

United States Department of State  
*Bureau of Political-Military Affairs*



# TO WALK THE EARTH IN SAFETY

*The United States Commitment  
to Humanitarian Demining*

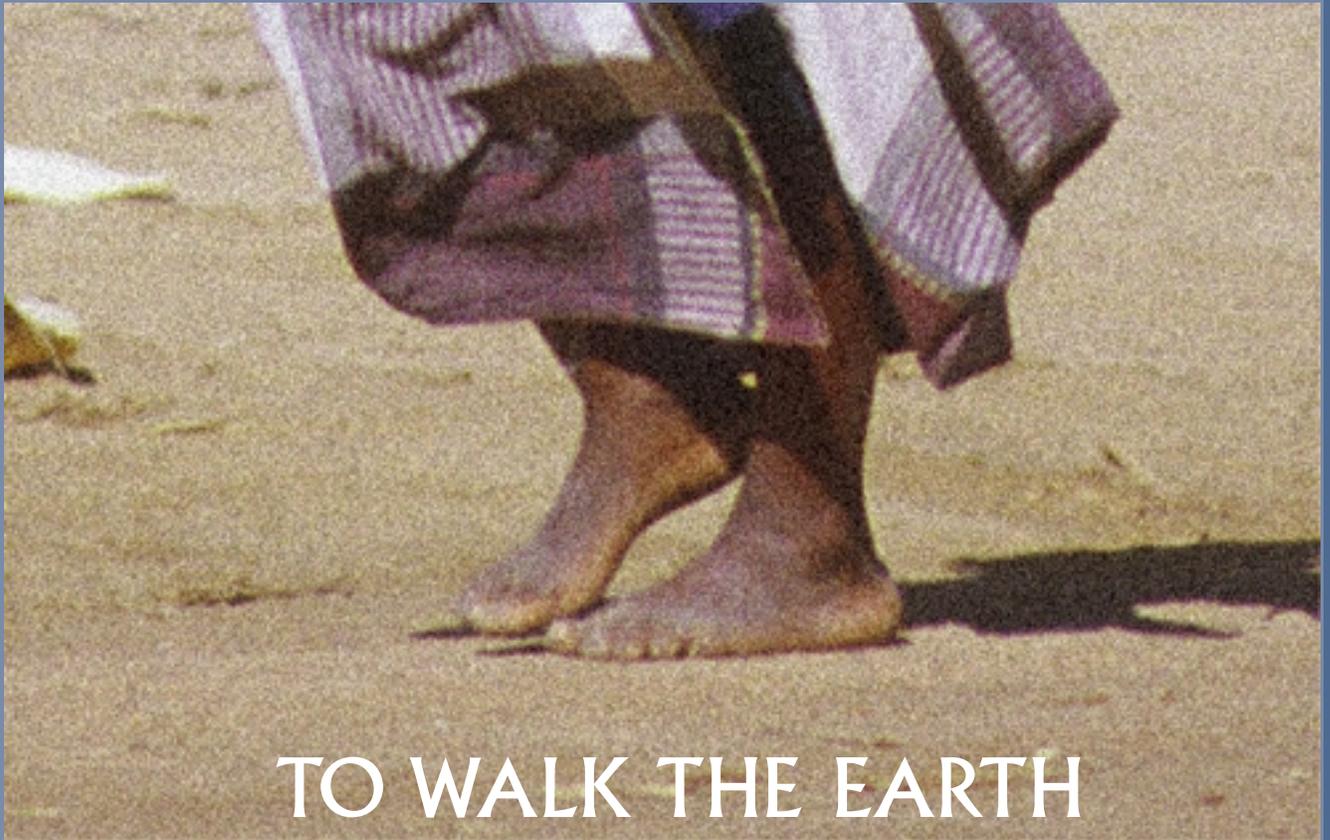


3<sup>rd</sup> Edition  
November 2001

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# Introduction

The United States first became involved in humanitarian demining in 1988 when it sent a team to assess the landmine situation in Afghanistan. Five years later, U.S. demining-related programs were underway in Afghanistan and seven other countries. By the end of 2001, we will have provided more than \$500 million to 38 countries, as well as the Province of Kosovo and northwest Somalia, for various humanitarian demining efforts such as deminer training, mine awareness and mine clearance, as well as orthopedic assistance to, and socioeconomic reintegration programs for, landmine accident survivors and their families. Almost \$100 million of this amount will be spent in Fiscal Year (FY) 01, the largest commitment of any nation involved in financing humanitarian demining activities. The list of recipients of U.S. humanitarian demining assistance is expected to grow in 2002. As a result of our assistance, and that of other donor nations, the world is seeing positive results in many mine-affected countries' reduced casualties, restored agricultural and pastoral land, the return of refugees and internally displaced persons (IDP) to their homes, reopened roads, schools, and markets, and other visible evidence of a return to a productive life.

The goals of the U.S. humanitarian demining program are simple and direct: to reduce the loss of life and limb of innocents; to create conditions for the safe return of refugees and IDP; and to afford opportunity for economic and social reconstruction. Our principal means of achieving these objectives is to assist mine-afflicted countries worldwide in establishing a sustainable, indigenous demining capacity with the appropriate resources and skills needed to sustain progress toward a country declaring itself mine-safe.

This, the 3rd edition of *To Walk the Earth in Safety: The United States Commitment to Humanitarian Demining*, tells the U.S. story, but not the whole story. Foreign governments, the United Nations, other international and nongovernmental organizations (NGO), and mine-affected countries also play a critical role in supporting humanitarian demining programs. The impact of these collective contributions is felt in many mine-affected countries. Moldova declared itself mine-safe in March 2001. In the near future, several other countries likely will also declare themselves mine-safe.

The success stories in this publication attest to the United States Government's belief that when we assist other countries in meeting needs such as clearing landmines, we are serving America's long-term interest and staying true to America's permanent values. The U.S. Humanitarian Demining Program, like our other assistance efforts, is more than foreign aid; these programs aid America, too. Our assistance helps define America's role in the world, often contributing to the economic well-being of our own citizens and those of other countries, and advances our interest in peace, stability, and freedom abroad.



Lincoln P. Bloomfield, Jr.  
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and Special Representative to the President  
and Secretary of State for Mine Action

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*To Walk the Earth in Safety* presents 40 cameos of entities in the U.S. Humanitarian Demining Program, listed alphabetically by geographical region. Each cameo contains three sections: a synopsis of the landmine and UXO threat, U.S. assistance to eliminate or neutralize the threat, and the accomplishments of mine action activities funded by the United States.



# Overview



*To Walk the Earth in Safety: The United States Commitment to Humanitarian Demining* informs the reader of the U.S. commitment to rid the world of landmines that are threatening civilian lives. “Hidden Killers 2001: The Global Landmine Problem”, (an Appendix to this edition of *To Walk the Earth in Safety*), identifies almost 60 countries affected by either an APL or unexploded ordnance (UXO) problem, or both. Through objectives defined by the U.S. Humanitarian Demining Program, we are able to reduce the number of civilian landmine casualties; return refugees and internally displaced persons (IDP) threatened by landmines to their homes; and enhance the political and economic stability of those countries affected by landmines.

A U.S. Government Policy Coordinating Committee (PCC) Sub-Group on mine action, chaired by the National Security Council, with the Department of State (DOS), the Department of Defense (DoD), the U.S. Agency for International Development (USAID) and the Central Intelligence Agency as members, is in charge of approving, developing, and coordinating U.S. humanitarian demining assistance. A typical U.S. program involves assisting in the establishment of a mine action center (MAC), a mine awareness program, and a demining training program. As a country develops its mine clearance capabilities, the PCC Sub-Group will periodically evaluate the development of the program. When the program reaches self-sustainment, the United States passes off its active role to the host nation.

The DOS, through its Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs (PM/HDP) is the lead agency in coordinating U.S. humanitarian demining programs worldwide. With basic funding from the Nonproliferation, Antiterrorism, Demining and Related (NADR) programs appropriation, PM/HDP oversees the day-to-day management of bilateral demining assistance programs. In addition, the

DOS's Bureau of Population, Refugees, and Migration supports the multilateral commitment to refugee needs through the United Nations High Commissioner for Refugees. Finally, USAID promotes sustainable development by providing humanitarian services in post-conflict situations. USAID's Bureau of Humanitarian Response, Office of Transition Initiatives, bridges the gap between emergency humanitarian assistance and long-term development assistance by supporting organizations and people in emergency transition in conflict-prone countries. In addition, USAID's Patrick J. Leahy War Victims Fund contributes to improving the mobility, health, and social integration of the disabled, including landmine survivors. Typically, USAID works through nongovernmental organizations (NGO) to develop a country's capacity of sustainable services for amputees.

Generally, DoD funds a humanitarian demining program's start-up costs, and DOS provides subsequent funds to procure the necessary equipment for mine-affected countries to conduct mine clearance operations. From 1994 through 2000, DoD spent over \$90 million on mine action programs in nearly 30 countries. An additional \$38.3 million has been appropriated for DoD-sponsored demining operations in Fiscal Year (FY) 01, including \$12.7 million for humanitarian demining technology research and development. The components of the DoD humanitarian demining program are: (1) mine awareness education; (2) MAC development; (3) civil-military cooperation; (4) victim assistance; (5) demining training—or train-the-trainer—the core of the program. More than 4,000 indigenous trainers have benefited from this core program.

The U.S. Government has now approved programs to assist 38 landmine-affected countries, as well as the Province of Kosovo and northwest Somalia. Through its Humanitarian Demining Program and Emergency Demining Initiative, the list is expected to expand as the United States approves more applicant countries each year. *To Walk the Earth in Safety* describes the extensive history of the U.S. commitment to humanitarian demining in these 40 locations. The following table depicts all U.S.-funded humanitarian demining support intended to promote our interests in peace, prosperity, and regional stability since FY93.

# History of U.S. Humanitarian Demining Funding (FY93-FY01)

| COUNTRY   | FY93              | FY94              | FY95              | FY96              | FY97              |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| Afghanistan   | 3,000,000         | 5,400,000         | 3,800,000         | 2,000,000         | 3,000,000         |
| Albania   |                   |                   |                   |                   |                   |
| Angola  |                   |                   | 6,524,000         | 7,624,000         | 2,600,000         |
| Argentina   |                   |                   |                   |                   |                   |
| Armenia   |                   |                   |                   |                   |                   |
| Azerbaijan  |                   |                   |                   |                   |                   |
| Bosnia  |                   |                   |                   | 11,288,000        | 5,375,000         |
| Cambodia  | 1,961,437         | 2,849,000         | 3,400,000         | 2,152,000         | 3,600,000         |
| Chad  |                   |                   |                   |                   |                   |
| Croatia   |                   |                   |                   |                   |                   |
| Djibouti  |                   |                   |                   |                   |                   |
| Ecuador   |                   |                   |                   |                   |                   |
| Egypt   |                   |                   |                   |                   |                   |
| Eritrea   |                   | 600,000           | 3,250,000         | 1,437,000         | 718,000           |
| Estonia   |                   |                   |                   |                   |                   |
| Ethiopia  | 730,000           | 692,000           | 2,440,000         | 1,437,000         | 790,000           |
| Georgia   |                   |                   |                   |                   |                   |
| Guinea Bissau   |                   |                   |                   |                   |                   |
| Jordan  |                   |                   |                   | 300,000           | 400,000           |
| Kosovo  |                   |                   |                   |                   |                   |
| Laos  |                   |                   | 80,000            | 1,840,000         | 4,100,000         |
| Lebanon   |                   |                   |                   |                   |                   |
| Liberia   |                   |                   |                   |                   |                   |
| Macedonia   |                   |                   |                   |                   |                   |
| Mauritania  |                   |                   |                   |                   |                   |
| Moldova   |                   |                   |                   |                   |                   |
| Mozambique  | 4,000,000         | 5,965,000         | 1,825,000         | 215,000           | 2,684,000         |
| Namibia   |                   | 65,000            | 2,340,000         | 500,000           | 1,885,000         |
| OAS/IADB<br>(Honduras, Costa Rica,<br>Nicaragua, and Guatemala) | 500,000           | 360,000           | 713,000           | 500,000           | 1,335,000         |
| Oman  |                   |                   |                   |                   |                   |
| Peru  |                   |                   |                   |                   |                   |
| Rwanda  |                   |                   | 4,880,000         | 475,000           | 4,210,000         |
| Senegal   |                   |                   |                   |                   |                   |
| Sierra Leone  |                   |                   |                   |                   |                   |
| Somalia   |                   |                   |                   |                   |                   |
| Sri Lanka   |                   |                   |                   |                   |                   |
| Swaziland   |                   |                   |                   |                   |                   |
| Tanzania  |                   |                   |                   |                   |                   |
| Thailand  |                   |                   |                   |                   |                   |
| Vietnam   |                   |                   |                   |                   |                   |
| Yemen   |                   |                   |                   |                   | 78,000            |
| Zambia  |                   |                   |                   |                   |                   |
| Zimbabwe  |                   |                   |                   |                   |                   |
| RDT&E   |                   |                   | 10,000,000        | 3,000,000         | 14,700,000        |
| Multilateral  |                   |                   |                   |                   |                   |
| <b>NADR TOTAL</b>   |                   |                   |                   |                   | <b>7,000,000</b>  |
| <b>TOTAL</b>  | <b>10,191,437</b> | <b>15,931,000</b> | <b>39,252,000</b> | <b>32,768,000</b> | <b>45,475,000</b> |

1. Does not include FY 1999/2000/2001 PM/HDP Admin Funds

2. MARMINCA figures are included in OAS/IADB

3. Countries receiving allocations from the Slovenian International Trust Fund include: Albania, Bosnia-Herzegovina, Croatia, and Kosovo

4. The Multilateral category includes DoD/OHDACA, USAID Leahy War Victims Fund, ITF, and DOS NADR multi-country or regional funding

5. Funding for Afghanistan is provided through the UN and NGOs.

| FY98              | FY99              | FY00               | FY01 (Est.)       | Source Total       |
|-------------------|-------------------|--------------------|-------------------|--------------------|
| 2,200,000         | 2,615,000         | 3,000,000          | 2,800,000         | 27,815,000         |
|                   |                   | 1,049,000          | 684,401           | 1,733,401          |
| 2,400,000         |                   | 3,096,000          | 3,188,000         | 25,432,000         |
|                   |                   |                    | 50,000            | 50,000             |
|                   |                   | 876,714            | 3,150,000         | 4,026,714          |
|                   | 140,000           | 1,073,714          | 3,400,000         | 4,613,714          |
| 9,400,004         | 8,480,000         | 5,500,000          | 5,160,600         | 45,203,604         |
| 3,600,100         | 2,800,000         | 3,119,500          | 4,573,000         | 28,055,037         |
| 1,900,000         | 1,732,000         | 639,256            | 325,000           | 4,596,256          |
|                   | 600,000           | 2,974,730          | 2,658,349         | 6,233,079          |
|                   |                   | 973,000            | 1,180,000         | 2,153,000          |
|                   | 1,124,869         | 1,412,000          | 1,763,000         | 4,299,869          |
|                   |                   | 10,000             | 749,000           | 759,000            |
| 1,444,000         |                   | 500,000            | 1,050,000         | 8,999,000          |
|                   | 335,000           | 998,493            | 99,000            | 1,432,493          |
| 1,830,000         |                   | 250,000            | 1,000,000         | 9,169,000          |
| 39,000            |                   | 603,714            | 1,000,000         | 1,642,714          |
|                   |                   | 99,145             | 489,000           | 588,145            |
| 500,000           | 2,640,000         | 3,066,000          | 997,000           | 7,903,000          |
|                   | 2,636,400         | 9,326,627          | 1,944,847         | 13,907,874         |
| 5,130,000         | 4,300,000         | 1,486,000          | 1,013,000         | 17,949,000         |
| 590,836           | 1,029,800         | 1,296,560          | 1,625,000         | 4,542,196          |
| 383,250           | 1,000,000         |                    |                   | 1,383,250          |
|                   |                   |                    | 1,000,000         | 1,000,000          |
|                   | 984,021           | 1,583,210          | 729,000           | 3,296,231          |
|                   | 71,000            |                    |                   | 71,000             |
| 3,960,464         | 3,000,000         | 3,839,999          | 2,208,000         | 27,697,463         |
| 2,358,000         | 1,053,000         | 485,000            | 40,000            | 8,726,000          |
|                   |                   |                    |                   |                    |
| 3,120,000         | 3,091,633         | 4,363,000          | 2,950,000         | 16,932,633         |
|                   | 1,400,000         | 1,196,000          | 1,023,000         | 3,619,000          |
|                   | 1,125,000         | 1,411,000          | 1,661,000         | 4,197,000          |
| 2,125,000         | 750,000           | 284,999            | 400,000           | 13,124,999         |
|                   |                   |                    | 500,000           | 500,000            |
|                   |                   | 61,000             | 100,000           | 161,000            |
| 343,347           | 1,150,000         | 1,400,000          | 1,400,000         | 4,293,347          |
| 200,000           | 300,000           | 400,000            | 400,000           | 1,300,000          |
| 210,000           | 828,000           | 8,377              | 26,000            | 1,072,377          |
|                   |                   |                    | 158,000           | 158,000            |
|                   | 1,749,859         | 2,262,271          | 1,420,000         | 5,432,130          |
| 1,639,402         | 4,096,000         | 2,986,995          | 3,500,000         | 12,222,397         |
| 2,770,000         | 1,989,000         | 1,946,000          | 1,695,000         | 8,478,000          |
|                   |                   |                    | 750,000           | 750,000            |
| 2,180,000         | 1,743,000         | 1,917,028          | 621,000           | 6,461,028          |
| 17,700,000        | 17,100,000        | 18,847,000         | 12,000,000        | 93,347,000         |
| 5,621,388         | 9,459,000         | 26,344,214         | 16,300,803        | 57,725,405         |
| <b>18,209,791</b> | <b>34,320,182</b> | <b>39,499,204</b>  | <b>39,412,000</b> | <b>138,441,177</b> |
| <b>71,644,791</b> | <b>79,322,582</b> | <b>110,686,546</b> | <b>87,781,000</b> | <b>493,052,356</b> |



# AFRICA

TO WALK THE EARTH  
IN SAFETY





## The Landmine Problem

More than three decades of internal conflict have left Angola with one of the world's most serious landmine problems. Since no comprehensive national mine survey exists, the actual number of landmines in the country is unknown, with estimates ranging from 200,000 to around 6 million. Eight heavily mined provinces cover nearly 50 percent of the country in a band from the northwest border with the Congo to the southeast border with Namibia. These mines were planted by combatants to destroy or deny access to Angola's infrastructure. Mines are concentrated around roads, railways, bridges, and public facilities such as schools, churches, water supply points, and health care facilities. These mines hinder humanitarian aid programs, economic reconstruction, and the resettlement of Angola's 3.8 million refugees and internally displaced persons (IDP). During 2000, landmines claimed 840 victims, 26 more than the previous year. Half of the casualties occurred on Angola's roads, confirming that there is still no safe movement of people and goods in the country.

## United States Assistance

In Fiscal Year (FY) 00, the United States provided Angola with approximately \$3.1 million for humanitarian demining, through grants to nongovernmental organizations (NGO). The NGO, Hazardous Area Life-support Organization (HALO) Trust, received some of this assistance to upgrade the skills of two survey/mine awareness teams and two mine clearance teams and to fund the addition of two mine clearance teams and two explosive ordnance disposal (EOD) teams in Beguela, Huambo, and Bie Provinces. The latter four teams supported international agencies and NGOs in providing humanitarian relief to IDPs in Angola's central highlands—a high priority area for government and international community resettlement programs. Grants also went to the NGOs Norwegian Peoples Aid (NPA) and Stiftung Menschen Gegen Minen (MgM) for mine clearance. The Vietnam Veterans of America Foundation (VVAFA) received funding from USAID, assisting the Foundation in making progress in addressing the needs of amputees through the establishment of a rehabilitation center in Eastern Angola.

In FY01, the United States provided \$3.188 million to Angola for mine action, including \$2,844,000 in NGO Grants. The HALO Trust received \$800,000 and NPA received \$2,044,000. The HALO Trust continued landmine and unexploded ordnance (UXO) removal in the Kuito area of Bie Province. This is one of the most mine-contaminated areas in Angola, and has one of the highest numbers of IDPs. NPA continued manual demining operations in five provinces to clear land for IDP resettlement and agricultural use. USAID's Leahy War Victims Fund (LWVF) signed a new agreement with the Vietnam Veterans of America Foundation (VVAFA) to provide orthopedic service in Luena to an additional 3,000 people as well as establish a satellite workshop in Saurimo. In addition, a small business development effort will promote a new emphasis on economic rehabilitation.

Since FY95, the United States has contributed \$29 million in humanitarian demining assistance to Angola. This assistance is provided exclusively through NGOs, primarily to facilitate IDP and refugee resettlement and the delivery of humanitarian assistance. U.S.-funded mine clearance operations occur only in areas where there is no ongoing conflict, the risk to demining personnel is low, and the proposed area to be cleared lacks military or strategic value. The U.S. Department of Defense Humanitarian Assistance Program has provided excess equipment to supplement the mine detectors, vehicles, and safety and communications equipment previously purchased with U.S. funds.

In Angola, some 70,000 people (one in 334 inhabitants) are amputees, and the United States has funded programs to assist these landmine victims. USAID contributed \$1 million to support the International Committee of the Red Cross' Prosthetic Production and Fitting Operation, and more than \$3 million to the VVAFA to establish a regional rehabilitation center that will meet the mobility needs of 3,600 Angolans. Since 1996, LWVF has supported VVAFA to meet the physical, social, and economic needs of mine victims and other amputees in Luena City, Moxico Province. The United States has also funded a feasibility study on mine victims in Angola conducted by the Landmine Survivors Network. The study examined the potential for launching a locally managed network of survivors to raise awareness on activities designed to alleviate suffering.

## Accomplishments

U.S. humanitarian demining assistance has helped Angola establish the National Institute for the Removal of Explosive Obstacles, train and equip more than 800 deminers, medical technicians, and supervisors, return thousands of refugees and IDPs to Angola's central highlands—a high priority area for government and international community resettlement programs—and provide prosthetics and training in their use to thousands of landmine victims. In 2000 alone, Angolan and NGO deminers, supported with U.S. financial assistance, cleared more than 600,000 sq. m of land, resulting in increased food production and the opening of additional areas for the resettlement of IDPs.

With U.S. and international support, Angola continues to make progress in eliminating landmines, a major hindrance to the implementation of humanitarian aid programs, economic reconstruction, and internal movement and resettlement in those areas of the country that are relatively free from conflict. Since 1995, more than 315,000 landmines have been destroyed and some 9 million mi. of land have been rendered mine-safe.



# Chad

## The Landmine Problem

There are an estimated 500,000 landmines in Chad. A Level One Survey, funded by the United States and the United Kingdom and completed in May 2001, identified the presence of landmines and unexploded ordnance (UXO) in 249 of the 347 localities in Chad. The most severely affected areas are in the north and east of the country. The Libyan occupation of northern Chad in the 1980s left large (2-60 km long) defensive minefields around all key population centers in the desert. Rebellions in the south, east, and west left a large number of small minefields and thousands of tons of UXO spread throughout the regions. UXO is found in homes, schools, former ammunition storage areas, and abandoned combat vehicles. According to the Survey, there were 339 landmine and UXO victims between March 1999 and March 2001, half due to mines and half to UXO. Approximately 50 percent of the victims succumbed to their injuries.

