

Finishing the Job

REPORT ON THE CANADIAN LANDMINE FUND | 2003-2004



Foreign Affairs
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Acronyms and Abbreviations

AP mines	Anti-personnel mines	ILX	Mine Action Team (Foreign Affairs Canada)
CCMAT	Canadian Centre for Mine Action Technologies	IMASs	International Mine Action Standards
CCW	Convention on Certain Conventional Weapons	ITEP	International Test and Evaluation Program
CEN	<i>Comité Européen de Normalisation</i>	LSN	Landmine Survivors Network
CHA	Cambodian Handicraft Association for Landmines & Polio Disabled	MAC	Mines Action Canada
CIDA	Canadian International Development Agency	MAG	Mines Advisory Group
CIDC	Canadian International Demining Corps	MDD	Mine detection dog
CLF	Canadian Landmine Fund	MRE	Mine risk education
DND	Department of National Defence	NATO	North Atlantic Treaty Organization
EOD	Explosive ordnance disposal	NGO	Non-governmental organization
ERW	Explosive Remnants of War	OAS	Organization of American States
FAC	Foreign Affairs Canada	R&D	Research & development
GICHD	Geneva International Centre for Humanitarian Demining	T&E	Test and evaluation
HCND	<i>Haute Commissariat National de Déminage</i>	UN	United Nations
HI	Handicap International	UNDP	United Nations Development Programme
IC	Industry Canada	UNICEF	United Nations Children's Fund
ICBL	International Campaign to Ban Landmines	UNMAS	United Nations Mine Action Service
ICRC	International Committee of the Red Cross	UXO	Unexploded ordnance
		YMAAP	Youth Mine Action Ambassador Program

Message from the Minister of Foreign Affairs



In November 2002, the Government of Canada announced that it would renew the Canadian Landmine Fund for an additional five years, with a further \$72 million in funding to serve as a catalyst for global mine action efforts. These efforts include the work of clearing mines, assist-

ing landmine survivors, delivering mine risk education and destroying stockpiles. Canada is proud to continue its leadership role in international efforts to implement the Ottawa Convention, which established a new international humanitarian norm outlawing the use of anti-personnel mines. Working with our partners to ensure that the benefits of eliminating this indiscriminate weapon are fully achieved remains a high priority for Canada.

The year 2004 was a special one in the life of the Ottawa Convention. The Convention calls for a review conference five years after its entry into force. This Conference—the Nairobi Summit on a Mine-Free World—took place in Kenya from November 29 to December 3, 2004, and was a very important event in the life of the Convention since it was opened for signature in Ottawa in December 1997. The Summit took stock of the impressive progress to date, agreed on an ambitious action plan for the next five years, and convened world leaders to adopt a statement committing to see the job through.

Canada continues to lead implementation efforts of the Ottawa Convention, and took a leading role in preparations for the Nairobi Summit. Canada's involvement included: a key role as a friend of the President of the Summit; financial support for regional initiatives; providing financial and advisory support to the Government of Kenya; and organizational support for side events at the review conference.

We have seen incredible progress in the lives of people threatened by landmines in every region of the world since the Ottawa Convention entered into force. At the same time, we recognize that the effort must be ongoing to eradicate landmines and protect future generations from the scourge of these weapons. It requires a continued significant mobilization of resources and a sustained

commitment from the international community, including states and partners in civil society. It also means improving coordination and priority-setting in mine action, and better integrating mine activities into development programming.

The progress we have made since the Ottawa Convention was opened for signature inspires confidence and hope. Canada will continue to promote universalization of the Convention, to support its implementation, and to work with other governments and international partners to restore land to safe and productive use in some of the world's most severely mined areas. Together, we are helping countless individuals affected by landmines to rebuild their lives and communities.

THE HONOURABLE PIERRE S. PETTIGREW, PC, MP
Minister of Foreign Affairs

Message from the Minister for International Cooperation



In just a few years since the signing in Ottawa in 1997 of the Convention banning antipersonnel mines, remarkable advances have been made towards the goal of forever ending the suffering caused by antipersonnel mines. Initiatives by the Canadian International Development Agency continues

to support implementation of the Convention.

First and foremost, I wish to express on behalf of all Canadians, my appreciation for the dedicated men and women who risk their lives to remove these terrible weapons and for those who engage in supporting landmine survivors, their families and affected communities.

Following the announcement by the Prime Minister that the Canadian Landmine Fund would receive an additional \$72m over five years (2003-2008), CIDA was again in a position to respond to an increasingly capable mine action community in the delivery of programming in the three main areas of victim assistance, mine risk education and humanitarian demining. Proven national, international and multilateral partners again collaborated bringing their expertise to bear on the landmine problem.

We continued to make progress on our objective to mainstream mine action in the normal activities of the Agency, enabling an even larger response to calls for assistance from mine-affected countries. Additional CIDA resources were brought to mine action in Afghanistan, Bosnia and Herzegovina, Cambodia, Iraq, Mozambique, Senegal, Sudan and Tajikistan.

This year, Canada actively participated at the First Review Conference of the Ottawa Convention also known as the Nairobi Summit on a Mine-Free World. The Summit highlighted the remarkable achievement in disarmament and humanitarian concern under the Convention and prepared the way for a renewed commitment to an Action Plan and to achieving the final goal of a world free of antipersonnel mines.

I congratulate all our partners in mine action and particularly Canadian civil society for the hard work accomplished this past year and wish one and all the courage to do what remains to be done in the years ahead.

THE HONOURABLE M. AILEEN CARROLL, PC, MP
Minister for International Cooperation

The CCMAT personnel provide technical support to those who need it the most by testing demining equipment and procedures in mine-affected countries. At the same time, CCMAT works closely with international bodies like the United Nations Mine Action Service and the Geneva International Centre for Humanitarian Demining to develop international standards for demining. Also, the CCMAT is a founding member of the International Test and Evaluation Program (ITEP). The ITEP seeks to promote international cooperation among member countries on humanitarian Test and Evaluation demining projects. This cooperative program currently lists 44 active or planned projects that touch all aspects of mine action.

I am extremely proud of how the Department of National Defence and the Canadian Forces have supported Canada's goals with respect to the Ottawa Convention, and I wish to commend the Canadian Centre for Mine Action Technologies for its continuing success in addressing the challenge to human life and health posed by anti-personnel mines.

THE HONOURABLE BILL GRAHAM, PC, MP
Minister of National Defence

Message from the Minister of National Defence



The Canadian Centre for Mine Action Technologies (CCMAT) plays a vital role in the Government of Canada's effort to rid the world of anti-personnel mines. The renewal of the Canadian Landmine Fund in December 2002 for a further five years reflects Canada's commitment to the Ottawa Convention.

The renewal enables CCMAT to build upon a successful five years of operation to continue its support to the demining community.

