

# Effects of Landmines on Sri Lanka

In Sri Lanka, statistics show people between the ages of 20 and 45 are the most likely to be injured by landmines. When they are disabled, they become a burden to the country's economy, requiring assistance instead of contributing to the country's growth. This article discusses how landmines affect Sri Lanka and the efforts being undertaken to lessen their impact.

by K.T. Manjula Udayanga Hemapala [ University of Genova ]

The Tamil people moved from the southern part of India to Sri Lanka around the 14th century, and they struggled with the kingdom of Sri Lanka on and off throughout history. Since 1983, a Sri Lankan separatist group, the Liberation Tigers of Tamil Eelam, has fought with the central government of Sri Lanka for a separate homeland for minority Sri Lankan Tamils. The decades of conflict have resulted in the destruction of large areas of fertile agricultural lands, commercial areas, residential areas, roads and water resources. Later, as people tried to resettle these areas, they encountered landmines and many became disabled.

## Mine Ban Convention

The Sri Lankan government has not signed the Anti-personnel Mine Ban Convention.<sup>2</sup> Both the government and Tamil Tigers formally committed to a ceasefire in 2002,<sup>3</sup> but there has been a sharp increase in violence since President Mahinda Rajapakse came to power in November 2005. Government security forces are currently engaged in a limited operation in Trincomalee to reopen the Mawilaru anicut<sup>4</sup> that was closed by the Tamil Tigers. It provides water to over 15,000 families and approximately 30,000 acres of paddy lands in the Seruwila, Muttur and Ichalampattu areas in the Trincomalee district. According to government sources, the Mawilaru area was heavily mined by LTTE forces in an attempt to slow Army progress.<sup>5</sup> According to the *Landmine Monitor Report* for Sri Lanka, there still are 700,000 anti-personnel mines in the ground.<sup>6</sup>

## Mine Clearance

Mine-clearance activities have expanded greatly since the February 2002 ceasefire. The HALO Trust, Tamils Rehabilitation Organisation's Humanitarian Demining Unit, Mines Advisory Group, Norwegian People's Aid, *Fondation Suisse de Déminage*, the Sri Lankan Army and RONCO Consulting Corporation are engaged in demining work in Sri Lanka.<sup>7</sup>

Currently there are three main approaches to humanitarian mine clearance in Sri Lanka:



The Bozena 4 can clear about 2,500 square meters per hour in light soil and 520 square meters per hour in heavy soil. PHOTO COURTESY OF DUSAN KRISSAK

1. **Manual clearance**—an effective but slow process.<sup>8</sup>
  2. **Manual clearance with support of mine-detecting dogs**—a good method but very difficult in some areas, because the dogs can become confused if they smell explosives coming from several sources at once.
  3. **Mechanical clearance**—the fastest method, but less effective.
- The speed of manual demining is approximately 25 square meters (30 square yards) per hour. Using explosives-detecting dogs is also a rather difficult process because the effectiveness of the dogs depends entirely on their level of training and the skill of their handlers. Also, all EDDs are brought from foreign countries and are not used to the Sri Lankan climate, so they tire quickly. Mechanical mine clearance is the fastest method employed in Sri Lanka. The MV-4 Mini Flail System<sup>9</sup> has an average speed around 2,000 square meters (2,400 square yards) per hour for light soil and 1,000 square meters (1,200 square yards) per hour for heavy soil. The Bozena 4<sup>10</sup> clears around 2,500 square meters (3,000 square yards) per hour for light soil and 520 square meters (620 square yards) per hour in heavy soil.<sup>11</sup>

Cost for manual demining	
Average cost per deminer	US\$10,000/year
Daily working hours	6 hours
Speed of a manual deminer	25 m <sup>2</sup> /h
Working days per year	240 days
Specific cost of manual demining	\$10,000 / (6 hours/day x 240 days x 25 m <sup>2</sup> /h) = US\$0.28/m <sup>2</sup>

Table 1: Factors that affect the costs of manual demining.

Cost for mechanical mine clearance	
Investment cost for MV-4 Mini Flail System	US\$318,000
Fuel consumption	12 liters per hour
Area demined per year	1500 m <sup>2</sup> /h x 12 hours per day x 240 days = 4,320,000 m <sup>2</sup>
Cost of fuel	US\$1 per liter
Operating cost per year	((12 liters per hour x 12 hours per day) x \$1 per liter)+\$10,000 = \$44,560
Specific cost of mechanical demining	\$44,560 / 4,320,000 m <sup>2</sup> = \$0.10/m <sup>2</sup>

Table 2: Costs for mechanical mine clearance in Sri Lanka.

The other most important factor concerning demining efforts in Sri Lanka, after speed and efficiency, is cost.<sup>12</sup> Table 1 shows the factors that affect the costs of manual demining and mechanical mine clearance.

By comparing Table 1 to Table 2, one can see the operating cost of demining machines is less than that of manual demining. However, the most problematic element to mechanical demining is the initial capital expenditure on the machine itself. Sri Lankan technicians are not familiar with the

technology behind the machines mentioned above; therefore, after the warranty period, maintenance costs will be high because the machines will require specialists to fix them and the parts are difficult to find.

### Conclusion

When considering the challenges of demining in Sri Lanka, it is vital to understand the importance of developing new technologies or introducing existing current technology to improve the efficiency



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of the task—but only with proper training. Humanitarian-demining efforts in Sri Lanka are daunting, not only the threat in the ground but due to the tenuous situation between rebel groups and the Sri Lankan government as well. ♦

*See Endnotes, page 111*