## United States Assistance

In Fiscal Year (FY) 00, the United States contributed nearly \$640,000 to Chad's demining program. Renewed fighting in early 2000 forced the United States to suspend its assistance temporarily, halting construction of a regional demining compound in Faya Largeau, but not the provision of demining equipment, trauma kits, ambulances, demining vehicles, communications equipment and an air transport/Medevac capability. Canada also suspended its assistance, preventing the completion of a Level One Survey to determine the extent of Chad's landmine problem. The Survey had begun in February 2000, using U.S.-trained Chadian deminers. Once fighting ceased, renewed U.S. assistance enabled the Government of Chad to begin mine clearance operations and to complete the Survey.

In FY01, the United States contributed \$325,000 to Chad's humanitarian demining program for the purchase of demining equipment and the completion of a contract, which will guarantee medical evacuation by air for landmine victims.

The United States has contributed more than \$4.5 million to Chad's humanitarian demining program since it began in 1998. The assistance has helped fund the renovation of Chad's national demining office (NDO) building, the establishment of a national Mine Action Center (MAC), and the creation of a database identifying the location of minefields.

## Accomplishments

The United States played a key role in launching Chad's demining program in January 1998. U.S. Special Operations Forces (SOF) trained a cadre of Chadian deminers, who are now capable of independently training personnel in humanitarian demining techniques and procedures. The United States also provided necessary demining equipment. These deminers have destroyed over 250 tons of UXO and cleared more than 104,000 sq. m since operations began in September 2000. U.S. humanitarian demining assistance will enable the Government of Chad to demine its northern provinces and to benefit from economic and social development in those regions.



## The Landmine Problem

Djibouti has a small landmine problem as a result of the 1991-1994 internal conflict between the Front for the Restoration of Unity and Democracy (FRUD) and the Government of Djibouti. The exact number of landmines and their areas of concentration are not known. A small unexploded ordnance (UXO) threat also exists. According to figures provided by the Djiboutian military, landmines have killed 31 people and injured 90 since 1997, including seven casualties in 2000. The majority of the victims have been military.

Djibouti's northern plateau, the most heavily contested area during the civil war, contains most of the suspected minefields or mined routes, particularly in the districts of Obock and Tadjoura, north of Djibouti City. Deminers conducted a Level One Survey in these areas in September 2001 to determine the extent of the landmine and UXO problems. In the town of Obock, the Djibouti army laid mines to protect an army camp and key installations. FRUD forces are said to have also mined these areas as well as access roads out of Obock and sites near the village of Andoli. A section of road leading south from Ali Sabieh town to the Somali/Ethiopian/Djiboutian border is also mined.

## United States Assistance

In Fiscal Year (FY) 00, the United States provided \$973,000 in assistance to initiate a humanitarian demining program in Djibouti. The new program included training, the provision of equipment, the establishment of a Mine Action Center (MAC) and the refurbishment of facilities for demining training. The United States provided \$1.18 million in assistance in FY01 to fund a U.S. military train-the-trainer program for Djiboutian military personnel, and the provision of mine clearance supplies and equipment.

## Accomplishments

U.S. military forces completed training the first cadre of 35 Djiboutian deminers in May 2001, and some of them began immediately to clear areas around military bases in the north. The Government of Djibouti has outfitted a MAC, refurbished the facilities for demining training, and taken delivery of an initial complement of vehicles, including ambulances, for transporting deminers and mine victims.



# Eritrea

## The Landmine Problem

Thirty years of civil strife and the 1998-2000 war with Ethiopia have left Eritrea with a severe landmine problem. The National Demining Center in Asmara estimates there are 1.5 to two million mines and an equal amount of unexploded ordnance (UXO) in the country. Since 1995, the Eritrean Historical Research Department has identified more than 100 minefields in 38 villages. Ten of the 11 major battle sites believed to contain mines are in the northern and northwestern provinces; the eleventh is in the southeast province. The majority of the landmines are around the cities of Keren, Nafka, and Asha Golgol. Combatants used landmines to defend strongholds around cities and populated areas, military camps, and roadways. Landmines are also found in rural farmlands, near water sources, and along borders.

The landmines and minefields, many located in populated areas, routinely inflict casualties on people and animals alike, and they present major problems to Eritrea's reconstruction, rehabilitation, and development efforts. Landmines in the Temporary Security Zone (TSZ) pose a major danger to internally displaced persons (IDP) now returning to their homes. The UN estimates landmine incidents in 2000 inflicted 200 casualties.

## United States Assistance

The United States funds the majority of the Eritrean humanitarian demining program. Because of renewed hostilities between Eritrea and Ethiopia, the United States did not provide FY00 humanitarian demining assistance to Eritrea. In FY01, the United States gave Eritrea an additional \$1.05 million in humanitarian demining assistance.

Since FY94, Eritrea has received more than \$9 million in humanitarian demining assistance from the United States. The funds have paid for the establishment of a national demining headquarters in Keren, renovation of two regional demining headquarters, training for deminers and medical personnel, and shipping of 60 trucks from Germany to transport demining teams. In August 2001, a U.S. State Department contractor, funded with previously allocated assistance, completed training of a second company of 80 Eritrean deminers and medical staff. Training for another 80 Eritrean personnel is underway. Additionally, eight teams of mine detection dogs and their handlers began mine clearance operations in late summer 2001.

## Accomplishments

Since 1996, the first Eritrean demining company, trained by U.S. Special Operations Forces (SOF), has cleared significant amounts of land for farming, grazing, road building, utility projects, and harvesting of natural resources. Even during the 1998-2000 war, the demining company removed or destroyed more than 1,600 mines and 4,000 items of UXO, opening 1,650 hectares of land and 110 km of road. Hundreds of thousands of refugees from Sudan have resettled the cleared land. Significantly, the demining company has not suffered a single serious injury, while mine awareness programs have reduced civilian casualty rates dramatically. The successes of the Eritrean humanitarian demining program are making a vital contribution to the country's continued economic growth.



## The Landmine Problem

The Government of Ethiopia's National Demining Office estimates that 1.5 to two million landmines, as well as a large amount of unexploded ordnance (UXO) litter its territory. Prior to the 1998-2000 border war with Eritrea, the Ethiopian Demining Headquarters identified 97 minefields in three regions of the country where it was operating. Many of the mines and minefields are near populated areas and inflict casualties on both people and livestock. According to the headquarters, since 1995 landmines have killed at least 172 civilians, and injured 113, while Ethiopian deminers have suffered 4 deaths and 16 wounded in clearance operations. More than half of these casualties occurred in 2000. During the same period, landmines and UXO have killed almost 2,000 animals.

## United States Assistance

In FY93, the United States began funding humanitarian demining activities in Ethiopia. Because of renewed hostilities between Ethiopia and Eritrea, the United States did not provide Ethiopia with humanitarian demining assistance in FY00. In FY01, the United States provided Ethiopia with \$1 million in humanitarian demining assistance.

## Accomplishments

U.S. Special Operations Forces (SOF) train-the-trainer programs produced an initial cadre of 180 Ethiopian deminers. From 1995 until the resumption of hostilities with Eritrea in 1998, these deminers destroyed over 68,000 landmines and more than 364,000 pieces of UXO. After the cessation of hostilities, deminers and combat engineers cleared an additional 203,011 anti-personnel mines and 10,319 anti-tank mines. By October 1999, deminers had also cleared 17,401 hectares of land and 1,500 km of road. The people of Ethiopia are now using the cleared land for farming, grazing, electric power and telecommunications projects, road construction, exploitation of natural resources, such as mining and drilling, and resettlement of refugees in more than 170 villages. A U.S. State Department contractor completed training of an additional 160 deminers in September 2001. The Government of Ethiopia will use the deminers to clear areas in the north of the country and return land to productive use.

Since 1993, USAID has funded the Prosthetic Orthotic Training Center in Addis Ababa, Ethiopia. The Center has provided training in the manufacture and use of prosthetic components to more than 108 technicians from 28 countries, and produced more than 6,600 prostheses, 6,200 orthoses, and 6,200 pairs of crutches.



# Guinea-Bissau

## The Landmine Problem

There are an estimated 16,000-20,000 landmines in Guinea-Bissau, with Sengalese forces responsible for laying a significant number of them. Some mines date from the war for independence, but the majority are from the 1998-99 military mutiny. Minefields infest approximately 30 sq. km of land, most of it close to populous areas in Central Bissau and its environs. In addition, unexploded ordnance (UXO) is scattered throughout populated and agricultural areas. The mines and UXO represent a persistent danger to the civilian population and a hindrance to the resumption of normal commercial activity.

## United States Assistance

The United States provided Guinea-Bissau with \$99,145 in humanitarian demining assistance in Fiscal Year (FY) 00. The funds provided equipment to clear landmines and UXO found in the urban areas of Bissau, the capital. In FY01, the United States provided Guinea Bissau with \$489,000 in assistance, primarily to support the nongovernmental organization HUMAID's mine clearance operations, the remainder for the purchase of equipment for Guinea-Bissau's Mine Action Center, which oversees demining operations in the country.

## Accomplishments

Since September 2000, when demining operations began, Guinea Bissau deminers have cleared 110,00 sq. mi. of land, and destroyed 1,600 landmines and 267 UXO.



## The Landmine Problem

An estimated 50,000-100,000 landmines remain in Mauritania from the war in the Western Sahara. The majority of the mines are on the Cap Blanc Peninsula. Others are at Bir Mogrein, Ain BinTili, and around Zouirat. Shifting of dunes, instability of the soils, and absence of natural barriers present huge obstacles to locating and neutralizing landmines. The landmines and unexploded ordnance (UXO) in northern Mauritania have prevented economic development. Although landmine casualties are not extensive, Mauritanian military personnel and civilians continue to suffer injuries.

## United States Assistance

Since Fiscal Year (FY) 99, the United States has provided more than \$3.2 million to Mauritania's humanitarian demining program. In FY00, the United States allocated \$1.5 million to mine action assistance. The funds provided for a mine awareness campaign, training of deminers, construction of a building for a demining school, establishment of a National Demining Office, and provision of vehicles and demining equipment, all with the objective of creating an indigenous demining capability for Mauritania. In FY01, the United States provided \$729,000 in humanitarian demining assistance to construct a regional demining center in northern Mauritania and to establish a long-range radio communications system.

## Accomplishments

There has been a significant reduction in landmine casualties in Mauritania since the inception of the U.S.-supported humanitarian demining program. Between 1978 and 1999, there was an average of 13 landmine casualties a year; in 2000 there were two. U.S. Special Operations Forces (SOF) trained 52 deminers, who then trained additional numbers of their countrymen in demining techniques. Mauritanian deminers have destroyed more than 8,000 landmines and over 5,700 pieces of UXO, clearing 141 hectares of land for productive use. Deminers have also opened 90 km of a roadway to permit the transport of water from the wells in Boulenoir to the population of Nouadhibou.



# Mozambique

## The Landmine Problem

Two decades of war have left Mozambique littered with landmines. A study by the Canadian Demining Institute estimates there are approximately two million landmines, contaminating almost 70 percent of Mozambique's territory. Other estimates place the number of landmines between 800,000 and one million. The most heavily mined regions are in the north, along the Zimbabwean border, Zambezia in Tete Province, and in Maputo and Inhambane Provinces. Landmines continue to injure people, inhibit refugee resettlement, and hinder economic development. Landmines surround entire communities and many residents are unable to farm. Their presence also makes it difficult to install water supply systems. In 2000, there were 20 landmine accidents, involving 29 people, eight of whom subsequently died from their injuries.

## United States Assistance

Two typhoons struck Mozambique early in 2000, and the subsequent heavy flooding displaced many landmines. At the request of the Mozambique National Demining Institute (IND), the U.S. Department of State used some of the \$3.8 million in Fiscal Year (FY) 00 assistance to Mozambique in funding a U.S. contractor. The contractor conducted high priority demining, under IND direction, of the most dangerous threats. In FY01, the United States provided more than \$2.2 million to Mozambique to fund demining operations on the Sena rail line between Beira and the Malawi border, and training for the IND staff.

Since FY93, the United States has provided nearly \$28 million in humanitarian demining assistance to Mozambique. The assistance has funded U.S. Special Operations Forces (SOF) mine awareness campaigns, train-the-trainer programs, and provisioning of demining equipment to support the training; U.S. State Department provision of additional equipment, such as trucks, metal detectors, protective body gear, and terrain-clearing tools, and a mine detection dog capability; support of nongovernmental (NGO) demining operations; and, USAID victim assistance programs and mine clearance operations.

## Accomplishments

Since 1992, NGO mine clearance operations, funded by the United States, such as USAID's Demobilization/Reintegration Project, have removed more than 15,000 landmines, 13,000 UXO, and opened more than 4,500 km of roads, facilitating post-war resettlement of agricultural land, and reconnecting nearly one million people to their local economies. In a partnership with Japan, the United States contributed \$1 million to the Massingir Dam demining project, a vital key to Mozambique's overall development strategy. The dam is capable of supplying electricity and irrigating 9,000 hectares of land. Using trucks purchased with U.S. assistance funds to transport deminers, the Hazardous Area Life-Support Organization (HALO) Trust is clearing land in the four severely mine-affected northern provinces for agriculture and refugee resettlement. The HALO Trust has also cleared key roads and power lines there. Mozambican armed forces' deminers, trained by U.S. SOF, have cleared the Komatipoort to Maputo power lines, the capitol's main source of electricity. The U.S. demining contractor, RONCO, is now clearing the Sena rail line, Mozambique's top national demining priority. The restored rail line will open large areas of the Zambezi River Valley for development by facilitating the export of agricultural and mineral products to the country's second largest city and port of Beira. Mine detecting dogs, provided by the United States, have increased the capacity of the Accelerated Demining Program (ADP) operations in the southern provinces. Refugees have returned to land cleared by the ADP; agricultural production has resumed; and, schools and clinics have been built on it. In central Mozambique, USAID has funded a charter airline company to supply all logistical support for demining operations, including emergency evacuation of landmine victims.

USAID's Patrick J. Leahy War Victims Fund currently provides support to the NGO, Prosthetic and Orthotic Worldwide Education and Relief (POWER). POWER's goal is to strengthen Mozambican management capabilities, improve outreach, and support private sector opportunities to assume production and distribution of prosthetic devices. To date, POWER has provided more than 5,000 amputees and other people with disabilities with appropriate devices to assist their mobility.

The United States continues to work with the IND to increase the Institute's responsibility in overseeing all aspects of mine action and to improve interaction and cooperation between the various demining organizations and NGOs operating in the country.



## The Landmine Problem

Landmines and unexploded ordnance (UXO) infest about 100,000 sq. km of land (about 12 percent of Namibian territory), land that contains some of the highest population densities in the country. By the time Namibia achieved independence from South Africa in 1988, South African Defense Forces had laid an estimated 50,000 landmines in defensive perimeters around military bases and other strategic facilities, in areas along or near the Angolan border in northwest Namibia, and in berms around hundreds of electric power pylons, from the northern town of Ruacana, 120 km south to the western part of the Estosha National Park. A 900 sq. m area around each pylon contained 24 to 48 landmines and four to six antitank mines. Since December 1999, UNITA and FAA factions in the Angolan civil war have been laying landmines in the Caprivi and Kavango regions of northeast Namibia. Although these mines affect a relatively small geographic area, they endanger many of the rural population, frighten away tourists, and discourage farmers from planting crops. The mines have increased casualties dramatically over the last 18 months, with at least 12 deaths and more than 100 injuries in 2000 alone.

## United States Assistance

In Fiscal Year (FY) 00, Namibia received more than \$485,000 in U.S. humanitarian demining assistance. The funds provided technical expertise, through a U.S. contractor, to the Namibian Defense Force to enable it to continue clearing the remaining berms surrounding electric power pylons in northern Namibia. FY01 assistance of \$40,000 funded a nation-wide mine awareness program.

Since FY94, the United States has provided almost \$9 million in humanitarian demining assistance to Namibia. U.S. assistance has funded a multiphase demining program, including training, clearance, mine awareness, medical assistance, communications, and the purchase of equipment. The United States also provided a berm processor to extract landmines in the berms around electric pylons. Additionally, the U.S. Government participated in a highly successful test of a Namibian-built machine, the Rotar, to sift mines from the soil. The Rotar proved so effective that the U.S. Department of Defense (DoD) paid for the development of an improved system in Namibia. Finally, when rugged terrain hampered UXO disposal efforts in the northern regions, United States funding purchased 4x4 vehicles to enable deminers to reach the clearance sites.

## Accomplishments

Overall, the establishment of Namibia's demining program is complete. In April 2000, the DoD completed its train-the-trainer program for the Namibian Defense Force and Police. Namibia now possesses a modern demining capability and a dedicated unit of 1,000 deminers. These deminers have cleared more than one million sq. m of land, restoring it to productive use, and destroyed more than 5,000 mines and 1,300 UXO. With the clearance of its ten known minefields and 410 electric power pylons, Namibia continued its progress toward becoming a mine-safe country. Although this progress is in jeopardy, given the cross-border minelaying by Angolan rebel forces, the U.S. Department of State will continue to provide funding for mine action activities as appropriate.

## The Landmine Problem

Rwanda emerged from civil war with an estimated 100,000-250,000 landmines in its soil. The heaviest concentrations of landmines, some 50,000-60,000, are in the Kigali area and in four prefectures in the North and Northwest, an area approximately 120 km long and about 10 km inside Rwanda along the border with Uganda. There is an additional 1,200 sq. km of suspected mine contamination south of this region.

## United States Assistance

In Fiscal Year (FY) 00, Rwanda received \$285,000 in U.S. humanitarian demining assistance to promote mine awareness, conduct mine clearance operations, and purchase demining equipment. FY01 assistance of \$400,000 enabled the National Demining Office (NDO) to continue its aggressive mine awareness campaign, replenish some of the equipment it has used in conducting mine clearance operations in Rwanda's rough terrain, and provide deminers and medics with refresher training.

Rwanda has been receiving U.S. humanitarian demining assistance since FY95, with total contributions now surpassing \$13 million. In 1995, U.S. Special Operations Forces (SOF) personnel established a NDO in Kigali and trained 120 Rwandan Patriotic Army (RPA) personnel in humanitarian demining techniques. SOF soldiers returned in 1996 to conduct refresher training and to assist the NDO in integrating mine detection dogs, funded by USAID, into its demining operations. In 1997, SOF personnel established a computer training program at the NDO, revitalized the NDO's data collection center, and conducted mine awareness training. Another U.S. military team, including explosive ordnance disposal (EOD) specialists, trained 93 RPA deminers and EOD personnel. In 1998 and 1999, U.S. assistance funded the renovation of NDO facilities at the Rebero training camp, purchase of demining equipment, and provided additional EOD training. A quality assurance program is also underway to help Rwanda attain UN mine clearance standards.

## Accomplishments

U.S. demining assistance has dramatically impacted Rwandan society. More than 200 U.S.-trained deminers and EOD personnel have cleared over seven million sq. m of land, including 6,000 km of bush roads, destroying almost 24,000 mines and unexploded ordnance (UXO) in the process. Much of the cleared land supports subsistence farming. Landmine and UXO fatalities have dropped from 108 in 1994 to three in 2000, while related injuries have decreased from 128 to four over the same period. Some 400,000 refugees and 200,000 internally displaced persons (IDP) have returned to their villages, many to houses built by the RPA on cleared land. The humanitarian demining program in Rwanda is now at the sustainment phase—the mark of success for U.S. humanitarian demining programs.



## The Landmine Problem

Northwest Somalia has a severe landmine and unexploded ordnance (UXO) problem. Several conflicts have left large amounts of landmines and UXO along the border between northwest Somalia and Ethiopia, the perimeters surrounding military installations, important access routes, and urban areas. The Somalia Mine Action Center has confirmed the presence of at least 28 mined roads, as well as 63 known and 17 suspected minefields.

## United States Assistance

In Fiscal Year (FY) 00, the United States provided \$1.4 million in humanitarian demining assistance to northwest Somalia through the Hazardous Awareness Life-Support Organization (HALO) Trust. In FY01, the HALO Trust received an additional \$1.4 million to enable it to continue its demining efforts. Since 1998, the United States has given almost \$4.3 million in demining assistance to Northwest Somalia.

## Accomplishments

Through August 2000, the HALO Trust has cleared 1,428,750 sq. m of land, while destroying 997 mines and UXO. The cleared land has enabled refugees to return to their homes in Burao.



# Swaziland

## The Landmine Problem

Swaziland has one minefield in the extreme northeastern part of the country along its border with Mozambique. It is approximately 10 km long and varies in width from 50 to 100 m. The field is believed to contain about a dozen mines.

## United States Assistance

The United States provided Swaziland with \$8,377 in humanitarian demining assistance during Fiscal Year (FY) 00, and an estimated \$26,000 will be allocated to the program in FY01. The country has \$289,000 in FY98 funds on account in a trust fund with the U.S. Department of Defense's Defense Security Cooperation Agency.

Since FY98, the United States has provided more than \$1 million in assistance. The funds provided for training of deminers and demining equipment. In 1999 and 2000, U.S. Special Operations Forces (SOF) conducted train-the-trainer programs, and the U.S. Department of State provided mine detectors and protective gear.

## Accomplishments

U.S. training has created an indigenous Swazi capability to conduct humanitarian demining operations using methods that meet UN and international standards. The United States believes Swaziland's experience in clearing its minefield will enable it to contribute to possible future peacekeeping operations.



## The Landmine Problem

Zambia's almost two decades'-long fight for independence left the country with a landmine problem of largely unknown dimensions. The Government of the Republic of Zambia (GRZ) is unable to estimate the number and type of landmines in its soil, since combatants laid the mines in a "nuisance pattern." Requests by the GRZ to former colonial authorities and former liberation movement participants to obtain information about the landmines they emplaced have not been successful. The GRZ's best estimate is that landmines affect 2,500 sq. km in five provinces, stretching from Mwinilunga on the border with the Democratic Republic of the Congo in the northwestern province, and continuing along the western borders to Lundazi in the eastern province, and encompass the southern, Lusaka, and central provinces as well. Large amounts of productive land in the mine-affected provinces have been virtually "no go" areas for over 30 years. The fear of mines has prevented the use of roads, schools, waterways, rural health centers, and even airports. Since Zambia achieved its independence in 1980, landmines have killed or maimed at least 200 people. The number may be higher, since hospitals do not specifically identify landmine victims in their overall casualty records.

## United States Assistance

In Fiscal Year (FY) 01, the United States Department of State provided \$750,000 in humanitarian demining assistance to Zambia to fund a U.S. contractor to train the newly established Mine Action Center in the operation and management of a national humanitarian demining program. In April 2001, representatives of the U.S. Department of State and the U.S. Department of Defense visited Zambia to assess the feasibility of conducting a complementary mine awareness program.

## Accomplishments

Completion of the U.S. contractor's training and the implementation of a mine awareness program by the end of 2001 will place Zambia on the road to developing an indigenous, sustainable humanitarian demining capability.