The CCMAT mandate focuses on four priority areas: Technical Support to the Demining Community; Fielding and Promotion of Technology; Research and Development; and International Cooperation and Outreach. The delivery of this program is coordinated with several international partners and members of the demining community.

Overview



Background to the Canadian Landmine Fund

Canada, building on its foreign policy agenda of promoting human security and alleviating global poverty, became a leading player in the international movement for a global ban on landmines by initiating a unique form of fast-track diplomacy in 1996. Referred to as the Ottawa Process, this culminated in the successful negotiation and signing of the *Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction* in the fall of 1997—known around the world as the Ottawa Convention.

Canada's commitment did not end with the signing of the treaty. To signal the priority given to the landmines issue, Canada appointed a special ambassador to deal with all matters pertaining to the universalization and implementation of the Convention, and was the first country in the world to establish a dedicated Mine Action Team (ILX), based in Foreign Affairs Canada, to support the work of the ambassador and promote compliance with the Convention's framework for action. As well, CIDA has a Mine Action Unit to oversee its responsibilities within the Canadian Landmine Fund (CLF).

To ensure that Canada's commitment was matched with the necessary resources, the CLF was created in 1998-99, involving an innovative collaboration of four government departments—Foreign Affairs Canada (FAC)¹, Canadian International Development Agency (CIDA), Department of National Defence (DND) and Industry Canada (IC)—to facilitate universalizing and achieving the humanitarian objectives of the Ottawa Convention. The CLF's initial five-year mandate was renewed for an additional five years, beginning in April of the fiscal year 2003-04. To date, Canada has dedicated more than \$200 million to mine action efforts globally.

¹ Formerly the Department of Foreign Affairs and International Trade (DFAIT)

Since the fund's creation, FAC has focused support on initiatives that promote Convention universalization, international coordination, policy leadership, monitoring compliance, stockpile destruction and educational outreach to Canadians. CIDA has supported capacity building for mine clearance, mine risk education and victim assistance through Canadian and international non-governmental organizations (NGOs), the private sector, multilateral organizations and national/country-level partners. DND, jointly with IC during the first phase of the CLF, established the Canadian Centre for Mine Action Technologies (CCMAT) to support research and development, and marketing of mine-related technology. DND has also assisted with stockpile destruction and other technical support in mine-affected regions.

Deminer using a probing device.



Photo: John Rodsted

The Landmine Problem

Why this weapon is so prevalent

AP mines are cheap to produce and became, particularly in the latter half of the 20th century, a convenient weapon for poorer countries with limited resources. AP mines are easy to deploy in significant numbers.

The impact of AP mine use

Anti-personnel mines are an indiscriminate weapon, which can be exploded by the presence, proximity or contact of a person and that will incapacitate, injure or kill one or more persons. They are planted, often at random, in or on the ground—e.g., on roads, in fields, near community infrastructure like wells. Many of their victims are civilians and many are children, and as such, any military utility that AP mines might have is far outweighed by their cost in human suffering and long-term impact upon civilian populations. In many mine-affected countries, where basic needs like health care, education and livelihood options are often limited, the presence of AP mines adds a significant burden to individual and community development:

- The real or possible presence of mines hinders the safe and productive use of land, and access to roads, schools, clinics, water sources and other infrastructure.
- In emergency situations caused by conflict or natural disasters, they pose a serious obstacle to the delivery of humanitarian aid, the safe return of refugees or internally displaced people to their communities, and post-conflict rehabilitation and reconstruction efforts.
- Landmine survivors face a period of extensive rehabilitation and, in the long term, a lifetime of adjustment—to being a financial burden on their families, to being limited by the loss of a limb or, if prosthetic care is available, to an



Photo: John Rodsted

Sarajevo house. Neighbourhood buildings to be demined.

artificial limb that requires regular maintenance and occasional replacement.

- Although relatively cheap and easy to use, mines are expensive to remove—costing between \$300 and \$1,000 to safely remove just one mine—because of the skills and equipment required.
- The conclusions of the 1996 International Committee of the Red Cross (ICRC) study were unanimously agreed to by 47 senior military experts: the use of anti-personnel mines is not justifiable under any circumstances. Similarly, there is no military advantage or situation offered by these indiscriminate weapons that can possibly, in any measure, warrant their human cost.

The Ottawa Convention in Brief

The Ottawa Convention is unique in that it sets out both a comprehensive ban on a weapon that has been in common use for generations, and a set of steps that must be undertaken to address the human suffering it causes. States that agree to be bound by this treaty commit to:

- immediately ending the use, production and transfer of anti-personnel (AP) mines;
- destroying existing stockpiles of AP mines within four years;
- clearing mined land within 10 years;
- providing assistance for the care and rehabilitation of mine victims; and
- cooperating to ensure full compliance with the Convention.

In December 1997, 122 states signed the Convention in Ottawa. By March 1, 1999, the Convention had been ratified by 40 states, triggering its entry-into-force as international law, which is unprecedented for an international agreement of this nature. As of September 2004, 143 states had formally accepted the treaty's obligations, through ratifying or acceding to the Convention.

Phnom Penh hospital. Survivor Assistance Program Cambodia.



Photo: John Rodsted

The Ottawa Convention: Canada's Record to Date

Canada has led by example in all aspects of this treaty's framework for action, by:

- being the first country to sign and ratify the Convention;
- passing legislation making it a criminal offence for any Canadian to produce, use, transfer or possess AP mines;
- completing the destruction of its AP mine stockpiles a month prior to the signing of the Convention;
- creating the CLF, managed in cooperation with FAC, DND and CIDA, to support mine action in affected countries, including mine clearance, victim assistance, mine awareness and stockpile destruction;
- creating an Ambassador for Mine Action and dedicating a team within the government with a mandate to ensure active participation in the international process to monitor and facilitate universal compliance with the treaty.

Beneficiaries of the Canadian Landmine Fund

The CLF has supported hundreds of mine action initiatives since it was established in 1998-99. Some of these have been multi-year, multimillion dollar programs in severely mine-affected countries. Others have been one-off projects, costing only a few thousand dollars. Large or small in scope, national or regional in focus, the initiatives funded by Canada have all played a strategic role in addressing the problems caused by the use of AP mines around the world. Countries and territories receiving funding and technical support from Canada have included:

In Africa

Angola, Burkina Faso, Chad, Congo, Djibouti, Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Mali, Mauritania, Mozambique, Senegal, Sierra Leone, Somalia, Sudan, Tunisia and Uganda

In Asia

Afghanistan, Bangladesh, Cambodia, India, Lao PDR, Malaysia, Mongolia, Philippines, Sri Lanka and Thailand

In Central America

El Salvador, Guatemala, Honduras and Nicaragua

In Europe

Albania, Azerbaijan, Belarus, BiH, Bulgaria, Croatia, Cyprus, Georgia, Finland, Lithuania, Moldova, Poland, Tajikistan, Romania, Serbia and Montenegro and Ukraine

In the Middle East

Iraq, Jordan, Lebanon, West Bank and Gaza and Yemen

In South America

Chile, Colombia, Ecuador and Peru

Finishing the Job

March 1, 2004 marked the fifth anniversary of the entry-into-force of the Ottawa Convention. The terms of the treaty require a review conference to be held after five years. Accordingly, member states agreed that from November 29 to December 3, 2004, the *Nairobi Summit on a Mine-Free World* would bring together representatives from civil society, government and international organizations to take stock of what has been achieved to date and what still needs to be done to rid the world of anti-personnel landmines. Canada is one of four countries taking the lead in developing a plan of action for 2004-2009 in preparation for the review conference.

