

To Walk the Earth in Safety

The United States Commitment to Humanitarian Demining

2nd Edition

July 2000



To Walk the Earth in Safety:

The United States Commitment to Humanitarian Demining
Prepared by the Office of Humanitarian Demining Programs,
Bureau of Political-Military Affairs, U.S. Department of State,
Washington, DC, July 2000

" . . . Our children deserve to walk the earth in safety."

President William Jefferson Clinton
September 24, 1996

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 in seven other countries. By the end of 2000, we will have provided more than \$400 million to 36 countries for various humanitarian demining efforts such as deminer training, mine awareness, mine clearance, and orthopedic assistance to, and socio-economic reintegration programs for, landmine accident survivors and their families. More than \$100 million of that amount will be spent in Fiscal Year 2000, the largest commitment of any nation involved in financing humanitarian demining activities. As a result of our leadership, and with the assistance of other donor nations, the world is seeing positive results in many mine-affected countries--reduced casualties; agricultural land restored to productive use; return of refugees and internally displaced persons to their homes; reopened roads, schools, and markets; and other visible evidence of a return to normal life. The list of recipient countries receiving U.S. humanitarian demining assistance is expected to grow next year.

The goals of the U.S. humanitarian demining program are simple and direct: to reduce the loss of life and limb of innocent people; to create conditions for the safe return of refugees and internally displaced persons; and to afford opportunity for economic and social reconstruction. Our principal means of achieving these objectives is to assist mine-affected countries around the world in establishing a sustainable, indigenous demining capability, with the appropriate resources and skills to make their countries mine-safe.

As we enter the new millennium, we continue to face challenges to rid the world of these hidden killers. President Clinton's Demining 2010 Initiative, announced in October 1997, aims to accelerate and coordinate international participation in demining programs so that by the end of this decade these indiscriminate weapons of war will no longer threaten the lives of innocent people.

This, the second edition of *To Walk the Earth in Safety*, tells the U.S. story, but this is not the whole story. Other governments, the United Nations, many international and non-governmental organizations, and the mine-affected countries also play a critical role supporting humanitarian demining programs. The impact of our collective contributions is

felt in many mine-affected nations. Indeed, in the not-too-distant future, we expect to see several of these countries declare themselves mine-safe.

The success stories in this document attest to President Clinton's and my belief that when we assist other countries in meeting their needs, such as clearing landmines, we are serving America's long-term interests and staying true to America's enduring values.

John D. Holum,
The Senior Advisor to the President and the
Secretary of State for Arms Control,
Nonproliferation and Disarmament

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Overview of U.S. Humanitarian Demining Programs

To Walk the Earth in Safety: The United States Commitment to Humanitarian Demining informs the reader about the U.S. commitment to rid the world by the year 2010 of anti-personnel landmines (APL) currently threatening civilian lives. *Hidden Killers 1998: The Global Landmine Crisis*, the most recent U.S. Government survey, identified 93 countries affected with either an APL or an unexploded ordnance (UXO) problem, or both. Although the estimates regarding the number of mines implanted in each country vary widely among sources, the U.S. estimate of APL infestation is approximately 60-70 million worldwide.¹

The objectives of the U.S. Humanitarian Demining Program are to reduce the number of civilian landmine casualties, return refugees and internally displaced persons (IDPs) threatened by landmines to their homes, and enhance the political and economic stability of those nations affected by landmines.

A U.S. Government Interagency Working Group (IWG), chaired by the Department of State (DOS) and vice-chaired by the Department of Defense (DoD), is in charge of approving, developing, and coordinating U.S. humanitarian demining programs.

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 abilities, the IWG will periodically evaluate the development of the program. When the program reaches the point of self-sustainment, the United States passes off its active role to the host nation, although some U.S. funding may continue to sustain demining efforts.

Generally, the DoD funds a humanitarian demining program's start-up costs, and the DOS provides subsequent funds to procure the necessary equipment for mine-affected nations to conduct mine clearance operations. The components of the DoD humanitarian demining program are: (1) mine awareness education; (2) assistance in developing MACs; (3) civil-military cooperation; (4) victim assistance; and (5) demining training--or "train the trainer"--which is the core of the program. More than 4,000 indigenous trainers have benefited from this core program. The DoD funds humanitarian demining activities from its Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) account. From 1996 through 1999, the DoD spent \$89.3 million on training programs in more than 20 countries, and \$25.6 million have been appropriated for DoD-sponsored demining operations in Fiscal Year (FY) 00. The DoD's Defense Security Cooperation Agency (DSCA) has program management responsibility for humanitarian and civic assistance and humanitarian demining programs, and the theater (regional) commanders-in-chief (CINCs) are responsible for managing and

carrying out these programs.

The DOS, through its Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs (PM/HDP) is the lead agency for coordinating U.S. humanitarian demining programs worldwide. Since FY97, basic funding for DOS's humanitarian demining programs has been provided by the Nonproliferation, Antiterrorism, Demining and Related (NADR) programs appropriation. PM/HDP is charged with the day-to-day management of bilateral demining assistance programs. In addition, the DOS Bureau of Population, Refugees and Migration contributes to the multilateral commitment to refugee needs through the United Nations High Commissioner for Refugees.² Finally, the U.S. Agency for International Development (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. USAID's Patrick J. Leahy War Victims Fund (WVF) contributes to improving the mobility, health, and social integration of the disabled, including landmine survivors. Typically, although not exclusively, USAID works through non-governmental organizations (NGOs) to develop a country's indigenous capacity of sustainable services for amputees.

From FY93 to FY00, the combined expenditures of the DoD, DOS, and USAID on demining programs and projects totaled more than \$400 million, including more than \$100 million appropriated by the U.S. Congress to support demining-related programs this fiscal year.³ Demining support also comes from other U.S. Government agencies. In October 1998, the U.S. Department of Education's National Institute on Disability and Rehabilitation Research awarded a five-year, \$4.25 million grant to the Physicians Against Landmines to establish a Rehabilitation Engineering Research Center. The Center will research and develop innovative prosthetic devices that can be affordably manufactured and serviced in countries with large numbers of landmine survivors. In cooperation with several university and private sector organizations, the Center will also develop educational materials and conduct surveys on rehabilitation services.

The U.S. Government has now approved programs to assist 36 landmine-affected countries both through its Humanitarian Demining Program and its Emergency Demining Initiative, and the list is expected to expand as the United States approves more applicant countries each year. *To Walk the Earth in Safety* relates the extensive history of the U.S. commitment to, and program priorities for, humanitarian demining in these 36 countries. (The chart below lists additional countries receiving landmine survivor assistance from USAID's Leahy War Victims Fund.)

As a complementary effort to the U.S. Humanitarian Demining Program, the Secretary of State's Office of Global Humanitarian Demining (S/GHD) promotes the President's Demining 2010 Initiative and coordinates with the international community to ensure effective and complementary activities and initiatives worldwide. This office also fosters public-private partnerships to marshal resources from the public and private sectors.

U.S.-funded support since FY93 to relieve human suffering through demining, and to

promote our interests in peace, prosperity, and regional stability, is depicted in the following table.

COUNTRY	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00 (Est.)	Source Total
Afghanistan (UNOCHA)	3,000,000	5,400,000	3,800,000	2,000,000	3,000,000	2,200,000	2,615,000	3,000,000	25,015,000
Albania								1,049,000	1,049,000
Angola			6,524,000	7,624,000	2,600,000	2,417,038	3,033,000	3,096,000	25,294,038
Armenia								344,000	344,000
Azerbaijan							140,000	548,000	688,000
Bosnia				11,288,000	5,375,000	10,850,004	7,739,000	841,000	36,093,004
Cambodia	1,961,437	2,849,000	3,400,000	2,152,000	3,600,000	2,900,100	3,000,000	2,580,000	22,442,537
Chad						1,900,000	1,732,000	1,793,000	5,425,000
Croatia							2,326,000		2,326,000
Djibouti								300,000	300,000
Ecuador							1,124,869	2,100,000	3,224,869
Egypt							615,000	817,000	1,432,000
Eritrea		600,000	3,250,000	1,437,000	718,000	2,025,000		2,317,000	10,347,000
Estonia							335,000	1,900,000	2,235,000
Ethiopia	730,000	692,000	2,440,000	1,437,000	790,000	1,910,000	835,000	2,317,000	11,151,000
Georgia						39,000		65,000	104,000
Guinea Bissau								365,000	365,000
Jordan				300,000	400,000	500,000	2,640,000	2,141,000	5,981,000
Kosovo							1,000,000	7,102,250	8,102,250
Laos			80,000	1,840,000	4,100,000	4,630,000	3,300,000	1,886,000	15,836,000
Lebanon						399,864	1,029,800	941,000	2,370,664
Liberia							1,000,000		1,000,000
Macedonia								800,000	800,000
Mauritania							984,021	2,201,000	3,185,021
Moldova							71,000	43,000	114,000
Mozambique	4,000,000	5,965,000	1,825,000	215,000	2,684,000	2,600,000	3,000,000	3,965,600	24,254,600
Namibia		65,000	2,340,000	500,000	1,885,000	2,450,000	1,053,000	307,000	8,600,000
OAS/IADB (Honduras, Costa Rica, Nicaragua, and Guatemala)	500,000	360,000	713,000	500,000	1,335,000	3,120,000	2,591,633	3,653,000	12,772,633
Oman							1,400,000	300,000	1,700,000
Peru							1,125,000	2,100,000	3,225,000
Rwanda			4,880,000	475,000	4,210,000	2,500,000	1,800,000	253,000	14,118,000
Somalia						343,347	1,150,000	1,400,000	2,893,347
Sri Lanka							500,000		500,000
Swaziland						210,000	828,000	289,000	1,327,000
Tanzania							300,000		300,000

