within the extreme climatic circumstances, which included dust and temperatures up to 50 degrees Celsius. Long rescue times had to be managed in certain instances in the difficult environment of the desert. To achieve the minimal rescue

times, two helicopters from Banair, a company that specializes in testing equipment, or one of the three available ambulances had to be coordinated in the most efficient manner. Unfortunately, sometimes the road conditions of the DMZ were not easily manageable.

The UN level one hospital was located in the UNIKOM headquarters. Therein basic life support could be provided and emergency operations could be done under emergency anesthesia—both with limited resources. No X-ray, computerized tomography (CT) or intensive care units (ICUs) from known EN were available. Due to political reasons, the well-equipped Kuwaiti Health System was not available for the Iraqi patients. After the emergency treatment by the United Nations, those patients had to be referred to their country. Based on the reports of the former medical teams, the figures of the missions were as shown in Table 2.

It is interesting to note that the number of mine incidents increased within the years of interest in spite of the improving mine clearance conducted by the ARGENG demining teams.

TABLE 2: UNIKOM: Mine Injuries

YEAR	Mine Injury Incidence
1996	8
1997	7
1998	5
1999	3
2000	30
2001	24
2002	N/A
2003	N/A
TOTAL	78

TABLE 3: Average Times for GERMED 12's CASEVACS

	Range	Times
Access Time	2-85 min	18 min
Response Time	5-80 min	44 min
Scene Time	10-75 min	28 min
Transport Time	2-125 min	44 min

Rescue Times During GERMED 12

[Calculated from 23 CASEVACS (13 ground transport, 10 air transport) - 3 hours]

According to M. Helm, the chance of survival in these severe injuries lowers by one percent for every three minutes of rescue time. The Injury Severity Score (ISS) for the mine-injured patients from GERMED 12 varied from 50 to 2. According to the Trauma Injury Severity Score (TRISS), the survival probabilities resulting from these and other necessary parameters had to be calculated between 9.5 percent and 96.8 percent mostly depending on the complexity of the injuries described in Table 4.

TABLE 4: Injury Patterns of Patients Treated

Injury Pattern	GERMED 12	Total from 1996 to 2002
Head	4	17
Thorax	2	4
Abdominal	2	37
Limbs	7	88
Upper Body	3	37
Lower Body	4	51
Both Sides	3	7
Amputation		> 32

For comparison, read Husum and Strata's 2002 report on measuring injury severity.⁸

In spite of the large number of injuries in the lower extremities, some individual patients' injury patterns with injuries only in the upper part of the body gave evidence that some of the patients had been handling UXO or mines before the explosions of Hazards No.

TABLE 5: Fatalities Report (according to the UN documents²)

YEAR	Fatalities *
2003	N/A
2002	6
2001	7
2000	> 2
1999	N/A
1998	N/A
1997	N/A
TOTAL	> 15

III.2.1.2.⁹

** The UN official reports only mention the fatalities.*

For comparison, read Janunlu, Husum and Wisborg's report.¹⁰

These figures extracted from the official UN documents are to be seen as minimal figures. Some dead on-the-scene patients from accidents from outside the DMZ didn't get access to the help from the UN medical teams in time. The follow-up for patients mostly referred to care from the Basra hospitals with limited resources, which at that time were not accessible to UNIKOM authorities.

Conclusion

From the end of the first Gulf War (1991) until the beginning of the second Gulf War in March 2003, UNIKOM attempted to guarantee the stability of this post-conflict area between Kuwait and Iraq. Mine-related injuries remained the major problem for the EMS services. Most victims were young Iraqi civilians who had been entering through the southern part of the former DMZ to get basic med-

by Dr. B.M. Schneider, V. Ehmann, M. Gebler, M. Pohlars, J. Bronnert, M. Schneider, V. Bartke, H. Woltering and B. Domres, WADDEM Landmine Task Force

Appendix: Anaesthesia in the Field During the GERMED-12 Mission

During the GERMED-12-Mission anaesthesia was started in the field. According to the recommendations of the UN Peacekeeping Mission, the paramedics did the basic-level medical support. An ambulance car was available at this level of primary care. The treatment included cardiopulmonary resuscitation, haemorrhage control, fracture immobilisation, wound dressing, casualty transport and evacuation. There was the possibility of communication and reporting by radio, so the paramedic had to report the emergency situation to the doctor on duty at the operations centre. The medical treatment was coordinated on the advice of the emergency physician.

For treatment and evacuation of casualties the tactical operation, casualty evacuation (CASEVAC) was started. Especially under the conditions of the United Nations Iraq-Kuwait Observation Mission (UNIKOM), a Forward Medical Team (FMT) was sent to provide short-term medical support in the field. The FMT was transported by helicopter or ambulance car to the emergency scene. Both were equipped with modern emergency appliances and medicine.

The task was to perform emergency resuscitation procedures: maintenance of airway, breathing, and circulation and advanced life support, haemorrhage control, and life- and limb-saving emergency procedures.

Especially in GERMED-12 the physicians were trained to use Ketamine in combination with intubation and ventilation. Ketamine could be used in most wounded patients without problems. It proved to be very safe and had only a few side effects:

- Hyper salivation: Atropine is necessary.
- Hallucinations: Diazepam or midazolam was given to prevent these.
- Increased blood pressure: Preferred medicine for hypovolaemic patients.

The transportation time was sometimes over one hour (see Table 3 on previous page) before arriving at the Level-One medical support facilities.

In our field hospital, it was possible to do surgery under general anaesthesia in an operating room. We used an apparatus from the Drager Company. We have administered general anaesthesia with nitrous oxide and oxygen in combination with Ketamine. One physician was the anaesthetist and two surgeons, one nurse, and one paramedic were on duty daily.

At this level, we could perform limb and life-saving surgery. It includes laparotomy, thoracocentesis, wound exploration, and debridement, fracture fixation and amputation.

For post-operative monitoring at our ward, we have used emergency medical equipment like mobile ECG and transportable respirators. A nurse or paramedic did the post-operative observation.

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ical support from the different UN medical teams provided in the UN level one hospital in the former UNIKOM headquarters near Umm Quasr.

The lessons learned have been used to establish the World Association for Disaster and Emergency Medicine (WADEM) Landmine Task Force to formulate an update of WADEM's 1997 declaration on the mine hazard situation of the world at the beginning of the new millennium (preliminary URL: www.dismed-master.de). Further work has to be done to learn more about the outcome and the rehabilitation of the surviving victims. For this purpose, contacts have been established to the teaching ICRC's Superfluous Injury or Unnecessary Suffering (SIrUS) Project Team from Geneva, the UN Portfolio of Mine Action Projects Team in New York¹¹ as well as the *Journal of Mine Action* and surrounding institutions. We are hoping that these contacts will help to improve the living conditions of the survivors of landmines.

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JORDAN'S Military in Mine Action



Jordan is a country rich in history and beauty. Throughout the years, with the increase of tensions in the Middle East, Jordan has been forced to protect its borders. As a result, Jordan has become a major actor in the mine action community and has taken a different approach by promoting the use of its military for demining and its non-governmental organizations (NGOs) for rehabilitation and mine awareness.

History

The first mines were laid in Jordan in 1948 during a war with Israel. Later, during the Six-Day Arab-Israeli War in 1967, when Israel occupied the West Bank and developed a new cease-fire line, Jordan began planting more mines along its western border. In the 1970s, Jordan experienced a Syrian threat, and numerous internal problems led to more mine planting. Thus, Jordan quickly moved from a mine-free country to a kingdom burdened with minefields along its western and northern borders.

Over 15,000 acres of land, bountiful in natural resources and sacred sites, quickly became consumed with mines. The total number of landmines stretched beyond 300,000, of which over 225,000 were laid by the Jordanian Armed Forces (JAF) and over 70,000 by Israel.¹

Before his death, His Majesty King Hussein called for the clearance of all minefields by the year 2000. In March 1993, the Jordanian government implemented its first phase in a three-phase demining plan. In 1998, Jordan signed and ratified the Ottawa Treaty. Today, the govern-

ment continues to support numerous mine action conventions and conferences, and submits updates on the status of its stockpile destruction program.²

King Abdullah commissioned the National Demining and Rehabilitation Committee (NDRC) in March of 2000. This committee participates in various demining aspects from mine risk education (MRE) to mine clearance. New associations continue to emerge in Jordan, such as the Hashemite Society for Soldiers with Special Needs, Landmine Survivors Network, the International Committee of the Red Cross (ICRC), and the Al Hussein Foundation for the Habilitation and Rehabilitation of the Disabled, and Queen Noor still plays an active role in demining. However, the Jordanian army's Royal Engineers Corps (REC) remains the key force in demining.³

Through the REC's success in Jordan, the army has begun to stretch its boundaries. Currently, the REC is working in Afghanistan in an effort to demine the country and return the land back to the Afghan people. Aiding Afghanistan in its move to rebuild a country torn apart by the Taliban is not only noble, but it will also provide the REC with more experience in battling its problem at home.

by Kristen Fraher, MAIC

Interview With a Jordan Military Mine Specialist⁸

Q: What skills does the military bring to humanitarian demining that humanitarian organizations might lack?

A: The sole deminer in Jordan is the military's Royal Engineer Corps (REC). The military deminers are skillful, professional, highly motivated and adapting to international demining standards. REC has led in the removal of mines from inhabited and agricultural areas, thus lowering the number of casualties. Through these operations REC's knowledge has increased in humanitarian aspects of demining, and they have exchanged important information with concerned parties.

Q: How do you feel the military approach to mine action is different from the humanitarian approach?

A: The military approach is different in that demining is only a small portion of their professional goal. Their main goal is to serve their country without concern for extraordinary remuneration. They never hesitate to do their duty, while trying to do their best in preserving their countrymen's lives and their equipment.

Q: Has the role of the Jordan military changed humanitarian demining: the methods used, the strategy, etc. ...?

A: Jordan's demining project has had its own challenges, which has led to adopting special methods and strategies. These can only be achieved by the military through proper training, professionalism and discipline.

Q: What challenges has the Jordan military experienced in humanitarian demining operations?

A: Many challenges were faced, which can be summarized in the following:

- High temperatures and severe weather
- Erosion and shifting minefields
- Heavy vegetation
- Sensitivity of mines due to passage of time
- Deeply buried mines
- Some minefields are in swampy areas

Q: Can you tell me how the Jordan military became involved in Afghanistan?

A: The Jordanian military went to Afghanistan because of its good reputation and to enhance Jordan's role in international humanitarian activities in respect to international agreements.

Q: What goals does Jordan hope for in Afghanistan?

A: That our operations in Afghanistan show Jordan's commitment to humanitarian demining and the role we play in the international arena.

Q: Have you experienced difficulties: Taliban, rebels, environment and dealing with other countries?

A: Every job comes with difficulties. The REC found that pieces of UXO brought the most difficulty as they are very dangerous because there are many different types.

Q: Is there any added benefit in using the military in Afghanistan instead of NGOs?

A: We cannot answer that question, but we can say that in an unsafe environment it is better to give the job to the military, as they can protect themselves.

Q: How do you coordinate efforts with NGOs?

A: Presently, the National Committee for Demining and Rehabilitation handles the coordination; however, originally REC was responsible for coordinating visits to demining sites.

Q: What are some of the success stories in Afghanistan?

A: We believe the best success stories are shown through our numbers:

- Area cleared: 225,000 sq m
- UXO and mine removal: 473
- Total cost: \$1.5 million (U.S.)

Beyond the numbers, we have cleared roads, purified water and provided medical assistance.

Q: Is the Jordan military currently or thinking about performing demining operations in other countries?

A: We are ready to study any request through our chain of command.

Q: What are the future plans or possibilities for the Jordan military in humanitarian demining?

A: The REC will continue demining in Jordan until we achieve our goal of a "Jordan free of mines." However, this will require no less than \$150 million through coordination with the donors.

Current REC Efforts

The new estimated completion date for the three-phase demining plan in Jordan is the year 2009.² To date, the REC asserts its clearance actions are progressing well, as it has cleared nearly 100,000 AP and anti-vehicle (AV) mines.² General Fayed Al-Dwairi, Commander of REC, told the *Landmine Monitor Report* that Jordan's first goal is to concentrate on clearing land that will help improve Jordan's economy through development, even though this land can be the most difficult to reclaim.²

Jordan is one of the many landmine-infested countries in the Middle East. Thus, the REC's superior knowledge in demining and Jordan's efforts to promote a mine-free world were the main reasons the international community was delighted to have 13 Royal Jordanian Engineer Corps deminers deploy to Afghanistan. December 2002 marked Jordan's first effort to participate in an international mine clearance operation.

Afghanistan Efforts

The Jordanian military, along with numerous coalition forces, is also taking part in *Operation Enduring Freedom* by sending soldiers to Afghanistan in an effort to rebuild the country. After numerous battles and especially the Russian occupation in the 1980s, it is estimated that over 10 million mines exist in Afghanistan, which continue to severely hinder the international reconstruction efforts.

Bagram Airbase

The first deployment of REC deminers was stationed at the Bagram Airbase. By using the Aardvark chain flail system that is designed to destroy AP and AT mines while cutting through vegetation, over 23,100 sq m have been cleared by Jordanian REC deminers.⁷ The Aardvark has been highly successful, detonating 95 percent of the AP mines and 100 percent of the AT mines.

With the expertise and skills gained in Jordan, the REC demining team provided in-depth knowledge to the demining operations in Bagram. This 13-member team consisted of mechanics, drivers, guides and maintenance specialists. Although the Jordanians have experienced great difficulty in demining their country, Afghanistan has proven to be even more challenging to the team. The

rugged terrain and numerous battles with their associated debris forced the team to replace the chains on the flail once a week.