This year is an important juncture in the Convention. To finish the job and create a mine-free world will require the sustained commitment of those organizations that have provided key leadership in undertaking the work necessary to eliminate this global problem, including: United Nations Mine Action Service (UNMAS); United Nations Children's Fund (UNICEF); United Nations Development Programme (UNDP); International Committee of the Red Cross (ICRC); Geneva International Centre for Humanitarian Demining (GICHD); and civil society's ICBL.

National and international NGOs will have to remain involved. Governments will have to continue to provide resources in support of mine action and universalizing the treaty. The Ottawa Convention has served as a model of what can be achieved internationally when organizations, however disparate in structure and mandate, work toward a common cause.

The benchmarks marking progress in implementing the Ottawa Convention are being met successfully: the number of nations joining the Convention continues to grow; the number of states using or producing AP mines has decreased over five years; stockpiles are progressively being eliminated; mine clearance continues to return land to productive use; and casualty rates are on a downward trend. However, there is still work to be done, given that some 200 million mines are stockpiled globally; 15 states are still listed as producers; acknowledged AP use by a few states; land in over 80 countries faces varying degrees of mine contamination; and between 15,000 and 20,000 people still fall victim to these indiscriminate weapons every year.

Five Core Obligations of Mine Action

This section provides a sample of projects funded in the five main areas of activity that require action before the job of eliminating landmines is finished. Not every country is at the same stage in this process. Although the commitment of the majority of the world's nations to the Ottawa Convention remains strong, factors like conflict and natural disasters have hindered the efforts of some to move from commitment to sustained action. However, with the support of countries like Canada that have the means and expertise, much has already been accomplished since the treaty entered into force.

Bosnia: Canadian officials on location.

I – Advocacy and Universalization

Every year, more countries agree to meet the obligations of the Convention. Between April 2003 and March 2004, nine additional countries ratified or acceded to the treaty, bringing the total number of states parties to 141.² A further nine countries have signed, but have not yet ratified the treaty, and 44 are to date non-signatories. Educating and encouraging a country's interest in joining, respecting and implementing in the Convention is common to the advocacy and universalization initiatives undertaken in support of the treaty. Canada has provided funding and support to many facets of universalization, as illustrated below.

Promoting Universalization

Promoting universalization is an important part of stakeholder commitment to the landmine issue, including states parties, the United Nations (UN) and other multilateral organizations, and civil society. Providing support to other countries that have joined the Convention is one of the commitments a member nation makes when ratifying or acceding to the treaty.

For example:

Project: Belarus Convention Implementation Workshop, December 8-9, 2003

On September 3, 2003, Belarus acceded to the Convention. With the seventh-largest stockpile of AP mines in the world (4.5 million), Belarus was an important addition to member states and is now obligated to destroy these stocks.

The Belarus Campaign to Ban Landmines, using the ICBL's successful model for facilitating treaty implementation, organized a workshop in December 2003 at which all involved govern-

ment bodies reviewed—with the help of international expertise—how to initiative national implementation measures. The governments of Canada, Germany and Luxembourg supported this workshop. International representation at the workshop included 12 states parties as well as Russia, the United States, the European Union, ICBL, ICRC and various UN bodies. The intent of the workshop was twofold: to assist Belarus in fully understanding its obligations within the Convention, so that the relevant government agencies could develop corresponding action plans; and to identify potential joint efforts and international stakeholders to support Belarus with its action plans.

Results included: Germany offered to assist Belarus in developing its first Article 7 Transparency Report (on the status of Convention implementation measures within a country); an early submission by Belarus of the required report can be directly attributed to this workshop. Canada is already helping Belarus in coordinating international assistance with its stockpile destruction. Ukraine, which like Belarus has a large stockpile of mines to destroy, discussed potential future collaboration.

Project: International Humanitarian Law Book Publication and Launching, Poland

Poland signed the Ottawa Convention on December 4, 1997, but has yet to ratify the treaty. In spite of being outside the treaty, Poland has been active in Convention monitoring and compliance activities, including voluntarily submitting an Article 7 Transparency Report in March 2003, which declared a stockpile of more than one million AP mines.

In 2003, Canada, in cooperation with the Polish Red Cross, supported the publication, launching and distribution of *International*

² New member states since April 2003 include Belarus, Burundi, Greece, Guyana, Lithuania, Serbia and Montenegro, Sudan, Timor-Leste and Turkey.

Humanitarian Law, Selection of Documents, representing the first time the Ottawa Convention has been published in the Polish language. The launch, held on November 4, 2003, included senior members of the military and government, the diplomatic corps, police, academia and NGOs. There was also significant media coverage, including TV, radio and press.

Anticipated results: With distribution targeting government, military officials and students, Canada considers this a key tool for facilitating ongoing advocacy efforts to promote ratification of the Convention in Poland.

Facilitating Participation

An important aspect of monitoring treaty compliance and required mine action around the world is ensuring that all countries, rich and poor, can participate in the mechanisms established for ongoing universalization of the Convention. This is particularly important since many of the most mine-affected countries have limited resources to participate in international, or even regional, forums. Such meetings are key for sharing information and expertise on assisting landmine survivors, landmine clearance and stockpile destruction.

An example of Canada's support in this area:

Project: Delegates Sponsorship Program

In order to enhance the participation and therefore strengthen the implementation process of the Convention, a group of donors—initially led by Canada—constituted itself in 2000 and created the Delegates Sponsorship Program. In 2003, there were 13 donor members, including Canada. The program is administered by the GICHD, and funds participation in the annual meeting of states parties and biannual standing committee meetings for states parties.

The primary focus of the program is to support the participation of states parties, but in the interests of universalization, countries that have not yet ratified or acceded are also given an opportunity to attend. For example, at the February 2004 standing committee meetings in Geneva, participants for signatories Indonesia and Ukraine, as well as non-signatories Kyrgyzstan, Mongolia, Palau and Sri Lanka, were sponsored. In all, 53 countries, including 75 delegates, were supported by the program in February 2004. For the three meetings that occurred during the reporting period, 227 delegates and speakers from 68 countries were sponsored.