# Zimbabwe

## The Landmine Problem

The Zimbabwean National Demining Office (NDO) estimates that the War of Liberation, which ended in 1980, left 656 sq. km of land infested with 2.5 million landmines. Although combatants did not prepare or maintain minefield records adequately, the NDO believes the majority of the mines are in minefields stretching 700 km along borders with Zambia and Mozambique. This is a remote region of the country with rough terrain, making landmine surveys difficult to conduct. There were three reported landmine casualties in 2000.

## United States Assistance

Zimbabwe received almost \$2 million in U.S. humanitarian demining assistance in Fiscal Year (FY) 00 for a train-the-trainer program and the purchase of mine awareness materials and demining equipment. In FY01, the United States provided an additional \$621,000 to fully equip another demining platoon. Since FY98, U.S. contributions for humanitarian demining have totaled more than \$6 million.

U.S. assistance has funded U.S. Special Operations Forces (SOF) training of three platoons of Zimbabwean Army Combat Engineers in minefield survey procedures, basic demining techniques, medical orderly skills, and vehicle maintenance, as well as the purchase of equipment and vehicles necessary to outfit and transport the platoons. In addition, an NDO is now in place, and training in staff management and organizational structure is complete.

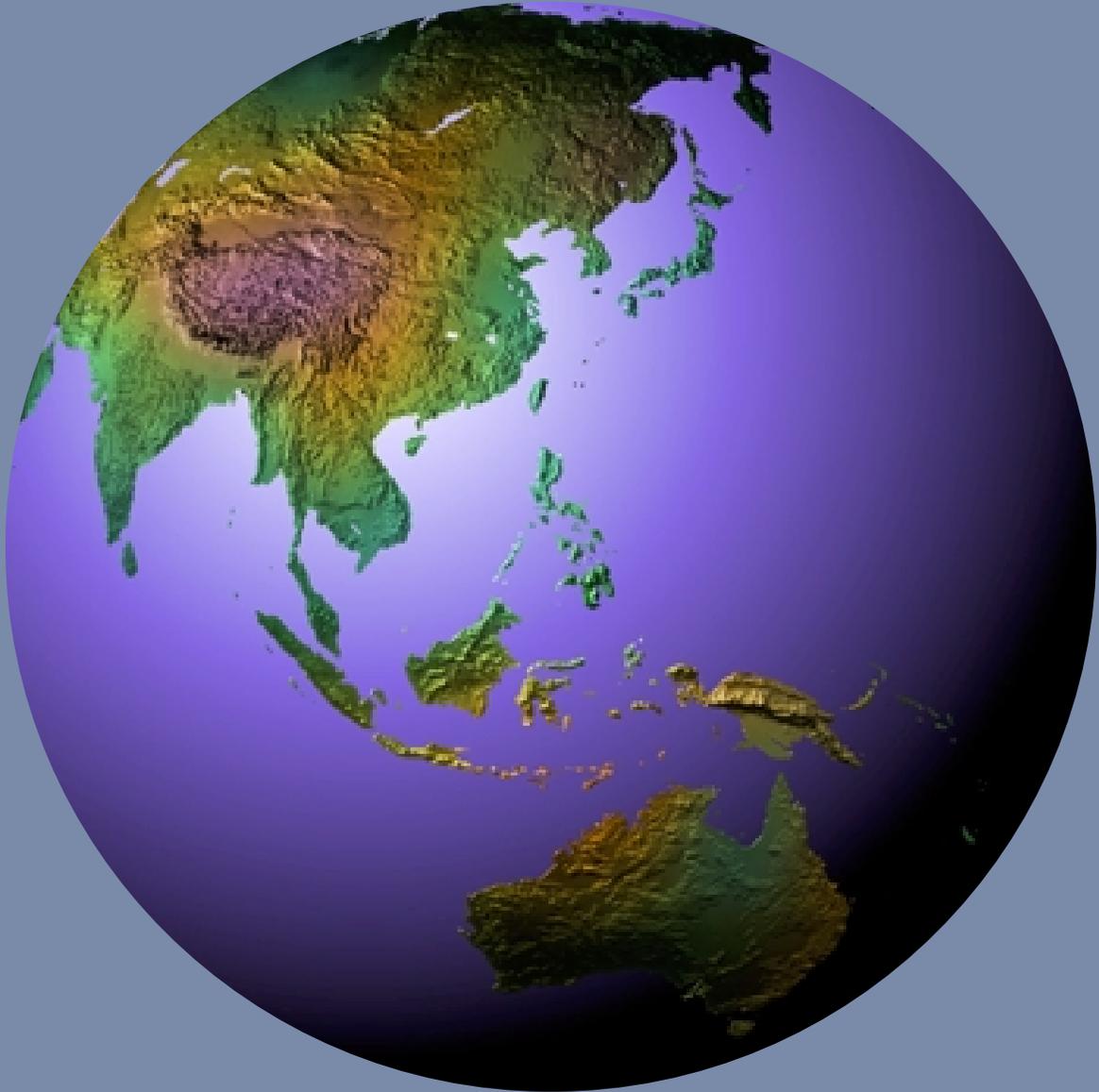
## Accomplishments

The NDO's mine awareness unit, which is responsible for training in target audience analysis and mine awareness information campaign design, has helped reduce the country's landmine casualty rate. Zimbabwean Army Combat Engineers and private sector deminers have destroyed 26,000 landmines and have cleared more than 800,000 sq. m of land, opening large tracts of land in Victoria Falls to tourism and in the Zambezi Valley for resettlement. As Zimbabwe approaches the sustainment phase in its mine clearance operations, the United States will continue its support so that the country can benefit from the estimated hundreds of millions of dollars that can be earned annually through full use of presently mine-affected land.

# ASIA



TO WALK THE EARTH  
IN SAFETY





# Afghanistan

## The Landmine Problem

Afghanistan remains severely affected by landmines and unexploded ordnance (UXO). The UN's Mine Action Program for Afghanistan (MAPA) has identified 723 sq. km of land as being mine-affected, and has assessed 344 sq. km of the land as being a high priority for clearance. While the UN estimates that there are five to seven million landmines in the country, some NGOs claim that, based on their clearance experiences in heavily mined areas, official estimates are too high. The most heavily mined areas are the provinces bordering Iran and Pakistan. Most of the mines are located in agricultural fields, irrigation canals, and grazing areas. Mines are also found on roads and in residential and commercial areas. Security belts of landmines also exist around major cities, airports, government installations, and power stations. Landmines cause an estimated 200 casualties each month. An equally significant problem is the existence of large amounts of UXO, which have inflicted extensive injuries and destruction. UXO contamination is especially severe in Kabul.

## United States Assistance

The United States provides its assistance for humanitarian demining activities through the UN's Office for Coordination of Humanitarian Assistance to Afghanistan (UNOCHA). In Fiscal Year (FY) 00, UNOCHA received \$3 million from the United States, and in FY01 it received \$2.8 million. The FY00 assistance continued funding of the mine detection dog program, manual and mechanical clearance operations, mine survey teams, and the purchase of additional and replacement demining equipment. The United States divided its FY01 contribution of \$2.8 million between UNOCHA (\$800,000 for demining equipment, \$900,000 for mine clearance) and the Hazardous Area Life-Support Organization (HALO) Trust (\$1.1 million for mine clearance).

Since FY89, the United States has provided nearly \$28 million in humanitarian demining assistance for Afghanistan. In 1998, the U.S. Government tested a prototype system—the Airspade—to uncover landmines and eliminate the need for probing. In 1989, USAID funded the original mine detection dog program, turning it over to the UN in 1994. Today, the Mine Detection Dog Center bears responsibility for the program and breeds and trains all mine detecting dogs used in Afghanistan. Through the years, U.S. assistance has also paid for mine awareness programs, minefield surveys and markings, training of deminers, and mine clearance.

## Accomplishments

MAPA is one of the most effective demining programs in the world. Mine awareness briefings to more than seven million people have contributed significantly to lowering the landmine casualty rate by an estimated 50 percent. Afghani deminers have cleared over 224 sq. km of high priority, mine-infested land and 321 sq. km of former battlefield areas, while destroying approximately 210,000 landmines and 985,000 pieces of UXO.

As a result of their efforts, more than 1.5 million refugees and internally displaced persons have been able to return to their homes. In addition, the cleared land has enabled MAPA to provide employment opportunities to over 9,200 farmers and industrial workers, increased agricultural outputs (valued at \$14.2 million U.S. dollars), and livestock production (valued at \$43.4 million U.S. dollars).



## The Landmine Problem

The Cambodian Mine Action Center (CMAC) estimates there are between 300,000 and one million landmines and over 2.5 million pieces of unexploded ordnance (UXO) contaminating 2,000 sq. km of Cambodian soil. The majority of landmines and UXO are found in seven of the western, northwestern, and northern provinces, while two central and southern provinces contain large areas of suspected minefields. Aerial-delivered UXO is found mainly in the eastern and central provinces. Over the last several years, the landmine and UXO casualty rate has been decreasing steadily.

## United States Assistance

In Fiscal Year (FY) 00, the United States allocated almost \$3.1 million to fund mine clearance operations by the Hazardous Area Life-Support Organization (HALO) Trust and the Mines Advisory Group, efforts of the Cambodian Red Cross to establish a Mine Incident Database, and assistance to mine victims. The United States provided \$4.5 million in FY01 for mine clearance and the acquisition of demining equipment and personal protective gear.

Cambodia has received more than \$28 million in U.S. humanitarian demining assistance since FY93. The funding has augmented financial assistance from the UN Development Program Trust Fund and other international donors allowing Cambodia to obtain necessary demining training and equipment. Between 1994 and 1997, U.S. Special Operations Forces (SOF) soldiers trained 1,200 Cambodians in basic mine awareness activities, demining techniques, and medical skills. In addition, the UN, using U.S. assistance funds, provided additional demining training to 537 Royal Cambodian Armed Forces engineers. In 2000, the U.S. Department of Defense provided a highly effective system for vegetation clearance—the Pearson Survivable Demining Tractor and Tools—to a non-governmental organization (NGO) operating in Cambodia for field-testing and evaluation. USAID's Patrick J. Leahy War Victims Fund (LWVF) supports a variety of programs addressing the physical, social, and economic reintegration of persons disabled by landmines. Since 1992, USAID has invested almost \$10 million in Cambodia's Prosthetics and Rehabilitation programs. The funds support the Disability Action Council, a semi-autonomous body that has been delegated authority by the Royal Cambodian Government to oversee all programs related to people with disabilities, and the Vietnam Veterans of America (VVAFA), which supports four rehabilitation centers around the country.

## Accomplishments

The humanitarian demining program in Cambodia is now in the sustainment phase, with a fully trained staff of about 2,400 Cambodians plus 35 foreign technical advisors and six UN staff members. The information in the Cambodian Red Cross Mine Incident Database has proven invaluable to CMAC, NGOs, and donors in making informed planning and prioritization decisions. U.S. and international assistance have lowered reported landmine casualties from 2,799 in 1996 to 811 in 2000, a reduction of almost 70 percent. While one of every 45 Cambodians is an amputee, USAID funds have not only enabled Cambodia's prosthetics and rehabilitation programs to provide mobility assistance to nearly 10,000 landmine victims and other people with disabilities, but also have been instrumental in the development and success of a national coordinating agency for the disabled in Cambodia. From 1992 to June 2001, CMAC deminers cleared some 145,600,000 sq. m of land, destroying 131,176 mines and 603,774 pieces of UXO.



## The Landmine Problem

Between 1964 and 1973, intense ground combat and the dropping of approximately two million tons of ordnance, up to 30 percent of which did not explode, left over 87,000 sq. km of Laos infested with landmines and unexploded ordnance (UXO). There are no realistic estimates of either the number of landmines or unexploded submunitions, referred to by the Laos as “bombies.” The presence of UXO is widespread in nine of Laos’ seventeen provinces, the most contaminated areas being in the northern provinces of Houaphan and Xieng Khouang, and along the border with Vietnam. From 1987 through 1996, the number of UXO victims averaged 240 annually, a sharp drop from the average of 1,100 annually for 1973 through 1976.

## United States Assistance

Laos received almost \$1.5 million in U.S. humanitarian demining assistance in Fiscal Year (FY) 00. The funds purchased demining equipment and vehicles, allowing the Government of Laos to expand operations to 34 of the 38 most heavily UXO-infested districts. The assistance also provided subsequent training support to the national Nam Suong UXO Training Center, enabling students to complete an advanced UXO removal course. In FY01, the United States allocated over \$1 million in assistance, \$293,000 for demining equipment and \$520,000 for the Lao Trust Fund.

The United States is the single largest donor to the Lao mine and UXO clearance program, having contributed almost \$18 million since FY96. U.S. assistance helped establish the National Demining Office, and supports the national UXO training center, staffed by a U.S. military training team and Lao instructors. The Center offers courses in community awareness, mine and UXO clearance techniques, medical training, and leadership development. U.S. funds also sustained mine and UXO awareness in eight provinces, mine and UXO clearance in seven others, and established rapid response teams in the remaining five provinces. Additionally, the U.S. Government provided five prototype technologies for evaluation in 1998.

Since 1990, USAID’s Patrick J. Leahy War Victims Fund (LWVF) has contributed over \$6 million to support rehabilitation services, UXO awareness programs, and to develop emergency response capabilities to UXO traumas. Under a current \$2.6 million partnership with a mine action consortium, the LWVF supports the upgrading of medical, surgical and emergency services, facilities and human resources, and, in collaboration with UNICEF, a national primary school UXO awareness curriculum.

## Accomplishments

U.S. Special Operations Force (SOF) soldiers have trained more than 1,000 Lao, creating an indigenous training capability. From FY96, when U.S. assistance began, through FY00, UXO LAO personnel have destroyed more than 292,000 pieces of UXO, cleared 1,880 hectares of land, and conducted 5,848 mine/UXO awareness visits in over 2,500 villages. Thus far, more than 300 Lao medical staff members have received training in emergency rehabilitation or laboratory services, and one provincial and five district hospitals have received medical equipment and supplies. The LWVF has also provided free medical treatment to UXO victims. The United States will continue to work with UXO LAO to build an indigenous capacity and to provide sustainment funding so that it can assume control of all operations by the end of 2001.



## The Landmine Problem

Over the past four decades, Thailand's internal and external conflicts have left landmine and unexploded ordnance (UXO) contamination along all four borders, with new mines being laid along the northwestern Thai-Burma border. The Thailand Mine Action Center (TMAC) estimates that there are more than one million mines and UXO in the country's soil. The results of a recently completed Level One Mine Impact Survey show that landmines and UXO are present at 933 sites occupying an area of 2,500 sq. km, and affect 530 communities with a population of more than 400,000. The principal socioeconomic impacts of landmine and UXO contamination are reduced availability of land for cultivation and grazing and decreased access to forest resources. According to TMAC, landmines and UXO killed or injured 346 people over the two-year period, 1999-2000.

## United States Assistance

The United States provided almost \$3 million in humanitarian demining assistance to Thailand in Fiscal Year (FY) 00 for the purchase of demining equipment, establishment of a mine detection dog program, provision of demining training, the conduct of a Level One Survey in the most heavily mined areas, and mine clearance operations. In FY01, Thailand received \$1.42 million in assistance, \$1.07 million for demining equipment, and \$350,000 for the mine detection dog program.

U.S. humanitarian demining assistance to Thailand totals more than \$5 million since FY98. In addition to providing essential demining equipment, the funds helped establish facilities for basic demining training at Ratchaburi, and a demining school at Lop Buri to teach mine awareness. U.S. Special Operations Forces (SOF) soldiers have trained more than 200 Thai in compliance with international demining standards.

The U.S. Department of Defense has provided several systems for field testing in Thailand—the Pearson Survivable Demining Tractor and Tools, the Tempest, Thiokol demining flares, and liquid explosive foam (LEXFOAM). TMAC not only demonstrated the effectiveness of the two vegetation clearance systems, they also gained invaluable experience in integrating mechanical systems into their demining operations.

## Accomplishments

In June 2000, the Government of Thailand dedicated the Thailand Mine Action Center, and in July, mine clearance operations began in Sa Kaew Province. The purpose of this pilot project is to develop an integrated approach to demining that will serve as a model for a balanced national program. When fully mature, the program will include fully integrated mine awareness activities, surveys, explosive ordnance disposal (EOD), rapid response capability, mine detection dogs, and manual and mechanical clearance capabilities. Since September 2000, Thai deminers have cleared more than 18,417 sq. m of land, destroying 934 landmines and 1,269 UXO in the process.



# Vietnam

## The Landmine Problem

The U.S. Department of State and the UN estimate that there are 3.5 million landmines in Vietnam. The estimated 300,000 tons of unexploded ordnance (UXO) constitute an additional, and quite possibly, more prevalent threat, in particular large, unexploded aerial bombs. Quang Tri Province, which adjoins the former border between North and South Vietnam, is one of the most affected regions of Vietnam, although mines and UXO also pose a threat near the border with China, and in regions bordering Laos. A 1999 Government of Vietnam report claimed that as of May 1998, landmines and UXO have killed 38,248 people and injured 64,064 more. USAID has observed that, with over 2,000 landmine casualties annually, Vietnam has been left with perhaps the world's highest proportion of amputees.

## United States Assistance

Vietnam received almost \$3 million in U.S. humanitarian demining assistance in Fiscal Year (FY) 00 for the purchase of mine detection equipment, the conduct of mine clearance operations, and grants for mine action activities. In FY01, the U.S. allocated \$3.5 million in assistance for the purchase of additional demining equipment, including personal safety equipment, metal detectors, and vehicles. The assistance also supported a much-needed Level One Survey to determine the scope of the landmine and UXO problem and to assist the Vietnamese in identifying areas where landmines and UXO pose the greatest threat to civilians, arable land, and economic infrastructure. Complementary projects include the funding of one computer system and database that will identify the location of landmines and the location and type of UXO used during past conflicts. Another new system will assist the Government of Vietnam in managing its mine and UXO clearance efforts. In addition, DoD is planning demining computer training in FY01.

Although Vietnam did not formally enter the U.S. Humanitarian Demining Program until 2000, the United States provided funds in 1998 and 1999 to the nongovernmental organization (NGO), Peace Trees Vietnam, and James Madison University to establish a mine awareness training center. The center, located in Dong Ha in Quang Tri Province, focuses on mine awareness for children, using local "people's committees" to conduct the training.

## Accomplishments

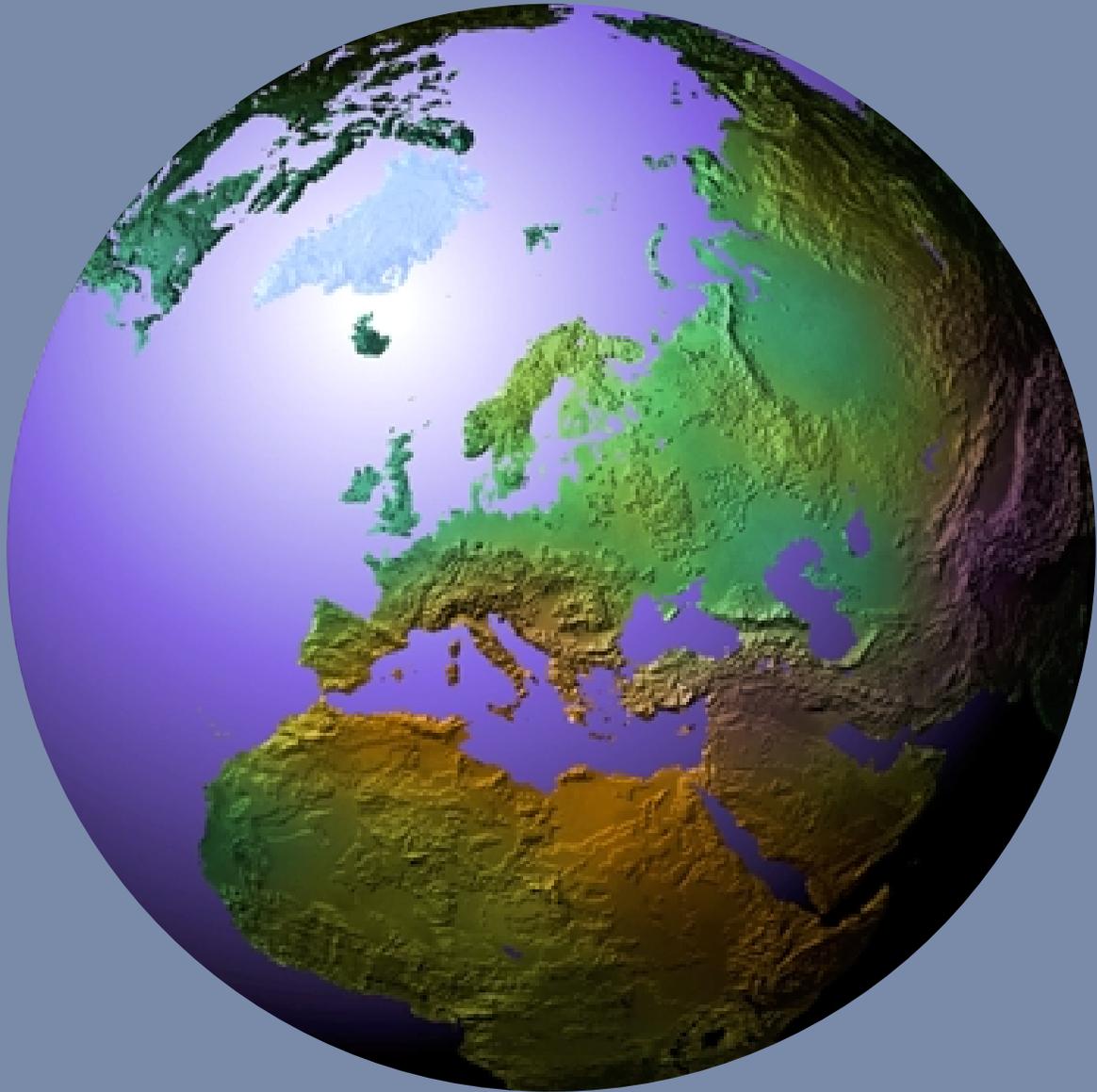
Since 1991, USAID's Leahy War Victims Fund (LWVF) has been a leader in providing support for rehabilitation assistance in Vietnam. To date, the LWVF has provided more than \$16 million through numerous NGO and private voluntary organizations.

Through the LWVF, more than 3,000 rehabilitation personnel have received training, nine rehabilitation centers have been renovated and upgraded, and more than 52,000 people have been provided with mobility assistance.

# EUROPE



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# Albania

## The Landmine Problem

The Albanian Mine Action Executive (AMAE), the Government of Albania's demining coordination agency, estimates that mines placed by Serb and Kosovar Albanian forces before and during the Kosovo conflict affect almost 1,400 hectares of land. Some 36 km in the Kuski and Hasi Districts appear to be mined within 300-400 m of the border with Kosovo, while 18 of the 24 km of Albanian border territory in the Troopja district is suspected of mine contamination. In addition, reports indicate that there are mines in the Barjam Curri District, on the border with Montenegro. Presently, there is no way to assess accurately the number of landmines in these areas. There is also an unexploded ordnance (UXO) problem, mainly as a result of the NATO bombing campaign in the spring of 1999. The Government of Albania also includes in its UXO problem about 13 "hot spots" of former military ammunition storage depots. As with the landmines, the number of UXO is unknown. Since the beginning of 1999, landmines and UXO have inflicted 225 casualties, with 21 victims dying from their wounds.