The camaraderie at Bagram Airbase was valuable to the Jordanian team. American forces provided "shelter, food and security for the engineers."⁸ Other coalition forces provided maintenance and parts to the demining team, while Afghans followed behind the Aardvark clearing the land of detonated mines.

Kandahar Air Field

With the completion at Bagram Airbase, the Jordanian team was redeployed for a three-month tour to Kandahar Air Field (KAF) to clear the surrounding area. Their equipment did not stand up as well as the team members. The REC soon discovered the Aardvark's rotor was broken. Due to its massive weight, five tons, the new rotor took four months to deliver from Britain. After promptly installing the new rotor, the 13-member team began working.

Unfortunately, the REC team found it once more difficult to demine the debris-infested desert ground. The hammers located at the end of each chain, which "deliver one ton of pressure and dig 12–20 inches into the ground, for a total of 72 tons of pressure on a space three inches wide and 10 feet long,"⁶ were frequently destroyed by the harsh ground conditions. In fact, 1st Lt. Ashraf Odat stated, "We stop every 15 minutes and check the rotor. We replace about 10 hammers a day."⁶ The KAF demining proved to be a considerably slower process than Bagram Airbase.

The Jordan REC demining team is one of two units stationed at KAF. Jordan's

team is led by the Task Force Devil mine action center, which searches for cleared land, new buildings and roads that can be constructed. Once the KAF is cleared and safe, coalition forces will turn it over to the Afghan government. As Staff Sgt. Oscar Rodriguez, U.S. Army 27th Engineer Battalion out of Fort Bragg, North Carolina, stated, "Every inch they [the members of the Jordanian team] clear is one more inch we can use. And when we leave, it's ground the Afghan people can use."⁶

Conclusion

Jordanian mine action efforts by the military have cleared about 100,000 mines since 1993. The REC has notably changed Jordan from a country constricted by mines to a country thriving in new development. The Jordanian government felt the economic and social pain from mines, but took action to bring back the freedom they once had as a mine-free country. Now the government continues its search for freedom and peace beyond the Kingdom's borders. Jordan takes an active role in the international arena and impacts nations by its example of promoting mine clearance through military demining efforts.

On a WorldNet Dialogue among numerous countries, one Jordanian general urged fellow leaders to pursue demining efforts by using their militaries and to leave rehabilitation and mine awareness to NGOs. His strong endorsement of this "more beneficial and effective" method of mine clearance will hopefully encourage other nations to follow suit.⁷ Although Jordan has had great success in its military demining effort, its military

clearance campaign has not yet taken great effect around the world. NGOs remain the number one demining agents. Fortunately, Jordan continues to assert its campaign by sending its experienced teams to mine-infested regions such as Afghanistan and other parts of the world.

* Photo: do AP.

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HUMANITARIAN DEMINING Within the A m e r i c a n C o n t i n e n t : A Silent and Successful Reality



Introduction

The objective of the Millennium Development plan of the United Nations is to “eradicate extreme poverty and hunger [and] guarantee the sustainability of the environment.” Through the selfless efforts of the humanitarian demining programs in Central and South America by the United Nations, the Organization of American States (OAS) and the Inter-American Defense Board (IADB), the preceding objectives are being accomplished. Thus, I am overwhelmingly compelled to share the successes and sing the praises of the personal sacrifices taken on by demining personnel.

In this article, I seek to manifest the experiences of the Armed Forces’ humanitarian demining teams stationed in mine-affected countries. Information expressing the important roles of different military components, i.e., host or visiting military, will be given throughout this article.

Background

The mandates for humanitarian demining programs by the OAS were honored in the 32nd ordinary session of the General Assembly, where the following resolutions were approved: GA/RES 1889 (XXXII-O/02) “The Western Hemisphere as an anti-personnel-landmine-free zone;” GA/RES 1878 (XXXII-O/02) “Support for the program of Integral Action against anti-personnel mines in Central America;” and GA/RES 1875 “Support for action against anti-personnel mines in Peru and Ecuador.”

In 1998, the OAS’s Unit for the Promotion of Democracy (UPD) created the Comprehensive Action Against Anti-personnel Mines (AICMA) to confront the complex, difficult and persistent aspects related to crises caused by anti-personnel (AP) mines. In 1991, the Assistance Program for Demining in Central America (PADCA) was incorporated within the framework of the AICMA per the request of numerous AP mine-affected countries in Central America. A distinctive facet of the AICMA program is its eminently humanitarian character. In conjunction with IADB, AICMA seeks to restore living conditions, increase the confidence of the inhabitants, reduce UXO/AP mine threats and dangers, and restore cleared land in mine-affected areas for use in agriculture and cattle-ranching activities.

This program also covers the following fields of action: assistance in surveying, mapping, locating and clearing of minefields; mine risk education (MRE) for the civilian population; support for mine victims, including physical and psychological rehabilitation; socio-economic reintegration of mined areas; and supervision and support for the destruction of stockpiled mines. The principal responsibilities of the UPD within AICMA are to collect funds from the international community, administer and manage resources, and coordinate the program from a diplomatic and political perspective. The IADB is the entity responsible for organizing a team of international supervisors for countries supported by the AICMA program. They are also responsible for providing technical assistance, training demining troops, and guaranteeing that the operations are appropriate and comply with international security standards.

The achievements of the AICMA are due, in great measure, to the invaluable and generous support of various Member States



(Argentina, Bolivia, Brazil, Colombia, El Salvador, Guatemala, Honduras, Nicaragua, Peru, Venezuela and the United States). These Member States have provided technical advisers and supervisors through IADB. As well, the achievements of AICMA would not have been accomplished without the numerous contributions of key international donors such as Germany, Australia, Brazil, Canada, South Korea, Denmark, Spain, the United States, Russia, the European Union, France, Italy, Japan, Norway, the United Kingdom and Sweden, among others.

Furthermore, without the national commitment and contributions from the beneficiary countries of the AICMA program, where the Assistance Mission for Mine Clearance in Central America (MARMINCA) and the Assistance Mission for Mine Clearance in South America (MARMINAS) are operating, the key aspect of the program’s structure would have been missing. In Central America, the mission of MARMINCA continues supporting the national efforts of Guatemala, Honduras and Nicaragua, while the program in Costa Rica has concluded.

Likewise, within the mission of MARMINAS, the demining activities in Ecuador and Peru have gained momentum.

Visions From an External Perspective

The activities related to the support and rehabilitation of people affected by mines make up the wide range of tasks and efforts from which valuable experiences can be drawn. Some of the diverse tasks carried out in humanitarian demining require the participation and coordination of high-level OAS individuals. It is imperative that these OAS officials provide incentives for donors to contribute and for these contributing countries to provide Armed Forces officers to compose teams of supervisors and monitors. There also needs to be a commitment and coordination among the countries providing military forces and within the different levels of government of the beneficiary country. This enables large geographic extensions of land where landmines are impeding the development of the region to be cleared.

Through the coordinated efforts of civilian and military personnel, these objectives are being achieved. A testament to this is Costa Rica, which became the first country free of AP landmines through the successes of its humanitarian demining program. Its program included joint efforts by civilians and military organisms united by the call to humanitarian service. Being conscious that this is not a particular task of the Armed Forces, the perspective that is sought within this article is to highlight the praiseworthy and self-sacrificing task of military personnel.

Drive and Dedication

During one of the first field visits to Honduras, an opportunity was presented to verify the work and “drive” being carried out by military personnel in Choluteca. It became evident that the responsibility of clearing mines in areas where the temperature is normally higher than 35 degrees Celsius is not an easy job. In addition to the temperature, Hurricane Mitch added more difficulty to the job as mines were scattered in various places

by Colonel Mellado, IADB

and depths, affecting their detection and destruction. However, these adverse conditions did not discourage the specialists nor decrease their drive.

The successes of this work are the direct result of the functions carried out by the international supervisors and monitors. These teams of professionals, army or marine officers, and non-commissioned officers, are representatives of diverse countries throughout the Americas. Their principal mission is to supervise demining tasks, ensure that operations follow international demining norms and provide for the safety of the soldiers that execute the tasks. In addition, they participate in the planning of the tasks related to impact surveys and certifying that the work is being carried out in compliance with strict security norms. In order to carry out these tasks, they must attend an intense training program in order to be qualified. With time, camaraderie and a sense of purpose begin to develop within the demining teams; these aspects contribute significantly to strengthening the ties between civilians and the military. Thus, the confidence and affection of the civilian population toward their soldiers are reinforced.

On a daily basis, the team coordinates with national military authorities that are responsible for clearing their territories. They have the responsibility of suspending work if it is not being executed in accordance with established norms. However, they must also observe the realities of the terrain and particular situations and ensure that they do not become an impediment to the work, all while staying within the perspective of security.

One of the most important aspects of this type of work, where the daily relationship of soldiers from diverse countries is motivated by the sense of serving a country and the international community, is the significant increase in confidence and security the community gains. A situation that demonstrates this took place last year between Peru and Ecuador. These two governments committed to clearing areas in Peru and formed a sense of camaraderie as they worked toward a humanitarian objective. These efforts were significant in helping to overcome historical differences between nations and in calming the mine-related fears of Peruvians.

Although confronted with hard work and transferred to border areas where memories of conflict can easily return, the teams strive toward the objective of camaraderie and a humanitarian end. This is seen

in the displayed energy of soldiers as they demonstrate motivation for what they are doing. They can personally verify how recovered terrain is now being utilized for agricultural production in once-affected regions. Additionally, they directly receive the expressions of fondness from the people when they see their lands cleared and returned.

The unit commanders designated by the host country to direct these missions discover how their capacity to manage can exceed borders. The result of their efforts not only is projected directly to the communities of their own countries, but also remains inserted in the international community. This is because they have taken part in an effort where various countries participate in humanitarian objectives and goals.

The demining experiences carried out by Armed Forces personnel have achieved great results in respect to fulfilling a job with a high incidence of security. These tasks have cleared terrain contaminated by mines and have offered tranquility and security to the citizens that live in these sectors. Thus, the efforts of international organizations aimed toward peace and security in the hemisphere can be visualized with positive and concrete results.

Achievements

MARMINCA

During 2003, important efforts toward the elimination of AP mines sown in Central America were accomplished. The number of mines and UXO that have been destroyed as of August 31, 2003, reached a total of 28,793. The area cleared reached 1,280,453 sq m among the countries of Costa Rica, Guatemala, Honduras and Nicaragua.

In April 2002, MARMINCA began to support the humanitarian demining activities both in Peru and Ecuador. MARMINCA sent international supervisors on assignment, supplied technical assistance to the armies, and dictated basic courses to the sappers and Demining Operation Planning.

MARMINAS

In 1998, Ecuador and Peru initiated the task of eliminating mines from their respective territories. Both countries developed different methods for demining their territories, realizing that their situations were different. Ecuador ratified the Ottawa Convention on April 20, 1999. Later, on

September 22, 1999, the Demining Center of Ecuador (CENDESMI) was created through Executive Decree Number 1297. In March 2001, the agreement between Ecuador and the OAS was signed and put into practice with the AICMA program. Peru, in turn, developed the first phase of demining operations in 1999 with bilateral assistance from the United States and Canada. In May 2001, the OAS and the Peruvian government signed the agreement for the coordination of international support, through the AICMA. On May 1, 2003, MARMINAS was created with headquarters in Zarumilla, Peru.

Conclusion

As an observer, I have seen the importance of humanitarian demining in Central and South America. The important and unselfish work carried out by the Armed Forces within the different roles that they execute is inspiring. Through this article, one can only visualize the great successes of the OAS and IADB's coordinated efforts between civilian and military organizations. Although not well known, they have achieved a great degree of success in liberating countries from the threat of AP mines, allowing for economic and developmental activities to boom in countries. It only remains to congratulate the efforts of all of the members of the demining battalions for their unselfish work, which make praiseworthy the activities of the militaries today and project their role for the future.

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Introduction

In November 2003, the States Parties to the Convention on Certain Conventional Weapons (CCW) met in Geneva and agreed to the creation of a fifth protocol on explosive remnants of war (ERW).¹ This new international humanitarian law is designed to minimize the risks and effects of ERW in the post-conflict period.

While the Ottawa Convention has focused attention on the issue of AP landmines, the mine action community has long known that in the post-conflict environment, there are many different explosive hazards that can be found. In 2000, it was the high number of injuries caused by cluster bomblets in Kosovo that led the International Committee of the Red Cross (ICRC) to call for new international law to address ERW.² Three years later, the new "Protocol on Explosive Remnants of War" was concluded.

Implications for Mine Action

The new protocol is a recognition by the states of the serious post-conflict humanitarian problems caused by ERW. The protocol contains 11 articles and a separate (non-binding) technical annex. These articles specify post-conflict remedial measures of a generic nature to minimize the humanitarian risks and effects of ERW. The main articles in this protocol are Article Two, which provides definitions of explosive ordnance (EO), UXO, abandoned EO and ERW, thereby becoming a legal term in international law;³ Article Three, which covers clearance, removal or destruction of ERW; and Article Four, on the recording, retaining and transmission of information.

The future successful impact of the protocol will depend on how the states implement its contents. There is scope for different interpretations of what is required from signatories. However, if we take a positive view and

assume the states enact all measures of the protocol and the technical annex, the main difference for the members of mine action community will be to make their job easier and more efficient in the post-conflict period.