Results include: This initiative provides a mechanism to allow equal opportunity for countries to participate in key compliance and monitoring processes regarding the Convention. It also plays a strategic role in keeping countries outside the treaty informed about the implementation progress, and in advocating for them to join the Convention.

Maintaining Public Interest

Maintaining public interest in the landmine issue is crucial for maintaining support for the Convention. An informed public understands the importance of addressing solvable problems at home and abroad. Canada has shown leadership in this area through its consistent support of civil society groups, which have proven to be effective advocates on the need for the Convention. Internationally, Canada has funded the ICBL, the key civil society player in spearheading the global campaign against landmines. Domestically, a key partner in public education and outreach is the Canadian member of the ICBL, Mines Action Canada (MAC), a coalition of more than 40 Canadian NGOs working to promote awareness and action around the landmine issue at home and abroad.

An example follows of a unique Canadian-led initiative that is building future Convention advocates.

Project: Youth Leadership, Education and Action Program (Youth LEAP)

The Youth Mine Action Ambassador Program (YMAAP) was established in 1998 by Foreign Affairs, MAC and the Canadian Red Cross (CRC) as a means of keeping the landmine issue alive in the minds of Canadians, through an annual domestic internship program. Each year, youth ambassadors have been placed in host NGOs across the country, delivering mine education to schools and communities, organizing events that encourage youth involvement in this global issue, and generating important media coverage on landmines. Since 1998, interns have been placed in 13 cities in nine provinces across Canada.

The program evolved in 2003 with the elaboration of an international component, Youth LEAP, to stimulate greater youth involvement in the Nairobi review conference and beyond. Major components of Youth LEAP include: the Youth Professionals International Mine Action Program, which to date has placed eight young Canadians interns with ICBL partners in Australia, Kenya, Lebanon, Switzerland, Uganda and the U.S.; and an international youth symposium in Nairobi, planned in conjunction with the review conference, to build the capacity of 25 to 35 international youth as effective campaigners for a mine-free world.

Results include: Landmines have proven to be an issue that engages youth interest and commitment around the world. The Government of Canada and Canadian NGOs have worked collaboratively to give youth a practical outlet, here and abroad, for this interest. YMAAP has created a network of articulate young Canadians, many of whom have moved on to careers in international development, and most of whom have remained active in the landmine movement.

Identifying Emerging Issues

Within the CLF, a research program allows the fund to support issues related to mine action and the Ottawa Convention. In this way, Canada continues to show leadership in efforts to create safe, productive communities around the world.

An example:

Project: Voices from the Field: Dublin Conference on the Explosive Remnants of War, April 23-25, 2003

This conference, organized by Pax Christi Ireland and hosted by the Irish government, brought together more than 100 participants from governments, the UN, ICRC and NGOs, including field experts on cluster munitions and landmines. The experiences and perspectives of about 40 countries were represented at this meeting. The conference provided an opportunity for those involved in the UN-led negotiations on the *Convention on Certain Conventional Weapons*, on explosive remnants of war (ERW), to increase their knowledge of the effects and treatment of unexploded ordnance, including, but also beyond landmines. The conference was partially funded by Canada and five European countries.

Results included: The conference discussions informed the negotiations in November 2003, culminating successfully with the adoption of Protocol V to the Convention on Certain Conventional Weapons (CCW). The idea for a "Cluster Munition Coalition" was conceived by NGOs at the conclusion of this conference, and officially launched in the Netherlands in November 2003, to give attention to this issue, which sometimes has similar humanitarian effects.

II – Stockpile Destruction

Countries joining the Convention are obliged to destroy their stockpiles within four years of ratifying or acceding to the treaty. In addition, Article 6.5 of the Ottawa Convention obliges those states in a position to do so to provide assistance to other countries in their destruction of AP mines. Through the CLF, Canada has assisted, or is currently assisting, stockpile destruction programs in 20 countries in Africa, Asia, Europe, and Central and South America. Although good progress has been made since the landmine issue gained prominence in the early 1990s—with 99 stockpile-free countries reported in 2003—the total number of remaining stockpiles was estimated at 200 million to 215 million in 78 countries.⁵ Canada's focus remains on those states parties that still have significant stockpiles that must be destroyed within the next four years.

Canada's stockpile destruction program supports a range of initiatives. Some involve small requests that help a country to meet its deadline as required by the Convention. Others are larger in scope, part of long-term integrated mine action programs. For example, in 2003-2004:

- Canada's quick response to a request for technical and financial support allowed Uganda to complete its stockpile destruction in July 2003, prior to its August 1 deadline
- Similarly, Canada funded the Tajikistan destruction program in March 2004, so that the remaining stock of 1,261 mines could be destroyed by the North Atlantic Treaty Organization (NATO) prior to the April 1 deadline.
- With Canada's financial support and the technical assistance of the Organization of American States (OAS), Chile completed the

⁵ Landmine Monitor Report 2005. Six of these countries—China, India, Pakistan, Russia, Ukraine and the U.S.—hold the vast majority of AP mines.

destruction of its remaining stockpile of 213,076 AP mines between April and August 2003—two years in advance of its required deadline. Having met this Convention obligation, Chile is now focusing on humanitarian demining operations.

Still others require a more strategic approach:

Project: Afghanistan Stockpile Destruction—Pilot Project

Afghanistan is one of the most heavily mined countries in the world, after two decades of mine use by different armies and factions. The range of groups involved in fighting during this period means that the number, nature and location of the country's stockpiles remain unknown. Afghanistan, therefore, is facing special challenges as it attempts to destroy its stockpiles of AP mines.

Canada supported a pilot project in the Greater Kabul area from December 2003 to February 2004 with the dual purpose of: searching and removing stocks from 42 probable sites for subsequent destruction; and developing a methodology for stockpile destruction that could be applied throughout the rest of the country.

Results included: A total of 33 sites were fully searched, six sites were partially searched (due to mine/unexploded ordnance (UXO) contamination on the ground, or reluctance by local commanders to allow full access); and, three sites could not be visited due to security concerns. Of the 1,736 active mines recovered, 1,366 were destroyed and the remainder retained for training purposes. From this experience, lessons learned were documented and recommendations for a national stockpile destruction project were drafted, accompanied by an action plan framework broken down into five phases.

III – Mine Clearance

Members of the Convention have 10 years following ratification or accession to remove AP mines from their country. A successful mine clearance program, particularly for heavily mined countries, requires the following elements: credible data on existing mine contamination; priorities for clearance based on making communities safe and allowing them to be productive (e.g., clearing agricultural land); a recognized coordinating body; properly trained and equipped personnel; and sufficient resources to maintain clearance efforts until the job is finished. Some examples follow of Canada's support in this area.