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Thailand						1,749,859	3,020,000	4,769,859
Vietnam						139,402	2,596,000	3,735,402
Yemen						78,000	2,900,000	6,784,000
Zambia							300,000	300,000
Zimbabwe						2,300,000	1,743,000	5,951,000
ITF							17,862,000	17,862,000
Unallocated								
RDT&E						10,000,000	3,000,000	14,700,000
Cross								
Cutting								
Initiatives						865,102	7,524,000	14,164,102
USAID War								
Victim's								
Fund							11,000,000	11,000,000
NADR								
Reserve							2,120,000	2,120,000
NADR						7,000,000	19,996,819	34,655,182
TOTAL							39,500,000	101,152,001
TOTAL	10,191,437	15,931,000	39,252,000	32,768,000	45,475,000	64,898,857	79,969,182	114,462,850
								402,948,326

NOTES:

1. Does not include FY99/00 PM/HDP administrative funds.
2. Does not include USAID figures for FY00 (not received at this time).
3. MARMINCA figures are included in DoD Operations and Maintenance (O&M) for OAS (FY99).
4. DoD O&M for FY00 includes \$3.8M; \$650K; and \$42.25K for Kosovo/\$452.6K for Mozambique in reimbursements from DSCA.
5. USAID Kosovo for FY99 and FY00 includes \$650K (FY99); \$986.4K (FY00); \$4M (FY00) transfers from USAID.
6. USAID Bosnia for FY00 includes \$200K transfer from USAID.
7. USAID War Victims Fund \$11M estimate includes: \$1.5M for Vietnam; \$75K for Cambodia; \$1M for Laos; \$1M for R&D in Africa and \$1M for Mozambique; \$1M for Sierra Leone; \$750K for Liberia.

Humanitarian Demining Technology Research & Development

Providing the "Tools" for the Deminers' "Toolbox"

Despite the best efforts of all those engaged in humanitarian demining, getting landmines out of the ground remains a slow, dangerous, and labor-intensive process. Since World War II, advances in technology have strongly favored the laying of mines over the clearing of them. Today, APL can be produced cheaply, in large numbers, but small in size, and with so little metal in them that mine detectors are unable to find them. The difference in time, cost, and resources between emplacing a mine and removing it is drastically against the deminer.

Technology has the potential to eliminate this difference, and to create an advantage for the deminer. Governments, NGOs, and commercial firms are pursuing several new humanitarian demining technologies. While it remains unlikely that anyone will find the "silver bullet" demining tool, evidence indicates that present research and development (R&D) of demining technologies will result in enhancements that will improve landmine detection, clearance, and neutralization. With such "tools" in their "toolbox," the world's deminers will be able to conduct humanitarian demining operations more quickly, more safely, and more easily.

At present, the goal is to exploit existing technology, through rapid prototyping, and put the new equipment in the deminers' hands as soon as possible. The ultimate goal is to apply the new technologies, now in various stages of R&D, to "tools" that will provide a quantum leap in humanitarian demining effectiveness.

Research and development in humanitarian demining technology is focusing on three areas: detection, clearance, and destruction/neutralization.

Detection

Finding landmines is the most difficult aspect of humanitarian demining. The means of detecting landmines has not changed greatly since World War II. The majority of mine detection operations today are done manually--with a 25-centimeter-long, non-metallic probe--to positively identify a buried object. The major problem in clearing mines is the difficulty in discriminating between a mine in the ground and other objects buried in the same soil. Modern APL are small and made of various substances, which makes it nearly impossible for the standard metal detector to distinguish them from metallic debris, or even the metallic content of the soil surrounding them. Many modern APL are also made of plastic, making them virtually undetectable by a metal detector.

The goal of the R&D efforts is to automate the detection task, increase the detection rate, improve the ability to discriminate between a landmine and some other object, and protect the deminer. For the most part, technologies being pursued for detection have been developed in the private sector and are being adapted for humanitarian demining.

Some examples of detection technologies now in R&D include: ground-penetrating radar, which emits electromagnetic waves into the ground, where they are reflected, measured, and, based on their variations, detect the presence of different types of buried objects; infrared

detection devices, which are able to measure the heat that landmines retain or release, and so detect their presence; nuclear radiation, such as Thermal Neutron Activation (TNA), Nuclear Quadrapole Resonance (NQR), Nuclear Magnetic Resonance (NMR), and X-ray backscatter imaging, all of which are examples of technologies that detect explosive substances in the landmine, rather than try to identify the mine by its shape or casing; and chemical detection, which focuses on the one element common to all landmines--the explosive material.

Clearance

Clearance is the process of eliminating landmines to make land and structures suitable for re-use. Most mechanical mine-clearing devices in use today are more suited for military minefield breaching rather than for slow, methodical, humanitarian demining operations. A mechanical means for mine clearance is needed that will accelerate the process and make it safer for deminers. The following types of mechanical mine-clearing technologies are being pursued today: ploughs and rakes, rollers, rotary drum rotary tillers, flails, mineproof vehicles, and robotics. Mechanical devices are difficult to maintain, especially in countries with limited maintenance capacity, and they often require prime movers. Moreover, mechanical mine-clearing alone is unable to meet the UN's standard goal of 99.6 percent. Nevertheless, machines are able to speed the clearance process when used in combination with manually-operated devices. They are also useful in verifying quickly that an area is clear of land-mines, so that deminers on foot are able to concentrate on those areas most likely to be infested with mines.

Destruction/Neutralization Methods

The two most common methods in use are to detonate the landmine by means of pressure or explosives, or to remove and destroy it later. Recent developments in explosive foam, mine marking and neutralization foam, shaped charges, and chemical neutralization are promising methods that bear consideration for on-site destruction of landmines. This is especially germane for the U.S. Humanitarian Demining Program, which generally requires that all APL found be destroyed in place, not just neutralized, or removed for subsequent destruction. Both types of foam have been used in the field with some success, while shaped-charge and chemical methods are still in the late development stage.

Summary

Many technologies associated with humanitarian demining are on the verge of breakthroughs that will solve the identification problem, and there have been significant efforts made--although with less success to date--in the areas of clearance and neutralization. Complementary technological efforts are progressing in the development of protective garments for deminers, information fusion and mapping systems, multi-sensor-arrayed vehicles, and mine awareness programs. Scientists around the world are pursuing technological solutions to humanitarian demining problems in the research facilities of academia, govern-ment, and commercial enterprises.

Technology, however, is not a panacea. We should see any single breakthrough as yet another tool available for use in the demining process, but a tool that may not be useful in all

circumstances. Not all high-tech solutions are workable in all situations. For example, careful study of the limitations that terrain and weather impose on any tool is critical. Advanced metal detection devices may not be effective in soil with a high mineral content, while fragile, computer-supported devices are probably not compatible for use in a hot, dusty, or wet environment. In addition, the knowledge required to operate a machine may not match the skill level of the deminers, many of whom are drawn from the local populace. Finally, the cost of maintenance and the availability of logistics support are important to sustain operations relying on high-tech equipment. We must take into account all these considerations, and more, before we make a decision to purchase new demining devices.

Current humanitarian demining technology is too limited to solve the landmine problem facing the world today. New R&D pro-grams underway in the United States and other countries show promise for new methods that will be safer and more effective. The international community must act now to foster these research programs in order to provide deminers in the field with "tools" for their "toolbox" beyond that of a sharpened stick.

U.S. Humanitarian Demining Programs

The 36 country cameos that follow are presented alphabetically by geographical region. Each cameo is divided into two parts: a synopsis of the present threat that landmines and UXO pose, and U.S. efforts to help eliminate or mitigate the threat.

AFRICA

Official 1998 reports from the African continent indicate that 27 countries have a landmine or a UXO problem. The United States has a program in the following: Angola, Chad, Djibouti, Eritrea, Ethiopia, Mauritania, Mozambique, Namibia, Rwanda, Somalia (Northwest Somalia), Swaziland, and Zimbabwe.

ASIA

In Asia, a region that claims 16 mine-affected nations, the United States is providing demining-program support to four of these countries: Afghanistan, Cambodia, Laos, and Thailand. The United States also funded, in FY98 and FY99, a special mine awareness training center in Vietnam and recently allocated \$1.75 million to implement a program in Vietnam. The funds will provide equipment specifically requested by the government of Vietnam, as well as grants for mine action services.

EUROPE

In Europe, 26 countries have reported landmine incidents or are aware that landmines are obstacles to post-conflict reconstruction. Seven countries--Albania, Azerbaijan, Bosnia-Herzegovina, Croatia, Estonia, Macedonia, and Moldova--and the Province of Kosovo are part of the U.S. humanitarian demining program.

LATIN AMERICA

Among the nations of Latin America, 13 are considered landmine- or UXO-affected. The United States is providing both humanitarian assistance and humanitarian demining assistance to six Latin American republics: Costa Rica, Ecuador, Guatemala, Honduras, Nicaragua, and Peru.

THE MIDDLE EAST

In the region generally identified as the Middle East, 11 countries have reported that landmines and/or UXO have corrupted their land. Of these 11, five nations--Egypt, Jordan, Lebanon, Oman, and Yemen--are receiving humanitarian demining assistance.



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AFRICA

Angola

The Landmine Problem

More than three decades of persistent internal conflict left Angola with one of the world's most serious landmine problems. While UN estimates indicate that 10 to 15 million landmines infest Angola, the actual number is likely to approximate 6 million. Six to 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. Minefields were planted to destroy or deny access to infrastructure; they are concentrated around roads, railways, bridges, and public facilities such as schools, churches, water supply points, and health care facilities.

United States Assistance

Since FY95, the United States has contributed more than \$25 million to demining operations in Angola, an Emergency Demining Initiative country. The Angolan Government established the National Institute for the Removal of Explosive Obstacles, and U.S. demining assistance supports the UN Demining Program in Angola. U.S. funding augments that of other nations and NGOs to continue demining efforts, such as training and equipping more than 800 deminers, medical technicians, and supervisors, and the purchase of mine detectors, vehicles, and safety and communications equipment. Excess equipment was also provided through the U.S. Military Humanitarian Assistance Program. The United States is to provide additional demining equipment to the UN that will be used to support operations of several NGOs. Assisted by USAID, various NGOs recently conducted mine awareness and mine clearance programs.