The United States provides demining assistance to the Albania-Kosovo border region through the Slovenian International Trust Fund (ITF) for Demining and Mine Victims Assistance. In Fiscal Year (FY) 00, the United States provided over \$1 million to the Fund for

## United States Assistance

mine clearance in Albania. Demining operations commenced in early June, with commercial demining teams working on priority demining tasks assigned by AMEA. FY01 funding of \$684,401 continued support for demining operations.

## Accomplishments

Mine awareness programs are largely responsible for a sharp drop in landmine and UXO casualties; only 31 of the 225 casualties occurred in 2000. The commercial mine clearing company RONCO has cleared 10.6 hectares of land, destroying more than 500 mines and three UXO "hot spots."



## The Landmine Problem

The 1988 -1994 war between Armenia and Azerbaijan is the primary source of Armenia's landmine problem. The Government of Armenia (GOA) estimates there are 80,000 to 100,000 mines in its soil. This number may include active minefields along the line of contact in the sparsely populated Tavush region in the northeast that are still being maintained for defensive purposes. While the GOA stressed that the most severe landmine problems are in Nagorno-Karabakh, there are also problems in the Syunik region in the southeast along the now peaceful border between Armenia and Armenian-occupied Azerbaijani territory. This region, which includes the cities of Goris and Kapan, has suffered about 40 to 50 civilian landmine-related deaths and injuries over the last six years. According to the GOA, approximately 1,800 to 2,500 sq. km of land are known, or suspected to be, mine-affected.

## United States Assistance

The United States accepted Armenia into the U.S. Humanitarian Demining Program in December 2000. In Fiscal Year (FY) 01, Armenia received \$3.15 million in humanitarian demining assistance from the United States. The funds helped the Government of Armenia renovate facilities, train its National Mine Action Center staff, and develop mine awareness, information management, and Level One, Two, and Three Survey capabilities.



# Azerbaijan

## The Landmine Problem

The 1988-1994 conflict with Armenia over the Nagorno-Karabakh region and other Azerbaijani land held by Armenian troops left Azerbaijan with a landmine and unexploded ordnance (UXO) problem. The UN estimates that landmines and UXO affect 604 sq. km of liberated Azerbaijani land, representing 24 of the 65 regions in the country. Although there is no accurate estimate of the total number of landmines, the International Committee of the Red Cross (ICRC) believes that there are 50,000 mines in Nagorno-Karabakh alone. A cease-fire has essentially held since 1994, although Armenia continues to occupy 20 percent of Azerbaijani territory. The Government of Azerbaijan has decided that internally displaced persons (IDP) from Fizulu and Agdam, which Azerbaijan reclaimed shortly before the cease-fire, should return home. Many of the 800,000 IDPs have returned, but run the risk of injury, primarily from UXO. The landmine threat is secondary. Preliminary data compiled by the UN indicates that UXO and landmines have caused 7,000 casualties to soldiers and civilians since 1998.

## United States Assistance

In Fiscal Year (FY) 00, Azerbaijan received \$1.07 million in U.S. humanitarian demining assistance for joint demining training with Armenians in Georgia, conducting a Level One Survey, acquiring demining equipment and a team of mine detection dogs (MDD) for verification and quality assurance purposes, mine awareness training, and creating the necessary infrastructure to support the return of IDPs to their homes. The United States Department of State contributed another \$1.1 million in FY01, \$600,000 for extension of the United Nations Development Program's (UNDP) mine detection dog program, \$250,000 for additional demining equipment, and another \$250,000 to set the foundation for establishing an indigenous MDD capability within Azerbaijan's existing mine action center, (ANAMA). The U.S. Department of Defense also allocated \$2.3 million in FY01 for mine action activities. The United States will continue to support the Azerbaijani government in order to strengthen its national demining program.

## Accomplishments

U.S. assistance has funded the training of 15 Azerbaijani deminers and, in conjunction with UNICEF, mine awareness instruction for 800 teachers, 500 medical personnel, and 200 representatives of public organizations. ANAMA is currently developing all components of mine action in order to acquire a national, sustainable capability for humanitarian demining.



## The Landmine Problem

Bosnia-Herzegovina has a very severe landmine problem, the result of the five-year civil war that broke apart Yugoslavia. Although the Bosnia-Herzegovina Mine Action Center (BHMIC) has records for 18,154 minefields, with 307,000 mines, it believes that there are approximately one million mines and an undetermined quantity of UXO contaminating an estimated 4,200 sq. km of land. Heavy concentrations of landmines are found in regions where ethnic conflict occurred. Minefields are located in the Zones of Separation (between the Federation and the Republika Srpska), the front line during the civil war. Combatants mined road systems, power plants, bridges, dams, and other components of Bosnia-Herzegovina's infrastructure. Since the end of the war in 1995, landmines have killed 318 people, including 33 deminers, and injured another 945, of whom 74 were deminers.

## United States Assistance

In Fiscal Year (FY) 00, the United States provided Bosnia-Herzegovina with \$5.5 million in humanitarian demining assistance through the Slovenian International Trust Fund (ITF) for Demining and Mine Victim Assistance. An additional \$5.16 million was provided in FY01.

The United States has supported demining activities in Bosnia-Herzegovina since FY96. FY01 funding brought total U.S. support to approximately \$45 million. The initial assistance funded the establishment of a Mine Action Center (MAC) in Sarajevo, a mine clearance training school at Brus, and three regional administration and operational centers in Banja Luka, Tuzla, and Buna, all operating under combined local and international supervision. In 1996, the United States, DC Comics, and UNICEF distributed a special-edition Superman comic book devoted to mine awareness. Also in 1996, RONCO, a commercial contractor, trained nearly 170 demobilized military personnel in demining methods and techniques, including the use of mine detection dogs. In 1997, U.S. Special Operation Forces (SOF) soldiers conducted a training program and provided necessary demining equipment for 450 military deminers from all three former warring factions. By May 1997, the United States had turned over all U.S. equipment at the civilian regional centers to the respective parties and ceased the direct management of demining operations.

In 1997, the United States Congress set aside \$28 million in matching funds for humanitarian demining assistance to the Balkans, to be disbursed through the ITF. This action allowed Balkan nations to benefit from one-to-one matching of U.S. contributions to the ITF. As of June 2001, 48 donors had deposited just over \$29 million in the ITF, with additional pledges outstanding. The United States matched \$28 million of those contributions, and made several unilateral contributions to the ITF totaling more than \$8 million. These contributions met pressing demining needs in the Balkans that had not been addressed by other donors.

In 1998, the United States provided \$7 million to fund the operations of one international and three regional commercial demining companies. These companies cleared nearly three sq. km of land in that year, representing the most productive demining operation of the year. The U.S. Department of State also initiated in 1998, a research and development program to test prototypical demining equipment for possible use in Bosnia-Herzegovina. Previously, in 1997, the U.S. Department of Defense initiated the field evaluation portion of its Humanitarian Demining Research and Development Program with the test of four prototype technologies in Bosnia.

## Accomplishments

Bosnia-Herzegovina's mine detection dog teams, primarily funded and trained by the United States, are extremely valuable for conducting safe and cost-effective demining and mine survey operations. They have helped more than 1,200 Bosnian-Herzegovinian deminers clear 23 sq. km and survey 133 sq. km, with roughly half the surveyed land reclassified as posing no risk to civilians. In the process, they have cleared more than 36,000 landmines in the year 2000 alone.

Although the Bosnian-Herzegovinian humanitarian demining program is now at the sustainment level, the United States will continue to support Bosnia's efforts of becoming mine-safe through matching donations to the ITF.



# Croatia

## The Landmine Problem

Croatia has a serious landmine problem stemming from its 1991-1995 war with the Yugoslav Federation. An estimated one to 1.2 million landmines and unexploded ordnance (UXO) affect almost a tenth of Croatian territory. The Government of Croatia has identified minefields on 500 sq. km of its land and suspects that another 3,500 sq. km may be affected. The mine-affected areas run the length of the country, roughly paralleling the lines of confrontation between Croatian and Serbian forces during the war. From 1991 through December 2000, the Croatian Center for Demining recorded 1,320 landmine incidents, which killed 365 persons and wounded another 1,281, with many of the wounded requiring amputations. Casualty estimates also indicate that mines and UXO killed nearly 300 children and injured even more. A mine awareness program, begun in 1998, seems to be having a positive effect. There were 16 civilian mine-related incidents in 2000, causing nine deaths and 13 injuries. Another five landmine incidents during demining operations in 2000 killed three deminers and wounded five others.

## United States Assistance

In Fiscal Year (FY) 01, Croatia received \$2.65 million in U.S. assistance, provided through the Slovenian International Trust Fund (ITF) for Demining and Mine Victim Assistance. This allocation supported the upgrade of a prototype demining vehicle, encompassing new mini-flail technology, which is manufactured in Croatia. The prototype has the potential for use throughout the Balkans. Additional U.S. matching funds, also channeled through the ITF, paid for the clearing of agricultural land in wine-growing regions of Croatia as part of a funding partnership with U.S. winemakers.

Since 1998, the United States has provided more than \$6.2 million in humanitarian demining assistance to Croatia. In 1998, the United States provided \$600,000 to support the Return Assistance Program (RAP) that is designed to encourage the return of ethnic minorities and other displaced persons to their homes in the war-affected areas of Croatia. In addition, the United States donated \$1 million to the ITF to match a like donation from the Government of Croatia to fund mine clearance initiatives conducted through the Croatian Mine Action Center.

## Accomplishments

Since 1999, deminers, utilizing ITF and matching funds, cleared 1.6 million sq. m. of land of more than 2,600 landmines. At least 150,000 sq. m of the cleared land is now in agricultural use.



## The Landmine Problem

Although Estonia's landmine and unexploded ordnance (UXO) problem dates back to World War I, the majority of UXO on the ground today remains from World War II. While it is difficult to estimate the exact number of landmines, Estonian authorities believe the number of UXO is in the hundreds of thousands. Since 1992, the Government of Estonia has reported finding 27,426 pieces of UXO and landmines on its territory, mostly in the Narva region in the northeast, and along the Emajogi River in the east central Tatu region, where large battles occurred in 1944. In addition, a large quantity of Soviet UXO remains on former target practice ranges, including on all of Pakri Island. Landmines and UXO have killed 43 people and wounded another 90, including two fatalities and 16 injuries in 2000.

## United States Assistance

In Fiscal Year (FY) 00, the U.S. allocated \$998,493 million to establish a training center in Tartu and to enable U.S. Special Operations Forces (SOF) soldiers to conduct a train-the-trainer program emphasizing UXO disposal, while also providing mine clearance assistance in coordination with Estonia's various demining agencies. In addition, the SOF conducted humanitarian demining/UXO disposal training, emergency medical treatment, and communications training for the Estonian National Demining Office. Estonia received an additional \$99,000 in humanitarian demining assistance in FY01.

Since FY99, Estonia has received \$1.43 million in U.S. humanitarian demining assistance. These funds have enabled the Government of Estonia to establish a National Demining Office to coordinate demining activities, develop a comprehensive mine/UXO awareness program, acquire modern demining equipment and protective clothing, and expand demining/UXO clearance operations.

## Accomplishments

This year, the Government of Estonia's Self Defense Board, an organization with experience in demining and now possessing modern equipment, training, and organization, began conducting proactive rather than reactive landmine and UXO clearance operations. Since 1996, the Self Defense Board has destroyed some 27,500 pieces of UXO.



# Georgia

## The Landmine Problem

The landmine and unexploded ordnance (UXO) problem in Georgia stems primarily from the 1992-1994 conflict in the Abkhazia region of the country. Ongoing partisan activity in some parts of Abkhazia also contributes to the problem. According to the Government of Georgia (GOG) there are about 50,000 mines in the country's soil. The mines are predominantly located in Abkhazia in northwestern Georgia, the South Ossetia/Tskivani region in north central Georgia, the former Soviet ammunition storage facility in Osiauri in eastern Georgia, Kopitnari air base in western Georgia, Omal, Shenako, and areas near Georgia's northern border with Chechnya, and parts of the Georgia-Armenia and Georgia-Azerbaijan borders. Many of these mines are located around former Soviet and present Russian military bases. Others are in minefields adjacent to or collocated with residential, agricultural, and grazing areas, posing a serious danger to people and livestock. The GOG estimates there are approximately 1,500 UXO present, mainly in Orfilo in the Akhaltsikhe region in southern Georgia and at the former Russian military base at Vaziani, under Georgian control as of July 1, 2001. According to the GOG, mines and UXO affect approximately 220 sq. km of land. Since 1994, landmines and UXO have killed four military personnel and wounded one civilian; another two military personnel and 115 civilians were injured.

## United States Assistance

The United States provided \$603,714 in humanitarian demining assistance to Georgia in Fiscal Year (FY) 00 for Georgia to host a joint demining training program with Armenia and Azerbaijan. In FY01, Georgia received \$1 million in U.S. assistance to fund the Hazardous Area Life-support Organization (HALO) Trust mine clearance operations in Ochamchire Province.

## Accomplishments

In the Fall of 2000, U.S. Special Operations Forces (SOF) trained and equipped 45 Georgian, Armenian, and Azerbaijani deminers in compliance with UN humanitarian demining standards. The training also included emergency medical treatment and communications.



## The Landmine Problem

The Province of Kosovo has a serious landmine and unexploded ordnance problem as a result of its civil war with greater Serbia in 1999 and subsequent NATO air strikes against Serbian military and internal security forces. The UN has identified approximately 800 mine-affected areas and over 300 unexploded ordnance (UXO) sites in the interior of the Province as well as along the borders with Albania and Macedonia. According to the UN, UXO have killed 86 people and injured another 351 over the last two years.

## United States Assistance

In Fiscal Year (FY) 00, Kosovo received \$9.32 million in humanitarian demining assistance from the United States for clearing mines and UXO, equipping the UN's Mine Action Coordination Center, and supporting UNICEF's and nongovernmental organizations' mine awareness programs. The United States provided an additional \$1.94 million in FY01.

Since FY99, the United States has provided the majority of its more than \$13 million in demining assistance to Kosovo through a variety of funding sources, including the Slovenian International Trust Fund (ITF) for Demining and Mine Victims Assistance. In 1999, the United States provided nearly \$2.3 million in emergency demining assistance and another \$343,350 for mine awareness education for Kosovar refugees living in camps in Albania and Macedonia prior to their return to Kosovo. The United States also provided \$650,000 to fund UXO clearance operations, bringing in experienced technicians from Mozambique.

Shortly after the cessation of the NATO bombing campaign in Kosovo in 1999, the U.S. Department of Defense provided Handicap International with over 100 Thiokol demining flares for evaluation as an alternative method for disposing of both landmines and unexploded submunitions. The test against cluster bomblets proved highly successful.

## Accomplishments

Initial landmine and UXO clearance operations in the summer of 1999 included schools, houses, roads, agricultural areas, water pipelines, irrigation channels and power lines, and a customs post for the United Nations on the Albania-Kosovo border. These operations made life safer for the Kosovar population and helped them prepare for the harsher living conditions of winter. As of June 2001, deminers and explosive ordnance disposal (EOD) personnel had cleared 27,000 mines, 14,000 UXO and 6,273 cluster bomb submunitions. The UN's Mine Action Coordination Center claims that deminers and EOD personnel will have cleared all known minefields in Kosovo by the end of 2001.



# Macedonia

## The Landmine Problem

Macedonia has a small landmine problem as a result of the 1999 conflict in Yugoslavia between Serbian military and police forces and Kosovar Albanians. As a result of a conflict earlier this year between the Government and rebel forces, there likely also is a UXO problem of undetermined magnitude. There are approximately six unmarked minefields in the mountains along the border with Kosovo. Macedonian border guards fear that additional landmines may exist in the area, posing a threat not only to their patrolling activities, but also to civilians and livestock. The Serbs planted mines in this territory to block access routes and forestall possible ground attacks by NATO forces in support of the Albanian insurgents. There also appear to be a few mines at one former Serb border crossing station, approximately 100-150 m inside the Macedonian border. The length of the affected area is not known, but is not thought to be extensive.

## United States Assistance

In Fiscal Year (FY) 00, the United States provided \$800,000 in humanitarian demining assistance to the Government of the Republic of Macedonia, through the Slovenian International Trust Fund (ITF) for Demining and Mine Victims Assistance, for mine clearance in the Macedonia-Kosovo border region. In FY01, the Department of State set aside another \$1 million for deposit into the ITF to support an expanded effort in Macedonia. State Department, ITF, and Macedonian government officials jointly are developing a plan to use those funds in landmine/UXO awareness and clearance programs.



## The Landmine Problem

Moldova declared itself mine-safe in March 2001. Its landmine and unexploded ordnance (UXO) problems dated back to World War II. The landmine problem escalated in 1992 during a civil war between Moldovans and Transnistrians (ethnic Russians), which created the Transnistrian Separatist Region located east of the Nistr River. The Joint Control Commission (JCC) currently administers the disputed Transnistria area with the Republic of Moldova, which is represented by Moldova, the Transnistrians, and Russia. The UXO problem is countrywide. About 75-80 percent of the ordnance is from World War II battles that occurred throughout the country, while the remaining ordnance is from the 1992 civil war. Mined areas are limited to the Transnistria region, encompassing approximately 210 acres (85 hectares) of land.

## United States Assistance

Moldova received \$71,000 in U.S. humanitarian demining assistance in Fiscal Year (FY) 99 to provide the Moldovan National Army (NAM) with the modern metal detectors and personal protective equipment necessary to conduct demining operations efficiently and safely.

## Accomplishments

By the fall of 2000, NAM deminers had cleared the single remaining minefield in the country, restoring 210 acres of agricultural land for use as orchards, pastureland, and firewood gathering. In March 2001, Moldova declared itself mine-safe, having destroyed more than 2,100 landmines.



# LATIN AMERICA

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## The Landmine Problem

As a result of external conflict with Nicaragua, Costa Rica is contaminated with approximately 2,000-5,000 landmines. The Organization of American States (OAS) estimates that the mine-affected terrain represents 170,000 sq. m of land along the Nicaraguan border, spanning an area from Rio San Carlos through Los Chiles and the frontier region near Upala. In 1999, the Government of Costa Rica extended the affected area west to Penas Blancas near the Pan-American Highway. To date, only three casualties from landmine-related incidents have been reported. These victims unsuspectingly wandered into minefields.

## United States Assistance

The United States contributed over \$4.36 million to the OAS/Inter-American Defense Board (IADB) for mine action operations in Fiscal Year (FY) 00. Under this program, Ministry of Public Safety (MPS) personnel were trained and equipped for demining operations. In 1999 and early 2000, RONCO Consulting Corporation trained four dog and handler pairs to conduct Quality Assurance and Level Two Survey operations in Costa Rica. During the first nine days of demining in 2000, the RONCO dog and handler teams helped to find and destroy 14 landmines.

In FY01, the U.S. State Department contributed \$2.95 million to OAS/IADB's humanitarian demining initiatives. This funding sustained mine clearance activities, Medevac support to deminers, and a mine detection dog program. In January 2001, the U.S. Government presented Costa Rica's MPS with four mine detection dogs to be used in demining operations. Also included in the donation were two trucks, medical supplies, and other mine detection equipment to facilitate mine action efforts.

Since FY93, the United States has contributed approximately \$16.9 million to the OAS/IADB for mine action operations. Under this program, MPS personnel were trained and equipped for demining operations in Costa Rica. In addition, funding assistance was used to establish a communications base and to purchase vehicles, field equipment, and generators. With this infrastructure in place, the MPS began mine clearance operations in 1996.

## Accomplishments

The OAS, in coordination with the U.S. Embassy and local organizations, has provided prostheses, physical therapy, and economic aid for landmine victims. To date, MPS personnel have cleared over 100,000 sq. m of land and destroyed 331 mines according to the OAS Assistance Mission for Mine Clearance in Central America (MARMINCA). The United States completed its assistance to Costa Rica in July 2001 after the country reached the sustainment phase.

## The Landmine Problem

After 30 years of internal conflict, formerly contested zones in northwest Guatemala harbor a moderate landmine and unexploded ordnance (UXO) problem. The Organization of American States (OAS) estimates there are between 1,500 and 2,000 landmines in the contaminated area that encompasses the Playa Grande/Ixcán region of Quiché and the vicinity of guerilla base camps near the Atilán and Tajumulco volcanoes. Since the final Peace Accord was signed in December 1996, there have been no reported landmine-related casualties.

## United States Assistance

In Fiscal Year (FY) 00, the United States allocated over \$4.36 million to the OAS/Inter-American Defense Board (IADB) to support humanitarian demining in Central America. This contribution has funded training, a landmine/UXO awareness campaign, and landmine/UXO clearance.

The U.S. State Department contributed \$1.35 million to OAS/IADB's humanitarian demining initiatives in FY01 and the U.S. Department of Defense provided an additional \$1.6 million. U.S. assistance will continue to support training, mine awareness campaigns, and mine clearance in affected areas. Additionally, the U.S. Government provided four demining technology prototypes for field testing in Guatemala in 1998.

Guatemalan demining operations are supported by the OAS/IADB's regional demining program, which Guatemala joined in 1998. The United States has contributed approximately \$16.9 million to the OAS/IADB, to date.

## Accomplishments

Since 1998, U.S. support has helped Guatemala clear more than 160 mines and restore almost 6,000 sq. m of terrain to productive use. In 2001, the OAS estimates that demining teams will sweep eight sq. km of land and locate approximately 300 pieces of UXO. The United States supports the Guatemalan goal of becoming mine-safe in 2002.



## The Landmine Problem

As a result of conflict with neighboring countries, Honduras is infested with an estimated 15,000-35,000 landmines that are implanted along the borders with Nicaragua and El Salvador. Although the mined areas are not densely populated, civilian injuries are periodically reported.

## United States Assistance

During Fiscal Year (FY) 00, the United States contributed over \$4.36 million to the Organization of American States (OAS)/Inter-American Defense Board (IADB). This funding allocation supported mine clearance, victim assistance, and a mine detection dog (MDD) program in Honduras. Additionally, RONCO Consulting Corporation, a U.S. contractor, trained 12 MDD and handler teams to assess the extent of the post-Hurricane Mitch landmine problem in 1999 and 2000. Hurricane Mitch's harsh weather conditions shifted previously marked minefields in 1998, making them even more difficult to locate and subsequently clear. Also in 2000, USAID's Patrick J. Leahy War Victims Fund began providing support through the Pan American Health Organization (PAHO) to the Central American Tripartite Landmine Initiative. In partnership with PAHO, USAID is working to increase local capacity to plan, implement, and manage appropriate strategies for landmine victims and other people with disabilities by providing short and medium term technical training.

The U.S. Department of State contributed \$1.35 million to the OAS/IADB during FY01. United States assistance to Honduras in 2001 sustained victim assistance, mine clearance activities, and a mine detection dog program.

Under the supervision of the OAS/IADB, the United States has supported demining operations in Honduras since FY93, providing operational and logistical support for demining training conducted by multinational teams. Since 1993, the United States has awarded approximately \$16.9 million to the OAS/IADB for demining operations.