First, the disciplines of mine clearance and mine risk education (MRE) should benefit.⁴ The protocol makes States Parties responsible, to varying degrees, for the provision of resources (technical, financial, material and personnel) to undertake work in these areas. What is not clear, however, is how many and through which channels resources will be allocated. The protocol allows for the states to undertake work in such areas as clearance, survey and MRE, either directly or via a third party (which could be the United Nations or other supra-national body) or other parties involved in post-conflict clearance, such as non-governmental organisations (NGOs).⁵

There may be a concern that military forces, with little understanding of the process of humanitarian mine action, could



by Paul Ellis, Technology and Standards Expert, GICHD

List of the Articles in the Protocol on Explosive Remnants of War¹¹

Preamble

Article 1: General provision and scope of application

Article 2: Definitions

Article 3: Clearance, removal or destruction of ERW

Article 4: Recording, retaining and transmission of information

Article 5: Other precautions for the protection of the civilian population, individual civilians and civilian objects from the risks and effects of ERW

Article 6: Provisions for the protection of humanitarian missions and organisations from the effects of ERW

Article 7: Assistance with respect to existing ERW

Article 8: Cooperation and assistance

Article 9: Generic preventive measures

Article 10: Consultations of high contracting parties

Article 11: Compliance

Technical Annex: Contains the suggested best practice for achieving the objectives contained in Articles 4, 5 and 9 of this protocol. High contracting parties will implement this technical annex on a voluntary basis.

* Part I: Recording, storage and release of information for UXO and abandoned EO

* Part II: Warnings, MRE, marking, fencing and monitoring

* Part III: Generic preventive measures

take a more active role. Recent studies suggest that military units are not ideally suited to all aspects of mine action, though they do have some relevant capabilities.⁶ Under the protocol, it could be argued that we will see the military playing an increased role. However, it is unlikely that we will see the military entering mine action in larger numbers than in previous times. The world's militaries, with limited resources and a large number of competing tasks, will probably continue to welcome the assistance of mine action organisations. Indeed, the protocol repeatedly states that states can use a third party to deal with ERW.

The second positive impact will

come from the release of information. The protocol asks the states and parties to an armed conflict to provide information, as far as practicable, to assist mine action. The specific list of information is provided in the technical annex and includes: the targets for EO, approximate amounts used, the type and nature of EO, and general locations of known and probable UXO. Further, provision is specifically made to provide information on abandoned munitions, including the location, approximate numbers and types of munitions abandoned. Of particular relevance to clearance and MRE is the recommendation that information on UXO should include methods of identification and methods for the "safe disposal" of EO.⁷ Again, while the path by which information is passed is not precise, the text of the protocol is clear that NGOs are included as possible recipients of information.⁸

The key to the military-mine action

community relationship will be the implementation of the Protocol V articles. In many countries, contingency planning for post-conflict work is already done jointly by aid organisations and governments. This work now needs to be expanded to ensure that military forces also take into account the requirements of the protocol on ERW. These issues are not something that can be field-tested, but by engaging with the political and military actors now, NGOs can at least provide evidence of their experience in these matters, which states will hopefully recognise as useful for implementing the protocol on ERW.

Nothing is Perfect

The Fifth Protocol is not perfect. Many believe that the language is too conditional, and these caveats allow states to do little and yet still legally fulfil their obligations. Many would have liked the technical annex to be legally binding. Many of the criticisms are right; from a humanitarian point of view the protocol could have been stronger. However, diplomacy such as these negotiations over the last three years is the art of the possible. The coordinator of the discussions on ERW, Ambassador Chris Sanders of the Netherlands, stated in the final session of debate that in his view, the text was the best that could be achieved at the time.⁹ Ambassador Sanders is the only person who is fully aware of the haggling and compromises required to get to the final text; his judgement that the protocol was the best the process could produce is probably accurate.

For proponents of a stronger protocol there was some risk to continuing the discussions. The alternative to not agreeing in November 2003 would have been to prolong the discussions for at least another year, if not more. There were many States and NGOs who were concerned that further negotiations would result in a further weakening of the text. The issues had, after all, been exhaustively debated and few could see what new grounds for discussion existed. Significantly, many of the states who agreed to the protocol are not part of the Ottawa Convention, including India, Pakistan, Russia, China and the United States. Overall, the protocol has the agreement of 92 nations, although the states still have to individually sign the protocol.¹⁰

If the Fifth Protocol contributes anything, it is a requirement that the states now consider the humanitarian impact of ERW and they have some guidance on the measures that can be used to reduce the effects in the post-conflict environment. Much will depend on how the states will implement the protocol. Some of the states have already started to consider the implications of the protocol—the United Kingdom used the 2002 Gulf Conflict to test some of its ideas for dealing with ERW, such as information provision to clearance organisations.

The challenge ahead is to ensure that the protocol is implemented in the strongest possible manner. While the text of

the protocol carries many caveats, such as "where feasible" and "where possible," it is for states to decide how to incorporate the terms of the protocol into their military doctrine. The importance of how the protocol is implemented is perhaps most clearly shown with regard to the technical annex. The annex sets out clear requirements on the provision of information for ordnance used, the obligations concerning abandoned munitions and to whom information is to be given; however, it is all voluntary. The provisions of the technical annex are not onerous, and it might become a measure of a state's commitment to dealing with ERW as to whether or not they adopt the technical annex along with the formal protocol.

The mine action community could—and should—provide a pivotal role by engaging with policy makers wherever possible to ensure that states introduce the terms of the protocol and the technical annex into their military doctrine. For example, the mine action community can provide field experience to illustrate the importance of information provision in reducing the humanitarian impact of ERW. For organisations involved in mine action, now is the opportunity to try to influence how the protocol is implemented. Where countries require national legislation to enact the protocol, political pressure can be used to ensure that a state introduces all measures of the protocol and perhaps goes even further, for example, by making the provisions of the technical annex legally binding. Once procedures and laws are written, it will be much more difficult to persuade governments to rewrite them. How states implement the treaty is where the future success of the protocol will be decided.

Endnotes

1. The full title of the convention is "The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects." The framework convention has five protocols, which ban or restrict the use of various types of weapons that are deemed to cause unnecessary suffering or affect either soldiers or civilians indiscriminately. The weapons covered include: weapons that leave undetectable fragments in the body (Protocol I); mines, booby-traps and other devices (Protocol II, amended in 1996); incendiary weapons (Protocol III); blinding laser weapons (Protocol IV); and ERW (Protocol V). As of March 2004, there were 92 states that were party to the convention.

2. For a history of how the ERW process began and was developed, see: "Explosive Remnants of War: The Impact of Current Negotiations," Paul Ellis, *Journal of*

Mine Action, Issue 7.1, April 2003; and "Explosive Remnants of War: The Negotiations Continue," Paul Ellis, *Journal of Mine Action*, Issue 7.2, August 2003.

3. The definition of EO excludes mines, booby traps and other devices as defined in Protocol II of the CCW. While there is rarely a clear distinction between the location of mines and UXO, booby traps and related devices could not be included in this protocol on ERW for legal reasons, as they already had their own Protocol (II, amended 1996).

4. Victim assistance does not have the same prominence in Protocol V as in the Ottawa Convention. The issue of how much prominence to give to victim assistance was strongly debated. A number of countries, particularly South Africa, argued for much stronger provision for this area. In the end it was not possible to do more than include it as a paragraph in Article 8 on Cooperation and Assistance.

5. Article 3 of the protocol on "Clearance, Removal or Destruction of ERW," paragraph 5, states: "High Contracting Parties shall cooperate, where appropriate, both among themselves and with other states, relevant regional and international organisations and non-governmental organisations on the provision of inter alia technical, financial, material and human resources assistance including, in appropriate circumstances, the undertaking of joint operations necessary to fulfil the provisions of this Article."

6. See *The Role of the Military in Mine Action*, GICHD, 2003.

7. The technical annex has adopted many of the information requirements that the mine action community asked for, see the report *Explosive Remnants of War—Information Requirements*, GICHD, 2003.

8. In Technical Annex I.c.ii, it is stated that: "Recipient: The information should be released to the party or parties in control of the affected territory and to those persons or institutions that the releasing State is satisfied are, or will be, involved in UXO or AXO [abandoned explosive ordnance] clearance in the affected area, in the education of the civilian population on the risks of UXO and AXO."

9. Paul Ellis' personal notes from the Meeting of the Group of Government Experts to the CCW, Geneva, 24 November 2003.

10. The protocol will come into force six months after the 20th ratification by a state.

11. The full text of the convention in the six languages of the United Nations can be found on the GICHD website at: <http://www.gichd.ch/CCW/index.htm> or the UN Department of Disarmament Affairs website: <http://disarmament2.un.org/ccw/index.html>, accessed 29 March 2004.

* Photo c/o ICRC.

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Rethinking Humanitarian Demining Efforts, continued from page 27

Conclusion

So where do we go from here? Although our focus is to eliminate donor funding in the future, we are working with the IC and the BHMIC to generate donor funding for the initial equipment costs. We are confident that IC donors will support this initiative based on the much-improved rate of return for their investment in this future EU member. Over the next few months, the team will be working with the SFOR AF BiH Restructuring Working Group to integrate this demining initiative into the future of BiH. Based on guidance from the OHR, the new military structure for BiH is to be implemented in January of 2004. The Defense Review Commission is working diligently to resolve any legislative or legal roadblocks for restructuring success. If we are successful, the team sees this as the beginning of a new era for coalition military operations. BiH is at a crossroads in its history where it may be the best suited and most capable country to help coalition countries make this paradigm shift.

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The Sdok Kok Thom INTEGRATED DEMINING PROJECT

The Sdok Kok Thom Project in Thailand was an ideal project in order for the Japan Alliance for Humanitarian Demining (JAHDS) to create a mine clearance capability. The project site was compact, easily accessible and the vegetation varied from sparse to very dense, which made it possible to create a progressive training scheme of increasing complexity. This allowed the mine clearers to progress in steps towards the most difficult and challenging stages. One of the main points of the project was to incorporate a high degree of integrated demining, i.e., demining using the three major tools in the mine clearer's toolbox: manual clearers, machines and mine detection dogs. This was only possible due to the generosity and cooperation of the Thailand Mine Action Centre (TMAC) and specifically their Thai Military Humanitarian Mine Action Unit 1 (HMAU1), based not far from Sdok Kok Thom in Aranyaprathet, which allowed JAHDS to use some of their mechanical equipment and also their dog teams. The project was completed and the site was handed back to the Sa Keo province on January 23, 2004.

What is Integrated Demining?

Integrated mine clearance is not a new concept, but rather one that has developed over time with the combination of increasing experience and advancing technologies aiming to achieve the most cost-effective mine and UXO clearance possible given the available resources. Integrated mine clearance involves the application of a range of tools, technology and procedures in the most logical and cost-effective combination to clear suspected mined areas safely in the shortest possible time. Integrated demining is increasingly being used as more managers gain experience with the use of machines and dogs. Some of the more experienced non-governmental organizations (NGOs), including Norwegian People's Aid (NPA) and Menschen gegen Minen (MgM; People Against Landmines), use all three component tools. The potential for high cost-effectiveness is great, but the potential for waste and low efficiency is also great.

The advantages and disadvantages of the three components of demining operations are well-known. Manual mine clearance is slow and potentially dangerous, but it can be efficient. Mine detection dogs can speed up mine clearance, but are expensive and can be unreliable. Machines can also speed up the process of mine clearance, but can be a heavy initial investment and require considerable maintenance and logistic support. On the other hand, when used together as an integrated system, they can make mine clearance faster, safer and more cost-effective.

Methodology of Integration

The integration of the three different components at Sdok Kok Thom was the responsibility of Johan Van Zyl, who had considerable demining experience from his work in southern Africa and the Balkans. Before mine clearance could start, he had to assess the

most effective methods of clearance that could be deployed for the task. The first factor was the size of the project area with special attention to the type of soil, the gradient and the vegetation. This was established by a technical survey, which also enabled the manager to divide the area into manageable blocks according to natural features and boundaries, such as roads, footpaths and walls. The ground at Sdok Kok Thom was firm and relatively stone-free with no major slopes and a total area of about 407,000 sq m. The area was initially divided into nine blocks. One block, which was a silted-up lake, was liable to mud-diness or even flooding, so work on it had to be completed by the end of the dry season.

The next factor was an assessment of the mine threat. There was a known Khmer Rouge camp in the area, but parts of the work-site were already well-trodden by the local people. The mines were mostly Chinese type 69 bounding fragmentation mines along with some UXO. These were in the middle and east of the site and were laid for protection in the direction that the Khmer Rouge expected the Vietnamese forces to attack. In some cases, the mines were still active—a tenth block was added to the contract following a mine incident involving a Thai border patrol soldier close to the original project area. Threat information came from the national Level 1 Survey reports, the TMAC database, the local military commanders, soldiers and ex-soldiers, police, local authorities and villagers, and was in general accurate enough for planning and training purposes. As the mines in the area were predominantly tripwire-activated mines, any tripwires that had not corroded had to be removed by mechanical operation or during the manual clearance process.

A further factor was the assessment of resources. The resources available were manual deminers from General Chartichai Choonhaven Foundation (GCCF), starting with 14 initially inexperienced staff recruited from local villages, but by the end of the proj-



ect increasing to a staff of 45 well-trained individuals. All deminers were trained in a special four-week civilian demining course organised and carried out by TMAC, which concentrated on the immediate clearance needs. All deminers were trained on the CEIA Mil-D1 mine detector, which gave excellent results, even in laterite soils. For machines, JAHDS was fortunate in being able to borrow U.S.-funded, TMAC-owned machines from HMAU1; a brush deminer (BDM 48), and later a Tempest 3 and a Pearson Survivable Demining Tractor and Tools (SDTT). JAHDS itself owned a Hitachi BM307 brushcutter. JAHDS was also allowed to use between two and three HMAU1 dog teams when they were not deployed elsewhere.