Helping countries to plan and coordinate mine clearance

- Since its creation, the CLF has supported a number of Level One Socio-Economic Impact Surveys, including in Cambodia, Chad, Georgia, Mozambique, Thailand and Yemen. Such surveys provide essential baseline data for demining operations, and are valuable tools for setting priorities for clearance based on social and economic benefits to mine-affected communities.
- Canada has been supporting the mine action coordinating body in Albania, so that it can meet the goal set within UNMAS's strategy for



Photo: Cory Anderson

Canadian International Demining Centre dog training programme in Bosnia.

the country of clearing all priority 1 and 2 land in the northeast border region by the end of 2005, an essential component of clearing all mined areas.

- In Sudan, Canada provided funding in 2003–2004 for needed technical staff in the National Mine Action Office in Khartoum and regional mine action office in the Nuba Mountains, to support coordinated humanitarian mine clearance efforts.

Helping countries to implement mine clearance

- In the Temporary Security Zone (TSZ) between Ethiopia and Eritrea,⁴ Canada supported mechanical route-clearance activities, which are essential for increasing the safety of humanitarian mine action operations in the area. From September 2003 to March 2004, 1,240 km of road were cleared by a South African demining company.
- Med-Eng Systems Inc., a Canadian company with a growing reputation for producing top quality demining equipment, supplied personal protective equipment for 40 deminers in 2003, to help Chad undertake safe clearance operations.⁵
- With Canadian support, two Mines Advisory Group (MAG) Explosive Ordnance Disposal (EOD) teams were deployed in 2004 to Battambang Province—the area with the highest civilian injury rates in Cambodia. Over a three-month period, the teams helped benefit 24,109 people living in 34 villages in four districts by destroying 339 AP mines, 26 anti-tank mines and 1,820 UXO items.
- As part of its integrated mine action program in Central and South America, Canada was a supporter of the OAS initiative in assisting Guatemala in its efforts in 2004 to be mine-free in time for the Nairobi review conference.

⁴ The TSZ is a 25 km wide, 1,000 km long area that was created following the 1998–2000 border conflict. The TSZ has been administered by the UN since the end of the conflict.

⁵ Med-Eng Systems Inc. is one of the companies that has benefited from CCMAT's test and evaluation program of mine action technology.

A project highlighting Canadian expertise:

Project: Mine Detection Dog Teams in Bosnia and Herzegovina

Bosnia–Herzegovina (BiH) is one of most heavily mined countries in the world, with a deadline of March 2009 for the complete removal of mines from its territory. Canada has provided significant support to BiH, committing more than \$10 million to a multiyear integrated mine action program. However, the scope of the landmine problem in BiH requires a continual upgrading of technical resources in order to accelerate clearance rates.

Through the Nova Scotia-based Canadian International Demining Corps (CIDC), Canada has been helping in this area by supporting the training and equipping of mine detection dog (MDD) teams, which can quadruple the effectiveness of clearance operations. CIDC has demonstrated experience in the training of MDD teams, and with Canada's support, has established a well-respected training centre in Trebinje, in partnership with local partner Pas Protiv Mine (PPM).

Results include: This work has enhanced the effectiveness of clearance teams through the addition of MDD capability. It also supports BiH's plan to contribute to international mine action efforts by exporting personnel, equipment and professional expertise to other mine-affected regions—e.g. during those times of year when the weather in BiH is not conducive to clearance operations. As well, PPM is being strengthened in order to take over CIDC's programming in the country.

IV – Mine Risk Education

Providing assistance for mine risk reduction programming, as a way to reduce mine casualties, is an obligation for members of the Convention. Delivering mine risk education (MRE) creates a direct link between affected communities and other components of mine action work, especially clearance activities—e.g. MRE sessions provide a key opportunity to receive information about local mine problems. Increasingly, MRE is being integrated with victim assistance and clearance initiatives.

The goal of MRE is increasing individual safety. The methodology evolved from the mid-1990s, moving away from simply “creating awareness” to risk avoidance. The approach and material must still be adapted according to the audience. Children are particularly vulnerable in mine-affected areas. Returning refugees and internally displaced people need MRE to prepare themselves for relocation. Deminers need MRE to be able to safely undertake clearance activities.

In 2003-2004, Canada continued to support the mine risk education work of national and international non-governmental and multilateral organizations. Countries and territories supported include Afghanistan, Angola, BiH, Cambodia, Chile, Colombia, Democratic Republic of Congo, Eritrea, Ethiopia, Georgia, India, Lao PDR, Lebanon, Mozambique, Namibia, West Bank and Gaza, Sudan and Yemen.

Partner organizations that have delivered MRE with Canada’s support include: Canadian Red Cross Society; Cooperation Canada-Mozambique; Defence for Children International – Palestine Section; Falls Brook Centre (New Brunswick); HALO Trust (United Kingdom); Handicap International (HI); ICRC; Indian Institute for Peace, Disarmament and Environmental Protection; Group of Landmines and Unexploded Ordnance Survivors of the Americas (Chile);

Landmine Resource Centre (Lebanon); Sudan Campaign to Ban Landmines; UN High Commissioner for Refugees; UNMAS; UNICEF Canada; UXO LAO; and World Vision Canada.

UNICEF remains the main player in MRE, and is recognized as the lead agency within the UN in such programs. Some examples of recent Canadian-supported projects with this agency include:

- UNICEF is working on a two-year project with the national mine action coordinating body in Chad, the *Haute Commissariat National de Déminage* (HCND), to improve HCND’s capacity to undertake MRE in affected communities, to integrate MRE in the school curriculum, and to develop a national MRE strategic plan.
- Colombia developed a National Mine Action Plan for 2002-2006, and has formed a mine action country team to bring a more concerted and coordinated approach to implementing the plan. UNICEF is helping to strengthen the capacity of the government and civil society to undertake effective and efficient MRE and victim assistance programs, with a focus on high-risk areas in the country.

Project: Mine Risk Education in Angola

Following the cessation of hostilities in Angola in 2002, the government moved quickly to ratify the Ottawa Convention. Four decades of war have left an estimated seven million landmines between two million displaced persons and their home areas. MRE is needed both for the safe return of these people, and for communities to function safely until mine clearance returns their land to full productivity. UNICEF, which has been working with the Government of Angola since 1995, is now focusing on building the capacity of new national mine action structures within the government and national NGOs, to develop

integrated MRE programs as part of a national mine action plan.

Anticipated results: Strengthened government capacity to develop mechanisms for coordination, supervision and monitoring; incorporation of MRE in the national curriculum and teacher training programs; improved NGO capacity to meet MRE needs in affected populations.



Photo: Tim Grant

Mine risk education in Angola.