## Accomplishments

To date, the U.S.-trained Honduran demining unit has cleared nine major minefields measuring approximately 333,000 sq. m and destroyed more than 2,200 landmines and several hundred pieces of UXO. Honduras is expected to declare itself mine-safe in 2002.



# Nicaragua

## The Landmine Problem

After 12 years of armed conflict and civil strife, Nicaragua is the most heavily mined country in Central America. Warring factions laid mines during conflict, which ended in 1990. An estimated 134,000 landmines remained following the conflict. However, after nine years of demining efforts by government mine clearance operations, this number has been reduced significantly to approximately 108,000 landmines. Most of the mine-affected area is confined to the northern and southern borders and the central departments of Esteli, Jinotega, and Matagalpa. Landmines were also laid around installations in north-central and central Nicaragua. According to the International Red Cross, 2,472 landmine-related casualties have been reported.

## United States Assistance

Nicaragua receives assistance from the United States through the Organization of American States (OAS) Inter-American Defense Board (IADB). In Fiscal Year (FY) 00, the United States allocated over \$4.36 million to the OAS/IADB for mine clearance and victim assistance programs. Prior to 2000, Nicaraguan humanitarian demining operations were conducted on four “fronts” working in the northern, central, and southern sections of the country. An additional “front,” supported by the United States through the OAS and staffed by 80 Nicaraguan soldiers trained by the U.S. Special Operations Forces, was launched in March 2000. In 1999 and 2000, RONCO Consulting Corporation, a U.S. State Department contractor, trained 12 mine detection dog and handler teams to conduct demining operations in Nicaragua. Soon after, the Nicaraguans requested four additional dogs to support ongoing mine clearance activities. In FY00, USAID’s Leahy War Victims Fund began supporting the Central American Tripartite Landmine Initiative, providing comprehensive assistance to rehabilitate people with disabilities, including landmine survivors.

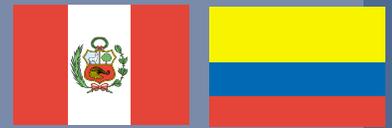
In FY01, \$2.95 million was allotted to the OAS/IADB to continue support to mine clearance and victim assistance programs. Additionally, the U.S. Department of Defense Demining and Research Development Program assisted Nicaraguan authorities in 2001 in conducting a metal detector evaluation to determine the most suitable detector for their needs.

To date, the United States has contributed approximately \$16.9 million to the OAS/IADB for humanitarian demining programs in Central America. This allocation of funds has supported training of over 350 deminers, equipment purchases, victim assistance, and mine awareness campaigns. Although the devastation caused by Hurricane Mitch in 1998 thwarted humanitarian demining efforts in Nicaragua temporarily, reassessments of the extent of the post-Hurricane Mitch mine problem quickly redefined mine locations and severity and permitted demining operations to resume promptly.

## Accomplishments

To date, approximately 26,240 landmines have been found and destroyed by Nicaraguan deminers, declaring 24 Nicaraguan municipalities and 168 km of international borders mine-safe. In total, approximately 1,856,540.5 sq. m of land has been cleared.

# Peru and Ecuador



## The Landmine Problem

During the brief border war between Peru and Ecuador in early 1995, mines were laid along the disputed 79-km-long Cordillera del Condor region. Landmines were also placed haphazardly along other sensitive areas of the border during fighting. Although the actual number of landmines planted is unknown, the Ecuadorian government reports that 50,000-60,000 landmines remain in its soil. The Peruvian Government estimates there are 120,000 landmines along its border. Casualty rates are relatively low because most minefields, particularly along the Ecuadorian border and in Peru's most severely affected region, Cenepa Valley, are in sparsely populated areas. From 1995-1999, there were approximately 120 landmine casualties in Ecuador, the majority of whom were civilians, and 179 landmine casualties in Peru (62 army personnel, 67 police, and 50 civilians).

## United States Assistance

In Fiscal Year (FY) 00, the United States contributed approximately \$2.1 million to both Peru and Ecuador. In addition to covering the costs of Special Operations Forces (SOF) training, these funds were used to provide vehicle and equipment support and training for several classes of deminers. During 2000 and 2001, U.S. Army SOF trained Peruvian and Ecuadorian Army personnel in basic demining techniques.

In FY01, the U.S. Humanitarian Demining Program allotted over \$1.66 million to Peru and \$1.76 million to Ecuador to fund humanitarian demining activities. This contribution supported train-the-trainer programs and the provision of vehicles and equipment used for demining.

To date, the United States has contributed approximately \$9.3 million to humanitarian demining activities in Peru and Ecuador. U.S. assistance commenced in 1998, following a U.S. Policy Assessment Visit and acceptance of the two countries into the U.S. Humanitarian Demining Program.

In March 2001, the Government of Ecuador signed a Memorandum of Agreement (MOA) with the OAS making the Organization a partner in humanitarian demining operations in Ecuador on a pilot basis. Peru signed a similar MOA with the OAS in May 2001.

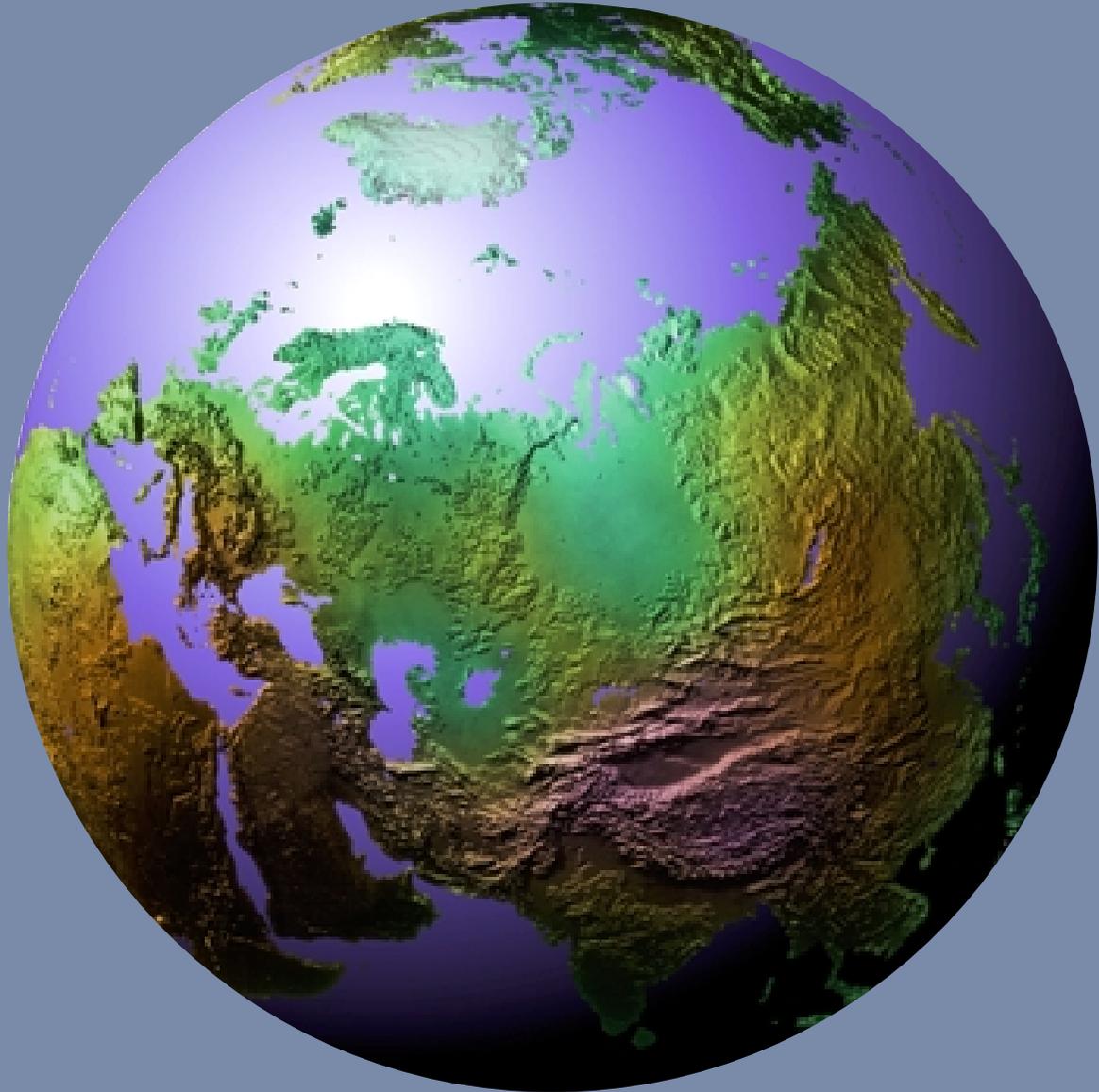
## Accomplishments

Both Peru and Ecuador have made significant progress in their humanitarian demining programs during the nascent stages of development. Since 1999, U.S. SOF has trained 458 Ecuadorians and 140 Peruvian army personnel in basic demining techniques. In February and July 2000, demining operations began in El Oro Province and the Oriente Region of Morona Santiago, Ecuador. By June 2001, an estimated 4,300 landmines and UXO were destroyed in the combined regions. In Peru, the first phase of demining was completed in 1999, when land was cleared to permit the placement of 30 border markers between the two countries. More recently, mine clearance operations have furthered plans for the construction of a road from the Ecuadorian border to the Twinza National Park.



# THE MIDDLE EAST

TO WALK THE EARTH  
IN SAFETY





## The Landmine Problem

The Government of Egypt estimates there are approximately 5-5.75 million landmines and 15-15.25 million pieces of unexploded ordnance (UXO) on its territory. The largest mine and UXO problem, dating from World War II, exists in the northern portion of the Western Desert, along the coast of the Mediterranean Sea, between the Nile Delta and the Libyan border. There, the most heavily mined areas are Alexandria, El Alamein, Ras-Al-Hekma, Marsa Matruth, Sidi Barrani, and Salloum. There are post-World War II mines and UXO in the east, in the Suez Canal area, along the western coast of the Red Sea, and in the Sinai Peninsula. The mines and UXO affect 2,800 sq. km of Egyptian land, 2,539 sq. km in the west and 261 sq. km in the east. According to the Egyptian Army, landmines and UXO have killed 696 people (including 418 civilians) and injured another 7,617 (4,599 civilians) since the end of World War II, with the majority of serious injuries occurring in the east.

## United States Assistance

During Fiscal Year (FY) 00 and FY01, Egypt received \$749,000 in U.S. humanitarian demining assistance to fund a U.S. Special Operations Forces (SOF) train-the-trainer program and the acquisition of modern demining equipment. In both 1999 and 2000, at the request of Egyptian authorities, the U.S. Department of Defense evaluated two mechanical demining systems in the World War II battlefields surrounding El Alamein. Egypt also receives U.S. Foreign Military Financing Funds, and in the future, the United States expects Egypt will redirect some of these funds to support humanitarian demining operations on a continuing basis.

## Accomplishments

In April 2000, the Government of Egypt signed a decree officially establishing a civilian-led National Demining Committee. From May 17 through August 15, 2001, the Department of Defense's train-the-trainer program in Egypt focused on mine detection and disposal, mine awareness, and survey and information management. Training also included a leadership and operations seminar for battalion and company commanders. Mine clearance operations are continuing in the Red Sea area at Hurghada.



# Jordan

## The Landmine Problem

According to the Jordanian Armed Forces (JAF) Royal Corps of Engineers, there are 222,637 landmines in Jordan affecting an area of approximately 100 sq. km. Most of the mines date from the 1967 Arab-Israeli conflict. The majority of landmines are located in two discrete areas in the northwest region of the Jordan River Valley. One area is toward the northern end of the Valley on the border with Syria, near Lake Tiberias, and the other is farther south, near the northern end of the Dead Sea. Israeli-laid minefields are located mainly in the southwest part of the country in the Araba Valley in areas restored to Jordan after the Israeli occupation.

Unexploded ordnance (UXO) is not a serious problem in Jordan. Demining is difficult since many of the mines, planted more than 30 years ago, have moved because of erosion, shifting sands, rain, and mudslides. At present, the Government of Jordan's demining operations focus on the 300 minefields in the Jordan River Valley. The Valley is the most fertile farmland in Jordan where arable land is scarce, but mines severely impede the production of food crops. The JAF Medical Services reports that 636 Jordanians, including 370 civilians, have become landmine victims since 1967. Ninety-two victims died from their injuries. The majority of civilian casualties were farmers, shepherds, hunters, and children. In 2000, landmines injured nine military personnel and three civilians.

## United States Assistance

In Fiscal Year (FY) 00, the United States gave Jordan approximately \$3.06 million in humanitarian demining assistance. Jordan received \$997,000 in U.S. assistance in FY01: \$795,750 for demining equipment; \$131,300 for spare parts; and \$20,000 for contract services.

The FY01 funds will bring total U.S. humanitarian demining assistance to Jordan since FY96 to almost \$8 million. Jordan has used the assistance to augment its equipment inventory and the technical advice and manpower assistance that it receives from Israel. The funds have also enabled Jordan to receive demining training from U.S. Special Operations Forces (SOF) and to acquire a computer-managed training system known as the Demining Support System. Many of the remaining minefields are in difficult environmental areas. Demining in these areas will require the use of heavy equipment and new technologies provided by U.S. funding. The U.S. Department of Defense has tested several mechanical mine clearance systems in Jordan, including the Mini-Flail, the Enhanced Teleoperated Ordnance Disposal System, and the Rhino. The United States will continue to support Jordan's demining operations and work with the Government of Jordan towards the goal of the country becoming mine-safe early this century.

## Accomplishments

Since 1997, a national mine awareness program and successful demining operations have reduced civilian casualties dramatically, while the use of more effective protective equipment has lowered military casualties significantly. U.S. training has improved the capabilities of Jordan's Royal Corps of Engineers in mine detection and disposal, mine awareness, and survey and information management. At present, Jordan is conducting Level Two Surveys of minefields along the Syrian border. In addition, after a joint effort to clear ten Israeli-laid minefields in the Araba Valley, Jordan and Israel are discussing a strategy to remove the remaining mines. U.S. assistance has allowed Jordan to keep 100 deminers in the field on a daily basis. As of February 2000, Jordan's Royal Corps of Engineers had cleared 83,823 mines from more than 200 minefields, restoring more than 3,000 acres of land to safe use.



## The Landmine Problem

The French Mandate period (1923-1943), the Lebanese Civil War (1975-1990), and the time during which Israel occupied south Lebanon (1978-2000) have left Lebanon with an estimated 130,000 mines and unexploded ordnance (UXO) in the former occupied zone and 150,000 mines and UXO in the rest of the country. The UN Interim Force in Lebanon (UNIFIL) claims that 50,644 anti-personnel landmines (APL) are located in 108 minefields along the Lebanon-Israel border, 7,730 APL and anti-tank mines in an additional 48 minefield clusters, and 107,200 APL elsewhere in the country. A survey conducted by Lebanon's Landmines Resource Center in 1998 and 1999 confirmed that minefields and suspected minefield locations include agricultural areas, former battlefields, and cities and villages located along old demarcation lines. Although some minefields are marked and fenced off, many others remain unmarked. Subsequent U.S. Government assessments have also found that the threat of improvised explosive devices, coupled with mines and other UXO, have left Lebanon with an unusually diverse and complex problem. As of July 2000, landmines and UXO had killed 1,168 Lebanese and wounded 1,546 more; 15 of the fatalities and 99 of the injuries occurred between May 2000 and May 2001. More than 40 percent of victims suffered their injuries while engaged in agricultural activities, the major source of income for Lebanese villagers. In South Lebanon and West Bekaa, there has been a noticeable decrease in agricultural production because of the presence of landmines.

## United States Assistance

The United States provided Lebanon with nearly \$1.3 million in humanitarian demining assistance in Fiscal Year (FY) 00. With this money, Lebanon acquired training in humanitarian demining, purchased mine detectors and heavy demining equipment, and funded a mine detection dog (MDD) program that will provide an innovative means of improving the country's demining capability. USAID's FY00 funding assisted the World Rehabilitation Fund (WRF) in implementing programs aimed at preventing landmine-related accidents and improving the physical, social, and economic conditions of people suffering from landmine-related injuries. In FY01, Lebanon received more than \$1.62 million in U.S. assistance, including: \$700,000 for the MDD program; \$100,000 to support the National Demining Office; and, \$200,000 to validate the utility of a mechanical vegetation removal/area reduction system. The U.S. Department of Defense also provided Thiokol demining flares to the Lebanese Armed Forces (LAF) for field testing in an effort to enhance the LAF capability to dispose of landmines and UXO. Also in FY01, USAID will fund the establishment of a mine victim rehabilitation center in Jezzine, the site of the highest concentration of landmine victims.

The United States has supported a demining program in Lebanon since 1998 and has contributed a total of \$4.5 million to the program. The U.S. military assisted in establishing a National Demining Office (NDO) and supported its further development through training and provision of equipment. U.S. military personnel also conducted a train-the-trainer program to provide an indigenous company of deminers capable of sustained operations. In addition, funds enabled the development of a national demining database. The U.S. military advised the Lebanese on establishing a mine information awareness program, and USAID, in partnership with USAID's Patrick J. Leahy War Victims Fund (LWVF), provided \$600,000 to promote the involvement of community-based organizations and nongovernmental organizations in mine awareness.

## Accomplishments

By February 2001, UNIFIL had destroyed more than 2,500 mines and UXO. The WRF has initiated a nationwide survey to identify landmine victims and to map minefields. The United States continues to work with Lebanon toward the goal of achieving a qualified, trained, and equipped country capable of conducting its own humanitarian demining program.



# Oman

## The Landmine Problem

Oman has a small landmine and unexploded ordnance (UXO) problem. The vast majority of the landmines are found in the Dhofar region in the south. They are the result of the 1964-1975 internal conflict between the Government of Oman and the separatist group, the communist Popular Front for the Liberation of Oman and the Gulf (PFLOG). The Royal Omani Army (ROA) and its allies (Jordan, Iran, and the United Kingdom) used landmines to protect defensive positions and to interdict the movements of separatists, while the PFLOG used landmines to ambush ROA and allied units. The ROA states that it mapped, marked, and then cleared some of its minefields at the conclusion of the rebellion. The PFLOG did not map, mark, or clear their minefields. Heavy seasonal rains, terrain, and soil conditions have caused several of the mines to migrate from their original positions. According to the Government of Oman, landmines and UXO have killed 12 people and wounded 84 since the end of the Dhofar rebellion. Almost 50 head of livestock have become landmine casualties. In March 2001, there were two UXO incidents, resulting in serious injuries.

## United States Assistance

The United States allocated \$1.19 million in humanitarian demining assistance to Oman in Fiscal Year (FY) 00. The funds enabled the Government of Oman to develop a survey and information management capability to define mined areas effectively and to archive minefield data efficiently; to enhance the curriculum at the engineer school, which will enable it to train deminers to international standards in demining survey, marking, and clearance operations; to purchase modern detection and protective equipment to increase safety during operations; to train ROA personnel in the use of this equipment; to develop a mine awareness capability to support demining units at the regional and local levels; and to train ROA medical cadre and deminers to improve initial response medical and trauma capabilities. FY01 assistance of more than \$1.02 million brought total U.S. contributions to \$3.6 million. The FY01 funds are for, among other things, personal protection gear (\$78,500), mine disposal technologies (\$11,750), demining equipment (\$161,200), logistic support (\$21,100), and a U.S. Department of Defense train-the-trainer program (\$750,000).

## Accomplishments

Recently, 75 Royal Omani Army soldiers graduated from engineer school, where they had received demining training from U.S. Special Operations Forces (SOF). These deminers have begun humanitarian demining operations in the Dhofar region.



## The Landmine Problem

Mines have been used in Yemen during three main periods: 1962-1969, 1970-1983, and in 1994. Unconfirmed reports indicate that approximately 100,000 landmines litter the Yemeni landscape as a result of these conflicts. A Level One Survey has identified 592 mine-affected communities in 95 districts in 18 of Yemen's 19 Governorates. Approximately 828,000 people, about six percent of the population, live in these communities. Of the almost 1,100 identified contaminated areas, there are mines in 859 of them, affecting 799 sq. km, and unexploded ordnance (UXO) in 200, covering an area of 200 sq. km. Combatants laid these landmines in an arbitrary and haphazard fashion, in sand dunes and fields and alongside roads, without marking their location. The mines block access to grazing land and to water for drinking and irrigation. For that reason, herders and children who do not attend school are the most vulnerable to landmine injuries. According to the Level One Survey, in 1999 and 2000, landmines and UXO killed at least 57 people and wounded 121 more; all but two of the victims were civilians. Estimates for landmine and UXO casualties prior to 1999 are more than 2,500 killed and over 2,200 injured.

## United States Assistance

In Fiscal Year (FY) 00, Yemen received over \$1.9 million in humanitarian demining assistance from the United States. The funds purchased mine detectors and vehicles to help outfit a third demining company, as well as personal protection gear for all deminers. FY01 U.S. assistance was \$1.69 million, bringing total U.S. contributions since FY98 to over \$8 million. FY01 funds of almost \$1.7 million enabled Yemen to acquire, among other items, additional demining equipment (\$489,800) and vehicles (\$148,900), mine clearance materials (\$166,200), medical supplies (\$5,816), and logistic support items (\$25,100), and to sustain current mine clearance contracts (\$187,000). The vehicles equipped two additional demining companies for increased mine clearance operations.

U.S. assistance has funded a national demining program infrastructure and a train-the-trainer program, conducted by U.S. Special Operations Forces (SOF) soldiers. In December 1998, the first 150 Yemeni deminers graduated from the Humanitarian Demining Training Facility in Aden. Demining and UXO removal operations began in 1999 with the fielding of two U.S.-trained Yemeni demining companies. At the same time, mine awareness and victim assistance teams also began educating the local populace on demining efforts, while locating and offering assistance to people injured by landmines. As part of its commitment to the Government of Yemen, the United States will help establish a program that will assist the country in becoming mine-safe.

## Accomplishments

Two SOF-trained demining companies, numbering 350 personnel, began demining operations in 1999. Since then, they have cleared over 9,300 landmines and almost 52,000 UXO, restoring more than 192 sq. km of land to productive use. A U.S. ophthalmology team has treated more than 100 landmine victims and conducted medical training for local personnel at the same time.

## APPENDIX A MINE ACTION

Mine action is comprised of four major components: mine awareness, mine detection, mine clearance, and survivor assistance. Depending upon the needs of a given country, the United States may assist with one, some, or all four of these mine action activities. In most cases, the affected nation will establish a Mine Action Center (MAC), or National Demining Office (NDO), to coordinate demining priorities and mine action activities.

### Mine Awareness

Teaching people how to recognize, avoid, and inform demining authorities of the presence of landmines significantly reduces the number of casualties. Mine awareness utilizes a variety of materials and media to convey important messages. The materials, and the manner in which mine awareness is presented, must be sensitive to the cultural mores of the local populations.