Although availability of dogs and machines fluctuated, overall the resources available made for an effective "toolbox" for the project. The BDM 48 and Hitachi were effective in clearing dense undergrowth, as well as preparing the ground with their rotating milling heads. The Tempest mini-flail was used for vegetation clearance in and around trees, thus minimizing the damage to the local environment. The SDTT was effective in preparing the ground before the manual operation started, which sped up the clearance process and made it safer for the manual operators. It not only removed vegetation, but the ground-contact magnet of the SDTT also

sped up the manual process by removing the majority of metal fragments from the area to be searched by the manual teams. This feature eliminated both a large percentage of false signals in the manual teams' detectors and a subsequent waste of detection time. When used in combination with a rake or plough, which loosened the ground up to 20 cm, and by repeating the process with multiple sweeps, clearance using magnets proved to be highly effective and removed an estimated 80 percent of metal debris from the soil. The dog teams were used to assist the manual deminers following vegetation clearance and for verification purposes. They identified a considerable number of the mines found.

From these assessments, it was possible to set up a clearance plan. Each individual block received individual attention and was allotted the clearance methods that were the most applicable. Teams were tasked, the equipment was distributed (depending on availability) and the projected completion dates were recorded. This allowed the generation of a flexible, safe and cost-effective operation. Because of the flexibility provided by the cooperation with TMAC and HMAU1, it was possible to retain all the clearance components (i.e., manual teams, dog teams and machines) in balance with each other, so no resources were wasted by being present but inactive. This balance was only achieved by

the thorough knowledge and experience of the capabilities of all components under a variety of working conditions.

Implications of the Sdok Kok Thom Project

In summary, the Sdok Kok Thom was a good project on which to carry out integrated mine action. Every mine action site is different, but the principles and methodology used at Sdok Kok Thom were general enough to be used in a wide spectrum of scenarios and will be used again in the next JAHDS project. JAHDS was lucky to have the support of TMAC and especially HMAU1, which allowed the use of a range of equipment not usually available to small NGOs. The civilian mine clearers of the GCCF proved to be very effective despite the fact that this was the first project in Thailand where civilians were used as deminers. Again, this project was fully supported by the all-military TMAC. The success of the Sdok Kok Thom Project may pave the way for more civilian mine clearance in Thailand. JAHDS also enjoyed the support of the governor of Sa Keo province and the Ministry of Culture. Through good teamwork, this integrated project was successfully concluded both quickly and safely—making it an excellent start for JAHDS' efforts in mine clearance.

** Photo by the author.*

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on the ground in IRAQ

Background

MineTech International (MTI) has been stationed in southern Iraq since May 2003, working on humanitarian mine and ammunition clearing projects, and as part of its brief history, working to deliver rapid response demining support for the United Nations Office of Project Services (UNOPS).

MTI first arrived in Basrah with a team of around 90 explosive ordnance disposal (EOD) and mine clearance professionals including mine detecting dogs (MDDs) and dog handling teams. Four emergency survey teams were also deployed to carry out Level 2 technical surveys, initially to locate and identify explosive remnants of war within the southern Basrah governate using the Information Management System for Mine Action (IMSMA) format. However, in June 2003, MTI's survey teams were retasked to conduct the National Emergency Survey, with the prime focus of gathering information to measure the effect of *Operation Enduring Freedom* in southern Iraq. As a result, eight survey teams have been working to identify populated areas within each of the eight governates in southern Iraq and to identify the dangerous areas that are within close proximity to villages.

Southern Iraq comprises eight governates from Baghdad to the Kuwait border in the south. The area is bounded by Saudi Arabia to the west, Kuwait in the south and a long land border with Iran to the east. The area has experienced three major conflicts: the Iran/Iraq War (1980–1988), the Kuwait Campaign (Gulf War) from 1990–1991, and most recently *Operation Enduring Freedom*. In their wake is an enormous accumulation of explosive remnants of war (ERW) among which the local people have been living with for the last

20 years. Ammunition that should have been destroyed has been dumped in rural areas—much of which has deteriorated over the years due to the high saline content in the soil.

Added to this is the large amount of ammunition stockpiled by the Iraqi military throughout the region. With the breakdown of law and order, much of this ammunition has been removed from storage so that the copper, brass and aluminium components can be separated and sold in Iran. The result is that the contents of munitions crates have been abandoned and spread over a wide area. There is also the threat of loose propellant having been widely scattered when looters trashed ammunition storage facilities. This has created safety issues not only for the local population but also for the EOD teams dealing with the resulting mess.

In the first few months of activity, the mine clearance teams made a concentrated effort to help farmers gain access to their land in time to prepare fields for cultivation, removing cluster munitions from agricultural land in the Az Zubayr region, near Kuwait.

Despite the dangers, local people appear to be largely unperturbed about the risks within their communities. This created some problems for the MTI survey teams who were frequently told that there was nothing dangerous within the community when, in fact, there were stockpiles of ammunition. More often than not, the children, shepherds and nomads proved to be the best source of information on the whereabouts of dangerous areas—not the village elders.

Basrah

The survey teams, initially working in Basrah, encountered a large amount of ordnance that had been left over from the Iran/Iraq War, in particular a high concentration around the Shatt Al Arab waterway, which was subject to heavy fighting. There had been no attempt by Iraqi governmental organisations to make the area safe for the local population. One particular minefield along the Shatt Al Arab water course is situated in a marshy area with up to 1.5 m of water in some places. The locals use dug out canoes to go about their business for fear of detonating mines. Their animals, on the other hand, wade



in to graze and regularly fall victim to the mines.

In the first week of July 2003, the Survey Teams deployed to the oil facility in Al Fao township. The teams surveyed from the lower Al Fao peninsula northwards. Highlights included the location and survey of a major minefield to the north of Al Fao that is hampering and blocking the rebuilding of homes, cultivation of agricultural land and fishing activities. The minefield was laid during the Iran/Iraq War and has a heavy metal contamination. The local people are clearing mines and UXO where they are identified.

South of Basrah, the teams found large quantities of ordnance ranging from stored ammunition to abandoned explosive ordnance (EO) from the last three conflicts. The EO was in varying states of condition and stability, with most sites containing large quantities of loose propellant scattered among the munitions. Additionally, another mined area was located 400–500 m south of the greater city limits of Basrah, which the MTI manual clearance teams cleared.

Of all the governates surveyed, Basrah posed the most challenges to the survey teams. It had a high number of internally displaced persons (IDPs) within the province who were creating their own communities with “villages” literally springing up overnight. In the end it was decided that if the people considered themselves to be a community, then they would be surveyed as one. In practice, this meant teams were covering a far larger number of communities than the original mapping information suggested. The survey teams had to travel the road systems and rely on local sources of information to be able to guarantee they had picked up the required information and covered all of the villages in the area. Additionally, there was ERW strewn across the province from three previous conflicts. The levels of ERW contamination, particularly in the Basrah governate, led the survey teams having to complete multiple dangerous areas for individual villages.

To the north of the province, the teams ran into security problems such as being warned off from entering certain areas, encountering potential hijack situations or having to address fundamental issues such as lack of electricity, water, medicine, and law and order.

The Threat From Border Minefields

Compared to the EOD problems, mine clearance issues in Iraq are of much less consequence, largely because there are few, if any, minefields in the country and these are mainly scattered defensive minefields located around a few ex-Iraqi military installations and are considered to be strategic installations, such as oil and gas fields or refineries. The significant exception is the entire length of the eastern border with Iran, which has been heavily mined, denying access to thousands of hectares of land. Currently, the Coalition Provisional Authority (CPA) does not wish any clearance of the border minefields, although MTI personnel have completed a specific six-week mine clearance task to create a safe area around a key border-crossing water point. As movement restrictions have lifted, more people are moving to the Iran border, where the grazing is untouched. They are moving into minefields that are extremely dangerous and cannot compare with anything in MTI's experience. In the short time working in the border area, MTI personnel have evacuated six civilians who were injured after returning to the minefields with their livestock. Although the barrier minefields in the border regions are known, it has been reported that the area is prone to flooding during the wet season and consequently mines migrate into areas where people conduct agricultural activity—in some cases preventing farmers from producing crops. Mine awareness education will be vital to protect the families who are now returning to the area if nothing is done to tackle the minefields themselves.

Missan

During the first three weeks of October, the survey teams worked in the Missan governate. There are limited Coalition Forces EO within the province and the main source of ERW is Iraqi in origin from both the former Iraqi army and the Iraq/Iran conflict. The Missan province had been home to an Iraqi Army Corps, thus there is a huge amount of ammunition stockpiled in various degrees of security and condition, ranging from permanent bunker facilities to open field storage sites. The main ongoing ERW threat remains in the bor-

der minefields laid during the Iran/Iraq War.

The Missan governate in many ways is an easier environment in which to work. The local people removed the Baath Party from power, liberating their governate without the help of Coalition Forces, and there was no conflict in the governate during *Operation Enduring Freedom*. MTI was given assistance by all local community leaders, which ensured a significant element of security, although problems with armed gangs in the southern portion of the governate did limit activity.

Once the survey along the various axes of the Missan governate was completed, the survey group moved to the town of Al Kut in the Wassit province, northwest of Missan, at the end of October. MTI was again welcomed by the local governor, who recognised the major problem with ERW in the province, both from field storage areas and from the minefields running along the Iran border. Here, the problem has been exacerbated by the number of Iranian pilgrims crossing the border illegally on pilgrimages to Shiite holy sites. As in Missan, mines are migrating from laid minefields into areas where local people carry out their daily business.

The survey teams continued operations in the Wassit governate in early November with the intention of moving to the Thi Quar governate, but due to the deteriorating security situation, the teams had to stop the survey approximately 40 km south of the Wassit/Thi Quar border. The main difficulties for the mine clearance teams were caused by the conviction among the local people that the survey teams were involved with, or part of, the Coalition Forces. Survey teams penetrated into the Thi Quar and Babil governates from the east and north; however, they did not continue due to the security situation.

The Legacy

What is apparent to everyone is the enormity of the problem still facing the Iraqi people. Latest estimates are that there are still 1,000,000 tonnes of ammunition scattered over Iraq, equivalent to more than half the stockpile of the entire U.S. military machine, and that figure excludes the minefields.

The final count of community villages surveyed was recorded as 1,029, with data collected on 527 dangerous areas within close

proximity to the villages. The impact on the population is continual and devastating. While deployed in the Missan province, a key project for the EOD teams from December through February of this year was the clearance of a school at Al Musharrah, a town 40 km north of Almarah. This school, like many others in Iraq, had been used as an ammunition storage depot in the belief that Coalition troops would not target it. Unfortunately, the children managed to set off a portion of the stockpile, and the resulting explosion caused a wing of the complex to collapse, scattering ordnance throughout the school grounds. The EOD clearance teams in general now face a wide range of challenges, from both the scale of the project and the state of the explosive materials, which can be rusty and corroded, buried up to a metre deep.

In Az Zubayr, teams have been clearing EO remains from under three sections of collapsed roofing. Searching through the rubble is slow and tedious because the tar roof covering has melted into the rubble and congealed a lot of it into a semi-solid mass. Despite this, in one week the teams recovered 1,609 items weighing 7,905 kg.

The teams are working in varied climatic conditions with, on the one hand, extremes of heat that make it difficult for the dog teams and, on the other, strong winds and thick dust clouds. Communications have been limited and there is still no network signal in southern Iraq. All e-mails have to be accessed and sent from the CPA internet terminal, which was out of order for prolonged periods in February and March of 2004. However, without doubt, the biggest challenge facing all teams, and inevitably all future reconstruction and aid teams, is the issue of security.

The Security Challenge

Often the problem from the Iraqi community was the misidentification of MTI staff as part of the Coalition Forces. Four main issues/questions were continually asked when the teams arrived in a village: When will the village have electricity, clean water, medication and security from banditry? In some cases, unless an answer was forthcoming on those questions, the local people would refuse to discuss anything else.

As with all its logistical requirements, MTI has successfully managed its own security, independently recruiting and training its

Four main issues/questions were continually asked when the teams arrived in a village: When will the village have electricity, clean water, medication and security from banditry? In some cases, unless an answer was forthcoming on those questions, the local people would refuse to discuss anything else.

own armed protection and security services, enabling our teams to work securely and safely across southern Iraq.

To mitigate the security threat, all survey teams were accompanied by a policeman where available and had their own security guard, hired by MTI. However, even this had its uncertainties. These police escorts were adamant they would do nothing if required to respond for fear of retribution on their families. Also, there was initial confusion with regards to the policy on rules of engagement. Although permitted to carry weapons, many policemen were not issued any ammunition due to a ruling by the Coalition Forces.

Because the Missan province ejected the Baath Party prior to the end of the war, there does not seem to be the intensity of anti-Western sentiment that the Coalition reports elsewhere. All security threats to date seem to be from lawlessness and poverty, rather than concerted resistance activities. Having said that, it is still commonplace to hear gunfire, though mostly from local weddings and other celebrations. The local people have been friendly and supportive and MineTech has been accepted into the community.

Differing attitudes and threats in the north and south are the result of both religious feeling and the interaction between the military and the local population. The threat in the south is mainly from banditry and criminal behaviour, with most of the political unrest targeted at the north. However, several of the MTI survey teams were caught up in rioting and stone throwing in Basrah, and a whole team was trapped in the Al

Qurnah Civil Military Cooperation (CIMIC) building during another angry protest. Yet, the main problem for MTI has been the hassle with thieves, which is handled by its own security processes.

The security situation that prevailed in Iraq hampered the completion of the Emergency Survey; however, what was achieved under the circumstances made the contract worthwhile and successful. MTI would like to thank all the UN Area Mine Action Coordination Team (AMA-CT) staff for its cooperation and assistance throughout the contract, despite the sometimes difficult security climate that prevailed.