V – Survivor Assistance

Article 6.3 of the Convention requires those states parties in a position to do so to provide assistance for the care, rehabilitation and socio-economic reintegration of landmine survivors. This is a long-term investment, since the impact of a landmine injury goes well beyond the acute-care phase, Survivors and their families need technical and psychological support, so that they can reintegrate into, and contribute to, their communities.

Canada's investment in this complex area of mine action has included support to the victims of mines, as well as to the national infrastructure that delivers programming to survivors. For example:

- Since 2000, the Cambodian Handicraft Association for Landmines & Polio Disabled (CHA) has been working to promote the vocational rehabilitation of landmine survivors in that country. To improve the market potential and emphasize the social justice aspect of the handicrafts produced, CHA is taking the steps necessary to qualify as a recognized "fair trade organization."
- Quebec-based Collège Montmorency and HI are collaborating on a health-sector capacity building program in Senegal, which will allow the hospitals and rural clinics in the mine-affected province of Casamance to better serve the rehabilitation needs of landmine survivors.
- As part of the OAS's integrated approach to mine action programming, technical job training is being offered to landmine survivors in Nicaragua who have received initial physical and psychological rehabilitation assistance.
- Canada is supporting the UNDP's efforts in Jordan to strengthen the capacity of the National Committee for Demining and Rehabilitation and the Royal Medical Services to respond to the physical and psychological

rehabilitation, and social and economic rehabilitation needs of landmine/UXO victims.

Canada has recognized the importance of giving survivors a voice and creating a base from which they can represent their concerns and needs.

Project: Raising the Voices, Landmine Survivors Network

The Landmine Survivors Network (LSN) launched Raising the Voices as a human rights advocacy and leadership training program, designed to build the skills, knowledge and capacity of landmine survivors to advocate on behalf of people who live with disabilities. Raising the Voices advocates in mine-affected countries and within the Convention process, to ensure that survivor assistance remains high on national agendas. Canada is one of the few countries to support this initiative from the very beginning, committing \$441,000 to LSN, primarily to Raising the Voices, since it was launched.

LSN has built this network, region by region, over a four-year period with consistent Canadian support. In 2001, Raising the Voices trained eight landmine survivors from Chile, Colombia, Ecuador, El Salvador and Nicaragua. In 2002, 15 survivors were trained from Angola, Chad, Eritrea, Ethiopia, Mozambique, Rwanda, Senegal, South Africa, Sudan and Uganda. In 2003, 18 survivors from Afghanistan, Cambodia, India, Laos, Nepal, Pakistan, Thailand and Sri Lanka participated in training. In 2004, 14 survivors from Albania, Azerbaijan, Belarus, BiH, Chechnya, Croatia, Georgia, Russia and Ukraine participated in the program.

Results include: The creation of a global network of landmine survivors from Latin America, Africa, Asia and Eastern Europe/Caucuses, who are organizing and training hundreds of other survivors, people with disabilities, local NGOs

and community leaders in human rights, social justice advocacy, and the need for and obligations of the Ottawa Convention.

As well, Canada has also provided important technical expertise through its support of research, development, testing and evaluation of mine technology.

The Canadian Centre for Mine Action Technologies

CCMAT was established in 1998 and funded for five years to develop low-cost, sustainable technologies for mine action and to work toward their successful deployment in the field. This goal has been accomplished through a comprehensive program of research and development (R&D), test and evaluation (T&E) and active communica-

tion with the demining community. As a result of CCMAT's efforts, several new technologies, such as the BDM 48 Brush Deminer, FIXOR binary explosive and Niagara prosthetic foot, were developed and introduced into the demining community.

Humanitarian demining as currently conducted in most mine-affected countries is a labour-intensive process. If the large number of mines remaining in the ground are to be cleared using current techniques and procedures, it will take years before we can achieve the ultimate goal of a mine-free world. In order to solve the anti-personnel landmine problem within a reasonable time frame, an increased emphasis must be placed on the use of demining technologies.

1. Technical Support: To provide technical support and assistance to the demining community by:
 - Development of credible and respected T&E standards, test equipment and methods for evaluation of mine action equipment.
 - Provision of facilities and technical assistance for the trial of appropriate technologies.
 - Conduct of T&E and the provision of technical reports on the capabilities and limitations of mine action equipment.
 - Provision of technical advice and assistance to equipment donors, academia, other government departments, and mine action agencies in matters such as procurement, test methods and procedures, and equipment requirements and design.
2. Fielding and Promotion of Technology: To assist states parties in implementing the Ottawa Convention and to encourage non-member states to join the Convention through the provision of Canadian or other

- appropriate technologies, primarily in the areas of humanitarian demining and victim assistance.
3. Research and Development: To investigate new technologies with the potential to improve the reliability, efficiency and safety of the demining process and other mine action objectives (such as victim assistance and stockpile reduction, etc). This activity is focused on the four principal areas of AP mine detection and neutralization, protection of the deminer and enabling technologies.
 4. International Cooperation and Outreach: To collaborate on R&D, T&E and the dissemination of technical information, to provide the deminer and equipment developer with expertise, and to promote involvement by groups and individuals in technology-related mine action projects through international agreements.

This should include the increased application of existing technologies, the modification of operational procedures using existing technologies, and the development of new technologies.

The extension of the CLF in 2003 has facilitated the continued provision of CCMAT support to the demining community. Spending in fiscal year 2003-2004 from the CLF for CCMAT's operations totalled approximately \$3 million. The mandate of CCMAT has evolved into the four priority areas listed on page 23. In general, an increased emphasis is being placed on the fielding and promotion of new technology and improvements to existing equipment that will result in safer and more efficient demining operations in mine-affected countries.

International Cooperation

Canada is a founding member of ITEP. CCMAT represents Canada in ITEP, which also includes representatives from Belgium, Germany, Netherlands, Sweden, the U.K, the U.S. and European Commission. ITEP members collaborate on humanitarian demining projects, share resources and are focused on the following activities:

- Develop and use universally accepted and respected standards for T&E methodology.
- Collect, generate and distribute robust, scientifically objective data on technologies, materials, and systems for humanitarian demining.
- Establish a responsive and cost-effective international T&E program.
- Test or evaluate:
 - existing humanitarian demining equipment and systems
 - equipment and systems in development
 - promising technologies, processes, and algorithms.

Under the auspices of ITEP, a program of work that includes the T&E of metal detectors and mechanical equipment has led to the development of CEN (Comité Européen de

Normalisation) workshop agreements. Such an agreement is also being planned for personal protective equipment. These agreements will lead to the deployment of better equipment in the field.

In addition, two key working groups in ITEP are focused on the T&E of mechanical equipment and multi-sensor detection, which is in line with the priorities that have been identified by the user community.

Meeting the Needs of the User

The two highest priorities for technology solution, as stated by the user community, are *Area Reduction & Close-in Detection*. The International Mine Action Standards (IMASs) define area reduction as "the process through which the initial area indicated as contaminated (during the general mine action assessment process) is reduced to a small area." Close-in detection relates to the process and technologies used to detect individual mines. CCMAT has projects in both of these areas as well as international collaborative projects in ITEP.