Mine awareness attempts to educate whole populations, allowing them to incorporate safety procedures into their daily lives, not just during a single event. Often, young children are a targeted audience for mine awareness. Mine awareness teachers must discourage children from picking up and playing with mines and UXO (unexploded ordnance). In many instances, educating children of the dangers of landmines and UXO is difficult because they are often fascinated by the toy-like metal and plastic objects. Still, the majority of mine casualties is among young men. Informing adolescents and adults of types of mines and the injuries they inflict and teaching them the proper procedures to follow if a mine is found, saves lives.



An audience of mostly children gathers to listen to a mine awareness session conducted by Namibian military personnel.

The U.S. Department of Defense's Special Operations Forces (SOF) provides mine awareness training. SOF personnel are fluent in the languages of mine-affected countries, and are also aware of the cultural sensitivities of their audiences.

### Mine Detection

A Level One Survey helps determine the nature and extent of a landmine problem in a specific country.

Conducting this Survey entails identifying the broad areas within a country where mines exist and roughly estimating the extent of the

problem. Areas where mines do not exist are also recorded in the Survey. Next, a Level Two Survey is conducted to obtain more detail on the landmine problem. Mined areas are demarcated in addition to the number and types of mines found within the area. There is no single technology to employ in all circumstances, in all terrain and weather conditions, and against all types of mines. Metal detectors and probes remain the primary ways to find many individual mines. The technology of these devices is essentially 60 years old. Increasingly, however, deminers are recognizing the feasibility of mine detection dogs (MDD). These dogs are able to detect the chemical explosives in mines. MDDs are becoming increasingly important as their success rates increase and their reputation for safe and efficient mine detection spreads.

Even with advanced mine detection methods, the locations of the majority of landmines in the ground today are unknown. International law requires that persons laying mines identify the type of landmines planted and make maps of their locations, so that they may be removed at the conclusion of hostilities. Whether they are combatants in a war between nation-states or factions in a civil war, hostile parties increasingly ignore international law by placing mines indiscriminately, without marking or recording their use or emplacement. Even when maps and other records are available, natural events may, over time, make them useless. Mines migrate from their original location as a result of shifting sands, as in the desert of the Middle East, or as a result of rain washing away topsoil in tropical areas, as in Central America or Africa.



A Cambodian deminer searching for landmines.



Deminers use prodders to carefully locate buried landmines for subsequent destruction

### Mine Clearance

Clearing mines is slow, laborious, tedious, and highly dangerous. U.S. law states that “as a matter of policy, U.S. Forces shall not engage in physically detecting, lifting, or destroying landmines, unless it does so for the concurrent purpose of supporting a U.S. military operation; or provides such assistance as part of a military operation that does not involve the armed forces.” Therefore, SOF contingents use a train-the-trainer approach to assist a country in clearing landmines. The SOF soldiers train an initial team of host nation personnel in mine clearance techniques, including medical evacuation procedures in the event of a demining accident. This cadre, in turn, trains another group, and so on, until a large body of the country's own nationals are competent to clear mines safely and efficiently.

Once found, mines will not be removed from their location. Rather, the landmine will be left in place, marked, and then destroyed. If terrain permits, landmines are destroyed by maneuvering specially equipped vehicles over the land to destroy multiple mines within a single minefield. The United Nations standard for a successful mine clearance operation is that landmines and UXO down to 20 cm be destroyed. A process much like mine detection called quality assurance is generally used to assess mine clearance operations. Mine detection dogs are very efficient tools for this process.

### Survivor Assistance

The last activity within mine action is survivor assistance, which requires a long-term commitment to both the landmine victim and his or her family members. It is not enough simply to treat the initial injuries, as important as that is. Many landmine survivors are children. As a child grows, new prosthetic limbs become necessary, and a lifetime of additional operations and expenses are necessary. Over time, the psychological injury to landmine survivors also becomes a factor in their recovery and that of their family members. For these reasons, mine action programs encourage a holistic approach to the provision of assistance to the survivors of landmine injuries.

Neither the Department of State's Office of Humanitarian Demining Programs (HDP) or the U.S. Department of Defense uses demining funds for survivor assistance. The Defense Department, using Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) and other operations and maintenance funds pays for Blast Resuscitation and Victims Assistance (BRAVA). However, the United States Agency for International Development (USAID) and the State Department's Bureau of Population, Refugees and Migration (PRM) fund programs to alleviate the suffering of mine survivors and their families. USAID uses money from the Patrick J. Leahy War Victims Fund to provide long-term treatment and prosthetics to landmine accident survivors. PRM's programs assist with the resettlement of refugees and internally displaced persons, many of whom are endangered by landmines in the course of flight from their homes and subsequent return.



A Cambodian landmine survivor receives rehabilitation at a local hospital.

## APPENDIX B QUICK REACTION DEMINING FORCE (QRDF)



A Mozambican deminer inspects a mine-marked area in Maputo Province, Mozambique.

Humanitarian demining crises, either man-made or the result of natural disasters, may arise without warning, requiring an immediate response. Until recently, the landmine community did not have this capability. 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. In order to respond to such emergency situations quickly and efficiently, the United States has developed a Quick Reaction Demining Force (QRDF).

The United States is currently negotiating with the Government of the Republic of Mozambique (GRM) to establish the QRDF's home base in Maputo. The QRDF would be deployed to demining crisis situations as directed by the United States Government, which will also oversee recruitment, provision of equipment, training, and supervision of QRDF personnel, both within and outside the Republic of Mozambique. When QRDF units are not deployed by the United States elsewhere, they will perform demining missions within Mozambique, as requested by the GRM.

Upon the successful conclusion of negotiations, the United States will establish an independent management unit in Maputo to manage QRDF operations in coordination with Mozambican authorities.

Demining takes place in many different countries with a wide range of program capacities, as well as unique terrain and cultural situations. While no single solution will be successful in all demining scenarios, combinations of demining methods and detection technologies generally increase safety and efficiency while helping to

achieve international humanitarian demining clearance standards. The addition of mine detection dogs (MDD) to a demining program has proven to be one solution that works in many different scenarios and is particularly effective when combined with some manual and mechanical detection and clearance techniques.

## APPENDIX C MINE DETECTION DOGS



Mine detection dog and handler teams undergo training before deployment to mine-affected countries.

Dogs' olfactory capacity for finding explosives has proven to be highly effective. MDDs are trained to detect explosive odor signatures like TNT, the scent of monofilament line, or metallic wire used in booby traps and mines, or any of these combinations. Dogs are also trained to ignore other odors and distractions, and are rewarded each time they alert their handler of an odor on which they have been trained. The initial training lasts eight to 10 weeks and is followed by another eight to 10-week period of advanced training as the MDDs bond with their handler. This period also allows the dogs to acclimatize to the country in which they have been chosen to work. The MDDs extensive training and detection capabilities make them crucial to the identification of nonmetallic or plastic-cased mines, demining activities near or on steel bridges and railroad tracks, and deployment in iron-bearing laterite soils which render metal detectors virtually ineffective.

Mine detecting dogs have proven to be highly effective, mobile, efficient, and affordable. Dogs are able to work in about 90 percent of the terrains where humans operate, whereas flails, rollers, and sifters are only able to operate in a fraction of that amount due to design and material limitations. Moreover, dogs are environmental-

ly friendly when working on agricultural lands or urban areas, unlike machinery and explosive charges, which can disturb and destroy areas where they are used.

Mine detection dogs are accepted by the landmine community as a valuable and reliable demining tool. In many situations, when combined with manual and/or mechanical demining techniques, mine detection dogs can greatly expedite the return of mine-affected land, infrastructure, and other facilities to a safe and useful condition in a highly cost-effective manner.

## APPENDIX D HUMANITARIAN DEMINING TECHNOLOGY RESEARCH AND DEVELOPMENT

The U.S. Department of Defense (DoD) Humanitarian Demining Research and Development Program (R & D) develops equipment to assist with the global humanitarian demining effort. Since the program's inception in 1995, significant progress has been made and many successful products have been deployed for field-testing in the mine-plagued nations of Africa, Central America, the Middle East, Southeast Asia, and Europe. The DoD R & D Program is responsible for the creation of products that broaden the capabilities for detecting, marking, clearing, and neutralizing mines, as well as provide equipment for training and post clearance quality assurance. Feedback from users and field tests are crucial to the continued success of the program and the humanitarian demining cause.



The Thai Mine Action Center conducted an evaluation of the Pearson Survivable Tractor and Tools in 2000.

DoD approaches problems in a systematic manner by:

- Attacking the problem globally through international cooperation with both government and nongovernmental organizations (NGO)
- Developing new demining tools
- Developing and promulgating mine and demining information, instruction, and mine awareness
- Providing global on-the-ground support and assistance

International cooperation is being developed on several fronts. Intergovernmental cooperation takes advantage of local infrastructure and distribution channels. Special Forces, components of the theater commands, Explosive Ordnance Disposal teams, civil affairs, and psychological operations units provide assistance through local governments for demining and mine awareness training programs. Intergovernmental cooperation is vital to developing mine databases and equipment effective-

ness analysis, while international coordination is key to establishing statements of requirements for specific humanitarian demining technologies. The United States

cooperates globally with governmental agencies, industry, academia, commercial demining companies, international organizations, NGOs, and private volunteer organizations to develop and implement systems that meet humanitarian demining needs.

Personal protection, wide-area detection, handheld detection, vegetation clearance, and mechanical mine clearance are the areas for technology focus within the DoD R & D Program. Despite the increase in safety and efficiency in humanitarian demining operations, the most common method still in use today is manual demining. The DoD R & D Program has made significant enhancements in personal protection equipment and will continue to improve deminer protection gear such as helmets, visors, and body armor. When improving mine detection equipment, the challenge is

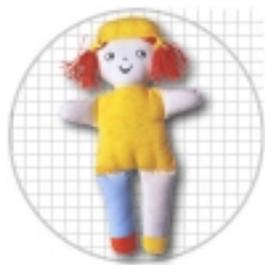


In 2000, the *Tempest* vegetation clearing machine underwent testing in Thailand.

the abundance of mines with low-metal content, while at the same time discriminating them from nonexplosive debris. The DoD R & D Program has evaluated several prototype systems, using simple to sophisticated technologies to develop improved metal detectors, ground-penetrating radar, as well as other sensors. The global demining community has expressed the urgent need for cost effective and efficient mine clearance products. The DoD R & D Program has evaluated a variety of machines that have proven to increase speed, efficiency, and safety in both mine and vegetation clearance. The DoD has also been able to respond to unique demining situations with demining tools suited for specific needs.

Providing highly trained and skilled personnel and up-to-date equipment in mine-afflicted countries is important for timely and efficient humanitarian demining assistance. As briefly described before, on-the-ground assistance is provided by SOF in order to train local people to recognize, detect, and clear mines. The United States also provides technical in-country support for new research and development items that are provided for evaluation in mine-afflicted regions. This unique in-theater assistance plays a major role in accelerating the development process by insuring that lessons learned in the field are rapidly integrated into improvements of demining tools, training, and information. To date this assistance has been provided to Afghanistan, Bosnia, Cambodia, Chile, Croatia, Cuba (Guantanamo Bay), Ecuador, Egypt, Guatemala, Israel, Jordan, Kosovo, Laos, Lebanon, Namibia, Nicaragua, and Thailand.

## APPENDIX E SLOVENIAN INTERNATIONAL TRUST FUND FOR DEMINING AND MINE VICTIM ASSISTANCE



In May 1998, the United States Congress appropriated \$28 million (Public Law 105-06) for the Slovenian International Trust Fund (ITF) for Demining and Mine Victim Assistance to assist mine-affected countries in the Balkan region. The law specified

that the U.S. contribution would be used to match contributions to the ITF by other governments and private donors. On Nov. 4, 1998, former Secretary of State Madeleine Albright and Dr. Boris Fric, Minister of

Foreign Affairs for the Republic of Slovenia, jointly announced the establishment of the ITF at a formal ceremony in Washington, D.C.

Since the United States provided its first matching contribution to the ITF in December 1998, it has been successful both operationally and financially. Initially, donations to the ITF were used to address demining needs in Bosnia-Herzegovina. Success there led to an expansion of demining operations to include Croatia, Kosovo, and Albania. A further extension of demining services to include Macedonia and the Federal Republic of Yugoslavia is planned for 2000-2001. In addition to financing a range of mine action activities, from mine awareness to mine clearance, the ITF has also funded surgical treatment and rehabilitation projects for Bosnian, Kosovar, and Albanian mine victims.

Contributions to the ITF stem from international organizations, such as the European Union, UNA/USA (Adopt-A-Minefield Program), CARE, and the Siemens Corporation, and include support from the governments of Austria, Belgium, Bosnia, Canada, Croatia, the Czech Republic, Denmark, France, Germany, Ireland, Japan, Kuwait, Liechtenstein, Luxembourg, Norway, Slovenia, South Korea, Sweden, Switzerland, and the United Kingdom.

To date, the ITF has received contributions from 48 donors, totaling just over \$29 million; additional pledges are forthcoming. The donor community has included 22 governments in addition to the United States, seven international commercial firms, and 18 international civic or humanitarian assistance organizations. The United States has matched \$28 million of those contributions, which is the amount authorized and appropriated by the U.S. Congress. The United States has also made several unilateral contributions to the ITF, totaling over \$8 million, to meet pressing demining needs in the Balkans that have not been addressed by other donors.

A total of 34 different international and local commercial firms and nongovernmental organizations have been engaged by the ITF to conduct demining operations. These demining organizations have undertaken over 200 projects, coordinated by Mine Action Centers in Bosnia-Herzegovina, Croatia, Albania, and Kosovo. The combined results of these operations include over 14.3 million sq. m of land returned to safe use, and over 7,700 mines and 11,500 pieces of unexploded ordnance (UXO) destroyed. In addition, more than

500 mine victims have received rehabilitation assistance for mine-related injuries. This includes treatment at the Institute for Rehabilitation in Ljubljana, Slovenia, as well as at rehabilitation centers in Bosnia-Herzegovina.

The ITF has become the demining instrument of choice for the international community in Bosnia-Herzegovina and the rest of the Balkans. All demining operations in Albania, and over 70 percent of those in Bosnia-Herzegovina are now conducted through the ITF, which has also played a major role in financing demining in Croatia and Kosovo as well. This is due to the ITF's demonstrated ability to deliver high-quality demining results quickly, efficiently, and in a financially transparent manner, at costs that are "donor friendly."

## **APPENDIX F**

### **HIDDEN KILLERS 2001: THE WORLD'S LANDMINE PROBLEM**

This is the State Department's fourth edition of the "Hidden Killers" Publication. It likely will be the last, since there now exist a number of other reference documents and databases that outline the landmine problem around the world. Most notable is the Landmine Monitor Report (LMR), published by the International Campaign to Ban Landmines. LMR possesses a global reporting capability and the means to assess the efforts of the international community to resolve the world's landmine problem. We commend the LMR Core Group for assuming this significant responsibility.

This edition of "Hidden Killers" differs from its predecessors by its brevity and the inclusion of data beyond the number of landmines. Moreover, it does not provide profiles of individual mine-affected countries.

Although "Hidden Killers" has changed, its underlying message remains constant. The solution to the world's landmine problem is to make mine-affected countries mine-safe through the execution of mine action programs that lead to raising awareness of the landmine danger, the removal of landmines themselves, and the provision of holistic assistance to landmine victims and their families. These programs can only continue with the strong support of the international community.

Our understanding of the landmine problem, indeed the international community's is much greater today than when the first "Hidden Killers" was issued in 1993. The landmine problem no longer is defined by

the sheer number of landmines, but rather by the number of casualties inflicted, the amount of land rendered unusable or inaccessible, and the degree of economic infrastructure destroyed. Instead of having a large number of landmines, a "heavily mine-affected country" has a high incidence of landmine casualties and/or large areas of land unavailable for agricultural use, thus thwarting its economic potential. This new understanding allows mine-affected nations to prioritize their mine action efforts and craft humanitarian demining solutions that will eventually permit landmine victims to reclaim their roles as productive members of society. "Hidden Killers 2001" quantifies, in tabular format, the landmine problem affecting the world today. The reported data has been acquired from U.S. Embassy posts, the United Nations, the International Red Cross, and other reputable sources. The impact of unexploded ordnance (UXO) is also taken into account. The reported data indicates that casualties caused by landmines and/or UXO amounted to less than 10,000 for the year 2000, suggesting a notable decrease from earlier estimates of as many as 26,000 casualties annually. Neither the reported figures for 2001 nor the earlier estimates, however, take into account casualties that have gone unreported because of lack of knowledge or procedures for doing so. The lower casualty figure likely is due to exceptional efforts of the international community to focus on mine awareness education, as well as on the clearance of mines and UXO. Some of the decrease also can be attributed to improved reporting capabilities. Clearly, the decade-long effort to rid the world of landmines is progressing in the right direction.

"Hidden Killers 2001" reports that the number of landmines still emplaced around the world is between 45 and 50 million, in nearly 60 countries. Millions more mines remain in stockpiles in additional countries. These stockpiles pose potential future threat. The overall reported figures for emplaced mines are lower than earlier estimates, and again much of this decrease can be attributed to more reliable reporting and the implementation of Level One Survey methodologies that have improved over the past three years. These improvements are due to a concerted effort by the United Nations, supported by the Survey Action Center of the Vietnam Veterans of America Foundation (VVAF). Although the trends are positive, the number of casualties and the amount of unusable land still pose significant social and economic challenges.

“Hidden Killers 2001” conveys a trend from what was the world’s landmine crisis to what is now referred to as the landmine problem. While the landmine community acknowledges a reduction in the number of landmines and casualties, it remains ever mindful that landmines are still killing and injuring thousands of unsuspecting people, and that a great deal of effort lies ahead

if this terrible humanitarian tragedy is to be overcome. With continued efforts towards mine-free status and sustained commitment and cooperation from the landmine community, the landmine problem is within our power to solve. The community of donors must redouble its determination to meet the challenge.

| COUNTRY                           | LANDMINE VICTIMS IN 2000 (EST) | POPULATION    | LAND AREA AFFECTED      | NUMBER OF LANDMINES (EST) | NUMBER OF UXO (EST) | NOTES |
|-----------------------------------|--------------------------------|---------------|-------------------------|---------------------------|---------------------|-------|
| <b>Afghanistan</b>                | 2400                           | 25,900,000    | 723 km <sup>2</sup>     | 4,000,000                 | Large               | 1     |
| <b>Albania</b>                    | 31                             | 3,500,000     | 1400 ha                 | Unknown                   | Unknown             | 2     |
| Algeria                           | 10                             | 31,200,000    | Unknown                 | 3,000,000                 | Unknown             | 3     |
| Andorra                           | 0                              | 69,000        | 0                       | 0                         | 0                   |       |
| <b>Angola</b>                     | 840                            | 10,150,000    | 245,000 mi <sup>2</sup> | 200K-6 mil.               | Large               | 4     |
| Antigua and Barbuda               | 0                              | 67,000        | 0                       | 0                         | 0                   |       |
| Argentina                         | 0                              | 37,000,000    | 0                       | 0                         | 0                   | 5     |
| <b>Armenia</b>                    | 8                              | 3,345,000     | 18-2500 ha              | 80-100,000                | Unknown             | 6     |
| Australia                         | 0                              | 19,200,000    | 0                       | 0                         | 0                   |       |
| Austria                           | 0                              | 8,150,000     | 0                       | 0                         | 0                   |       |
| <b>Azerbaijan</b>                 | Unknown                        | 7,750,000     | 604 km <sup>2</sup>     | 50,000                    | Unknown             | 7     |
| The Bahamas                       | 0                              | 295,000       | 0                       | 0                         | 0                   |       |
| Bahrain                           | Unknown                        | 635,000       | Unknown                 | Unknown                   | Unknown             |       |
| Bangladesh                        | 0                              | 129,200,000   | 0                       | 0                         | 0                   |       |
| Barbados                          | 0                              | 275,000       | 0                       | 0                         | 0                   |       |
| Belarus                           | 10                             | 10,370,000    | 353 km <sup>2</sup>     | Unknown                   | Large               | 8     |
| Belgium                           | 0                              | 10,245,000    | Unknown                 | Unknown                   | Large               | 9     |
| Belize                            | 0                              | 249,200       | 0                       | 0                         | 0                   |       |
| Benin                             | 0                              | 6,400,000     | 0                       | 0                         | 0                   |       |
| Bhutan                            | 0                              | 2,006,000     | 0                       | 0                         | 0                   |       |
| Bolivia                           | 0                              | 8,153,000     | 0                       | 0                         | 0                   | 10    |
| <b>Bosnia &amp; Herzegovina</b>   | 87                             | 3,836,000     | 4,200 km <sup>2</sup>   | 1,000,00                  | Large               | 11    |
| Botswana                          | 0                              | 1,577,000     | 0                       | 0                         | 0                   |       |
| Brazil                            | 0                              | 172,861,000   | 0                       | 0                         | 0                   |       |
| Brunei                            | 0                              | 337,000       | 0                       | 0                         | 0                   |       |
| Bulgaria                          | 0                              | 7,797,000     | 0                       | 0                         | Unknown             |       |
| Burkina Faso                      | 0                              | 11,947,000    | 0                       | 0                         | 0                   |       |
| Burma (Myanmar)                   | 1,500                          | 41,735,000    | Unknown                 | Unknown                   | Large               | 12    |
| Burundi                           | Unknown                        | 6,055,000     | Unknown                 | Unknown                   | Unknown             | 13    |
| Cambodia                          | 811                            | 12,213,000    | 2,000 km <sup>2</sup>   | 300,000-1 m.              | 2.5 m. +            | 14    |
| Cameroon                          | 0                              | 15,422,000    | 0                       | 0                         | 0                   |       |
| Canada                            | 0                              | 31,279,000    | 0                       | 0                         | 0                   |       |
| Cape Verde                        | 0                              | 401,400       | 0                       | 0                         | 0                   |       |
| Central African Rep.              | 0                              | 3,513,000     | 0                       | 0                         | 0                   |       |
| <b>Chad</b>                       | 150                            | 8,425,000     | 77,685 km <sup>2</sup>  | 500,000                   | Large               | 15    |
| Chile                             | 0                              | 15,154,000    | Unknown                 | 250,000+                  | 0                   | 16    |
| China                             | Unknown                        | 1,262,000,000 | Unknown                 | Unknown                   | Unknown             | 17    |
| Colombia                          | Unknown                        | 39,686,000    | 248,216 km <sup>2</sup> | 70,000                    | Small               | 18    |
| Comoros                           | 0                              | 579,000       | 0                       | 0                         | 0                   |       |
| Congo<br>(Democratic Republic of) | Unknown                        | 51,965,000    | Unknown                 | Unknown                   | Small               | 19    |
| Congo Republic                    | Unknown                        | 2,831,000     | Unknown                 | Unknown                   | Unknown             |       |
| <b>Costa Rica</b>                 | 0                              | 3,711,000     | 170,000 m <sup>2</sup>  | 3,000-5,000               | 0                   | 20    |