In Angola, 1 in every 334 inhabitants is an amputee, and the United States has funded programs to assist these 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 Vietnam Veterans of America Foundation (VVAFA) to establish a regional rehabilitation center. Since 1996, USAID's Leahy WVF has supported VVAFA to meet the physical, social, and economic needs of mine victims and other amputees in Luena City, Moxico Province. Thus far, several hundred Angolans have received prostheses and gait training from the Center.

In FY00, the United States will provide Angola, through grants to NGOs, \$3.096 million for

mine action activities. The NGO Hazardous Awareness Life Support Organization (HALO) Trust will receive some of this assistance to fund the addition of two mine clearance teams and two survey/explosive ordnance demolition (EOD)/mine awareness teams in Beguela, Huambo, and Bie provinces. The four teams will also support 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 will also go for mine clearance to the NGOs Norwegian Peoples Aid (NPA) and Menschen Gegen Minen (MgM). USAID funding to the VVAF will assist the Foundation to make progress in addressing the needs of amputees through the establishment of a rehabilitation center in Eastern Angola.

With U.S. and international support, Angola continues to make progress in eliminating landmines as 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.

Chad

The Landmine Problem

During the occupation of the Aozou Strip in the 1980s, Libya deployed landmines covering 45,000 square miles (one-tenth of Chad's total land area). Estimates of the number of landmines vary from a low of 50,000 to a high of 1 million. Landmines are generally located in the desert and mountain areas in the north along the border with Niger.

United States Assistance

The United States played a key role in launching the Chad demining program, which began in January 1998. In FY00, the United States expects to contribute more than \$1.7 million to Chad's demining program, bringing the total level of U.S. financial support to more than \$5.4 million in two years. Since the start of U.S. funding, a national MAC has been established and historical data pertaining to minefield locations has been collected. U.S. military personnel had previously trained a cadre of approximately 65 Chadian engineering personnel and provided demining equipment. In February 1999, U.S. military instructors graduated another cadre of 40 deminers. At the government's request, the United States funded the renovation of the national demining office (NDO) building. The U.S. military also expects to train another 65 Chadian engineering personnel. In February 2000, 29 U.S.-trained Chadian deminers began a Canadian-funded Level I Survey to determine the extent of Chad's landmine problem. Until renewed fighting forced the United States to review the program, Chad had been expected to begin mine clearance operations in 2000 with continued U.S. support. The U.S. program review stopped funding for the construction of a regional demining compound in Faya Largeau, but not the provision of demining equipment, and funds for an air transport/medevac capability, trauma kits, ambulances, and communications equipment. Nor did the review prevent the Government of Chad from taking possession of seven vehicles donated by the United States to the Chadian demining program. Because Canada suspended its assistance, the Level I Survey will not be completed by the end of the year 2000. Once fighting ceases, the United States will reassess its earlier decision to

continue to work with the Government of Chad so that it will be able to demine the northern provinces and benefit from economic and social development in those regions.

Djibouti

The Landmine Problem

Djibouti has a small landmine problem stemming from the 1991-94 civil conflict between the FRUD (Front for the Restoration of Unity and Democracy) and the government of Djibouti. Despite Djibouti's small landmine problem, there have been several recent landmine incidents. Figures provided by the Djiboutian military indicate that 11 civilian injuries and 17 fatalities occurred in 1999. Djibouti's northern plateau was the most heavily contested area during the civil war, and contains most of the suspected minefields or mined routes.

The exact number of landmines is unknown. While mine contamination is not extensive, landmines have been used in the northern districts, particularly in the districts of Obock and Tadjoura. In the town of Obock, the Djibouti army laid mines to protect the army camp and key installations, and FRUD forces are said to have countermined these areas and access roads out of Obock and near the village of Andoli. The southern district of Dikhil may contain landmines, as does a section of road leading south from the town of Ali Sabieh to the Somali/Ethiopian/Djiboutian border.

United States Assistance

The United States will provide \$300,000 in humanitarian demining assistance for FY00 to support the establishment of a small humanitarian demining program. The new program will include training, equipment, and refurbishment, if required, of facilities for demining training. Additional U.S. support is expected in future fiscal years.

Eritrea

The Landmine Problem

Thirty years of civil war left Eritrea with a severe landmine problem. Even before the outbreak of hostilities with Ethiopia in May 2000, an estimated 500,000 to 1 million landmines and 3 million UXO were scattered throughout the country. Significant mine infestation is suspected in the northwestern provinces and in one southeastern province. Landmines were used 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.

United States Assistance

U.S. humanitarian demining assistance began in FY94, and the six-year funding total will exceed \$10 million by the end of this fiscal year for this Emergency Demining Initiative country. The United States funds nearly 100 percent of the Eritrean demining program. In 1996, the U.S. military paid for the transportation of 60 trucks from Germany to be used in

demining activities, and trained 120 deminers; in the next two years, 122 more deminers were trained. In 1997, U.S. military personnel advised and assisted Eritrean staff personnel in conducting mine awareness and historical research. Funds in 1998 provided for additional mine clearance, mine awareness, and further development of a mine information database. The United States also funded contracts to construct facilities for the national demining headquarters in Keren and to renovate two regional headquarters. The United States is also assessing the implementation of a mine-detection dog program. U.S.-supported deminers successfully destroyed or removed 1,534 landmines and cleared 4.13 km² of vital farmland and 87 kilometers of roads. Using mass media and sign postings, the mine awareness program informs Eritreans of the dangers of landmines and UXO. Demining efforts thus far have been successful and are a vital link to the country's continued economic growth. In FY00, the United States allocated more than \$2.3 million to rebuild Eritrea's humanitarian demining operations. This allocation includes funds designated for mine awareness measures designed to promote the safe return of refugees, training for Eritrean personnel, and equipment. Regrettably, however, U.S. demining assistance to Eritrea is suspended due to current hostilities with Ethiopia.

Ethiopia

The Landmine Problem

Decades of internal and external conflict left an estimated 500,000 landmines behind in Ethiopia. This estimate does not include mines that may have been laid during the current conflict with Eritrea that began in May 2000. While landmines have been uncovered throughout the country, the heaviest landmine concentrations are in the Tigray region in the north and in the Ogaden region in the east along the Somali border. Landmines in these regions have caused some 5-10 casualties per week.

United States Assistance

The United States has funded demining activities in Ethiopia since FY93 to this Emergency Demining Initiative country. To date, more than \$11 million have been contributed. U.S. assistance is designed to aid Ethiopia's efforts to become mine-safe. Since assistance began in 1993, the United States helped establish an NDO, provided demining training and equipment, as well as assisted with mine awareness training. U.S. funding additionally allowed Ethiopia to increase its data collection capability and conduct staff management training. As a result of train-the-trainer programs conducted by the U.S. military, the Ethiopian military has trained two of its three planned demining companies (90 deminers per company). These deminers cleared 20,000 landmines and UXO using U.S.-provided equipment. Today, more than 170 villages have been cleared and resettled, and 8,403 hectares (20,764 acres) of land have been cleared and returned to use. The United States plans to fund construction of new demining company buildings at the Kebre Dehar Military Camp in southeastern Ethiopia.

While demining operations have reduced the casualty rate by more than 50 percent, landmines continue to threaten civilians. Since 1996, USAID has been funding the Prosthetic Orthotic Training Center in Addis Ababa, and 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 5,670 prosthetic components. The U.S.-supported Ethiopian Demining Program is approaching the sustainment phase. The program's effect on society is profound; it is responsible for saving countless civilian lives as well as reducing the number of mine-related injuries. Demining efforts have also reduced injuries to livestock and have returned the land to productive use. In FY00, the United States allocated more than \$2.3 million to rebuild Ethiopia's humanitarian demining operations. This allocation includes funds designated for mine awareness measures to promote the safe return of refugees. Regrettably, however, U.S. demining assistance to Ethiopia is on hold until current hostilities with Eritrea cease.

Guinea-Bissau

The Landmine Problem

Thousands of landmines have been sown in Guinea-Bissau, some dating from the war for independence, but most were emplaced by belligerents during the 1998-99 military mutiny. A significant number of mines can also be attributed to Senegalese forces. The minefields include populous areas in Bissau and its environs. In addition, UXO is scattered throughout populated and agricultural areas. The mines and UXO represent a persistent danger to the civilian population and a damper on the resumption of normal commercial activity.

United States Assistance

The United States is considering providing Guinea-Bissau with \$365,000 in humanitarian demining assistance in FY00. The funds would provide training, equipment, and supervision to clear landmines and UXO found in urban areas of Bissau, the capital.

Mauritania

The Landmine Problem

An estimated 10,000 landmines remain in Mauritania from the war in neighboring Western Sahara. The landmines were used to establish defensive positions against Polisario attacks on the Cap Blanc Peninsula, at Bîr Mogreïn and Aïn BinTili in the north, and surrounding Zouirat. Although mine casualties are not extensive, Mauritanian military personnel and civilians have suffered landmine injuries.