CCMAT personnel conduct field trials of equipment in mine-affected countries, which provides a direct interface with those who will be using this equipment. To date, trials have been conducted in Afghanistan, Cambodia, Croatia, Colombia and Thailand. Currently, personnel from the mine action centres in Cambodia and Thailand, as well as a representative from the MAG NGO in Cambodia, are assisting in the T&E of mechanical equipment in Sweden. This ITEP project, in which Canada, Sweden and the U.K. are participating, will provide end users with experience in the T&E process, which will be of value when the equipment undergoes acceptance testing in their countries early next year. As noted, this will give ITEP scientists and engineers an opportunity to discuss requirements directly with end users from mine-affected countries. Plans for next year include the testing of

mechanical equipment (Cambodia and Thailand) and dual-sensor mine detectors (Namibia and Thailand).

Research and Development (R&D) versus Test and Evaluation (T&E)

Currently, the CCMAT program maintains an even balance between R&D and T&E activities. Both are necessary to solve the landmine problem. As an example, consider close-in detection. Handheld detectors have improved considerably over the past few years, particularly in locating mines that are buried in difficult types of soil. However, because the science is still not fully understood, CCMAT initiated and is leading an R&D project involving a soil study in BiH. Several years ago, CCMAT was a partner in an international T&E project to test the performance of a large number of metal detectors, which led to a recent CEN workshop agreement. Currently, the only type of commercial detector in use for humanitarian demining is the conventional

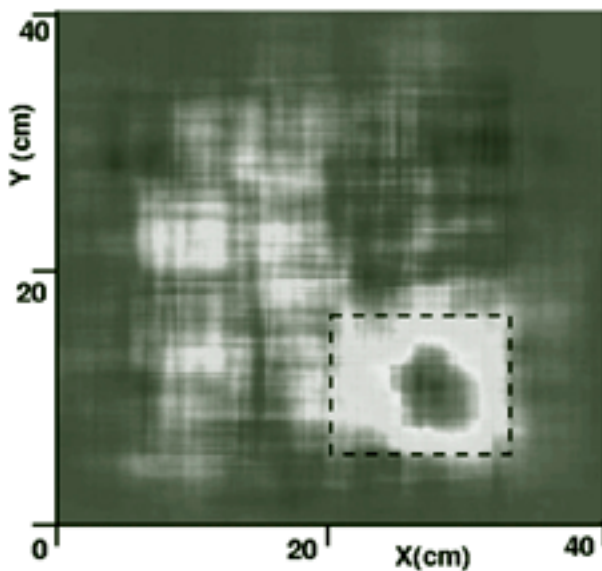
metal detector, which cannot discriminate between a mine and scrap metal fragments. Dual sensor detectors that integrate metal detection with ground penetrating radar technology would help to solve this problem; there is currently only one military system in production. CCMAT is participating in an ITEP T&E project to evaluate this detector for humanitarian demining. It is anticipated that this detector will offer increased performance with a reduced false alarm rate. Other systems that should be applicable to humanitarian demining are in the prototype and R&D stages, and are expected to be available in the coming years. For example, a system with a sensor that detects the explosive contained in a mine would provide a significant benefit to the demining community. CCMAT is conducting R&D on a “neutron albedo” imaging capability (pictured at right) that shows promise as a sensor for a multisensor system.

A Selection of CCMAT Projects

The CCMAT program includes numerous projects in the four principal areas of AP mine detection, neutralization, protection of the deminer and enabling technologies. Outlined below are examples of promising initiatives that are being pursued in each of these areas.

AP Mine Detection

Deminers currently use thin feeler rods to detect landmine tripwires—a technique that is unreliable and dangerous. There are currently no technologies available for standoff detection of tripwires, which would reduce operator risk and stress while improving efficiency. Such a detector could be attached to a handheld landmine detector and could scan ahead of it (either in the scan direction of the landmine detector or the forward direction of the operator). CCMAT has been developing a prototype detector that uses optical techniques for the detection of tripwires. It has demonstrated the capability to detect a



Neutron Albedo Image of a Test Target

wide variety of tripwire materials, and can also detect wires partially obscured by vegetation.

Neutralization

The Pearson Survivable Demining Tractor and Tools, with the segmented roller accessory, was tested in a cooperative Thai-Canadian-American program. These tests examined the effectiveness of the roller in triggering three types of AP landmines at depths of up to (and in some cases, exceeding) 200 mm, in two different soil conditions. It was determined that the Pearson Survivable Demining Tractor and Tools roller is unlikely to be useful as a demining tool when used alone. Our testing concluded that its usefulness, when used in combination with other demining approaches, or as an area reduction or a risk reduction tool, will depend on circumstances that must be addressed on a case-by-case basis.

Protection of Deminers

CCMAT is evaluating commercially available protective boots for demining. A boot test apparatus has been developed that conforms to the NATO (TG 024) draft methodology for testing personal protective equipment. Boots have been tested using the Australian Frangible Surrogate Lower Leg. After the tests, a surgeon conducted an autopsy on the surrogate legs used to evalu-

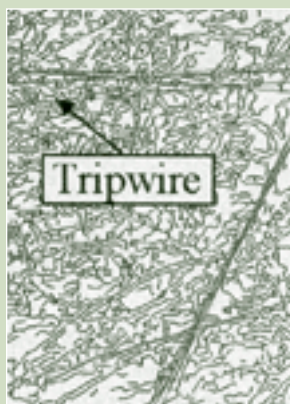


Thailand Roller Trials

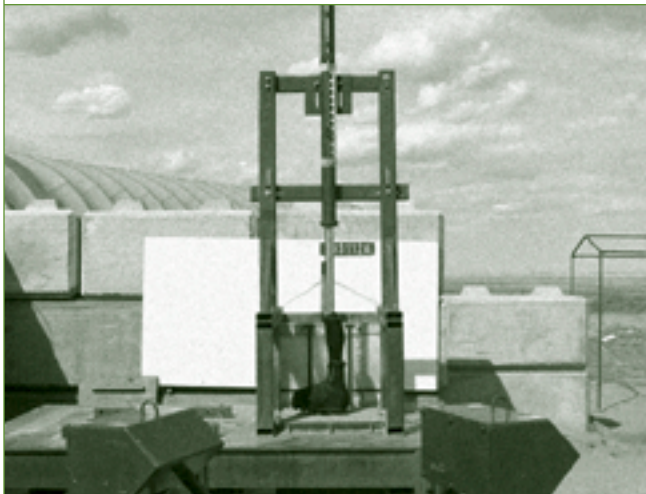
ate the anticipated injuries. The results indicated that the conventionally used boots provided a maximum level of protection only if the mine contained less than 25 grams of C4 explosive. When 50 grams of explosive were used, all of the boots being evaluated provided only limited protection, resulting in an amputation prognostic each time.