| COUNTRY                     | LANDMINE VICTIMS IN 2000 (EST) | POPULATION    | LAND AREA AFFECTED      | NUMBER OF LANDMINES (EST) | NUMBER OF UXO (EST) | NOTES |
|-----------------------------|--------------------------------|---------------|-------------------------|---------------------------|---------------------|-------|
| Cote D'Ivoire               | 0                              | 15,981,000    | 0                       | 0                         | 0                   |       |
| <b>Croatia</b>              | 22                             | 4,282,000     | 4,000 km <sup>2</sup>   | 1-1.2 mil.                | 0                   | 21    |
| Cuba                        | Unknown                        | 11,142,000    | Unknown                 | Unknown                   | Unknown             | 22    |
| Cyprus                      | 0                              | 759,000       | 42km <sup>2</sup>       | 17,000                    | Unknown             | 23    |
| Czech Republic              | 0                              | 10,273,000    | 0                       | 0                         | 0                   |       |
| Denmark                     | 0                              | 5,337,000     | 100 km <sup>2</sup>     | Unknown                   | Small               | 24    |
| <b>Djibouti</b>             | 7                              | 451,500       | Unknown                 | Unknown                   | Small               | 25    |
| Dominica                    | 0                              | 71,600        | 0                       | 0                         | 0                   |       |
| Dominican Republic          | 0                              | 8,443,000     | 0                       | 0                         | 0                   |       |
| <b>Ecuador</b>              | Unknown                        | 12,921,000    | 10,000 km <sup>2</sup>  | 50,000-60,000             | Small               | 26    |
| <b>Egypt</b>                | Unknown                        | 68,360,000    | 2,800 km <sup>2</sup>   | 5-7.5 mil.                | 15-15.5 mil         | 27    |
| El Salvador                 | Unknown                        | 6,123,000     | Unknown                 | Unknown                   | Small               | 28    |
| Equatorial Guinea           | 0                              | 475,000       | 0                       | 0                         | 0                   |       |
| <b>Eritrea</b>              | 200                            | 4,136,000     | Unknown                 | 1.5-2 million             | Large               | 29    |
| <b>Estonia</b>              | 18                             | 1,432,000     | Unknown                 | Unknown                   | Large               | 30    |
| <b>Ethiopia</b>             | 15                             | 94,136,000    | 2,000 km <sup>2</sup>   | 1.5-2 million             | Large               | 31    |
| Fiji                        | 0                              | 833,000       | 0                       | 0                         | 0                   |       |
| Finland                     | 0                              | 5,168,000     | 0                       | 0                         | 0                   |       |
| France                      | 0                              | 59,330,000    | 50 km <sup>2</sup>      | Unknown                   | Large               | 32    |
| Gabon                       | 0                              | 1,208,000     | 0                       | 0                         | 0                   |       |
| The Gambia                  | 0                              | 1,367,000     | 0                       | 0                         | 0                   |       |
| Georgia                     | Unknown                        | 5,020,000     | 220 km <sup>2</sup>     | 50,000                    | 1,500               | 33    |
| Germany                     | 0                              | 82,800,000    | 0                       | 0                         | 0                   |       |
| Ghana                       | 0                              | 19,534,000    | 0                       | 0                         | 0                   |       |
| Greece                      | Unknown                        | 10,602,000    | Unknown                 | Unknown                   | Small               | 34    |
| Grenada                     | 0                              | 90,000        | Several km <sup>2</sup> | 0                         | Small               | 35    |
| <b>Guatemala</b>            | 0                              | 12,640,000    | 8 km <sup>2</sup>       | 1,500-2,000               | Small               | 36    |
| Guinea                      | 0                              | 7,467,000     | 0                       | 0                         | 0                   |       |
| <b>Guinea-Bissau</b>        | 16                             | 1,286,000     | 30 km <sup>2</sup>      | 16,000-20,000             | Small               | 37    |
| Guyana                      | Unknown                        | 698,000       | Unknown                 | Unknown                   | Unknown             |       |
| Haiti                       | Unknown                        | 6,868,000     | Unknown                 | Unknown                   | Unknown             |       |
| <b>Honduras</b>             | Unknown                        | 6,250,000     | Unknown                 | 15-35,000                 | Unknown             | 38    |
| Hungary                     | 0                              | 10,139,000    | 0                       | 0                         | 0                   |       |
| Iceland                     | 0                              | 277,000       | 100 km <sup>2</sup>     | 0                         | Small               | 39    |
| India                       | 835                            | 1,014,000,000 | Unknown                 | Unknown                   | Unknown             | 40    |
| Indonesia                   | 0                              | 224,785,000   | 0                       | 0                         | 0                   |       |
| Iran                        | Unknown                        | 65,620,000    | Unknown                 | Unknown                   | Unknown             |       |
| Iraq                        | Unknown                        | 22,676,000    | Unknown                 | Unknown                   | Unknown             |       |
| Ireland                     | 0                              | 3,798,000     | 0                       | 0                         | 0                   |       |
| Israel                      | 0                              | 5,843,000     | Unknown                 | Unknown                   | Unknown             | 41    |
| Italy                       | 0                              | 57,635,000    | Unknown                 | 0                         | Small               | 42    |
| Jamaica                     | 0                              | 2,653,000     | 0                       | 0                         | 0                   |       |
| Japan                       | Unknown                        | 126,555,000   | Unknown                 | Unknown                   | Unknown             |       |
| <b>Jordan</b>               | 12                             | 4,999,000     | 100 km <sup>2</sup>     | 222,637                   | Unknown             | 43    |
| Kazakhstan                  | 0                              | 16,734,000    | Unknown                 | Unknown                   | Unknown             | 44    |
| Kenya                       | Unknown                        | 30,340,000    | Unknown                 | Unknown                   | Small               | 45    |
| Kirabati                    | Unknown                        | 92,000        | Unknown                 | Unknown                   | Unknown             |       |
| Korea (Republic of)         | Unknown                        | 47,471,000    | Unknown                 | 1,125,000                 | Unknown             | 46    |
| Korea (North)               | Unknown                        | 21,688,000    | Unknown                 | Unknown                   | Unknown             |       |
| <b>Kosovo</b> (Province of) | Unknown                        | 2,100,000     | Unknown                 | Unknown                   | Unknown             | 47    |
| Kuwait                      | Unknown                        | 1,974,000     | Unknown                 | Unknown                   | Large               | 48    |
| Kyrgyzstan                  | 2                              | 4,686,000     | Unknown                 | Unknown                   | Unknown             | 49    |
| <b>Laos</b>                 | Unknown                        | 5,498,000     | 87,213 km <sup>2</sup>  | Unknown                   | Large               | 50    |

| COUNTRY                        | LANDMINE VICTIMS IN 2000 (EST) | POPULATION  | LAND AREA AFFECTED      | NUMBER OF LANDMINES (EST) | NUMBER OF UXO (EST) | NOTES |
|--------------------------------|--------------------------------|-------------|-------------------------|---------------------------|---------------------|-------|
| Latvia                         | Unknown                        | 2,405,000   | Unknown                 | Unknown                   | Unknown             |       |
| <b>Lebanon</b>                 | 55                             | 3,578,000   | Unknown                 | 165,000+                  | Medium              | 51    |
| Lesotho                        | 0                              | 2,144,000   | 0                       | 0                         | 0                   |       |
| Liberia                        | 0                              | 3,165,000   | 0                       | 0                         | 0                   |       |
| Libya                          | Unknown                        | 5,116,000   | Unknown                 | Unknown                   | Unknown             |       |
| Liechtenstein                  | 0                              | 32,000      | 0                       | 0                         | 0                   |       |
| Lithuania                      | Unknown                        | 3,621,000   | Unknown                 | Unknown                   | Unknown             |       |
| Luxembourg                     | 0                              | 438,000     | Unknown                 | 0                         | Small               | 52    |
| <b>Macedonia</b>               | Unknown                        | 2,042,000   | Unknown                 | Unknown                   | Unknown             | 53    |
| Madagascar                     | 0                              | 15,507,000  | 0                       | 0                         | 0                   |       |
| Malawi                         | Unknown                        | 10,386,000  | Unknown                 | Unknown                   | 0                   | 54    |
| Malaysia                       | 0                              | 21,800,000  | 0                       | 0                         | 0                   |       |
| Maldives                       | 0                              | 302,000     | 0                       | 0                         | 0                   |       |
| Mali                           | 0                              | 10,686,000  | 0                       | 0                         | 0                   |       |
| Malta                          | 0                              | 392,000     | Unknown                 | 0                         | Small               | 55    |
| Marshall Islands               | 0                              | 68,200      | Unknown                 | 0                         | Medium              | 56    |
| <b>Mauritania</b>              | Unknown                        | 2,668,000   | 210,000 km <sup>2</sup> | Unknown                   | Unknown             | 57    |
| Mauritius                      | 0                              | 1,180,000   | 0                       | 100,000                   | 0                   |       |
| Mexico                         | 0                              | 100,350,000 | 0                       | 0                         | 0                   |       |
| Micronesia                     | 0                              | 133,200     | Unknown                 | 0                         | Small               | 58    |
| <b>Moldova</b>                 | 0                              | 4,431,000   | 0                       | 0                         | 0                   | 59    |
| Monaco                         | Unknown                        | 32,000      | Unknown                 | Unknown                   | Unknown             |       |
| Mongolia                       | Unknown                        | 2,617,000   | Unknown                 | Unknown                   | Unknown             |       |
| Morocco                        | 10                             | 30,123,000  | Unknown                 | 1-2 million               | Unknown             | 60    |
| <b>Mozambique</b>              | 29                             | 19,105,000  | Unknown                 | 800,000-1m.               | Unknown             | 61    |
| <b>Namibia</b>                 | 115                            | 1,772,000   | 100,000 km <sup>2</sup> | Unknown                   | Large               | 62    |
| Nauru                          | 0                              | 11,900      | 0                       | 0                         | 0                   |       |
| Nepal                          | 0                              | 24,703,000  | 0                       | 0                         | 0                   |       |
| Netherlands                    | Unknown                        | 15,893,000  | 40,000 ha               | Unknown                   | Small               | 63    |
| New Zealand                    | 0                              | 3,820,000   | 0                       | 0                         | 0                   |       |
| <b>Nicaragua</b>               | Unknown                        | 4,813,000   | Unknown                 | 108,000                   | Small               | 64    |
| Niger                          | 0                              | 10,076,000  | Unknown                 | Unknown                   | 0                   | 65    |
| Nigeria                        | 0                              | 123,338,000 | 0                       | 0                         | 0                   |       |
| Norway                         | 0                              | 4,482,000   | 0                       | 0                         | 0                   |       |
| <b>Oman</b>                    | Unknown                        | 2,534,000   | 4,840 km <sup>2</sup>   | 1-5000                    | Small               | 66    |
| Pakistan                       | Unknown                        | 141,554,000 | Unknown                 | Unknown                   | Unknown             |       |
| Palau                          | Unknown                        | 19,000      | Unknown                 | Unknown                   | Small               | 67    |
| Panama                         | 0                              | 2,809,000   | 7,675 acres             | 0                         | Small               | 68    |
| Papua New Guinea               | 0                              | 4,927,000   | Unknown                 | 0                         | Large               | 69    |
| Paraguay                       | 0                              | 5,586,000   | 0                       | 0                         | 0                   |       |
| <b>Peru</b>                    | Unknown                        | 27,013,000  | Unknown                 | 187,000                   | Small               | 70    |
| Philippines                    | 0                              | 81,160,000  | 0                       | 0                         | 0                   |       |
| Poland                         | Unknown                        | 38,647,000  | 96,560 m <sup>2</sup>   | Unknown                   | Large               | 71    |
| Portugal                       | 0                              | 10,049,000  | 0                       | 0                         | 0                   |       |
| Qatar                          | 0                              | 745,000     | 0                       | 0                         | 0                   |       |
| Romania                        | Unknown                        | 22,412,000  | Unknown                 | Unknown                   | Unknown             |       |
| Russia                         | 25 (est.)                      | 146,002,000 | Unknown                 | Unknown                   | Large               | 72    |
| <b>Rwanda</b>                  | 15                             | 7,230,000   | 1,320 km <sup>2</sup>   | 250,000                   | Unknown             | 73    |
| St. Kitts & Nevis              | 0                              | 39,000      | 0                       | 0                         | 0                   |       |
| St. Lucia                      | 0                              | 156,300     | 0                       | 0                         | 0                   |       |
| St. Vincent and the Grenadines | 0                              | 115,500     | 0                       | 0                         | 0                   |       |
| Samoa                          | 0                              | 180,000     | 0                       | 0                         | 0                   |       |

| COUNTRY                    | LANDMINE VICTIMS IN 2000 (EST) | POPULATION | LAND AREA AFFECTED      | NUMBER OF LANDMINES (EST) | NUMBER OF UXO (EST) | NOTES |
|----------------------------|--------------------------------|------------|-------------------------|---------------------------|---------------------|-------|
| San Marino                 | 0                              | 27,000     | 0                       | 0                         | 0                   |       |
| Sao Tome and Principe      | 0                              | 160,000    | 0                       | 0                         | 0                   |       |
| Saudi Arabia               | 0                              | 22,024,000 | Unknown                 | 0                         | Small               | 74    |
| Senegal                    | Unknown                        | 9,998,000  | 15,000 km <sup>2</sup>  | Unknown                   | Unknown             | 75    |
| Seychelles                 | 0                              | 79,400     | 0                       | 0                         | 0                   |       |
| Sierra Leone               | Unknown                        | 5,233,000  | Unknown                 | Unknown                   | Unknown             | 76    |
| Singapore                  | 0                              | 4,152,000  | 0                       | 0                         | 0                   |       |
| Slovakia                   | Unknown                        | 5,408,000  | Unknown                 | Unknown                   | Unknown             |       |
| Slovenia                   | 0                              | 1,928,000  | 0                       | 0                         | 0                   |       |
| Solomon Islands            | 0                              | 67,000     | Unknown                 | 0                         | Medium              | 77    |
| <b>Somalia</b> (Northwest) | Unknown                        | 7,254,000  | Unknown                 | Unknown                   | Large               | 78    |
| South Africa               | 0                              | 43,422     | 0                       | 0                         | 0                   |       |
| Spain                      | 0                              | 39,997,000 | 0                       | 0                         | 0                   |       |
| Sri Lanka                  | 499                            | 19,239,000 | Unknown                 | 300,000-mi.               | Large               | 79    |
| Sudan                      | Unknown                        | 35,080,000 | Unknown                 | Unknown                   | Unknown             |       |
| Suriname                   | 0                              | 432,00050  | 50 km <sup>2</sup>      | 30                        | 0                   | 80    |
| <b>Swaziland</b>           | 0                              | 1,084,000  | 3 km <sup>2</sup>       | 12                        | 0                   | 81    |
| Sweden                     | 0                              | 8,874,000  | 0                       | 0                         | 0                   |       |
| Switzerland                | 0                              | 7,263,000  | 0                       | 0                         | 0                   |       |
| Syria                      | Unknown                        | 16,306,000 | 36,000+ km <sup>2</sup> | 300,000+                  | Unknown             | 82    |
| Taiwan                     | Unknown                        | 22,192,000 | Unknown                 | Unknown                   | Unknown             |       |
| Tajikistan                 | 40                             | 6,441,000  | Unknown                 | Unknown                   | Unknown             | 83    |
| Tanzania                   | 0                              | 35,307,000 | 0                       | 0                         | 0                   |       |
| <b>Thailand</b>            | Unknown                        | 61,231,000 | 2,500 km <sup>2</sup>   | 1,000,000                 | Medium              | 84    |
| Togo                       | 0                              | 5,019,000  | 0                       | 0                         | 0                   |       |
| Tonga                      | 0                              | 103,000    | 0                       | 0                         | 0                   |       |
| Trinidad and Tobago        | 0                              | 1,176,000  | 0                       | 0                         | 0                   |       |
| Tunisia                    | Unknown                        | 9,594,000  | Unknown                 | Unknown                   | Unknown             | 85    |
| Turkey                     | 0                              | 65,667,000 | 0                       | 0                         | 0                   |       |
| Turkmenistan               | 0                              | 4,519,000  | 0                       | 0                         | 0                   |       |
| Tuvalu                     | 0                              | 11,000     | 0                       | 0                         | 0                   |       |
| Uganda                     | Unknown                        | 23,314,000 | Unknown                 | Unknown                   | Unknown             | 86    |
| Ukraine                    | Unknown                        | 49,154,000 | Unknown                 | Unknown                   | Unknown             | 87    |
| UAE                        | 0                              | 2,370,000  | 0                       | 0                         | 0                   |       |
| United Kingdom             | 0                              | 59,509,000 | 20 km <sup>2</sup>      | 18,500                    | Small               | 88    |
| Uruguay                    | 0                              | 3,335,000  | 0                       | 0                         | 0                   |       |
| Uzbekistan                 | 16                             | 24,756,000 | 14 km <sup>2</sup>      | 7,000                     | Unknown             | 89    |
| Vanuatu                    | 0                              | 190,000    | 0                       | 0                         | Small               |       |
| Vatican City               | 0                              | 870        | 0                       | 0                         | 0                   |       |
| Venezuela                  | 0                              | 23,543,000 | 0                       | 0                         | 0                   |       |
| <b>Vietnam</b>             | 2,000                          | 78,774,000 | Unknown                 | 3.5 million               | Large               | 90    |
| Yemen                      | Unknown                        | 17,480,000 | 923 km <sup>2</sup>     | 100,000                   | Medium              | 91    |
| Yugoslavia                 | Unknown                        | 10,663,000 | Unknown                 | Unknown                   | Unknown             | 92    |
| <b>Zambia</b>              | Unknown                        | 9,583,000  | 2,500 km <sup>2</sup>   | Unknown                   | Unknown             | 93    |
| <b>Zimbabwe</b>            | 4                              | 11,343,000 | 656 km <sup>2</sup>     | 2.5 million               | Unknown             | 94    |

## NOTES

Countries in **bold face** are receiving U.S. humanitarian demining assistance.

**1. Afghanistan:** Although landmines cause an estimated 200 casualties a month, the casualty rate is down approximately 50 percent since 1998. Fifty-three percent of landmine/UXO casualties occur in the 18-40 age group. Ninety-six percent of these casualties are male. Amputations occurred in 40 percent of the reported landmine accidents, death in 31 percent, severe, non-permanent injuries in 11 percent, and blindness in 6 percent. Most of the mined areas in Afghanistan are in agricultural fields, irrigation canals, and grazing areas. The most heavily mined regions of Afghanistan are the southern provinces of Helmand, Ghanzi, and Kandahar. The provinces of Pakista, and Nangahar in the east and Herat in the west are also heavily mined. UXO contamination exists on or near the battlefield frontlines and is especially severe in Kabul. Since 1990, The Mine Action Program of Afghanistan (MAPA) has cleared over 224 sq. km of high-priority mine-affected land and 321sq. km of former battlefield areas, while destroying approximately 210,000 landmines and 985,00 pieces of UXO.

**2. Albania:** There were 194 landmine casualties in 1999. Of the total 225 landmine casualties over the last two years, 211 were civilians ranging in age from 10 to 75. Twenty-one people have died as a result of their landmine injuries. To date, deminers have cleared 10.6 hectares of land, destroying more than 500 mines, as well as three of 13 areas containing concentrated amounts of UXO. The full extent of the UXO problem is not known.

**3. Algeria:** Landmine casualties have averaged less than 10 a year over the last decade. Most of the landmines are located in the remote, mountainous areas, which form the northern portion of Algeria's border with Morocco and Tunisia. However, landmines block traditional areas of transit or habitation, particularly in the east.

**4. Angola:** Half the landmine casualties occurred on Angola's roads, confirming that there is still no safe movement of people and goods in the country. The estimated amount of land affected includes that containing UXO. Most of the affected land is highly populated and rich in natural resources.

**5. Argentina:** The country is not landmine/UXO affected unless one considers the Malvinas/Falkland Islands as part of Argentina. The Government of Argentina and the Government of the United Kingdom are discussing terms of reference for a joint study on how to remove the landmines on the Malvinas/Falkland Islands.

**6. Armenia:** There have been an estimated 12 to 20 landmine/UXO incidents over the last six to seven years, resulting in approximately 40 to 50 civilians killed and wounded. Landmines prevent the cultivation of large areas of arable land, and kill livestock grazing on pastureland.

**7. Azerbaijan:** The UN believes landmines have killed or injured more than 7,000 Azeri soldiers and civilians since 1988. According to the International Committee of the Red Cross, there are some 50,000 landmines of various types in Nagorny-Karabakh alone.

**8. Belarus:** The landmine casualty figure is for 1999. Between 1990 and 1999, there were 92 landmine casualties, 34 of whom subsequently died from their injuries. Landmines and UXO are found mainly in the regions of Brest, Gomel, Mogilev, Minsk, and Vitebsk.

**9. Belgium:** UXO killed one Belgian and injured two others in 2000. Also, in 2000, the Belgian military's explosive ordnance disposal unit destroyed 380 tons of UXO.

**10. Bolivia:** Since 1985, Chilean landmines on the Bolivia-Chile border have killed at least five Bolivian civilians. The Ministry of Defense of Bolivia estimates that there are 80,000 landmines on its border with Chile, all on Chilean territory.

**11. Bosnia & Herzegovina:** Since 1995, there have been 1,263 landmine casualties, with 318 victims dying of their wounds. By 2000, the landmine casualty rate had decreased by more than 80 percent. Civilians constitute approximately 85 percent of the landmine casualties. To date, deminers have cleared 36,000 mines from 23 sq. km of land.

**12. Burma (Myanmar):** Nongovernmental organizations are the source for the estimated number of landmine victims. No one has yet produced a credible estimate of the number of landmines emplaced and the area they affect.

**13. Burundi:** Between November 1996 and July 1998, individuals reported approximately 50 anti-tank and 10 anti-personnel landmine incidents, including 12 in Bujumbura. Most of the incidents occurred along the borders with the Congo and Tanzania.

**14. Cambodia:** The landmine casualty rate has dropped nearly 70 percent since 1996. The casualty rate among adult males is 64 percent; among adult females it is 7 percent; and, among children under 18, it is 29 percent. Civilians constitute 92 percent of the landmine victims. Since 1992, Cambodian deminers have cleared 145,600 sq. mi. of land, and have destroyed 122,750 mines and 577,106 pieces of UXO.

**15. Chad:** Most landmine and UXO injuries result from tampering, herding, and travel. Approximately 50 percent of the victims succumb to their injuries. Landmines and UXO affect 249 of the 347 localities in Chad, with the most severely affected areas in the north and east.

**16. Chile:** Between 1976 and 1999 there were 88 landmine casualties, 12 of whom subsequently died from their injuries. Fifty-five of the casualties, including five dead, have been military. Landmines are located in about 310 well-marked minefields along Chile's border with Argentina, Bolivia, and Peru, as well as on five islands in Tierra del Fuego. The Ministry of Defense of Bolivia estimates that the

Chilean landmines on the border with Bolivia affects approximately 10,000 sq. km of Chilean territory.

**17. China:** The area along the Sino-Vietnamese border is believed to be mine affected. The extent of the problem is not known.

**18. Colombia:** Between 1990 and 2000, there were 720 landmine/UXO casualties. Landmines and UXO affect approximately 22 percent of Colombia's territory. The estimated 70,000 landmine figure includes an unknown number of UXO.

**19. Congo (Democratic republic of):** There are a few UXO in well-defined and known areas, and there are some landmines along the border with Angola. Press reports also claim that Rwandan and Ugandan troops left 4,000 anti-personnel landmines and numerous UXO in Kisangani during fighting there in June 2000.