United States Assistance

After a U.S. Policy Assessment Team visit in late 1998, Mauritania was recommended for inclusion in the U.S. humanitarian demining program. Initial funding in FY99 supported two separate survey initiatives designed to facilitate the development of a country program. In FY00, the United States allocated \$2.2 million to support demining operations in Mauritania. As part of this support, U.S. Special Operations Forces (SOF) were deployed to Mauritania in January 2000 to conduct two months of humanitarian demining training. They trained 55 Mauritanian military personnel in modern demining techniques, including mine awareness

and basic medical care. During a second phase to take place in the summer of 2000, the trained Mauritians will provide training to a second corps of Mauritians under SOF supervision. By March 2000, SOF had also constructed a building for a demining school and an NDO and had undertaken a mine awareness campaign, all with the objective of creating an indigenous demining capability for Mauritania. Additional U.S. support will provide vehicles and equipment to support demining operations as well as funding to support the construction of a humanitarian demining training facility north of Nouakchott. In just two years of U.S. support, the efforts of Mauritanian deminers resulted in the destruction of more than 7,000 landmines and 5,000 pieces of UXO. Continued U.S. assistance will reduce human suffering and boost economic development in important areas in the northern sectors of the country. The United States intends to work with Mauritania to develop an indigenous demining capacity.

Mozambique

The Landmine Problem

Two decades of war left Mozambique littered with more than 1 million landmines. While minefields infect all provinces, the most heavily mined regions are along the Zimbabwean border, in Zambezia, in Tete province, and in Maputo and Inhambane Provinces. Landmines continue to injure people and inhibit refugee resettlement and economic development.

United States Assistance

Mozambique has been receiving U.S. humanitarian demining assistance since FY93. Total U.S. contributions are expected to be just over \$24 million by the end of this fiscal year. In a partnership with Japan, the United States contributed \$1 million to the Massingir Dam demining project, a vital key to the country's overall development strategy. The dam is capable of supplying electricity to the area and irrigating 9,000 hectares (22,239 acres) of land. The United States has supported various NGO demining projects that have removed more than 15,000 landmines and 13,000 UXO.

Since 1993, USAID's Demobilization/Reintegration Project has contributed \$4 million to support clearance operations. This program cleared 2,400 kilometers of roads, facilitating post-war resettlement of agricultural land. Since 1995, USAID's Leahy WVF has funded the Prosthetic and Orthotic Worldwide Education and Relief (POWER), an NGO; the project assists the Government in producing and maintaining prosthetic devices. Thus far, more than 7,000 amputees (70 percent of the amputee population) have been fitted with prostheses manufactured in the POWER workshop in Maputo.

In 1999, the DoD completed its train-the-trainer program in Mozambique, but continues to fund its mine awareness program. Also in 1999, \$1.9 million in assistance provided by the Department of State enabled Mozambique to increase its mine-detection dog capacity. The funds also enabled Mozambique to purchase trucks and demining equipment, including metal detectors, protective body gear, and terrain-clearing tools.

The natural disasters that struck Mozambique during the winter of 1999 changed the

country's humanitarian demining priorities for the use of its \$3.9 million FY00 NADR funds. Heavy flooding displaced some landmines, and at the request of the Mozambique IND, the U.S. Department of State is providing additional funding for a U.S. contractor to conduct high priority demining under IND direction. USAID's FY00 funding is for its Prosthetics Assistance Project, managed by POWER. The Project's goal is to strengthen Mozambican management capabilities, improve outreach, and support private sector opportunities to assume production and distribution of prosthetic devices.

Namibia

The Landmine Problem

Namibia's internal struggle for independence and neighboring conflicts left an estimated 50,000 landmines and thousands of UXO in the ground. Clearance efforts are nearly complete in 11 known minefields in northern Namibia. Remaining landmines are found in berms around electric pylons that run from the northern town of Ruacana, near the Angolan border, 120 kilometers south to the western part of the Estosha National Park. A 900m² area around each pylon was mined with 24 to 48 landmines and four to six antitank (AT) mines. The UXO problem exists throughout the northern area where most of the fighting took place.

United States Assistance

Namibia has received U.S. humanitarian demining assistance since FY94. Expected contributions to demining operations this fiscal year will bring total assistance to more than \$8 million. The United States funded a multiphase demining training program, including clearance, mine awareness, medical assistance, communications, and the purchase of equipment. The training of the Namibian Defense Force and Police is complete, and, as a result, Namibia now possesses a modern demining capability and a dedicated unit of deminers. In January 1998, the United States provided a prototype machine, the Berm processor, to extract landmines in the berms around electric pylons. Transportation problems in this rugged terrain, however, hampered UXO disposal efforts in the northern regions. Nevertheless, the United States provided funding for the purchase of vehicles to access the rugged terrain for clearance operations.

In FY00, Namibia will receive more than \$300,000 in U.S. humanitarian demining assistance. The funds will provide technical expertise through a U.S. contractor to the Namibian Defense Force to continue clearing the remaining berms surrounding electric power pylons in northern Namibia. With the completion of the U.S. Department of Defense's train-the-trainer program in April 2000, Namibia continued its progress towards becoming a mine-safe country. However, this is a distinction in some jeopardy, given recent reports of cross-border minelaying by Angolan rebel forces from UNITA. Overall, the establishment of Namibia's demining program is complete. Nine minefields are cleared, and mine-detecting dogs will complete quality assurance of seven of the fields this year. (Two former minefields, now cleared, already have infrastructure built on them and will not require proofing.) Although Namibia has achieved the sustainment phase in its humanitarian demining program, the Department of State will continue to provide NADR funding for mine action activities, as appropriate.

Rwanda

The Landmine Problem

Rwanda emerged from civil war with 100,000-250,000 landmines in the ground. The landmines are located along the established Rwandan cease-fire border with the People's Front, an area approximately 120 kilometers long and at a distance of about 10 kilometers inside Rwanda along the border with Uganda. An additional 1,200 km² of suspected mine contamination is south of this area. The heaviest concentrations of landmines are located in the rural farmlands and tea plantations northeast of Kigali.

United States Assistance

Rwanda has been receiving U.S. humanitarian demining assistance since FY95. U.S. funding reached \$1.8 million during FY99, and total U.S. contributions could surpass \$14 million by the end of FY00. These funds were used to renovate the demining training center, the NDO, and mine awareness facilities in Rebero, and to purchase equipment to support demining operations.

In just five years, U.S. assistance has enabled Rwanda to make substantial progress towards becoming mine-safe. From July to August 1995, U.S. military personnel established an NDO in Kigali and trained 120 Rwandan Patriotic Army (RPA) personnel. In 1995, USAID contracted with RONCO to conduct demining activities in Rwanda. Under this contract, RONCO supported the NDO and established a demining dog training program. U.S. military personnel conducted refresher demining training for 73 RPA personnel in September-October 1996; this training focused on mine clearance, minefield survey techniques, mine marking, land navigation, and medical training. The team also assisted the integration of the RONCO-trained dogs into Rwandan demining operations. The NDO staff received additional training in mine awareness and in assessing the effectiveness of earlier demining training. From March to May 1997, a U.S. team 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 EOD specialists, trained 93 RPA deminers and EOD personnel. In FY99, funding was allocated for the renovation of the NDO facility and additional EOD training. A quality assurance program is underway to help Rwanda attain UN mine clearance standards.

U.S. demining assistance has had a dramatic impact on Rwandan society: in the last five years, the NDO has cleared 16,302 mines and UXO, resettled 400,000 refugees, and reduced UXO and landmine casualties from 233 in 1994 to nine in 1999 as a result of demining and mine awareness operations. The RPA also built housing for returning refugees on cleared land. A recent report cited the success of the program, pointing out that more than 7 million km² have been cleared, including 600 kilometers of bush roads. In addition, 200,000 IDPs returned to their villages and homes. Success continues for the humanitarian demining program in Rwanda in that the recent expansion of survey teams into the Northwest has resulted in the identification of eight new minefields. The humanitarian demining program in Rwanda is now in the sustainment phase--the mark of success for U.S. demining programs. The United States remains committed to Rwanda becoming mine-safe and continues to

support its demining activities.

Somalia (Northwest Somalia)

The Landmine Problem

Northwest Somalia has a severe landmine and UXO problem stemming from several conflicts. Landmines were used extensively in each conflict, resulting in large amounts of UXO and landmines along the border between Northwest Somalia and Ethiopia, on the perimeters of military installations, on important access routes, and in urban areas.

United States Assistance

The United States has provided humanitarian demining assistance through the HALO Trust Fund and CARE. Since 1998, the United States has provided more than \$2.5 million in demining assistance to Northwest Somalia, under the U.S. Emergency Demining Initiative. Last year, the Department of State provided more than \$1 million in NADR funding for a HALO Trust project to clear landmines in Northwest Somalia and to allow refugees to return home to Burao City. In FY00, the United States will provide \$1.4 million to continue demining operations. According to HALO Trust progress reports for the months of January-March 2000, HALO Trust extracted 580 APL and 35 AT landmines, verified 42 mined/UXO sites, and cleared 11,389 m² of land.

Swaziland

The Landmine Problem

Swaziland has one minefield along its border with Mozambique. The minefield is just east of the Lomahasma Customs point in the extreme northeastern corner of the country, and is approximately 10 kilometers long with widths ranging from 50 to 100 kilometers. The number of landmines in this area is unknown.

United States Assistance

U.S. funding for demining operations began in FY98, and total assistance is expected to reach more than \$1 million by the end of this fiscal year. Because of the size and location of the minefield, the United States has focused its funding on training Swaziland Defense Force personnel; the funding provides demining equipment and equipment operator training. In the summer of 1999, U.S. SOF conducted phase one of their train-the-trainer program for Swazi military personnel. On April 1, 2000, SOF trainers returned to Swaziland to conduct phase two of the training program, with the goal of creating an indigenous Swazi capability to conduct humanitarian demining operations. The United States is not providing FY00 humanitarian demining assistance to Swaziland, because the country has \$289,000 in FY98 funds on account in a Trust Fund with DoD's DSCA. The funds will enable the Swazis to begin initial demining operations in the Lomasha area along the border with Mozambique. The United States believes Swaziland's experience in clearing its minefield will enable it to

contribute to possible future peacekeeping operations.

Zimbabwe

The Landmine Problem

The War of Liberation, which ended in 1980, left 210 km² of minefields stretching across 700 kilometers of the borders with Zambia and Mozambique. The number of landmines is unknown, and estimates vary widely from 200,000 to 2.2 million. Minefield records were not adequately prepared or maintained, and many landmines are located in rough terrain in remote regions of the country that are difficult to survey.