Enabling Technologies

The enabling technologies area of the CCMAT research program investigates technologies that can lower the cost and speed the process of humanitarian landmine removal. The program focus is on those technologies that support remotely operated mechanical clearance equipment, which is smaller and more readily transported in mine-affected areas. However, experience to date has shown that operators often have problems controlling the equipment at a distance. The CCMAT enabling technologies program looks at adding “targeted automation” — low-cost sensors and computers added into the remote control equipment to make up for the control deficit.



Tripwire Detection (Left – raw image, Right – processed image)

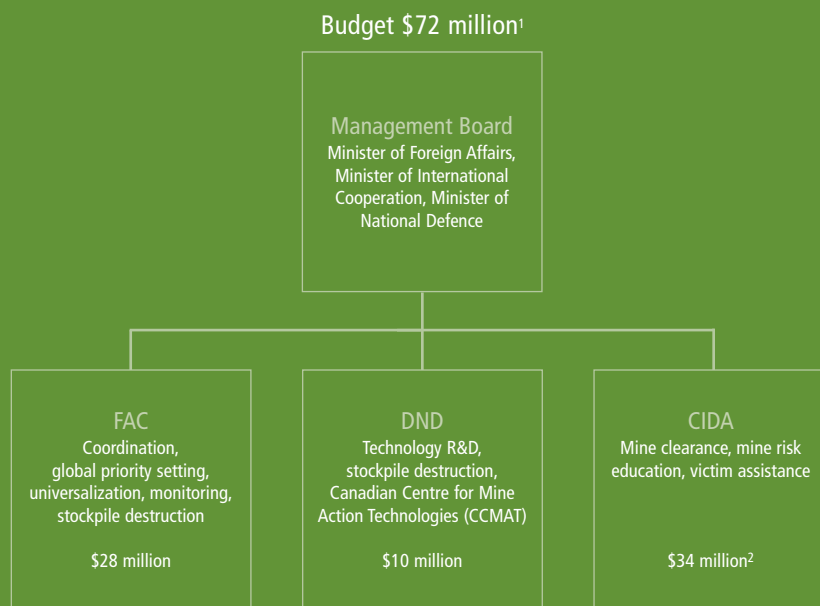


Top: Demining Boot Test Apparatus
Middle: Mine Protective Boot Test Result
Bottom: Tests of excavation concept against mine surrogates

Future of Technology

Overall, technological innovation has helped us make significant progress toward reaching the goals of mine action. These improvements in technology have been evolutionary in nature, and have also prompted the requirement for developing new operational procedures. Looking ahead, key challenges remain in the areas of close-in detection and area reduction. CCMAT will continue its efforts to address these and other challenges in the years ahead.

The Canadian Landmine Fund

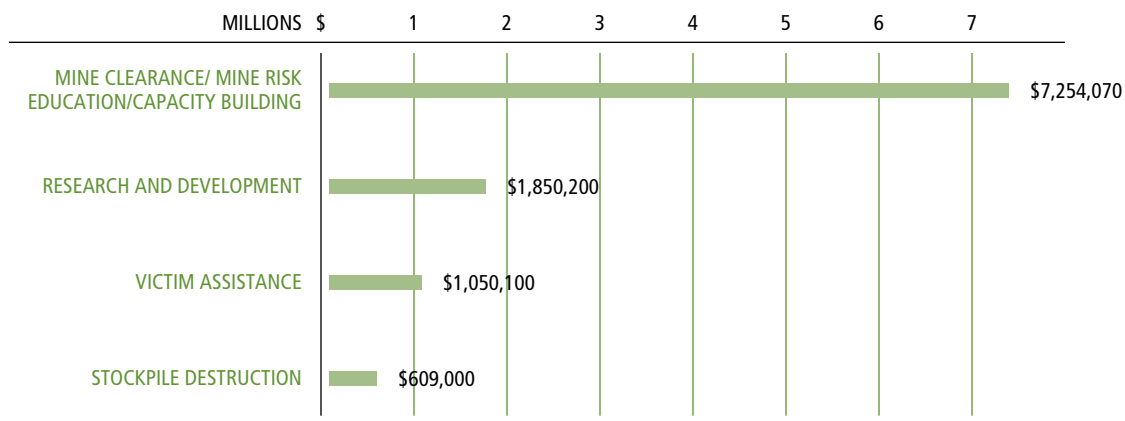


1. All dollar figures are the maximum budget for the Canadian Landmine Fund for a five year period (2003-2008).
2. An additional \$14.6 million was leveraged from sources outside the Canadian Landmine Fund for mine action in 2003-2004.

2003–2004 Canadian Landmine Fund Spending Summaries

Departmental expenditures by program	Investments in banning landmines This table details 2003-04 Canadian Landmine Fund expenditures in support of universalization of the global ban on anti-personnel mines, monitoring compliance with the ban, and the destruction of stockpiled mines.
<p>FAC Spent fiscal year 2003-2004</p> <p>Mine Action Partnership \$1,304,880 Mine Ban Initiatives 3,906,205 Mine Action Research and Policy Development . . . 122,000 Outreach and Sustainability 419,880 Stockpile Destruction 609,000</p> <p>Total FAC \$6,444,865</p>	<p>A – Investments in support of international advocacy and prevention</p> <p>. \$132,900</p> <hr/> <p>B – Investments in support of global efforts to ban landmines</p> <p>International Campaign to Ban Landmines \$275,000 Mines Action Canada 279,300</p>
<p>CIDA</p> <p>Integrated Country Program – Balkans \$1,000,000 Integrated Country Program – Bosnia 212,772 Integrated Country Program – Cambodia 161,170 Integrated Country Program – Tajikistan 620,000 International Civil Society 393,210 Canadian Civil Society 343,086 Multilateral Institutions 1,959,980 Knowledge and Policy Program 324,782</p> <p>Total CIDA \$5,015,000</p>	<p>C – Investments in support of Convention implementation and universalization conferences</p> <p>Africa \$30,000 Americas 16,700 Asia 20,000 Europe 4,800 Middle-East 31,050 Global 125,000</p> <hr/> <p>D – Investment in support of monitoring compliance</p> <p>Landmine Monitor 2004 \$275,000</p>
<p>DND</p> <p>Canadian Centre for Mine Action Technologies . . . \$2,548,056</p> <p>Total DND \$2,548,056</p>	<p>E – Investments in support of stockpile destruction</p> <p>. \$609,000</p>
<p>TOTAL \$14,207,921</p>	<p>TOTAL \$1,798,750</p>

2003–2004 Investments by Thematic Area of Mine Action



2003–2004 Mine Action Spending by Region

