

# Journal of Conventional Weapons Destruction

---

Volume 7  
Issue 1 *The Journal of Mine Action*

Article 28

---

April 2003

## Mine Detection Dog Program: The Cambodian Experience

H.E. Khem Sophoan

*Cambodian Mine Action Centre (Cambodian Mine Action Centre (CMAC))*

Follow this and additional works at: <https://commons.lib.jmu.edu/cisr-journal>



Part of the [Defense and Security Studies Commons](#), [Emergency and Disaster Management Commons](#), [Other Public Affairs, Public Policy and Public Administration Commons](#), and the [Peace and Conflict Studies Commons](#)

---

### Recommended Citation

Sophoan, H.E. Khem (2003) "Mine Detection Dog Program: The Cambodian Experience," *Journal of Mine Action* : Vol. 7 : Iss. 1 , Article 28.

Available at: <https://commons.lib.jmu.edu/cisr-journal/vol7/iss1/28>

This Article is brought to you for free and open access by the Center for International Stabilization and Recovery at JMU Scholarly Commons. It has been accepted for inclusion in Journal of Conventional Weapons Destruction by an authorized editor of JMU Scholarly Commons. For more information, please contact [dc\\_admin@jmu.edu](mailto:dc_admin@jmu.edu).

# Mine Detection Dog Program: The Cambodian Experience

In the seven years since its creation, Cambodia's Mine Detection Dog (MDD) Program has grown and developed to become a fully integrated part of the country's mine clearance strategy. This article highlights the program's history and achievements.

by **H.E. Khem Sophoan,**  
*Director General, CMAC*

## Background

The MDD Program was first introduced at the Cambodian Mine Action Center (CMAC) in late 1996, three years after the establishment of the CMAC institution. The aim of using MDDs has been to fill a technical gap within CMAC in order to accelerate mine clearance progress. Integrated training for both dogs and Cambodian handlers started in January 1998. Technical experts from the Swedish Armed Forces conducted the training, and the MDD program at CMAC became operational in June 2000, starting with two teams.

## Why MDDs?

Experts would agree that MDDs are extremely sensitive in detecting tiny pieces of explosive material—TNT in particular—and ignoring non-explosive metal. The primary purpose of using MDDs at CMAC was to locate and define the boundaries of minefields. This is known as area reduction. Our experience over the last five years or so has proved that MDDs are more effective than manual clearance in areas with heavy laterite or hard ground, areas where metal fragments are scattered abundantly, or places where deeply buried mines are suspected. The dog team has a big advantage over the manual demining teams who are using metal detectors to

locate mines. The dog uses his sensitive nose to locate explosives, while a metal detector will find any piece of metal, which then has to be treated as a potential mine. The consequence of this is that time is wasted in investigating pieces of metal that can turn out to be anything from nails to spent bullets. When MDDs mark a spot on the ground, there will always be explosives nearby.

## Organization of MDD Teams

An MDD team at CMAC consists of a supervisor and an assistant, six dog handlers, six close markers taking care of any brush cutting or any demining with metal detectors, and three drivers who also act as medics if needed. This gives one CMAC MDD team 17 personnel.

## Method

The method for working with dogs is both easy and hard. The easy part is to teach the dogs to find the smell of TNT, a substance found in mines and UXO. This is quite similar to the way we use narcotic dogs and other sniffing dogs. The hard part is to be able to read the smallest sign the dog sends out. When dogs sense the smell of TNT, they will sit or lay down to show their handler that there is an explosive device near by. This is called marking; it was developed for Cambodian conditions, and it gives the handlers control over their dogs at all times.



## Core Activities of MDD Program at CMAC

Currently, three main activities are carried out within the MDD project: training, operations and veterinary services.

### Training

MDD training is conducted at the CMAC Training Centre, located in Kampong Chhnang province, 90 km northwest of the capital, Phnom Penh. CMAC is committed to a sustainable training program to support MDD operations for both expansion and replacement purposes. The program's MDDs mainly come from Germany and Sweden.

### MDD Operations

At present, CMAC deploys five MDD teams—two teams each in Battambang and Banteay Meanchey and one team in Pursat. Another 35 or so dogs are currently being trained with plans to increase the capacity of CMAC's MDD program to the strength of seven teams by the year 2005.

In operations, MDDs have been deployed to support manual demining in

■ A trainee dog rests during a training session at the Training Center in Kampong Chhnang.

## Mine Detection Dogs

■ (Left) An MDD team during a training session at CMAC Training Centre in Kampong Chhnang province. (Below) A small team of MDDs, part of MDD Team 5 being deployed in Pursat Province, stands ready for another day's action.



areas with high concentrations of metal fragments and highly mine-contaminated areas. Aside from mine clearing work, they have also been used to conduct quality control inspections.