United States Assistance

Zimbabwe began receiving humanitarian demining assistance in FY98. Because the program is in an early stage, U.S. funding focuses on providing extensive training to improve the ability of Zimbabweans to conduct demining operations. An NDO is now in place, and training in staff management and organizational structure is complete. The NDO established a mine awareness unit responsible for training in target audience analysis and mine awareness information campaign design. U.S. military personnel trained approximately 50 defense force engineers in basic demining techniques, medical orderly skills, minefield survey, and equipment maintenance.

In FY99, \$1,743,000 in U.S. humanitarian demining assistance purchased equipment, vehicles, and supplies for a second demining platoon. During 2000, the Department of Defense will complete its train-the-trainer program, and a third fully qualified and dedicated demining platoon will begin operations. The United States will provide an additional \$1.9 million in humanitarian demining assistance to Zimbabwe in FY00. These funds will enable the Government of Zimbabwe to purchase necessary equipment and mine awareness materials to reach the sustainment phase in demining operations and reduce the landmine casualty rate of its citizens. By April 2000, Zimbabwean Army combat engineers had cleared more than 800,000 m² of land that has been turned over to the local town council at Victoria Falls. The United States will continue to support Zimbabwe's efforts to clear its mined areas so that the country can benefit from the estimated hundreds of millions of dollars that can be earned annually through full use of these areas.



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ASIA

Afghanistan

The Landmine Problem

Afghanistan has been besieged by occupation, foreign interference, and civil wars since early 1978 and, as a result, is one of the most heavily mined countries in the world. The UN estimates that there are 5-7 million landmines in the country. The most heavily mined areas are the provinces bordering Iran and Pakistan, and some claim that 162 of 356 districts are mine-affected. However, based on actual clearance experience in these heavily mined areas, some NGOs claim that official estimates are high and should be lowered. Security belts of landmines exist around major cities and at airports, government installations, and power stations. Grazing lands, irrigation canals, schools, paths, villages, and cities are also infested. Landmines cause an estimated 10-12 injuries per day.

United States Assistance

The United States has supported demining operations in Afghanistan since FY89 and has contributed more than \$25 million since FY93 to this Emergency Demining Initiative country. The United States, in cooperation with other international donors, supports demining activities through the UN's Office for Coordination of Humanitarian Assistance to Afghanistan (UNOCHA). In 1989, a USAID project, conducted by RONCO, developed the original dog and dog-handling program now used in mine clearance operations. When the dog program was turned over to the UN in 1994, 36,000 landmines had already been destroyed. At that time, it represented 25 percent of all mines destroyed worldwide. The Mine Detection Dog Center assumed responsibility for the entire dog program and now trains and breeds all mine-detecting dogs used in Afghanistan. The United States continues to provide financial support in demining operations for mine awareness, mine clearance, surveys, minefield marking, and training. The United States committed \$1.5 million in FY99 funds to the HALO Trust to conduct demining operations in Wardak Province. Additional funding, provided through UNOCHA, enabled local Afghan NGOs to clear 200,000 m² of vital residential, agricultural, and grazing lands in the heart of Badghis and Faryab Provinces in western Afghanistan, allowing the repatriation of refugees. The United States allocated \$3 million in FY00 funds to continue funding the highly successful mine-detection dog program, manual and mechanical clearance operations, and mine survey teams. These funds will also be used to purchase additional and replacement demining equipment for this thriving program.

The UN's Mine Action Program for Afghanistan (MAPA) is one of the most effective demining programs in the world. This internationally supported demining operation cleared more than 134 km² of land and 125 km² of battlefields infested with UXO, representing more than 850,000 landmines and UXO destroyed. As a result, the casualty rate has declined, and several million refugees have returned to their homeland. Through further support to the MAPA via UNOCHA, and direct grants to both local and international NGOs, the United States hopes to return Afghanistan's mined lands to economically and socially productive use.

Cambodia

The Landmine Problem

After more than two decades of war, it is estimated that Cambodia is littered with 4 to 6 million landmines, infesting an estimated 3,000 km² of land. Of Cambodia's 23 mine-affected provinces, the majority of the landmines/UXO are found in seven of the western, northwestern, and northern provinces, and two central/southern provinces contain large areas of suspected minefields. Battlefield UXO is found countrywide, and aerial-delivered ordnance is found mainly in eastern and central provinces. Although great strides have been made in reducing the number of landmine victims, there is still a minimum of 50 casualties a month.

United States Assistance

The United States has supported demining operations since FY93, and with FY00 contributions, funding will exceed \$22 million. U.S. Government support to the Cambodian Mine Action Center (CMAC), in conjunction with the Rural Planning Committees and the Royal Cambodian Armed Forces (RCAF), has been a success. In response to requests from the ambassadors of donor nations, CMAC recently made changes in its senior management personnel. The changes promise even greater success in Cambodia's humanitarian demining program in the future. Funding has provided needed equipment and training to augment financial assistance from the UN Development Program Trust Fund and other international donors. The U.S. military has provided more than \$2 million in assistance; training of 1,200 personnel in basic demining, leadership, medical skills, and mine awareness. U.S. funding through the UN also provided training for 537 RCAF engineers. This resulted in the demining of 800,000 m² of land on and along a major highway in 1997, enabling necessary road and bridge construction that opened a strategic access to the chief city in that province for the first time in 20 years. Deminers cleared 51 km² of mined and UXO-infested land by January 1998. An additional 13 km² were cleared, and 13,245 landmines and 47,000 pieces of UXO were destroyed, by the end of 1998. The program is now in the sustainment phase, having developed a fully trained staff of more than 2,700 Cambodians, 25 foreign technical advisors, and six UN staff members. Based on figures provided by the Handicap International/UNICEF Cambodia Mine Incident Database Project, there is a recognized decrease in reported casualties. According to the Cambodian Red Cross, the preliminary casualty total for all mine/UXO incidents for 1999 is 1,005, 40 percent less than in 1998. During the first half of 1999, the monthly average was 115 casualties; for the second half of

the year the average dropped to 53 casualties per month.

In FY00, the United States allocated more than \$2.5 million to support Cambodian demining operations, including more than \$1.4 million to support mine clearance operations by HALO Trust and the Mines Advisory Group (MAG). Additional funds will support the efforts of the Cambodian Red Cross Mine Incident Database. The information in this database has proved invaluable to CMAC, NGOs, and donors in making informed prioritization and planning decisions. USAID funding will support the Disability Action Council and the VVAF to assist landmine victims by expanding rehabilitation and job training programs, and by strengthening the institutions that Cambodian society needs to sustain such programs.

With U.S. and international support, CMAC's demining operations have reduced the casualty rate from landmines by 90 percent; nonetheless, one of every 45 Cambodians is an amputee. USAID has invested more than \$6.8 million in the Cambodia Prosthetics and Rehabilitation Program since 1992. The Program has produced and fitted 635 multi-axle feet and 1,300 thermoplastic prostheses, and treated 8,000 patients. The United States has a strong commitment to the landmine problem facing the people of Cambodia, and will continue to support CMAC's demining efforts and provide assistance to thousands of its landmine victims.

Laos

The Landmine Problem

Intense ground combat occurred in Laos between 1964 and 1973. Approximately two million tons of ordnance were dropped on Laos, of which up to 30 percent never exploded. As a result, almost half the country is infested with UXO today. The most contaminated areas are located in the heavily bombed northern provinces of Houaphan and Xieng Khouang, and along the eastern border. UXO continues to kill more than 25 years after the conflict.

United States Assistance

The United States has played an active leadership role in UXO Lao programs since FY96 and is the single largest donor to the program. Total U.S. contributions to UXO Lao are expected to surpass \$15.8 million by the end of this fiscal year. In 1996 and 1997, contributions helped establish an NDO and fund training in UXO clearance, community mine awareness, and medical care. It also supported the Nam Suang UXO Training Center, staffed by a U.S. military training team and Lao instructors. The Center offers courses in community awareness, clearance techniques, medical training, and leadership development. More than 500 students have graduated from these courses. Recent U.S. assistance funded additional training and was the major source for the purchase of mine clearance equipment. U.S. funds also sustained mine/UXO awareness in eight provinces, mine/UXO clearance in seven others, and established rapid response teams in the remaining five provinces. By the end of 1999, the U.S. military had trained more than 815 indigenous personnel and created a self-sustaining training capacity. U.S.-trained deminers have destroyed more than 100,000 pieces of UXO and 43 landmines. FY99 funds also provided advanced EOD training, communications equipment, and demining support vehicles.

Since 1991, USAID's Leahy WVF has contributed \$3.8 million to support rehabilitation programs and community awareness programs, and to develop emergency response capabilities. In addition, between 1991 and 1995, the WVF provided \$1.6 million through World Vision Relief and Development for prosthetics and orthotics and for improvement of Laotian rehabilitation centers. In 1995, the WVF awarded a \$2.1 million, five-year grant to a consortium to upgrade medical, surgical, and emergency services, facilities and human resources, and, in collaboration with UNICEF, UXO awareness training in Xieng Khouang Province. Thus far, more than 300 medical staff personnel have received training in emergency rehabilitation or laboratory services, and one provincial and five district hospitals have received medical equipment and supplies.

FY00 funding of almost \$1.9 million will provide additional vehicles and equipment to UXO Lao to expand operations to 34 of the 38 most heavily UXO-infested districts. In addition, FY00 funds will provide follow-on training support to the national training center and enable the completion of the advanced EOD training course. The United States will continue to work with UXO Lao to build an indigenous capacity and to provide sustainment funding.

Thailand

The Landmine Problem

Past internal insurgencies and spillover from armed conflicts in neighboring countries are responsible for Thailand's current landmine problem. An estimated 100,000 landmines are located along Thailand's borders with Cambodia, Burma, and Malaysia. In these border regions, more than 900 km² are mine-infested.