**20. Costa Rica:** The Organization of American States has reported three landmine casualties to date. The landmines are located along the Nicaraguan Border and in Penas Blancas, near the Pan American Highway. Since 1996, Costa Rican deminers have cleared more than 100,000 sq. m of land, destroying 331 landmines in the process.

**21. Croatia:** Between 1991 and 2000, there were 1,646 landmine casualties, 365 of whom died as a result of their injuries. Nearly 8 percent of Croatia is contaminated by mines, or suspected of being so. There are 500 sq. km of known minefields, and 3,500 sq. km of suspected minefields. The estimated figure of landmines includes an unknown number of UXO. Since 1999, Croatian deminers have cleared more than 2,600 mines from 1.6 million sq. m of land, returning some 150,000 sq. m of it to agricultural use.

**22. Cuba:** The United States has removed all the mines it laid to establish a defensive perimeter around its naval base at Guantanamo Bay. The status of the Cuban landmines near the base is not known.

**23. Cyprus:** Since 1974, landmines have killed three UNFICYP Peacekeepers and wounded several more. One hundred and twenty marked minefields render approximately 42 sq. km of land unusable.

**24. Denmark:** The landmine affected area, a segment of the west coast of Jutland, is clearly marked. The UXO are in an impact area of a training site.

**25. Djibouti:** Since 1997, there have been 121 landmine casualties, (seven in 2000), including 31 fatalities. The majority of the victims have been military personnel. Mined areas in Djibouti are located principally in the Obock and Tadjoura districts north of Djibouti City. A Level I survey this year will determine the full extent of the landmine and UXO threat.

**26. Ecuador:** Between 1995 and 1999, there were approximately 120 landmine casualties in Ecuador, the majority of whom were civilians.

**27. Egypt:** Since the end of World War II, landmines and UXO have killed 696 people and injured another 7,617. Civilians accounted for 418 of the dead and 4,599 of the

injured. The majority of the landmine and UXO affected areas, some 2,539 sq. km, are in the northern portion of the Western Desert, along the Mediterranean Coast between the Nile delta and the Libyan border.

**28. El Salvador:** Although the Government of El Salvador has declared the country mine-free, some nongovernmental organizations claim there still exists a landmine and UXO problem in the countryside. In 1999, there were some UXO casualties.

**29. Eritrea:** The UN believes that landmines and UXO cause approximately 200 casualties annually. The National Demining center in Asmara estimates there are 1.5 million to 2 million mines and an equal number of UXO in the country. Recent conflict between Eritrea and Ethiopia has added additional landmines and UXO, many in Eritrea's most fertile agricultural areas.

**30. Estonia:** Landmines and UXO accounted for two fatalities in 2000 and injuries to another 16 people. Since 1992 there has been a total of 133 such casualties, including 43 deaths. Since 1992, the Government of Estonia has found almost 27,500 pieces of UXO on its territory. The landmine and UXO hazard is confined largely to the Narva region in the northeastern part of the country, and the Tartu region where large battles occurred in World War II. A large quantity of UXO also remains on former Soviet target practice ranges, including all of Pakri Island.

**31. Ethiopia:** The casualty figure includes 54 fatalities and is only for civilians in the Regional State of Tigray on the border with Eritrea. In the last half of 1999, there were 127 civilian casualties, dead and injured combined, in Tigray. Overall, the Ethiopian Demining Headquarters estimates that since 1995, landmines have killed at least 172 civilians and injured another 113. During the same period, Ethiopian deminers have suffered four deaths and 16 wounded. The landmine affected areas are 7,500 km of trenches, with associated minefields between 250 and 700 meters deep, along the border with Eritrea.

**32. France:** Since 1945, landmines and UXO have killed 617 deminers and sappers, 500 between 1945 and 1947. Landmines and UXO have killed few civilians since 1947; the last military fatalities occurred in 1998. Although landmines and UXO lie scattered throughout France, only the mine and UXO-affected areas in the region of Verdun remain closed to all use. By 1985, France had destroyed 13.5 million landmines, 650,000 bombs, and 23 million shells and missiles. Over the last fifteen years, French deminers and sappers have destroyed an average of 500 to 700 tons of landmines and UXO annually.

**33. Georgia:** According to the Government of Georgia (GoG), since 1994, landmines and UXO have killed four military personnel and wounded one civilian; another two military personnel and 115 civilians have been injured. There are landmines on the Georgia-Abkhazia border and possibly along Georgia's border with Turkey. Other mines are in minefields around former Soviet and present Russian military bases, as well as in minefields adjacent to or collocated with residential, agricultural and grazing areas. The

latter pose a serious danger to people and livestock. The GoG estimates there are approximately 1,500 pieces of UXO on its soil.

34. Greece: The Government of Greece classifies as secret the amount of land affected by old or current minefields. Minefields exist along Greece's borders with Albania and Turkey. Aggressive clearing has contained the UXO problem.

35. Grenada: There is UXO on Calivigny Point. Royal Grenada Police Force personnel, trained by a U.S. Army Explosive Ordnance Disposal Unit, are destroying the UXO.

**36. Guatemala:** Landmines are located in the Playa Grande/ Ixcán region of Quiché and the vicinity of former guerilla base camps near the Atitlán and Tajumulco volcanoes. Since the signing of a Peace Accord in 1996, there have been no reported landmine related casualties.

**37. Guinea-Bissau:** The total number of landmine casualties is not available, since hospitals do not keep such statistics on a regular basis. Seven of the known landmine victims in the first three months of 2000 subsequently died from their injuries. Most of the landmines and UXO are close to populous areas in Central Bissau and its environs.

**38. Honduras:** Since mined areas are not densely populated, there are few landmine casualties. Most of the estimated 15,000-35,000 landmines are on Honduras' borders with Nicaragua and El Salvador. To date, Honduran deminers have cleared nine major minefields, measuring approximately 333,000 sq. m in area, of more than 2,200 mines and several hundred pieces of UXO.

39. Iceland: UXO is 40 years old or older. The U.S. Iceland Defense Force and the Government of Iceland work closely together on clearing UXO.

40. India: The casualty figure, which includes 92 fatalities, is for 1999 from the state of Jammu and Kashmir, the only state for which figures are available. From 1994 through 1999, landmines killed 128 military personnel, and injured 459 more. During the same period, police and paramilitary forces suffered 52 deaths and 264 injuries. There were 148 civilian fatalities and injuries to another 410. There is no reliable information of the total amount of mine-affected land.

41. Israel: The Government of Israel reports that there have been no landmine/UXO casualties within the Green Line or on the Golan Heights since at least January 1, 2000. Deminers have cleared minefields within the Green Line, and minefields on the Golan Heights are clearly marked.

42. Italy: There is no landmine problem in Italy. There are still some discoveries of unexploded ordnance from World War II and earlier.

**43. Jordan:** In 2000, landmines injured nine soldiers and three civilians. Since 1967, 636 Jordanians have become landmine casualties, 266 military and 370 civilians. The majority of civilian casualties have been children, farmers, shepherds and hunters. Ninety-two landmine victims subsequently died from their injuries. The majority of the land-

mines are located in two discrete areas in the northwest region of the Jordan Valley; one toward the northern end of the valley, near lake Tiberias, the other further south, near the northern end of the Dead Sea. Additional minefields are located in the southwest region of the Araba Valley. Unexploded ordnance is not a serious problem in Jordan.

44. Kazakhstan: Although there are some Soviet-era landmines on Kazakhstan's border with China, they are in known areas and so do not pose a threat to civilians.

45. Kenya: Since the late 1950s, there have been few landmine/UXO casualties in Kenya. Some UXO remain in the Aberdare Mountains, west of Mount Kenya, and in areas outside of military target ranges. Landmines are a small, recurring problem in the Kenya-Ethiopia border area.

46. Korea (Republic of): There are landmines in the Demilitarized Zone between North and South Korea.

**47. Kosovo (Province of):** According to the UN, since June 1999, UXO have killed 856 people and injured another 351. The UN has also identified approximately 800 mine affected areas and over 300 UXO sites in the interior of the Province as well as along the borders with Albania and Macedonia. Nevertheless, Kosovo is approaching a mine-safe status. As of June 2001, deminers and Explosive Ordnance Disposal teams had destroyed 27,000 mines, 14,000 pieces of UXO, and 6,273 cluster bomb sub-munitions. They had also cleared 26.2 million square meters of land. Mine clearance operations in 2001 will focus primarily in the Western and Southern sectors, along the borders with Albania and Macedonia.

48. Kuwait: Landmines killed almost 100 deminers between 1991 and 1993 and injured nearly 200 more. From 1991 to 1995, landmines killed nearly 1,700 Kuwaiti civilians and injured another 2,300. Landmines have also taken a heavy toll on camels and sheep. Shifting sands cover landmines and UXO and make estimates of their numbers and the area they affect difficult to calculate.

49. Kyrgyzstan: Landmines have taken a heavy toll on livestock. Uzbek forces have mined disputed areas along the Kyrgyz-Uzbek border, and they have not placed warning signs indicating the mines' presence.

**50. Laos:** From 1973 to 1996, UXO caused 10,649 casualties. The frequency of UXO incidents dropped sharply from an average of 1,100 annually (1973-1976) to an average of 360 annually (1977-1986). From 1987 to 1996, UXO casualties leveled off at an average of 240 a year. Fifty-nine percent of UXO casualties are adult men; 27 percent are young boys; 10 percent are women; and four percent are young girls. The presence of UXO is widespread in nine of the country's seventeen provinces, with the most contaminated areas being in the northern provinces of Houaphan and Xieng Khouang, and along the border with Vietnam. An October 1997 report by Handicap International estimates that four percent of the UXO in Laos are landmines. Since 1995, Laos has destroyed more than 292,000 pieces of UXO and cleared 1,880 hectares of its land.

**51. Lebanon:** From 1998 to 2000, landmines caused 299 casualties, 228 of whom were male. Minefields and suspected minefields exist along all demarcation lines, in the former occupied zone, and on former battlefields. UNIFIL claims that 50,644 anti-personnel landmines (APL) were located in 108 minefields along the Lebanon-Israel border; 7,730 APL and anti-tank mines in an additional 48 mine-field clusters, 288 separate booby trapped sites containing an unknown number landmines, and 107,200 APL in an additional 15 sites.

**52. Luxembourg:** On rare occasions, someone finds UXO remaining from World Wars I and II. The Government of Luxembourg disposes of them without incurring casualties.

**53. Macedonia:** There is a small landmine problem in the country, stemming from the 1999 conflict in Yugoslavia between the Serbian police and military forces and Kosovar Albanians. Authorities believe there are approximately six unmarked minefields along the border with Kosovo and a few mines at a former Serb border crossing station just inside the border with Macedonia.

**54. Malawi:** The landmine problem in Malawi is small. Since 1982, landmines have injured only ten people.

**55. Malta:** Occasionally, construction workers uncover World War II UXO at excavation sites. The Government of Malta's Explosive Ordnance Disposal squad destroys them safely.

**56. Marshall Islands:** There has not been a landmine casualty for at least 57 years. However, there is a significant amount of World War II era UXO on all the islands, which the Japanese fortified and/or where fighting occurred.

**Mauritania:** Between 1989 and 2000, landmines killed 341 Mauritians, and injured another 239. However, in 2000, only two casualties were reported. Civilians accounted for 562 of the casualties; 80 percent were male and 20 percent were female. Landmines also killed almost 600 animals during this period. The regions of Adrar, Tiris, Zemour and Dakhalt/Nouadhibou, as well as the areas around the military bases of F'Derik, Bir-Mogrein, and Tour Bleue are mine affected.

**58. Micronesia:** There is a problem with World War II era UXO, but no one has conducted a survey to determine its extent. To date, there have been no reports of UXO casualties.

**59. Moldova:** Moldova declared itself "mine safe" in March 2000, after deminers had cleared the single remaining minefield in the country, restoring 210 acres of agricultural land to use for orchards, pastureland and the gathering of firewood.

**60. Morocco:** The country's landmine and UXO problem is located in the disputed territory of Western Sahara. In 2000, landmines killed one Moroccan and injured nine others, three of whom, including the fatality, were civilians. Most mines are located immediately to the east and west of a Moroccan-built defensive berm, which is some 1,200 kilometers long. However, since no one has yet conducted a Level I Survey, it is difficult to estimate the total amount of mine-affected land.

**61. Mozambique:** There were 20 landmine accidents in 2000, causing 29 casualties, including eight fatalities. From 1992 to 2000, there have been 385 landmine incidents, resulting in 623 casualties, of whom 249 died (146 men, 36 women, and 67 children.) Although landmines are found in all of Mozambique's provinces, there is no reliable estimate of the number of landmines or the amount of mine-affected land.

**62. Namibia:** Since 1989, landmines and UXO have killed more than 130 Namibians and injured an additional 380. Landmine casualties have increased dramatically since 1999 as a result of the spillover effects of the Angolan civil war into the Caprivi and Kavango regions of the northeast. There were at least 12 deaths and more than 100 landmine casualties in 2000. Although these landmines affect a relatively small area, they endanger the lives of many rural people, damage the economy by frightening away tourists, and discourage farmers from planting crops. Altogether, landmines and UXO affect approximately 12 percent of Namibia's land area, containing some of the highest population densities in the country.

**64. The Netherlands:** In the immediate post-war era, landmines and UXO killed two-three civilians annually. The current death rate is one-two civilians a year. The 40,000 hectare high risk areas lie along all major rivers, in the Brabant and Limburg Provinces, along the North Sea coast, and in the vicinity of a World War II German ammunition depot at Hoog Soeren. The Government of the Netherlands receives about 2,000 UXO reports annually, which require investigation, removal, or controlled detonation of the ordnance.

**64. Nicaragua:** According to the International Red Cross, landmines have caused 2,472 casualties, including 17 mine clearance troops. There is no reliable estimate of the amount of mine-affected land. Most landmines are located in the north and the south of the country. They represent Nicaragua's attempt to deter the movement of "contra" forces across the country's borders with Honduras and Costa Rica. Other landmines are found in central Nicaragua in the departments of Esteli, Jinotega, and Matagalpa. To date, Nicaraguan deminers have destroyed approximately 26,240 landmines and cleared 1,856,540.5 sq. m of land, including 168 kilometers of the country's borders.

**65. Niger:** There may still be a few French anti-personnel landmines near some former Foreign Legion posts in Niger's Saharan north. It is also possible that Taureg rebels sowed landmines in the north of the country.

**66. Oman:** To date, landmines have killed and injured 96 Omanis. Virtually all of the landmines and UXO are located in the south, particularly in the Dhofar region.

**67. Palau:** There are no recent reports of landmine/UXO victims, nor is there an estimate of the land area, which they affect. U.S. Navy Explosive Ordnance Disposal teams provide assistance to remove UXO found in residential areas and at construction sites throughout Koror and other areas of Palau.

68. Panama: U.S. military records indicate that since 1984, UXO have killed seven Panamanians and one U.S. soldier. UXO have also caused a number of injuries. All UXO casualties resulted from trespassing into restricted range impact areas. After the United States completed its UXO clearance operations, it turned over 7,675 acres to Panama as “preserved land,” meaning that it was impracticable for the United States to remove all UXO hazards from it.

69. Papua New Guinea: There are no reliable estimates of the number of UXO, the amount of affected area, or UXO casualties. Experts believe there is a considerable amount of UXO near Rabaul.

**70. Peru:** The Government of Peru (GOP) does not maintain a specific register to record all landmine and UXO casualties. However, the GOP has reported that anti-personnel landmines injured 62 army personnel, 67 policemen, and 50 civilians in the period 1995 to 1999. Some 100,000 mines are located along the Peru-Ecuador border and another 87,000 around electrical towers and high-tension lines. The latter are generally clearly marked. There is no estimate available of the amount of land these mines affect. By March 2001, Peruvian and Ecuadoran deminers had destroyed more than 4,300 mines and UXO along their mutual border.

71. Poland: Between 1957 and 1999, landmines and UXO killed and wounded 13,161 Poles, including 3,997 civilian fatalities and another 8,481 injuries. Children and teenagers accounted for the majority of these deaths (3,186) and injuries (6,701). The estimated 40 percent of Polish land still containing landmines and UXO lies along the Vistula River, in and around Warsaw, the Mazury Lakes/Narew region, the Carpathian foothills, and the Wal Pomorskie.

72. Russia: Most of the landmines and UXO date from World War II and are located along the former German-Russian front in Kaliningrad, Leningrad, Briyansk, and Pskov oblasts. There are no reliable estimates of their numbers or the amount of land they affect.

**73. Rwanda:** Since 1990, landmines and UXO have killed 1,066 Rwandans. However, between 1994 and June 2001, mine and UXO deaths dropped from 108 to 3, while related injuries decreased from 128 to 4 over the same period. Some 50,000 to 60,000 landmines are concentrated in the Kilgali area and in four prefectures in the North and Northwest, the latter an area approximately 120 km long and about 10 km inside Rwanda along the border with Uganda. There is an additional 1,200 sq. km of suspected mine contaminated land south of this region.

74. Saudi Arabia: In 2000, UXO killed two people in the desert outside Jeddah. Other UXO-contaminated areas may exist.

75. Senegal: There is no accurate information available for the number of landmines or landmine casualties. Landmines and UXO are located in the western Casamance region.

76. Sierra Leone: There have been reports of landmines in the country, stemming from internal conflict there in 1998 and from subsequent unrest.

77. Solomon Islands: There is no accurate estimate of the exact number of UXO or of UXO casualties. Most UXO is in buried stockpiles on Guadalcanal Island, including one containing an estimated several hundred thousand artillery shells.

**78. Somalia (Northwest):** Northwest Somalia has a severe landmine and UXO problem. The mines and UXO are along the border with Somalia, around military installations, on important transportation routes, and in urban areas. The Somalia Mine Action Center has confirmed the existence of 63 minefields and suspects the presence of another 17 minefields.

79. Sri Lanka: The majority of landmine casualties were military personnel, with 68 dead and 373 wounded. Since there is no central Government authority or non-governmental organization compiling countrywide landmine and UXO data, it is not possible to make an accurate estimate of their numbers and the areas they affect. Only Jaffna, the most heavily mined area in the country, has received a Level One Survey. There are additional minefields along forward defense lines, which lie across the width of the country, from Mannar to Trincomalee and down to Batticaloa. Estimates of landmines and UXO reflect extrapolations from those found in Jaffna and Wannai.

80. Suriname: There have been no landmine casualties in recent years. The only remaining mines from the Interior War of 1986-1991 are near the town of Stolkertsijver, 50 km east of Paramaribo, in a clearly marked area.

**81. Swaziland:** The landmines are in a single minefield, approximately 10 km long and 50 to 100 m wide, along the northeastern border with Mozambique.

82. Syria: No figure for landmine casualties is available for 2000. Landmines have killed and injured civilians in past years. Other statistics are for the UN Disengagement Observer Force’s Area of Responsibility. It is likely that there are additional landmines on Syria’s borders with Turkey and Iraq.

83. Tajikistan: The Government of Tajikistan reported recently that landmines have killed more than 40 civilians and many domestic animals. The mines are located along the Tajikistan-Uzbekistan border, the Talividara District, Romit Gorge, and the Kofarnihon District. The lack of maps indicating where combatants have laid landmines prevents an accurate estimate of the number of mines and the amount of area they affect.

**84. Thailand:** According to a Level One Landmine Impact Survey, completed in May 2001, landmines and UXO killed or injured 346 people in 1999 and 2000. There are mined areas on Thailand’s border with Cambodia (532 sq. km), Laos (124 sq. km), Burma (53 sq. km), and Malaysia (87 sq. km). It appears that Burmese troops and ethnic groups are laying additional mines along the Burma-Thailand border. Landmines and UXO are present at 933 sites affecting 530 communities over an area of 2,500 sq. km,

including 148 villages with a population of more than 400,000. The principal socio-economic impact of landmines and UXO contamination are reduced viability of land for cultivation and grazing, and decreased access to forest resources.

**85. Tunisia:** Over the last fifty years, landmines and UXO have killed 13 Tunisians and injured more than 6,000. Most casualties have been workers clearing farmland or engaged in other agricultural activities. Landmines and UXO affect the regions around Kasserine, Sbitla, Sidi Bouzid, and Marit in west central Tunisia, Majz El Baz and Bount de Fez in the northern Tunisia, and the border with Algeria.

**86. Uganda:** Between July 1998 and October 2000, landmines injured 234 Ugandans; no figure is available on the number of fatalities. Since no one has conducted a Level One Survey, the number of landmines and the amount of area they affect are unknown. Since 1986, various rebel groups and, to a lesser extent the Ugandan Peoples Defense Force, used landmines sparingly. These mines are located in the southwestern districts of the country, West Nile, and Northern Uganda.

**87. Ukraine:** Since 1945, landmines and UXO have killed an estimated 1,800 people, including Explosive Ordnance Disposal personnel. Although UXO is found throughout the country, most of it is in the Crimea, (perhaps 100,000 tons in Sevastapol and Kerch alone), Odessa, Dnepropetrovsk, Vinnitsa, Ternopol, Zhitomir, Kiev, and Kharkiv.

**88. United Kingdom:** Figures are for the Falkland Islands. There have been no landmine or UXO victims for seven years. Fences identify and isolate the minefields, so that they do not pose a humanitarian threat.

**89. Uzbekistan:** All landmine casualties were civilians; only two were Uzbek citizens. The landmines are located along the country's border with Tajikistan.

**90. Vietnam:** According to a Government of Vietnam report, up to May 1998, landmines and UXO had killed

38,248 Vietnamese and injured another 64,064. Quang Tri Province, which adjoins the former border between North and South Vietnam, is one of the most affected regions, but landmines and UXO also pose a threat near the border with China and regions bordering Laos. There is also an estimated 300,000 tons of UXO throughout the country.

**91. Yemen:** Up to the end of 1998, landmines and UXO killed 3,503 Yemenis and injured 2,223. From 1999 to 2000, landmines killed 57 people and wounded 121 more; all but two were civilians. A large number of the victims (40) were young boys who had been tampering with mines and UXO, or males and females (66) herding livestock. Landmines affect 859 distinct sites throughout the country, measuring 799 square kilometers in area, and UXO infest some 200 sites, 267 sq. km in size. Approximately 828,000 people live in these mine and UXO affected areas. By September 2001, deminers had cleared 28 minefields, representing an area of 1.92 million sq. m.

**92. Yugoslavia:** Landmines and UXO have injured several people over the last few years, including soldiers and police officers. Deminers have removed a majority of the mines that were on the border with Montenegro. UXO, while not limited to any one area, is most prevalent in Sector A of the Ground Security Zone near the Kosovo border.

**93. Zambia:** Since 1980, landmines have killed or injured more than 200 Zambians. However, hospitals do not separate landmine victims from their overall casualty counts, and so the number of victims may be higher. Since combatants laid mines in a "nuisance pattern," there is no accurate estimate of their number. The Government of Zambia believes about 2,500 sq. km of land in five of its border provinces are mine-affected.

**94. Zimbabwe:** Landmines killed two children and injured another child and a Zimbabwean deminer. Most of the landmines and the areas they affect are in minefields stretching 700 km along the country's borders with Mozambique and Zambia.









**On the front cover:**

A Mozambican woman and child walking on a road recently cleared of landmines.  
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