As of the end of February 2004, the teams had destroyed approximately 1,162 tonnes of ammunition, 492,033 items of EO and 33,024 landmines—clearing a total of 4,422,574 sq m of land.

** Photos do the authors.*

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MAIC:

Iraq Ordnance Identification Guide

The *Iraq Ordnance Identification Guide* on the James Madison University Mine Action Information Center (JMU MAIC) website (<http://maic.jmu.edu/research/IraqOIG/default.htm>) provides information gathered from UXO research about how to "...facilitate international unexploded ordnance (UXO) awareness and identification." The *Iraq Ordnance Identification Guide* is sponsored by the Office of the Secretary of Defense: Special Operations and Low Intensity Conflict (SO/LIC), funded by the Defense Security Cooperation Agency (DSCA), and prepared by Naval Explosive Ordnance Disposal Technology Division (NAVEO DTECHDIV). The guide is provided by the JMU MAIC.

The guide is categorized by major UXO categories, with each section classifying and providing descriptions of specific UXO. The *Iraq Ordnance Identification Guide* provides detailed information on the following:

- Bombs
- Dispensers, clusters and launchers
- Projectiles
- Fuzes/firing devices
- Grenades
- Rockets
- Guided missiles
- Landmines
- Pyrotechnics
- Miscellaneous explosive devices
- Naval mines
- Depth charges/underwater UXO
- Scatterables
- Weapon system





ITEP/JMU Database of International Experiences: Supporting the Test and Evaluation Community

Introduction

A new database has been added to the James Madison University (JMU) Lessons Learned database, with more specific content and aim. The specific content reflects the main tasks that the International Test and Evaluation Program (ITEP) for humanitarian demining has agreed on in its Memorandum of Understanding, namely to evaluate and standardise the process of equipment testing

in the humanitarian demining industry. The JMU Mine Action Information Centre (MAIC) maintains the database, whereas the ITEP Secretariat is responsible for its content.

The ITEP/JMU Database of International Experiences in Support of the Test and Evaluation Community (DIETEC) was created in order to summarise test and evaluation (T&E) experiences that are referenced to the original test reports. The most

demanding part was to work out the database structure and to discuss the concrete contributions currently included. There are fine dividing lines, when at all, between lessons learned, experiences and test results. A remaining question is whether it is opportune to also include technical questions related to the use of tested equipment (test results) or to strictly focus on the testing process. In this regard, we would like to invite the reader to share his/her opinion with the ITEP Secretariat.

Currently, the database only contains experiences related to the T&E process. It was found that the test reports contain an important amount of information, either general or specific, which could be useful for the T&E community as a whole. In order to make these hidden experiences more widely and easily available to the test community, ITEP decided to join up with the MAIC. Funding was provided by the U.S. Department of Defense.

Aim

The main aim of DIETEC is to collect and publish information derived from experiences in T&E of humanitarian demining equipment. The collected "experiences" are intended to highlight key areas of consideration in the T&E process, as well as specific observations related to the evaluation of humanitarian demining equipment in operational use. Moreover, it attempts to provide a common structural approach for T&E of equipment used in humanitarian demining. The database should provide useful information for a variety of T&E stakeholders, ranging from test engineers and entities involved in large-scale T&E campaigns to the individual user at the field level interested in evaluating his/her specific piece of equipment.

Definitions and Approach

The database, in its current version, provides a list of experiences. The experience may be positive or negative but should meet the following criteria:

- It should be **significant** in that it has real or assumed impact on the T&E operation.

- It should be **valid** in that it is factually and technically correct.

- It should be **applicable** in that it identifies a specific process or decision that reduces or limits the potential for failures and mishaps, or reinforces a positive result.

- It should be **understandable** for a skilled person not necessarily intimately familiar with the subject matter (adapted from the U.S. National Aeronautics and Space Administration's definition of lessons learned).

The experience may be generic or equipment-specific and can be submitted by any individual or organisation. However, a core set of experiences is extracted from publicly available resources (T&E reports on humanitarian demining equipment) and from T&E activities undertaken under the umbrella of the International Test and Evaluation Program for Humanitarian Demining

Equipment.

The intention is that all experiences entered in the database will be periodically reviewed by an international panel of experts from the ITEP network and other organisations performing activities related to T&E, e.g., the United Nations or the Geneva International Centre for Humanitarian Demining (GICHD). During this process, the relevance of the experiences to T&E standards, technical notes and/or methodologies will be assessed.

An entry could become one of the following four things:

- 1. An item added to an ITEP T&E methodology:** The experience is seen as an important or/and a new way of carrying out tests. A spin-off of this could be a request for further research to be carried out to back up a new test methodology. This further research could ultimately be executed in the form of a collaborative project under the ITEP umbrella.

- 2. An item added to the Lessons Learned/Experiences database:** The experience is judged to have a significant impact on the testing method and is preferably backed up by at least two other experiences. An existing test methodology may be changed or

updated to take into account this experience. An entry can also fall into this category if the experience reports on an unexpected event during testing and outlines a strategy for dealing with it.

- 3. An item circulated to the User Community:** The experience has an impact on the operational use of demining equipment/systems. It should be passed on to the User Community, for instance through a Technical Note for Mine Action (TNMA) issued by the GICHD.

- 4. Dismissed:** The experience does not fall into one of the above categories. It may be dismissed with reasons stated.

In its initial stage, the database will mainly include "experiences." After review, the database will be expanded with "lessons learned," referenced to a set of experiences. These lessons learned can then further be incorporated into standards and similar documents whenever relevant.

Structure

Figure 1 gives an overview of the database structure. The category and sub-category fields have been selected in order to provide the user with a structured overview of the main stages and factors that should be considered during T&E of humanitarian demining equipment. The structure may be used as a guide when drawing up a test plan. The categories distinguished expand on the structure given in the IMAS 03.40 on Test and Evaluation of Mine Action Equipment (first edition, 01.01.2003) and include the main technical categories used by ITEP and the GICHD *Mechanical Demining Equipment Catalogue*.

Implementation

The database consists of two main categories: Generic Considerations and Equipment-Specific Considerations. Each main category has subcategories to explore the experiences in detail and to guide the user to add relevant experiences. Each subcategory can be browsed by clicking on the corresponding individual cell or by executing a detailed search. The user can add an experience to a subcategory by clicking on the corresponding individual cell or on "Add Experience." Table 1 includes two examples extracted from the database in order to illustrate the type of information provided by DIETEC.

continued on page 69, ITEP

Table 1: Two examples of testing and evaluation experiences extracted from DIETEC.

Category	Generic Considerations to T&E > Planning > Supporting information
Subject	Test site layout and facilities
Experience/Advice	Detailed prior knowledge of the test site layout and facilities will allow for more efficient data collection and archiving schemes to be designed. For instance, if a large amount of data are planned to be collected in order to evaluate the performance of detection equipment under development, knowledge of the test site layout could allow for automating part of the data collection process and/or use of purpose built data collection platforms. Also, knowledge of internet connection characteristics might influence the data archiving provisions.
Reference	I.M. Dibsall, S.M. Bowen, D.J. Allsopp, Portable Humanitarian Mine Detector 2003 US Trials, 2003
Reference Link	http://www.itep.ws/pdf/PHMD_2003_US_trialsreport.pdf
Posted by	ITEP Secretariat (ITEP) on 2/14/2004
Category	Equipment Specific Considerations to T&E > Detection > Metal
Subject	Test design, environmental data records
Experience/Advice	The following environmental characteristics of the test area should be recorded, in order to more efficiently compare test results: magnetic ground properties, scrap metal content density and distribution, soil composition and texture, distribution of stones/rocks, soil moisture content, vegetation type, density and development, meteorological conditions. Furthermore, details on how the environmental characteristics were measured also need to be registered.
Reference	D. Guelle, A. Smith, A. Lewis, T. Bloodworth, <i>Metal Detector Handbook for Humanitarian Demining</i> , EC, 2003
Reference Link	http://www.itep.ws/pdf/metal_detector_handbook.pdf
Posted by	ITEP Secretariat (ITEP) on 2/14/2004

Generic Considerations to T&E

Planning	Preparation	Execution	Reporting and Control
Management	Location	Timing	Timing
Objectives/aims	Personnel	Personnel	Format
Location	Instruction	Safety	Content
Personnel	Equipment to be tested	Equipment to be tested	Access
Timing	Supporting equipment	Supporting equipment	Follow-up/-on
Financial resources	Logistics	Unexpected events	
Coordination		Management	
Supporting equipment		Data Collection	
Supporting equipment			
External factors			

Detection	Manual Tools	Mechanical Demining Equipment	Personal Protective Equipment	Survey	Neutralisation
General	General	General	General	General	General
Metal	Prodders	Flail systems	Head	Marking	Low order/thermal
GPR	Excavators	Tiller systems	Upper-body	Spatial information	Low order/chemical
Infrared	Other	Sifter systems	Extremities	Positioning	High order/explosive foam
Trace Explosives		Combined systems			
Multi-sensor		Multi-tool systems		Integrated methods	
Vehicle based specifics		Mine-protected vehicles		Mechanical Demining Equipment/Mine Detection Dogs	
Other		Other		Other	

Figure 1: Structure of the DIETEC database.

by Franciska Borry, ITEP Secretariat

International Conference Assembles Military Considerations within Mine Action Technology Trends

During the "International Conference on Requirements and Technologies for the Detection, Removal and Neutralization of Landmines and UXO" held in Brussels September 15–18, 2003, many global viewpoints and models emerged from the discussions. Some of the ideas triggered strong emotional reactions during the conference. Several of the new ideas might have a short lifetime; others have the potential of forcing breakthroughs; and all of them are subject to further debate.

The EUDEM2-SCOT 2003 conference was an open forum for discussing state-of-the art humanitarian demining technology research and development (R&D) and practice. New technology developments and demining systems and scenarios were confronted with viewpoints from daily practice in demining on the field.

Strong Interest of Policy Makers

P. Busquin, a member of the European Commission, has acknowledged the advances made in information management tools, integration of geographic information systems (GIS), and incremental improvement of sensors, area reduction and international standards, but mentioned also that "delivery of new tools and equipment to improve the search for individual mines has not met early expectations."¹ He pointed to the complexity of the problem, the mismatch between research ideas and application requirements in the field and the significant non-technological problems in finding the resources to turn prototypes into fully tested commercial products ready to use in the field.

Closing the Gap Between Humanitarian and Military Demining R&D

Although different goals are pursued and different practices are used in military and humanitarian demining, there is a large potential for technology sharing (Petersberg Tasks).² P. Busquin emphasized that even financial support will gradually be opened by the European Union for joint technology developments in the context of (civil) security. This may certainly help bridge the chasm between research results and deployment.

Demining: A Military Point of View

James L. Jones, General and Supreme Allied Commander Europe for the North Atlantic Treaty Organization (NATO), has put the mine problem in a broad historical perspective. The notion of military necessity makes the case that inadvertent harm to civilians and civilian objects, though regrettable, is acceptable if a significant military gain results and there is no other way to proceed. The Ottawa Convention³ (which bans the use, the stockpiling, the production and transport of AP mines) and the diminishing threat of warfare with massed armies (hence the decreasing "military necessity") are the two main reasons for optimism in the future evolution of the worldwide mine problem. However, "non-state actors see the landmine and its horrifying, indiscriminate nature as being a very useful weapon if the objective is to psychologically terrorize and influence populations and government."⁴

Reinterpreting Controlled Testing and Evaluation

The evidence that little is understood about why current successful demining works (dogs, prodding, metal detectors and

machines) triggers the following questions:

- What is the baseline to which new technology has to be compared?
- In the presence of urgency, is it not appropriate to be less reluctant towards fast uptake of new technology at an earlier stage in current practice?
- User requirements have not been updated in 10 years and technology has evolved substantially. Isn't it the right time to bridge this newly developing gap, so that we can move forward and introduce some of the new technologies by associating them in the operations even if they are not 100-percent effective?

Amazingly low probabilities of detection were presented for two standard demining tools, namely prodders and metal detectors, in three conference presentations,⁵ even in controlled test conditions. C. Mueller et al. reported success rates with metal detectors beginning at about 50 percent and rarely reaching above 80 percent;⁵ R. Fjellanger et al. reported detection performance down to approximately 70 percent based on the vapour-sensing capabilities of dogs; and J. Trevelyan described success rates with prodders down to 50 percent. It is certainly true that, in practice, locally adapted operational procedures, based on the contextual a priori knowledge, reduces the risks and increases the probability of detection. Nevertheless, the three papers on retrospective scientific analysis of well-adopted sensors remain extremely valuable—if their results are being confirmed—because they describe the objective intrinsic behaviour and limitations of sensors when operated independently of an operational procedure based on human expertise in controlled conditions for a variety of soils and foreign objects.

Producing these kinds of figures for an experimental new sensor probe resulting from an R&D project would probably be and has often been interpreted as unsuccessful.

Nevertheless, the end-user community has adopted prodders and metal detectors as workable instruments a long time ago. This leads to the conclusion that deployment of new technologies in the field should occur at an earlier stage, and time should be explicitly provided for developing appropriate procedures and contextual scenarios to complement the toolbox of instrumentation so that more and more specific situations can be covered.