United States Assistance

U.S. humanitarian demining assistance to Thailand began in FY99 with the provision of \$1.7 million. These funds helped establish a demining school to teach mine awareness classes in Lop Buri, and facilities for basic demining training at Ratchaburi, while also providing essential demining equipment. The United States allocated just over \$3 million in FY00 for Thailand, bringing total contributions to nearly \$5 million. In addition to furnishing additional demining equipment and training, these funds will begin a Level II Survey of the most heavily mine-affected areas and establish a mine-detection dog program in Thailand. Since August 1999, U.S. SOF have trained more than 100 Thai deminers to international standards. In January 2000, the Thailand Mine Action Center (TMAC) was officially dedicated and, by summer 2000, mine clearance operations are expected to begin 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, an EOD rapid-response capability, mine-detecting dogs, and a manual and mechanical clearance capacity. The United States remains committed to assist Thailand in eliminating landmines from its borders with neighboring countries.



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EUROPE

Albania

The Landmine Problem

There are approximately 120 kilometers of border between Albania and Kosovo. During the Kosovo crisis, mines were laid by both Serb and Kosovar combatants, while UXO delivered by NATO aircraft on Serb military positions contaminated other areas. To date, there is no accurate estimate of the scope and nature of the mine/UXO threat in Albania. To counter this dearth of information, the Albanian Army inspected and marked the entire border with mine signs to warn civilians of the potential for danger until mines can be located and eliminated. Some marking and general recording of anti-personnel minefields within 400-500 meters of the border is now complete. In addition to the mine/UXO threats along the Kosovo-Albania border, the Serbs shelled approximately 120 hectares (297 acres) of land, 20-25 kilometers deep inside Albania using special artillery munitions that still remain dangerous.

In the Kuski and Hasi districts, which contain 40 kilometers of Albanian border territory, 36 kilometers appear to be mined within 300-400 meters of the border with Kosovo. In the Troopja district, 18 of the 24 kilometers of Albanian border territory also are suspected of mine contamination. In addition, reports indicate mines in the Bajram Curri district on the border of Montenegro.

United States Assistance

The United States is providing demining assistance to the Albania-Kosovo border region through the Slovenian International Trust Fund for Demining and Mine Victims Assistance; in FY00, the United States will provide more than \$1 million to fund demining activities. Demining operations commenced in early June 2000, with commercial demining teams working on priority demining tasks assigned by the Albanian Mine Action Executive (AMEA), the Albanian government's demining coordination agency.

Azerbaijan

The Landmine Problem

The 1988-1994 conflict with Armenia over the Nagorno-Karabakh (N-K) region and other Azerbaijani land held by Armenian troops left Azerbaijan with a landmine and UXO problem. A cease-fire has essentially held since then, although Armenia continues to occupy

20 percent of Azerbaijani territory (of which 7 percent is N-K). The current areas of emphasis are in Fizuli and Agdam. Azerbaijan reclaimed both areas just before the cease-fire in 1994 and both remain under Azerbaijani control today. The government of Azerbaijan recently decided that IDPs from Fizuli and Agdam should return home. Many IDPs have returned home and continue to risk landmine and UXO-related injuries.

United States Assistance

In FY00, Azerbaijan will receive U.S. funding to acquire demining equipment and a team of mine dogs for verification and quality assurance. The U.S. allocation of \$548,000 will support Azerbaijani demining operations, with specific emphasis on creating the necessary infrastructure to support the return of IDPs to their homes. The assistance will also fund a joint humanitarian demining program with Armenia. Participants in the program will receive their training in Georgia, in the fall of 2000. Azerbaijan has an existing mine action center (ANAMA) that works closely with the United Nations Development Program (UNDP). The United States will continue to support the Azerbaijani government to strengthen its national demining program.

Bosnia-Herzegovina

The Landmine Problem

Bosnia-Herzegovina (B-H) has a severe landmine problem, the result of the five-year civil war that fractured Yugoslavia. Some 600,000-1 million landmines and an undetermined quantity of UXO infest an estimated 300 km² of land today. 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), which was a principal front line during the civil war. Road systems, power plants, bridges, dams, and other components of the infrastructure were heavily mined.

United States Assistance

The United States has supported demining operations since FY96, and, with FY00 contributions of \$846,000, this support totals more than \$36 million. Initial U.S. objectives focused on establishing a MAC in Sarajevo, a mine clearance training school at Brus, and three regional administration and operational centers in Banja Luka, Tuzla, and Buna. Because the national MAC, the Federation and Republika Srpska MACs, and three demining schools operate under combined local and international supervision, these objectives were accomplished. In 1996, RONCO trained approximately 170 demobilized military personnel in demining methods and techniques, including mine-detection dogs. In 1997, the U.S. military conducted a training program and provided necessary demining equipment for 450 military deminers from all three former warring factions. By May of 1997, the United States turned over all U.S. equipment at the civilian regional centers to the respective parties and ceased the direct management of demining operations. More than 1,200 military and civilian deminers are now trained and equipped, and are demining to internationally accepted standards. In 1998, the United States provided \$7 million to fund contracts with one international and three regional commercial demining companies. These companies cleared

nearly 3 km² of land in 1998, representing the most productive demining operation of the year. More than 12 km² were cleared in the last two years. The United States also initiated an R&D program to test prototypical demining equipment for possible use in B-H.

In 1996, the United States, DC Comics, and UNICEF distributed a special-edition Superman comic book devoted to mine awareness. Beginning in FY98, U.S. demining assistance shifted from the World Bank to the Slovenian International Trust Fund for Demining and Mine Victim Assistance (ITF) in B-H. The U.S. Congress set aside \$28 million in matching funds for mine action assistance to the Balkans, allowing the Balkan nations to benefit from one-to-one matching of U.S. contributions to the Trust Fund. By the end of April 2000, contributions from 29 donors totaling \$13.902 million were deposited in the Trust Fund. The United States matched all these contributions, bringing the total deposit to the ITF to nearly \$28 million. The establishment of Bosnia's demining program is now complete, and direct U.S. involvement will conclude. With more than 1,200 trained deminers and the ITF's success, Bosnia's demining program is now at sustainment. The United States will continue to support Bosnia's efforts to become mine-safe through matching donations to the ITF.

Croatia

The Landmine Problem

Croatia has a serious landmine problem stemming from its war with the Yugoslav Federation from 1991-1995. The mines are primarily found in areas formerly occupied by enemy forces, although the Croatian Army planted some of the mines for defensive purposes. Almost a tenth of the total territory of Croatia is contaminated with mines; a majority of the minefields are not marked. As a result of the four-year war, there is also significant UXO contamination. Since 1991, an estimated 1,000 people have been killed or wounded by mines, including a large number requiring amputations. Statistics are not completely accurate, but estimates also indicate that nearly 300 children were killed and even more injured. Although a mine awareness campaign began in 1998, the situation remains alarming as casualties continue to occur. These mine incidents included stepping on APL and exposure to the effects of bouncing blast mines.

United States Assistance

Since 1999, the United States has provided demining assistance to Croatia through the Slovenia International Trust Fund for Demining and Mine Victims Assistance (ITF). In 1998, the United States provided \$600,000 from NADR funds to support the Return Assistance Program (RAP), 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 MAC. During 1999, demining work accomplished through the ITF accounted for 480,000 square m² of terrain cleared and returned to safe use.

In FY00, U.S. funds of \$300,000 are supporting a prototype upgrade to promising new mini-flail technology currently manufactured in Croatia, which has potential for use throughout

the Balkan region. Additionally, U.S. matching funds provided through the ITF are being used to clear agricultural areas in wine-growing areas of Croatia as part of a funding partnership with U.S. winemakers. As of early May 2000, more than 150,000 km² of agricultural area had been returned to productive use.

Estonia

The Landmine Problem

Estonia's landmine and UXO problem dates back to World War I although the majority of the UXO in the ground today is from World War II. While the number of landmines is difficult to estimate, the UXO is estimated to be in the hundreds of thousands.

United States Assistance

Estonia began receiving U.S. funding for landmine clearance operations in FY99. The United States has allocated more than \$2.2 million to support Estonian demining efforts. The country has an established and experienced demining capacity within the Self-Defense Board, but it lacks the modern equipment and personnel protection systems necessary to conduct demining operations. U.S. funding will allow the Estonians to acquire modern equipment and protective clothing to conduct safe and effective demining operations. The funding will also allow the Government to establish an NDO to coordinate demining activities, expand demining operations, and develop a comprehensive landmine/UXO awareness program. In FY00, the United States allocated \$1.9 million to establish a training center in Tartu and conduct a train-the-trainer program emphasizing UXO disposal, while also providing mine clearance assistance in coordination with various Estonian demining agencies. U.S. SOF are scheduled to deploy to Estonia to conduct humanitarian demining/UXO disposal training, emergency medical treatment, and communications training for the Estonian NDO this year. The United States will continue to support the Estonian government in developing a national demining program. With U.S. support, it is anticipated that future casualties from landmines/UXO will diminish and tragedies will be averted.

Kosovo

The Landmine Problem

Kosovo Province has a serious landmine and UXO problem stemming from its civil war with greater Serbia in 1999, and subsequent NATO air strikes against Serbian military and internal security forces. The end of hostilities in Kosovo left the region littered with large amounts of landmines, UXO, and boobytraps. The UN has identified approximately 800 mined areas and more than 300 sites that were struck by NATO air forces. These include not only the interior of the Province, but also the borders that Kosovo shares with the neighboring countries of Albania and Macedonia.