### *Veterinary Services*

The veterinary service plays an important role within the project. Its role is to provide both medical and health care support for all mine dogs. A local veterinarian has been selected and trained in Sweden on specific canine surgery

operations, which has enabled the national staff at CMAC to handle a number of vet-related issues, such as

- Daily health control
- Weekly examination
- Monthly anti-parasite program
- Annual vaccination
- Minor surgery
- Preventive measures

### Assuming the National Ownership

After nearly six years of administration by Sweden, the MDD program was finally handed over to the CMAC on Saturday, 14 December 2002. This was another positive step toward a greater national ownership of the management process for CMAC. The national staffs are now taking full ownership of the program, from managing the dog training program to conducting operations in the minefields.

Unique to the MDD program is also the fact that it is a program that allows Khmer women to work in field operations as dog handlers. Thanks to the Swedish government's invaluable contributions, this project has been successful.

### Challenges in Managing the MDD Program

We have to acknowledge that we are also facing difficulties while we are running the MDD program, for example the limited facilities and skills within the veterinary services. The following are urgently needed:

- Lab (Diagnosis)
- Severe surgery expertise
- Autopsy
- Echography and X-Ray
- Pharmacology

Though MDD teams have been remarkably successful, they could not do so without the support of the mechanical brush cutter. The nature of vegetation in Cambodia makes it difficult for MDDs to even access the minefields. The condition of the tropical weather also makes MDD teams quite costly to operate. As mentioned earlier, all MDDs are bought from European countries, where dogs are used to a colder environment. In Cambodia, we need to have the proper equipment, such as a cooling fan for the doghouse during the night and umbrellas to shade the dogs while they are resting during operations, as the weather is quite hot in this country.

All in all, MDDs are obviously being seen as an important tool in demining by working in cooperation with the mechanical brush cutter and integrating

## Mine Detection Dogs in Cambodia

into the demining toolbox to assist manual demining and conduct quality control. In the near future, the MDD program is committed to playing its role in technical survey, which was recently initiated in its five-year strategic plan for 2003–2007. The task will be a real challenge for CMAC.

### Clearance Achievements Made by MDD Teams

The following charts (Figures 1 and 2) indicate the productivity of CMAC's MDD teams over the last three years. From

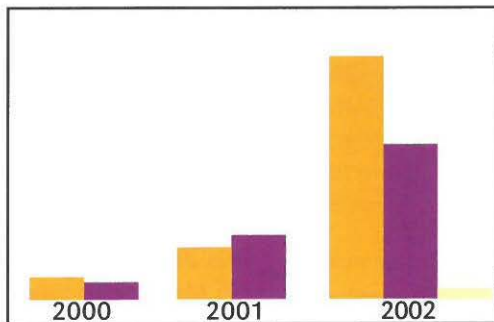
the initial two trial teams in 2000, the productivity surged more than 10 times in 2001 with two additional MDD teams added to the program's strength. The productivity for 2002 remained remarkably high—double that of year 2001 with an additional MDD team added to the capacity. What makes CMAC even more proud of the MDD program has been the safety of our personnel and dogs during operations. We have a record of zero accidents within the MDD operations since the introduction of the program into field operations. ■

*\*All graphics courtesy of the author.*

### Contact Information

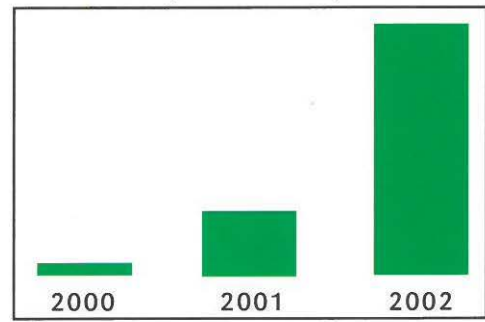
H.E. Khem Sophoan  
 CMAC Director General  
 Bldg 10-12, Road 528  
 Quarter Boeung Kak 1  
 District Toul Kork  
 PO Box 116  
 Phnom Penh, Cambodia  
 Tel: 855-12-722-333 (mobile)  
 Fax: 855-23-360-096  
 E-mail: [khsophoan@cmac.org.kh](mailto:khsophoan@cmac.org.kh)  
 Website: <http://www.camnet.com.kh/cmac>

**Figure 1: CMAC MDD Productivity 2000–2002 (Ordnance Found)**



■ AP Mines Found	12	52	221
■ UXO Found	9	60	134
■ AT Mines Found	0	0	10

**Figure 2: CMAC MDD Productivity 2000–2002 (Area Cleared)**



Area Cleared (in sq m)