Bridging the Chasm Between Prototypes and Fieldable Equipment: The Need for New Funding Structures

The major impediment to adoption of new technology in the field is the absence of support for bridging the gap between R&D results and fieldable systems. For a small government and a financially unattractive market (with no explosive market increase), such support is a prerequisite for achieving a breakthrough. Dual use developments within civil applications, common military/civilian technology development and incorporation in the broader field of security are encouraged to solve that problem but take away some of the needed focus on specific technology to solve the mine problem. A debate concerning the European Commission (EC)-co-funded research and technical development (RTD) projects leads to the conclusion that no structure for support exists at this time in Europe for carrying the results of EC-funded R&D projects towards fieldable systems. The crude question is raised: Why fund research, since it is well-known that "research only generates new research," if the results are not exploited?

The reluctance of donors and their limited interest to participate in technology transfer can be explained by the high budget requirements in this area. Grossly, J. Trevelyan stated that for every Euro spent in supporting research, 10 Euros are required for development, while an investment of 100 Euros is needed for turning these developments into successfully marketed products. Moreover, as stated earlier, in humanitarian demining technology, we are confronted with modest market perspectives and markets created by government decisions.⁷

Bottlenecks hampering the structural funding of the transition activities between R&D results and fieldable systems in Europe include the partitioning of Directorate General (DG) responsibilities, the strict inter-

pretation of laws on falsification of competition and the limited interest of donors in this area due to high budget requirements. To get rid of this situation, urgent political action on the decision level is required.

The U.S. Army's "Market Culture"

The overview of the Canadian landmine detection R&D program,⁸ presented by J. McFee, and the overview of the current U.S. Army basic research on landmine and UXO detection, presented by R.S. Harmon, illustrate the North American structural approach for the continuous cross-fertilisation of laboratory research towards applications in practice: the U.S. Army research office has as a mission to invest in fundamental research at universities, and a parallel structure within the Army for applied research is picking up the results of the fundamental research. An equivalent approach does not exist in the European Union (EU) at this moment.

David Daniels raised the point of Europe lagging far behind commercially. If Europe does not start up a voluntary action in picking up the R&D results and turning them into commercial products, U.S. government-funded technology will monopolise the market. It is in the interest of everybody that second and third source suppliers exist.

Technological Progress

Progress has been made in many domains and this was covered by the conference contributions.⁵ Nevertheless, P. Blagden made the statement that, except for ground penetrating radar (GPR), none of the technologies appeared near being ready to be taken into the field for close-in detection. The general opinion at the conference is that close-in detection of individual mines and area reduction are the priority domains for demonstrating progress.

European Advances in Data Fusion

In the area of multisensor platforms and data fusion, the following three ideas are essential:

- Sharing: Information exchange certainly occurs now within the humanitarian demining community.
- (Demonstrated) promise: We are on the way, but have not yet arrived, e.g., good results on learning sets are not sufficiently convincing.
- Real time: Appropriate processing architectures are being conceived to go from

simulation towards practice.

The State of Art: From Laboratory to Experimental Towards "Practical" Surveys

From the work presented, a coherent framework emerges with opportunities for improvement, both on sensors (e.g., chemical detection) and on software (e.g., integrated GIS environments, image interpretation methods). It involves the total usage and integration of all available information over the area from small-scale to large-scale, past and present—aerial and satellite multimodal data, ground surveys, interviews and local knowledge about culture and land usage. The means to obtain all of this information are generally known; the integration and structuring schemes are emerging and being validated.

"Everything would have been easier if we had the JMU [James Madison University] clearinghouse at the start."⁵ This statement heard from D. Radmore, a professional deminer, illustrates how initially hostile attitudes towards a technology coming from another scientific community outside the humanitarian demining field can gradually gain acceptance when developed in collaboration with end users.

Significant Deminer Support and Information System Contributions From the Non-Demining Information Communities: Embodiment of IT Communities

Information systems are now being equipped with extra communication means and decision support systems. The primary question raised is how to harmonise them around the Information Management System for Mine Action (IMSMA). It is generally acknowledged that IMSMA has brought standardisation in the field and enforces correct documentation and reporting of mine actions. Therefore, there is a tendency to encourage add-on developments that are compatible with IMSMA, which has gained wide acceptance within the demining community.⁶

It was suggested that a structured knowledge base on "lessons learned from field experience" would be useful, particularly for bringing back the results and experience gained with new technologies on the field towards researchers and developers.

Lessons Learned: Standardisation in a Multidisciplinary Approach

The European Committee for

continued on page 67, **International Conference Assembles Military Considerations within Mine Action Technology Trends**

A profile of Afghanistan

The Topography of a Broken Land

Afghanistan is a dry, landlocked nation made up mostly of rugged mountains that run northeast to southwest and divide the northern provinces from the rest of the country. Bordered by Pakistan, Iran, Turkmenistan, Uzbekistan and Tajikistan, it also shares a tiny strip of land with China. Because of its cold winters and hot summers, nearly all of Afghanistan's supply of natural fresh water begins as snow. This limited supply, however, has been severely depleted because of a four year drought from 1998–2002. Drought and the added thirst of two million returning refugees has left nearly 80 percent of Afghanistan's population without access to safe drinking water.¹ The drought has also affected Afghanistan's struggling farm and livestock (mostly sheep and goats) production. The country is highly dependent upon foreign aid to meet its most basic needs such as food and medical care.

Bin Ladin and Taliban and Warlords, Oh My!

Following Soviet military withdrawal in 1989, local leaders fought in bloody civil battles over control of the nation. Civil unrest ended with the rise of the Taliban, a group of ethnic Pashtuns backed by Pakistan. In 1994, the Taliban took Kandahar, and they entered Kabul unopposed in September 1996. The Taliban, whose rule was oppressive and often brutal, eventually seized power over 95 percent of the nation. The September 11th terrorist attacks in 2001 prompted the United States and Allied forces to action in support of the opposition. Near the end of that year, major leaders from these Afghan opposition groups met in Bonn, Germany, and agreed on a plan for the formulation of a new government structure that resulted in the inauguration of Hamid Karzai as Chairman of the Afghan Interim Authority (AIA). The AIA



*I come to you and my heart finds rest.
Away from you, grief clings to my heart like a snake.
I forget the throne of Delhi
when I remember the mountain tops of my Afghan land.
If I must choose between the world and you,
I shall not hesitate to claim your barren deserts as my own.
—Ahmad Shah Durrani (Pashto Poet)*

held a nationwide Loya Jirga (Grand Assembly) in June 2002, and Karzai was elected President.

Despite these developments, most of the people in Afghanistan continue to live in fear of oppression and violence. With only about 20,000 peacekeepers and Karzai's inability to control any part of the country outside of Kabul, Afghanistan has come under the power of warlords who siphon federal funds and participate in illegal opium trading to finance their own personal militias. Only a fraction of the duties and taxes collected by provincial leaders find their way to the central government. UN experts expect this year's crop to yield 3,600 tons of opium; that makes up three-fourths of the world's heroin. Also, some of the warlords are as brutal as their

predecessors. The Kabul-based Afghan Independent Human Rights Commission has observed Afghan commanders eliciting forced marriages, making illegal land grabs in Kabul and performing several executions.

In addition to these problems, the Taliban continues to maintain a presence in areas of the south. Taliban leader Mullah Mohammed Omar, in hiding, is said to be controlling nearly a third of the country's territory. New offensives and more troops were deployed by the United States in the spring of 2004 in efforts to capture terrorist leader Osama Bin Laden and end Taliban control of the south. Years of conflict have left Karzai with the task of rebuilding demolished roadways and bridges and helping a large segment of the population gain basic resources such as

continuous power and running water.

The Continuing Problem of Landmines

Afghanistan's greatest man-made environmental problem is, of course, landmines. Planted by Soviet troops, the Mujahedin and the Taliban, some estimate the number of landmines in Afghanistan to be around 40 million. The types of landmines found there make up a smorgasbord of varieties. Deminers have encountered over 50 types of AP (blast and fragmentation) mines and the AT mines of eight different countries. More than half of these varieties were of Russian/CIS origin. The most common AP mines found are PMN, PMN-2, POMZ, POMZ-2, Type 72 and OZM 3/72. The AT mines found are mostly Russian TM (46/57), TC-6 and Pakistani P2.

Most of these landmines are concentrated in the western, eastern and southern regions of the country. They are scattered indiscriminately through both urban and rural areas restricting commercial and agricultural growth. They also line many of the transport roads hindering safe and timely transportation throughout the country. Despite continuing efforts to clear land in Afghanistan, unstable security and limited resources have kept it on the top of the list of the world's most mine-infested countries. According to the International Campaign to Ban Landmines (ICBL), "Landmines contaminate all but two of Afghanistan's provinces and are scattered over an area of more than 780 sq km, including towns and villages, grazing land and roads."² These landmines were responsible for 1,286 deaths in the year 2002 alone.

Recent and prior conflict has also left large amounts of UXO, which have killed another 154 people and left 1,132 injured in 2002.³ Highly explosive bombs, cluster munitions and missiles were used in great numbers during military operations of coalition forces since October 2001. The additional UXO compounds the problem of landmines and further debilitates the population. Efforts to clear the land of both landmines and UXO have been frustrated by its rugged terrain and political instability.

Deminers and demining agencies in Afghanistan have faced some difficulty in clearing certain areas that lack adequate security. UN demining staff was forced to halt demining activities along parts of the road between Kabul and Kandahar after a series of

attacks in the beginning of May 2003. After another attack, deminers in six southern provinces began traveling with local armed escorts to ensure safety. Finally, on May 22, the United Nations suspended all demining activity in 10 provinces of southern and southwestern Afghanistan, as well as along a road from Kabul to Jalalabad. Deminers were then redeployed to other regions. Attacks continued into June when a rocket was launched into a demining camp, failing to damage or hurt anyone. Nine deminers were injured in yet another attack, which prompted the United Nations to conduct a review of the security situation. In July 2003, UN operations were resumed in all provinces with added security measures in place.² In February 2004, violence against deminers struck once again when suspected Taliban gunmen killed four deminers working for the Organization for Mine Clearance and Afghan Rehabilitation (OMAR) in the western part of the country.

In response to this recent tragedy, Mine Action Center for Afghanistan (MACA) spokesperson Takuto Kubo writes: "We never send deminers to areas where factional fighting or military operations are going on, and also areas that [the United Nations] thinks high risks of security instability and possible security incidents. However, these attacks happen where deminers have been safely operating for a long time, so it is hard to predict and prevent (as was the case in most of terrorist attacks in anywhere in the world). It also means that local people in urgent need of mine and UXO clearance may not be able to receive our clearance and mine risk education due to our suspension of operations."³

Avoiding the Fate of Sisyphus

The United Nation's oldest mine action program is the Mine Action Program for Afghanistan (MAPA) (in operation since 1989). It, along with scores of non-governmental organizations (NGOs) and UN affiliates, has been working diligently through war and peace to reduce the massive numbers of landmines in Afghanistan. Despite nearly 15 years of effort, however, Afghanistan continues to be one of the most mined nations in the world. Although the Taliban have been ousted from national power, lingering Taliban elements in the south and east continue to use landmines as booby traps against occupying forces. Last June, two U.S. soldiers were killed

when their vehicle drove over a manually detonated mine in the city of Asadabat. Renewed conflict and bombing continue to increase the number of UXO. Like the mythic figure of Sisyphus, who was doomed to ceaselessly roll a rock to the top of a mountain and watch it roll back down again, so have mine action workers in Afghanistan watched the size of their task grow with each new offensive.

Mine action in Afghanistan is not a Sisyphusian task, however, because perceptible progress has been made. In the past three years especially, with the relatively greater freedom of post-Taliban rule, mine action workers have accomplished much in terms of policy, clearance, awareness and victim assistance. According to the *Landmine Monitor*, funding for mine action has quadrupled since 2001, totaling approximately \$64 million (U.S.). About \$51.4 million of this was provided through UN MACA and about \$12.9 million was provided through bilateral donations and in-kind contributions. Japan continues to be the leading donor of funds, giving a total of \$21.2 million in 2002. The European Commission (EC) and the United States were second and third respectively in donations.

Stockpile Destruction

Minister of Foreign Affairs Abdullah signed the Mine Ban Treaty on July 29, 2002, which officially went into force last March. After the government acceded to the Treaty in September 2002, a few of the provincial authorities were willing to hand over stockpiled mines and explosive ordnance (EO). At that time, an explosive ordnance disposal (EOD) team from the Afghan Technical Consultants (ATC) went to these provinces and destroyed 400 AP mines, 500 mortars, 1,000 projectiles and 200 fuses. Currently, ATC has 12 EOD teams, each consisting of 14 men, working throughout the country. In their 14 years of operation, ATC has located and destroyed a total of 3,437 AT mines, 143,392 AP mines and 1,611,676 items of UXO. The ministry of defense plans to conduct a countrywide assessment to prepare an inventory list of the number, location and type of mine caches before creating a comprehensive plan for stockpile destruction.

Survey and Assessment

Survey and Assessment has been problematic in recent years due to an explosion of economic regrowth in urban sectors. This has caused an increase in the need for

by Kimberly Kim, MAIC

clearance activities in reconstruction projects. According to Takuto Kubo, Surveyors must now try to balance humanitarian needs with the needs of development. Prioritizations of mine action activities have made a perceptible shift towards reconstruction and development due to post-conflict security issues in 2002 and 2003. The Mine Clearance Planning Agency (MCPA), with oversight and monitoring by the Survey Action Center (SAC), started a new 14-month survey in June 2003. The following are some tentative survey and destroyed devices figures for 2003.

Clearance

According to the Landmine Monitor, about 263 sq km of mined land has been cleared in addition to 422 sq km of battlefield areas from 1989–2002. In that time, over 268,000 AP mines, nearly 13,000 AT mines and over 2,488,000 items of UXO were detected and destroyed. Below are tentative figures for the year 2003.