United States Assistance

The United States has provided its demining assistance to Kosovo through a variety of funding sources, including the Department of State, the Department of Defense, USAID, and the ITF. In 1999, the United States provided almost \$1 million in emergency demining assistance, including \$343,350 for mine awareness education for Kosovar refugees living in refugee 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 mine clearance technicians from Mozambique. The mine and UXO clearance operations included schools, houses, roads, agricultural areas, water pipelines, irrigation channels and power lines, and a customs post for the United Nations on the Albanian-Kosovo border. All these operations were designed to make life safer for the Kosovar population, and to help them prepare for harsher living conditions during winter. As of May 2000, almost 4.4 million m² of land had been cleared of 16,500 mines and UXO, and more than 20,000 people had been trained in mine awareness.

In FY00, Kosovo will receive more than \$7 million in demining assistance from the United States, including \$3.8 million in DoD OHDACA funds. The assistance will fund the clearance of mines and UXO, equipment for the United Nations Mine Action Coordination Center (UNMACC), and mine awareness assistance provided through UNICEF and other international NGOs operating in the Province. Several teams of Mozambican specialists, supervised by U.S. humanitarian demining experts, resumed clearing high-priority cluster bomb strike areas in April 2000. Clearance of other priority mined areas will commence as the UNMACC identifies the projects and awards contracts to international demining firms and NGOs through the ITF.

Macedonia

The Landmine Problem

Macedonia has a small landmine problem remaining from the 1999 armed conflict in Yugoslavia between Serbian police and military forces and Kosovar Albanians. There are approximately six locations in the mountains along the border with Kosovo with unmarked minefields. The Serbs planted mines in this territory to block 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 meters inside the Macedonian border. The length of the area is unknown, but not thought to be extensive. Macedonian border guards fear that additional mines may exist in the mountainous border area, posing a threat not only to their patrolling activities, but also to civilian inhabitants and livestock.

United States Assistance

In FY00, the United States will provide \$800,000 in demining assistance to the government of the Republic of Macedonia in the Macedonia-Kosovo border region through the ITF. Details as to the exact scope and nature of the assistance provided have not yet been finalized with the Macedonian government. Once these details are complete, it is expected that the United States will fund commercial demining teams to eliminate mine threats identified by the Macedonian Government.

Moldova

The Landmine Problem

Moldova's landmine and UXO problem dates 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 UXO is from World War II battles that occurred throughout the country, while the remaining ordnance is from the 1992 civil war. Heavily mined areas are limited to the Transnistria region, encompassing approximately 85 hectares (210 acres).

United States Assistance

With FY99 assistance of \$71,000 from the U.S. Department of Defense, Moldova has an established, competent and experienced demining capacity within the Moldovan National Army (NAM). Additional U.S. FY00 funding of \$43,000 will provide the Moldovans with the necessary equipment needed to conduct safe and efficient demining operations.



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LATIN AMERICA

Costa Rica

The Landmine Problem

Costa Rica's landmine problem is a result of conflict in neighboring Nicaragua. An estimated 1,000-2,000 landmines are located along the Nicaraguan border, between Rio San Carlos and through Los Chiles to the frontier region near Upala. Additional information provided by Nicaragua in 1999 has since led to revised estimates of between 3,000 and 5,000 landmines, extending the affected area to Peñas Blancas near the Pan-American Highway.

United States Assistance

The United States has supported demining efforts since FY95, providing funding through the Organization of American States (OAS)/Inter-American Defense Board (IADB).⁴ The United States has contributed more than \$12 million to the OAS/IADB for demining operations to date, and an additional \$3.6 million were allocated in FY00. Under this program, Ministry of Public Safety (MPS) personnel were trained and equipped for demining operations. U.S. military personnel conducted training in emergency medical and demining procedures. Funding assistance was also used for a communications base, vehicles, field equipment, and generators, and with this infrastructure in place, the MPS began mine clearance operations in 1996. To date, MPS personnel have cleared almost 90,000 m² of land and destroyed 236 mines. The operations transformed the landscape, making previously mined fertile fields available for farming once again. Demining operations were suspended in December 1997 because of a lack of a medical evacuation helicopter to support the deminers. A recent U.S. donation of \$300,000 through the OAS/IADB toward the lease of a helicopter for medevac support allowed demining operations to resume. The United States continues to work towards increasing mine awareness in Costa Rica. DC Comics, in cooperation with the U.S. Government and UNICEF, began distributing 55,000 copies of a Spanish-language Superman/Wonder Woman mine awareness comic book in September 1998; soon after, two landmines were reported to a schoolteacher who received training from a U.S. mine awareness team.

In 1999, the United States began supporting the use of mine detection dogs in Central America through RONCO. In 1999 and early 2000, RONCO trained four dog and handler pairs to conduct Quality Assurance and Level II Survey operations in Costa Rica. During the first nine days of demining in 2000, the RONCO dog and handler teams helped find and destroy 14 landmines. With less than 5,000 mines and UXO remaining to be removed over a

period of 18-24 months, Costa Rica now expects to become mine-safe in 2002.⁵

Guatemala

The Landmine Problem

After 30 years of internal conflict, there is a moderate landmine/UXO problem in the formerly contested zones in northwest Guatemala. The estimate of landmines in the affected areas is between 1,500 and 2,000. Landmines are found in the Playa Grande/Ixcán region of Quiché and in the vicinity of guerrilla base camps near the Atitlán and Tajumulco volcanoes.

United States Assistance

Landmine and UXO clearance in Guatemala is supported by the OAS/IADB's regional demining program, which Guatemala joined in 1998. The United States has contributed more than \$12 million to date, and it has also allocated an additional \$3.6 million this fiscal year to the OAS/IADB. U.S. funding will continue to support training, a UXO awareness campaign, and UXO clearance. The U.S. military have participated in the training of 60 army deminers and 40 volunteer firemen. This training expanded Guatemalan military capabilities and created opportunities for the military to participate in demining missions. The Guatemalan Army began demining operations in November 1998 in Ixcán. The United States also supports the multinational mine removal venture, MARMINCA, that provides direct supervision and support to Guatemalan Army demining units. To date, U.S. support has helped Guatemala to clear more than 160 mines and restore almost 6,000 m² of terrain to productive use. The United States supports the Guatemalan goal of becoming mine-safe in three years.

Honduras

The Landmine Problem

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

United States Assistance

The United States has supported demining operations in Honduras since FY93, providing operational and logistical support for demining training conducted by multinational teams under the supervision of the OAS/IADB. The United States has contributed more than \$12 million to the OAS/IADB for demining operations to date, and an additional \$3.6 million have been allocated this fiscal year to support training and a mine awareness campaign in the region. Demining operations in 1998 were conducted along the Nicaraguan border and in the area of San Carlos-Las Barrancas. While the majority of the demining troops are Hondurans, other participants in the operation are technicians and advisors from several countries, including the United States. The Honduran operation successfully cleared vast areas of land,

returning them to productive use. To date, the U.S.-trained Honduran demining unit has cleared nine major minefields measuring approximately 333,000 m² and destroyed more than 2,200 mines and several hundred pieces of UXO. In cooperation with DC Comics, the U.S. Government and UNICEF have distributed a Spanish-language mine awareness comic book, Superman/Wonder Woman. The United States and several European nations are developing new demining technologies that may be used in Honduras. Honduras had hoped to be mine-safe by 2000, but the devastation of Hurricane Mitch has pushed the program back. In 1999, the United States began supporting the use of mine-detecting dogs in Central America through RONCO. In 1999 and 2000, RONCO trained 12 dog and handler pairs to assess the extent of the post-Hurricane Mitch mine problem. In FY00, USAID's Leahy WVF will begin to support the Central American Tripartite Landmine Initiative for providing comprehensive assistance to rehabilitate people with disabilities, including landmine survivors. Revised estimates indicate that in 2001, Honduras, thanks principally to U.S. efforts, will become the first country in Latin America to declare itself mine-safe.

Nicaragua

The Landmine Problem

After 12 years of armed conflict and civil strife, Nicaragua is the most mine-affected country in Central America. All warring factions laid mines during the conflict that ended in 1990. An estimated 134,000 mines remained following the conflict. Government mine clearance operations, however, have reduced the number to approximately 108,000. 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.

United States Assistance

Nicaragua has been receiving U.S. humanitarian demining assistance since FY93 through the OAS/IADB. The United States has contributed more than \$12 million to the OAS/IADB for demining operations to date, and \$3.6 million have been allocated in this fiscal year. In September 1992, U.S. military personnel trained an IADB team in mine clearance techniques at the School of the Americas, then at Fort Benning, Georgia. This team returned to Nicaragua and trained the first Nicaraguan demining platoon. Soldiers from the team trained five platoons, or 130 military deminers. Since 1992, the U.S. military has trained an additional 147 indigenous trainers. U.S. funding also helped clear landmines in areas around high-tension towers, bridges, electric substations, and other installations between Juigalpa and Acoyapa. To date, 32 of the 38 high-tension towers have been demined, with 1,400 mines destroyed and 14,000 m² of land cleared. In addition, the road between Rama and Juigalpa will soon be cleared. To date, approximately 230,000 m² have been cleared and more than 5,200 landmines and 133,000 UXO destroyed. With U.S. assistance, safety equipment, mine detectors, and communications equipment will be purchased to support an additional 76 deminers. The mine awareness program benefited from Superman/Wonder Woman, a DC Comics Spanish-language mine awareness comic book produced in coordination with the U.S. Government and UNICEF and distributed to children.

In 1999, the United States began supporting the use of mine-detecting dogs in Central America through RONCO. In 1999 and 2000, RONCO trained 12 dog and handler pairs to conduct demining operations in Nicaragua. Early in 2000, the Nicaraguans requested an additional four dogs to support ongoing demining operations. 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. Army's 7th Special Forces Group, was launched in March of 2000. In FY00, USAID's Leahy WVF will begin to support the Central American Tripartite Landmine Initiative to provide comprehensive assistance to rehabilitate people with disabilities, including landmine survivors. The devastation of Hurricane Mitch pushed the demining program back several years, but reassessments of the extent of the post-Hurricane Mitch mine problem are now underway and should be completed in the near future as the United States continues to support the country through the OAS/IADB in its efforts to become mine-safe.