Through February 2004, ATC had cleared 82.4 sq km of high-priority mined areas and 192.7 sq km of former battlefields. It is currently working to clear battle and minefield areas in and around the Kabul International Airport, the Kabul-Jalalabad Highway and nearby secondary roads that could serve as alternate routes to the highway. ATC is also working on a few clearance side projects on provincial roads (funded by the U.S. Agency for International Development) and at the Sardeh Dam in Ghazni province. The organization currently has 25 manual minefield and battle area clearance teams of 40 men each (including operations and support staff), and 10 mechanical clearance units using excavators, backhoe loaders or rotary cutters. As the first organization to implement a Demobilization, Disarmament and Reintegration of Ex-combatants (DDR) Program in the northern Kunduz province, ATC has succeeded in facilitating the absorption of 110 ex-combatants into a clearance, mine risk education (MRE) and permanent marking program. Last February, ATC started a new DDR program in Parwan province (north of Kabul) with 49 enrollments.

The main agencies working on clearance, in addition to ATC, are the Agency for Rehabilitation & Energy Conservation (AREA), the Danish Demining Group (DDG), the Demining Agency for Afghanistan (DAFA), the HALO Trust, the Mine Detection and Dog Center (MDC),

OMAR, MCPA, the Monitoring, Evaluation and Training Agency (META) and RONCO Consulting Corporation under contract to U.S. Department of State. AREA is an Afghan NGO established in 1993 devoted to community mine clearance. DDG is an international NGO working in various regions. DAFA clears battlefields and mined areas mainly in southern and western regions of the country. The HALO Trust began demining in Afghanistan in 1988 and clears multiple types of areas, mainly in the central and northern regions. The MDC has been training mine detection dogs (MDDs) and handlers since 1989. OMAR conducts both mine awareness and clearance activities. The MCPA primarily conducts surveys of mine- and battlefields. META is responsible for training and the monitoring and evaluation of mine action operations. RONCO Consulting Corporation is a U.S. commercial mine clearance contractor working with 13 Jordanian engineers to demine areas in Bagram and Kandahar.

Pakistan recently announced the planned start of the Torkhum-Jalalabad highway construction project in May 2004. With an estimated cost of \$20 million, the road is due to be completed by June 2005. With surveying already done, deminers are currently working to clear the area for construction.

Mine Risk Education (MRE) and Victim Assistance

MRE in Afghanistan has three focus groups: returning refugees, children, and aid workers and journalists. The programs utilizes such approaches as MRE briefings at schools, informal education for women and girls, sessions held in mosques, community centers or clinics, and mass media campaigns. The *Landmine Monitor* states that at least 12 NGOs have been providing MRE to civilians and refugees in high-risk areas. These organizations are OMAR, AREA, HALO Trust, the Association for Aid and Relief, Japan (AAR), Ansar Relief Institute (ARI), Save the Children—USA, the Afghan Red Crescent Society (ARCS), Handicap International Belgium (HIB), MCPA, the BBC Afghan Education Project, DAFA, META, and the Afghan Campaign to Ban Landmines (ACBL).

Conclusion

Afghanistan has a long history as one of the world's great centers of culture and art. It produced such cultural icons as famed Central

Asian poet Rahman Baba and the ancient religion of Zoroastrianism. Once the seat of the great Mogul empire, it boasted some of the richest archeological artifacts in the world (most of which are now either looted or destroyed). Afghanistan's indomitably rich traditional culture, however, remains intact despite decades of warfare that have destroyed most of its tangible artifacts and relics.

The beauty and depth of Afghanistan and their land persist despite the ravages of war, famine and economic instability. Their ability to endure is a trait that seems to have passed on to the mine action workers from around the world who have been vigilantly working for over a decade to clear the land of mines. As the poet Durrani elicits, it is not the barrenness of Afghanistan's deserts that draw him, but the oneness he claims with them. The sense of home that Durrani describes in his poem remains in the hearts of Afghans today, fueling their tenacious affection for what we perceive to be mere desert. For this reason, millions of Afghan refugees have returned and continue to return to their still-dangerous homeland. Their determination to reclaim this broken land motivates the world to strive with them.

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* Photo *do AP*.

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International Conference Assembles Military Considerations within Mine Action Technology Trends, continued from page 63

Standardization (CEN) Workshop⁷ activities on standardisation are deemed useful and necessary, certainly for manufacturers, but the timeliness of the activities is questioned in the presence of a shrinking market.⁸ Standards should gain acceptance also by the end-users and manufacturers before getting maximal utility. Practical questions of end users should be taken into account, e.g., the appropriate footprint size at a specified depth (Vernon Joint) in relation to full area coverage. Standardisation in general could be useful as one of the elements in procurement decisions of existing tools.

End-User Needs vs. Technology Development: Scientific Approaches Have Yet to Mature

Initial steps towards a scientific approach to economic modelling of cost-effectiveness of demining technologies were proposed by R. Keeley as an alternative or complement to the ad hoc analyses of today.⁵ The main challenge will be the acceptance of the models and their ability to be tuned to local circumstances. One of the main identified bottlenecks is the availability and the certainty of the input information. The latter

problem is related to the previously raised question: How does one ensure adequate and exchangeable reporting from mine actions? Solving this question is an essential prerequisite for further development of economic models, ICT decision support systems, information systems and socio-economic impact studies that can identify priority and less useful areas for demining operations.

Research, Development and Deployment, Shifting Towards Community Restoration and Evidence-Based Risk Management

The thinking behind the following three observed evolutions converges towards a similar way to move forward, and it calls for the investigation of a paradigm shift in research, development, deployment and donor attitude from humanitarian demining towards restoring local communities and evidence-based risk management.

1. At the organizational level in ECFP6, R&D on humanitarian demining is part of "Improvement of Risk Management." The text of the "Call for Proposals" is technically oriented towards (open) system development and should be interpreted as a transcription of the global objective to achieve high-level society benefits.⁹

2. At the level of field actions, in practice, mine action centres (MACs) are adapting their priorities to those of the locals. Avoiding famine by food supply, medical assistance and agricultural activities or restoration of water sources might come first before the removal of mines. S. Grainger presented a case study in Lebanon in which urban restoration of the infrastructure started before the contracted demining organisation had the opportunity of fully removing the mine threat.⁵ In certain situations, the risk of famine or socio-economic failure might either subjectively be perceived or objectively be higher than the mine threat, influencing the priority of action. Ranking of risks is implicitly made.

3. At the level of designing models and R&D, J. Trevelyan presented a possible model of agricultural exploitation in the presence of AP mine risk.⁵ The model is an initial proposal and includes mine-resistant agricultural machinery development and new agricultural practice. The idea is certainly not mature yet but deserves to be taken up further.

The fundamental question is raised of whether or not this viewpoint is compatible with the Ottawa Convention.³ In our opinion, it is: "the fencing of minefields that have little impact on the socio-economic life rather than their removal" and "prioritising a solution to the threat of famine by cultivating the land rather than to clear it" can be seen as interim solutions to solve urgent local problems causing immediate and high risk, taken up before the actual mine clearance.

The emerging new paradigm also triggered a lot of organisational questions. New views are required on the quality of results and liability defined in terms of achieving acceptable risks, which should be adopted by the donors in their contracts. Probably due to the presence of representatives from several demining companies, the difficulty of the statement of work in the contracts was raised at several occasions: e.g., the specification of quality assurance and the definition of failure. The UN requirement for humanitarian mine clearance efficiency of 99.6 percent is in contradiction to the term "acceptable risk," which primarily depends on the end use of the cleared land.¹⁰

Conclusions and Discussion

The EUDEM2-SCOT 2003 conference has brought together subsets of all players in the field of humanitarian demining. The presentations and discussions were characterised by an increasing maturity, transparency and honesty about the achievements. Views were exchanged frankly between different parts of the community, including analyses of where we have gone wrong.

The authors wish to thank all the EUDEM2-SCOT conference participants, and mainly the ones that have contributed to extracting the general trends, conclusions and open questions described in this paper. Some were obvious to pick up; others were slightly hidden and needed collaborative digging to be extracted. Special thanks go to Karin De Bruyn, Claudio Bruschini, Russell Gasser, Stewart Grainger, Vernon Joynt, Paddy Blagden, David Daniels, James Trevelyan, Chris Weickert, Noel Mulliner, Helmut Kraenzle, Russell Harmon and Francois Littmann.

continued on page 76, **International Conference Assembles Military Considerations within Mine Action Technology Trends**

JAIPUR

Brings Renewed Hope to Landmine Victims in Kabul

Foot Camp

[REDACTED] resident of Kabul, Afghanistan, lost both of her legs in a landmine explosion. After the accident, she felt like a burden to her family. Through an advertisement on television, Faribo heard about the Jaipur Foot Camp and decided to see what it had to offer her. At the camp, she received a light and comfortable prosthesis. Faribo testifies that it has given a new meaning to her life.

It is experiences like this that incite Help Handicapped International (HHI) to organize camps in various parts of the world for the free fitment of Jaipur, an Indian prosthesis. These prostheses have proved to be durable, versatile and cost-efficient.

Background

HHI has focused its work in the strife-torn areas of Kenya, Burundi, Sudan and recently, Afghanistan. The number of landmine amputees in these areas is overwhelming, and concerted relief efforts are limited due to shortages of funding, impassable geographical terrain and inadequate security considerations.

In light of the nearly 300,000 amputees—mostly landmine and war victims—an advance HHI team went to Kabul in August 2003 to explore the possibility of conducting a Jaipur Foot Camp there. Discussions were held and officials promised whatever assistance was possible for the war-ravaged city. It was decided that a one-month camp would be conducted at the orthopedic center inside Wazir Akbar Khan Hospital in Kabul. Although the technicians at this center were inexperienced in Jaipur foot technology, they could provide valuable assistance to the team from India, as well as act as interpreters.

The team working at the camp in Kabul was comprised of a project coordinator, a counselor and experienced technicians. Machinery and raw materials were flown into Kabul from India in October 2003.

In order to notify survivors in the area about the camp, the following steps were taken:

- Banners were hung at strategic places in Kabul, especially at the entrances into Kabul from the provinces.
- Pamphlets were placed at various locations within the city,

on many cabs and buses in Kabul as well as distributed through young people who normally sell newspapers at traffic junctions in Kabul.

- Announcements were made on the local radio and television.
- Journalists from three local newspapers—*Anees*, *Hewad* and *Kabul Times*—were invited to and carried them the activities of the camp prominently in their newspapers.
- An FM channel—Radio Sadai Azadi—also covered the event.
- Kabul television featured the activity in their weekly "Health" program.
- HHI staff went to some health centers around Kabul and requested they send their handicapped patients for free fitting of the prostheses.

This multi-media coverage helped to mobilize beneficiaries and over 400 limbs were fitted at the camp within a one-month time period.

The camp was a unique experience both for HHI as well as the amputees. Indo-Afghan relations have always been warm, so the HHI team was well-received, and they built a rapport with the local officials, beneficiaries and the technicians.

Conclusion

[REDACTED]

* Photo do the author.

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ITEP, continued from page 61

As mentioned in the introduction, during the analysis of the reports, valuable information was also encountered that is related to technical and operational deployment of the equipment. For instance, the report *The Severe Duty Vegetation Shredder Technical Testing of Capability* by the U.S. Night Vision and Electronic Sensors Directorate (NVESD, online at http://www.humanitarian-demining.org/demining/pubs/clearance/svc_test_report.asp) mentions the fact that fence wire tangled up in the rotating machinery and inflicted considerable damage/disturbances during the testing. This finding could also have implications for the operational use of this type of equipment, not only in fenced minefields but also in dense vegetation where liana-like plants can have the same effect. Hours may be needed for the machinery to become operational again. Important feedback from the reader could be an indication that similar information would be worthy of being included in DIETEC.

Final Remarks

Care should be taken when using the term "lessons learned." In general, the process followed for compiling a "lesson learned" is quite complex and consists of an information-gathering and-processing chain spread over a considerable time period. For instance, the Swedish EOD and Demining Centre (SWEDEC) lessons learned project includes several phases such as the collection of an "experience report" using a standard form, which is then analysed and commented on in an "extended experience report." This stage is followed by validation of the information (i.e., Did it happen several times? Is it useful for another organisation? etc.), which leads to the implementation phase and the compilation of the "lessons learned report." A similar process is being applied by the Department of Energy (DOE) Corporate Lessons Learned Collection database, for example. However, this is not the approach followed at present by the JMU MAIC lessons learned database and is, in our opinion, at this moment in time not necessary, mainly due to the given structure of the database.

Both the JMU MAIC database and DIETEC are currently being evaluated by an international team of "experts." No final results are available yet, but preliminary results of the assessment indicate that an important percentage of the DIETEC experiences have been classified as relevant to the T&E process.

The ITEP would like to get your feedback and opinions when you are visiting the database via <http://maic.jmu.edu/iteplessons/> or <http://www.itep.ws/>.

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by Mahendra G. Mehta, Help Handicapped International



OPERATION ENDURING FREEDOM: The Role of Polish Engineers in Afghanistan

The Polish Military Contingent, located at Bagram Base, 65 km from Kabul, has been contributing to peacekeeping missions within *Operation Enduring Freedom* since March 2002. In addition to the platoon's main responsibilities of engineering reconnaissance and mine clearance, the platoon is also responsible for building fortification structures, developing base infrastructure, loading and transporting constructing materials, and conducting different kinds of ground works, mainly in the surrounding area of the base.

The area surrounding Bagram Base is a very difficult area for engineering tasks. The surface of the area is flat; however, there are many hollows from the remains of firing positions, the elements of engineering barrier systems, anti-armoured vehicle ditches, craters, and wire and mine barriers. The diversity of the region, considering the

building techniques and various constructing materials that were used in the past, creates many problems for the Polish engineers. Furthermore, the structure of the ground itself creates problems. Several centimetres of ash cover the ground during the summer, while the spring and the autumn bring mud that forms into a solid shell with the extremely low winter temperatures.