Peru and Ecuador

The Landmine Problem

During the brief border war between these two countries in early 1995, mines were laid along the disputed 78-kilometer-long Cordillera del Condor region. Landmines were also placed haphazardly along other sensitive areas of the border during the fighting. Although the actual number of landmines planted is unknown, the Ecuadorian government reports that 60,000-80,000 landmines remain in its soil. The Peruvian Government estimates that there are 120,000 landmines along the border. Casualty rates are relatively low because most minefields, particularly along the Ecuadorian border, are in sparsely populated areas. Since 1995, there have been less than 100 landmine casualties, with less than half being civilians.

United States Assistance

In April 1998, the United States agreed to provide humanitarian demining assistance to Peru and Ecuador, once hostilities ended and the two countries requested U.S. assistance. In October 1998, the two countries signed a peace treaty and ratified it two months later. In early 1999, following a U.S. Policy Assessment Visit, both countries were accepted into the U.S. Humanitarian Demining Program. In FY99, the United States provided Ecuador and Peru more than \$1 million each for training and equipment. In each nation, the funds were used to demine areas where 30 border markers were to be placed--an integral step in the peace accord between the two countries. Peruvian deminers also commenced initial demining operations in the Twinza area prior to constructing the treaty-mandated road from the border to the Twinza National Peace Park. From April to July 2000, U.S. soldiers from the 7th Special Forces Group will deploy to Peru and Ecuador to conduct the second phase of humanitarian demining training. Both Ecuador and Peru will receive \$2.1 million in FY00 funding support. In addition to covering the costs of Special Forces training, these funds will be used to provide vehicles and equipment support and training for several more classes of deminers. The United States also agreed to explore the possibility of establishing a mine-detection dog program in both countries. Additionally, the United States has agreed to provide Ecuador with long-term demining training. Each country's demining program is in its infant stages, and the United States will support the development of these respective

programs.



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THE MIDDLE EAST

Egypt

The Landmine Problem

By its own estimate, Egypt is one of the most heavily mined countries in the world. Most of these landmines are the result of conflict during World War II. The most heavily mined areas are Alexandria, El Alamein, Ras-Al-Hekma, Marsá Matruh, Sidi Barrani, Salloum, and the Sinai Peninsula. Areas near the Libyan border are also landmine-infested.

United States Assistance

Egypt has some demining expertise and some outdated equipment. Egypt began receiving humanitarian demining assistance in FY99 with a U.S. contribution of \$615,000 for training. The Department of Defense will provide an additional \$817,000 for more training in FY00. In November 1997, a U.S. Policy Assessment Team visited Egypt, followed by a Requirements Determination Site Survey conducted in May 1998 to assess Egypt's demining capabilities. The Survey assessed Egypt's capabilities in six areas: (1) mine detection and disposal; (2) mine awareness; (3) UXO disposal; (4) survey and information management; (5) victim assistance; and (6) equipment. Following these visits, the United States accepted Egypt into the U.S. Humanitarian Demining Program. In April 2000, the Government of Egypt signed a decree officially setting up a civilian-led National Demining Committee. A train-the-trainer program is involved in the initial stages of the U.S. program and focuses on providing training and demining equipment to augment Egypt's own resources. Egypt receives U.S. Foreign Military Financing funds and, in the future, it is expected that some of these funds will be redirected to support Egypt's demining requirements. The United States will continue to work with Egypt to establish a civilian led national demining program.

Jordan

The Landmine Problem

An estimated 206,193 landmines covering an area of 101 km² remain in Jordan today. 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, near Lake Tiberias, and the other is farther south, near the northern end of the Dead Sea. Additional minefields are located in the southwest region in the Araba Valley. Demining is difficult because many mines were implanted 30 years ago in

areas that have suffered erosion, shifting sands, and mudslides due to flooding and severe weather. By the end of 1999, Jordan's Royal Corps of Engineers had cleared more than 80,000 landmines.

United States Assistance

Jordan has been receiving U.S. humanitarian demining assistance since 1996. With FY00 assistance of more than \$2 million, total U.S. contributions are expected to be just under \$6 million by the end of this fiscal year. U.S. funding is used to augment equipment, technical advice, and manpower assistance that Israel provides to Jordan. 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. The United States has provided Jordan with a computer-managed training system known as the Demining Support System. Demining operations are focused in the 300 minefields located in the Jordan River Valley. The Valley is the most fertile farmland in the country, and mines severely impede the production of food crops in a region where arable land is at a premium. U.S. funding has allowed Jordan to keep 100 men actively demining on a daily basis. As a result, more than 300 acres are now clear and 11,000 mines have been destroyed. Many of the remaining minefields are in difficult environmental areas, and demining in these areas will require using heavy equipment and new technologies. The United States has already furnished five experimental mini-mine flails and identified Jordan as a potential test bed for the Rhino, a new demining machine currently under U.S. military contract. The United States will continue to support Jordan's demining operations and work with the Government towards the country's goal of becoming mine-safe early in the century.

Lebanon

The Landmine Problem

The 1975-1990 civil war left approximately 8,800 landmines behind in Lebanese soil. Landmines exist today in cities and villages located along old demarcation lines. Although some minefields are marked and fenced off, many others remain unmarked.

United States Assistance

The United States has supported a demining program in Lebanon since 1998. In this fiscal year, contributions of more than \$940,000 will triple from FY98 funding, bringing total U.S. contributions to more than \$2.3 million. The U.S. military assisted in formally establishing an NDO and has supported its further development through training and equipment purchases. U.S. military personnel also conducted a train-the-trainer program to provide a fully indigenous company of deminers capable of sustained demining operations. In addition, funds have enabled the development of a national demining database. The U.S. military advised the Lebanese on establishing a mine information awareness program, and USAID has provided more than \$600,000 to support what is now considered an effective mine awareness campaign. In partnership with the World Rehabilitation Fund (WRF), USAID's Leahy WRF supports the involvement of community-based organizations and NGOs involved in mine awareness. Lebanon's FY00 funding will enable it to purchase equipment

such as mine detectors and heavy demining equipment. Funds will also support a trial mine detection dog program that will provide an innovative means of enhancing Lebanon's demining capability. The demining program, which is implemented by the Engineer Brigade of the Lebanese Armed Forces, has three clearance objectives for FY00: (1) the area around Hadeth Amroussieh, allowing reconstruction of the College of Science; (2) the Souk El Ghrab residential area; and (3) the Palm Islands, which draw tourists and vacationers. USAID's FY00 funding will assist the WRF to implement programs aimed at preventing landmine-related accidents and improving the physical, social, and economic conditions of people suffering from landmine-related injuries. The United States continues to work with Lebanon toward the goal of a qualified, trained, and equipped capacity to conduct its own humanitarian demining program.

Oman

The Landmine Problem

Oman has a small landmine and UXO problem. Both AT landmines and APLs were laid in the Dhofar region between 1964 and 1975 during an internal struggle with a 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 support defensive positions and to interdict the movements of separatists, while the separatists used landmines to ambush ROA and allied units. The ROA states that some of the minefields were mapped, marked, and cleared at the conclusion of the conflict, but the PFLOG did not map, mark, or clear their minefields. Heavy seasonal rains and terrain and soil conditions caused several of these mines to migrate from their original positions. While landmines and UXO are still discovered in the region (including two AT mines recently found near Salalah Airport), few injuries and fatalities occur in the Dhofar region. The local populace, despite earlier ROA clearance efforts, still believes that landmines and UXO remain in the area.

United States Assistance

While the IWG has not formally approved Oman, it is expected to become an official member of the U.S. Humanitarian Demining Program in the near future. Accordingly, the United States has allocated \$300,000 in U.S. humanitarian demining assistance for Oman in FY00. Oman will receive those funds in the current fiscal year, if a humanitarian demining program can be undertaken. The ROA possesses a highly motivated engineering unit with demining capabilities. U.S. funding will be used to develop a survey and information management capability to effectively define mined areas and to efficiently archive minefield data; 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 RAO medical cadre and deminers to improve initial response medical and trauma capabilities.

Yemen

The Landmine Problem

During the Yemeni civil war that ended in 1994, approximately 100,000 landmines were laid around Aden, Ta'izz, and the Hadramaut region. Soldiers laid these landmines in an arbitrary and haphazard fashion without markings. The mines were placed in dunes and fields and alongside roads. Only limited historical documentation showing minefield locations or the number of mines planted exists today. In addition, a small UXO problem exists in Aden.

United States Assistance

Yemen first received U.S. humanitarian demining support in FY98, and total U.S. contributions to demining operations in Yemen are expected to surpass \$6.7 million by the end of this fiscal year. Current U.S. funding is enabling Yemen to develop a national demining program infrastructure and to initiate a train-the-trainer program. U.S. funding has focused on education and training, Yemen's top priorities. In December 1998, the first 150 Yemeni deminers trained by U.S. forces graduated from the training program at the Humanitarian Demining Training Facility in Aden. Demining and UXO removal operations commenced in 1999 with the fielding of two U.S.-trained Yemeni demining companies, numbering some 350 personnel. Mine awareness and victim assistance teams also began educating the local populace on demining efforts, while also locating and offering assistance to people injured by landmines. Funding also supported the purchase of demining demolitions and equipment and a feasibility study of a mine-detection dog program. Some 6,000 landmines and UXO have been removed from two minefields, permitting nearly 170,000 m² of land to be returned to use. The Dar Sa'ad compound has been renovated. While conducting training for local medical personnel, a U.S. ophthalmological surgical team recently treated more than 100 victims. With a contribution of \$1.8 million in FY00, the United States intends to support the purchase of mine detectors and vehicles as part of the addition of a third demining company and personal protection equipment for deminers. 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.