The entire civilian infrastructure in the region was adjusted to support combat action. Firing positions, minefields, engineering barriers and dams are everywhere. Minefield plans and documentation are imprecise or even deliberately misleading. It is very common for actual minefields to lay several metres from the marked minefields, which often lay barren. This is a characteristic of the mine battles that were conducted several years ago in this region. Often, booby traps



were built on the approaches to the firing positions during these battles. The battles also left behind the wreckage of vehicles and planes, abandoned combat equipment and thousands of landmines. In these conditions, it is necessary for Polish engineers to be well-prepared, properly equipped, well-regulated and highly qualified in order to succeed.

At the moment, the priorities for the Polish Engineering Platoon include mine clearance, explosive ordnance disposal (EOD), minefield and road marking, reconstruction of civilian infrastructure, and water purification and distribution. Unfortunately, due to the relief of the ground, location or degree of complication, most of these tasks must be executed manually from the beginning through the end. Clearing minefields around gas stations and ammunition depots or even removing mines from under the wheels of aircraft that had to make an emergency landing in a minefield are examples of those tasks.

Checking the ground is usually done with help of tentacles and detectors. Soldiers working on minefields have anti-mine shoes that at least partially protect them from the detonation of AP mines. When the terrain allows, a mine flail is used for clearing minefields, which can clear about 250 sq m of the ground in one hour. However, there is often the necessity to prepare the terrain before and check it after sweeping. For clearing terrain of AP mines, heavy chain sweeping gear is used (Hydrena). In favourable conditions, the Hydrena can clean 700 sq m of the ground in one hour. When there is a risk of damaging the sweeping gear or it cannot be used due to the relief of the ground, bunch charges of explosives are substituted.

The occurrence of extremely large amounts of artillery, aerial and anti-aircraft ammunition, from manual grenades to scatterable mines, gas-fuel bombs, and a variety of AP and AT mines, poses an enormous threat for the Polish engineers. According to statistics, Polish engineering platoons in this region can recognize and clear areas an average of about 15 ha of mines, defuse about 300 AP mines, 20 AT mines, 60 scatterable mines of different types, 20 aerial bombs, 30 missiles and artillery shells, 30 mortar bombs and manual grenades, 80 bomb fuses of different types, 50 different ammunitions, and about 80 other dangerous items.

Despite enormous work and effort, the Bagram Base is continuously in danger. Missile or bomb attacks, ambushes and mine traps are no rarity. However, there is an atmosphere of mutual respect and eagerness for accomplishing tasks in the Polish contingent. The support of the contingent commander, the chaplain and the soldiers themselves keep spirits high during this difficult period of their lives.

**Photos clo the authors.*

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by Col. Boguslaw Bebenek, Hanna Madziar and Capt. Wojciech Chyla, Polish Land Forces

25 August 2021

This article has been temporarily removed. We apologize for any inconvenience.

Sincerely,
The Journal of CWD

The OTTAWA CONVENTION in Perspective

Seldom has a name caused such polarity among like-minded people, in this case those concerned with mine action. The Anti-Personnel Mine Ban Convention (APMBC) of 1997, commonly called the "Mine Ban Treaty," or more often the "Ottawa Treaty," is loved by some—loathed by others. To some it is the lynchpin of mine action activities, to others it is a distracter from pragmatic mine action challenges. Some will not take action against mines without "it" being invoked, others will not take action if "it" is invoked.

As an American involved in the mine action community, being a citizen of a major non-signatory to the convention, I often feel the scorn of Ottawa boosters. Usually this comes in the form of icy silence (I am often given the role of the Invisible Man at APMBC-related gatherings), and sometimes via obstructionism. But as the director of a global outreach center, I also observe the disdain of "Ottawa" doubters who seem to have little time for reflection on the benefits of the convention.

As we approach the review of the APMBC, I think it is time to take a forthright look at it and have the courage and good sense to accept it for what it is and does—and what it is not and does not do.

The Stigma of Landmine Use

The "Mine Ban Treaty" has certainly chilled the production, use and transfer of landmines. The public's knowledge about the latent landmine threat has, to some degree, been engaged by Princess Diana and the APMBC. But even among policy makers and the international community, there is no doubt that the issue of anti-personnel landmines has come to the fore largely because of the dialog, meetings, discussions, and provisions of the convention and that the doctrinal



and conventional use of landmines has been dramatically reduced because of the stigma attached to them. This is no small feat and provides a global mindset within which mine action can now effectively take place.

Stockpile Destruction

Another clear benefit of the APMBC is that it has provided a finite, acceptable and measurable way to destroy stockpiles of anti-personnel landmines. We need not assume that all landmines that have been thus destroyed were viable or that all landmine stocks have been accurately accounted for. The salient fact is that massive numbers of landmines have been systematically destroyed and that national programs brought into being for this purpose have been not only successful, but have facilitated the coordination of complementary humanitarian efforts within some countries. Indeed the use of some military organizations to carry out the destruction of landmine stockpiles has enhanced their role in humanitarian efforts.

Communication, Coordination and Consensus

A third effect of the APMBC is that it has focused much attention and facilitated much action on the activities and functions of what we have come to call "mine action." Without the meetings of the Intersessional Workgroups, steering committees, the submission of reports and presentations, many governments, non governmental organizations (NGOs), donors, and the United Nations would not have been able to define and propose action plans to address the wide scope of mine action challenges. The pure act of having real-time discussions among groups that might ordinarily never see one another, much less engage in dialog, has led to new partnerships, new approaches to mine action activities, and if not always a clear consensus, then at least a greater understanding of the problem and an awareness of others engaged in the effort. The fact that national governmental agencies of countries at risk are routinely coordinating with NGOs, visiting militaries, the United Nations, regional organizations and donor countries is truly amazing. The meetings of the various venues of the APMBC provide a good sounding board in which ideas compete for attention and general approval.

Restriction of APLs by the Convention on Conventional Weapons

On the other hand, the APMBC is not the only international instrument to restrict the use of anti-personnel landmines, but for some reason, many "Mine Ban Treaty" advocates often fail to add the authority of Protocol II of the Convention on Conventional

by Dennis Barlow, Director

RESEARCH, TECHNOLOGY and DEVELOPMENT in MINE ACTION



The Journal of Mine Action is soliciting articles for its new Research, Technology and Development section, which will appear every issue in the JMA. All articles on current trends and developments in R&D will be considered for this new section. Topics will include but not be limited to:

- Detection and Neutralization
- Mechanical Equipment
- Manual Equipment
- Data Fusion
- Bismore (to include dogs, rats, bees)
- GIS, Mapping and Terrain Analysis
- Personal Protective Equipment
- Demining Tools
- Metal Detectors
- Needs of Users
- Lessons Learned in the Field
- Test and Evaluation
- Information Technology
- Mine Detection Test Facilities
- Landmines, ERW and Ordnance



Submission Guidelines (Preference will be given to articles meeting the submission guidelines):

- Articles must be 1500-3000 words, submitted in digital format (i.e., Microsoft Word .doc). DO NOT EMBED photos in article.
- ALL ARTICLES MUST CONTAIN A TITLE, AUTHOR and the AUTHOR'S FULL CONTACT INFORMATION at the end of the article.
- Images may be sent as originals or scanned at 300 dpi and submitted on CD or Zip disk. ALL PHOTOS MUST CONTAIN CAPTION and CREDIT INFORMATION.
- Line art, graphics and charts should be scanned at 600 dpi or better.
- Original photos and graphics are encouraged and will be returned. (Please do not embed images into documents, as the resolution becomes unusable for printing.)

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Call for Papers!

International Conference Assembles Military Considerations within Mine Action Technology Trends, continued from page 67

Endnotes

1. P. Busquin discussion: http://www.eudem.vub.ac.be/eudem2-scot/open_speech/busquin.pdf.
2. See <http://www.ejil.org/journal/Vol9/No4/art5-03.html>.
3. Ottawa Convention: http://www.mines.gc.ca/VII/VII_AA-en.asp.
4. James L. Jones discussion: http://www.eudem.vub.ac.be/eudem2-scot/open_speech/jones.pdf.
5. H. Sahli, A. M. Bottoms, J. Cornelis (Editors). EUDEM2-SCOT-2003, "International Conference on Requirements and Technologies for the Detection, Removal and Neutralization of Landmines and UXO," Volumes 1&2, pp. 3-26, 32-40, 56-63, 78-81, 93-98, 162-165, 233-248; September 2003. VUB, Brussels, Belgium, ISBN 9080826111.
6. J. Cornelis, A. Craib, R. Voles. "Strategic Study of the Humanitarian Demining Prospects, the Role of RT&D Analysed as a Europe-Wide Issue: Proposal to Stimulate Commitment of European Industry in the Development of Improved Systems for Humanitarian Demining;" DG INFSO-IST; November 15, 2000. <http://www.eudem.vub.ac.be/publications/Files/StrategicStudy.pdf>.
7. IMSMA: <http://www.imsma.ethz.ch/>.
8. CEN Workshop 7: <http://humanitari-an-security.jrc.it/demining/cw07/>.
9. IST FP6 Call "Improving Risk Management," <http://www.cordis.lu/ist/so/risk-management/ho me.html>.
10. Ottawa Convention Intersessional Work: Standing Committee of Experts on Mine Clearance: http://www.gichd.ch/docs/minebantreaty/clearance/1st_SCE99/mineclearancedraftreportSept99.htm.

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proselytize, new mine action programs and "believers," are sometimes tasked first to advocate the cause of the Mine Ban Treaty. Thus, before settling down to the business of mine action plans, they often undertake a priority mission of educating national officials and agencies about the importance of accepting and promoting the APMBC. While this may help motivate mine action workers and officials, it may also sap energy from operational initiatives and dilute effectiveness. But perhaps the worst spin-off of universalization is that it has exacerbated a "we/they" gulf between signatories and non-signatories.

Inclusiveness, Not Exclusiveness

We, at the Mine Action Information Center, think it is time for the APMBC detractors to give the convention an honest appraisal. In addition to the benefits mentioned above, we point out the recent trend of the implementers of the convention to include non-state parties as participants in meetings and discussions. We observe convention officials discussing and facing up to difficult questions such as how to deal with the landmine threat from non-state actors. We applaud the convention's recognition of de facto adherence to the convention by some non-signatories.

But the Anti-Personnel Mine Ban Convention is a tool; it is not holy writ. To the extent that it helps ameliorate the effects of anti-personnel landmines it is a very positive and useful tool. But it should be used in conjunction with other tools, like the CCW, to increase its effectiveness, and its advocates need to remind themselves that it is the results, not the process that is important. Self-righteousness seldom produces an environment of mutual respect and cooperation. We hope that as the "Ottawa process" is reviewed and renewed, the APMBC takes as its goal the actual effectiveness in reducing human misery and not in its exclusivity.

* Photo c/o MAIC.

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tional Weapons (CCW) to the weight of the Ottawa Treaty. The fact is that the attempt at interpretations of Ottawa provisions suggests several gaps, such as definitive guidelines for the use of anti-handling devices (which may actually be anti-personnel landmines), the use of cluster bombs, remotely triggered anti-personnel landmines and other "area denial" measures to include chemical, microwave and acoustic weaponry. The CCW prohibits the use of landmines, that do not have effective self-destructing or self-deactivating mechanisms, prohibits the employment of mines in any populated area not involved in combat operations, and requires that all APL contain at least eight grams of metal so that they can be easily detectable.

The Cacophonous Nature of the Ottawa Process

One of the great strengths of the APMBC is one of its great weaknesses. The inclusion of so many voices of so many interested parties, leads to various disjointed situations. With NGOs playing such a key role in molding and selling the treaty, they necessarily have a large role in maintaining its momentum. Yet sovereign states, which are required to implement the treaty, often feel "directed" by ad hoc steering committees and treaty machinery headed by NGO activists. This has caused some friction and some confusion when it comes to knowing who "owns" the treaty and who has authority to enforce it. The role of non-signatories, who are now urged to participate in Mine Ban Treaty activities, and non-state actors, who comprise the largest segment of the APL-users in today's world, have further blurred specific treaty provisions and responsibilities.

Universalization—To What End?

One stated goal of the "Ottawa Treaty" advocates is to make its provisions universally accepted and respected. One sometimes wonders if this enabling goal has not achieved the status of substantive goal, which may result in stressing bureaucratic or political objectives in favor of achieving actual mine action operation results. In much the same way that new converts to a religion are often exhorted to



Journal of Mine Action

Call For Papers Issue 8.2

Mine Action in Central and South America

Special Feature: Non- State Actors and their impact on humanitarian mine action.

This issue of the Journal will focus on landmines in Central and South America and organizations with activities and regional mine action efforts in those countries. Countries of particular interest are: Argentina, Chile, Colombia, Costa Rica, Ecuador, El Salvador, the Falkland Islands, Guatemala, Honduras, Nicaragua, and Peru. This issue will cover all aspects of humanitarian mine action including clearance, minefield management, survey and marking, mine area reduction, victim and survivor assistance, and mine risk education. Articles describing success stories and challenges are encouraged.

Deadline for submission: Aug 23, 2004

Submission Guidelines (Preference will be given to articles meeting the submission guidelines):

- Articles must be 1500-3000 words, submitted in digital format (i.e. Microsoft Word .doc). DO NOT EMBED photos in article.
- ALL ARTICLES MUST CONTAIN A TITLE, AUTHOR and the AUTHOR's FULL CONTACT INFORMATION at the end of the article.
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