

**LANDMINES
IN
MOZAMBIQUE**

**The Arms Project
Africa Watch**

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TABLE OF CONTENTS

PREFACE	vii
ACKNOWLEDGEMENTS	viii
MAP	ix
INTRODUCTION	1
BACKGROUND	4
Colonial Rule	4
Independence	6
The War	7
Peace Negotiations	10
THE MINES	12
Number and Location of Landmines	12
Mine Types and Sources	13
Landmine Use--Tactics and Strategies	26
Renamo Use of Landmines	26
Government Use of Landmines	28
Use of IEDs and Booby-Traps	30
Other Users of Landmines	?
Landmine Training	31
Renamo	31
Government	32
Landmine Records	35
THE HUMAN COST	37
The Victims	38
Case Studies	41
Mine Locations	41
Mine Warnings	44
Poor Clearance	45
NGO and U.N. Mine Incidents	46
Emergency Care for the Injured	48
Hospital Treatment	49

Rehabilitation.....	51
ICRC Activities.....	52
Handicap International Activities.....	53
THE SOCIAL AND ECONOMIC IMPACT	55
Repatriation.....	56
The Mine Threat.....	57
Mine Awareness Initiatives	62
Economic Implications.....	64
Social Plight of Victims.....	65
MINE CLEARANCE INITIATIVES	70
GSG Pilot Project	70
The U.N. Mine Clearance Plan.....	73
Mine Clearance Delays.....	75
Priority Road Clearance	77
NPA Clearance in Tete	81
Recent Progress	82
U.N. Mine Clearance Training Center.....	82
Funding for Mine Clearance	83
U.S. AID	84
U.S. DoD	86
Mine-Tech	87
Mecam.....	87
Independent Mine Clearance by the Government and	
NGO Mine Clearance Initiatives.....	90
Halo Trust	90
Mines Advisory Group.....	91
INTERNATIONAL LAW GOVERNING LANDMINES	92
International Disarmament Law	92
International Humanitarian Law	93
International Customary Law.....	94
Direct Attacks on Noncombatants.....	95
Indiscriminate Attacks	95

Renamo

Military Utility Versus Humanitarian	
Costs.....	96
The Landmines Protocol	98

CONCLUSIONS AND RECOMMENDATIONS.....	101
Conclusions.....	101
Recommendations.....	102
 General	102
 To the Mozambican Government.....	102
 To Renamo	103
 To the United Nations.....	103
 To Other Mine Producers and Exporters	104

LANDMINE DRAWINGS

Soviet PMN	
Soviet PMD-6	
Soviet POMZ-2	
Chinese TYPE 72	
Italian VALMARA 69.....	
U.S. M18A1.....	

PREFACE

Since 1986, Human Rights Watch (HRW) has been monitoring the human disaster created by landmines. This is the latest in a series of HRW investigative reports on the landmine situation in various countries; previous reports looked at El Salvador, Nicaragua, Cambodia, Iraqi Kurdistan, and Angola. In November 1993, Human Rights Watch and Physicians for Human Rights released *Landmines: A Deadly Legacy*, the first comprehensive examination of the worldwide landmine crisis. This book describes the history and use of landmines, and their medical, social, and economic consequences. It contains the first in-depth research into global production and trade in landmines, and provides a detailed examination of international laws governing the use of landmines. It makes a persuasive case that the only solution to the landmine crisis is an international ban on the production, stockpiling, trade and use of landmines.

There are about one hundred million landmines scattered in more than 60 nations around the globe. Mines kill or maim thousands of people worldwide each year. The majority of these victims are innocent civilians who step on a mine after armed conflict has ceased. Once sown, landmines remain, hidden enemies, indiscriminate remnants of war that cannot distinguish between the boot of a soldier and the footfall of a child. In many places, the land is blighted, making it nearly impossible for refugees to return home and for farmers to work their land, which impedes economic development. The situation is already severe and threatens to become overwhelming if action is not taken immediately.

This disturbing report on the landmine situation in Mozambique confirms the insidious nature of landmines and their devastating effect on individuals, communities and entire nations. It gives us renewed vigor in calling for a comprehensive ban on landmines as the only way to address this human rights, humanitarian, and ecological disaster.

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INTRODUCTION

Mozambique was at war almost continuously from the 1960s, when the nationalist struggle erupted against the colonial Portuguese, until October 1992 when the Mozambican government and Renamo rebels signed a ceasefire accord. Throughout this period, combatants on all sides used landmines, often directly against civilians or in an indiscriminate fashion, in clear violation of the 1980 Landmines Protocol.

Mines have already claimed more than 10,000 victims, and continue to do so even though the war has ended. Mines and other types of light weapons and small arms are still plentiful and widely accessible. The United Nations estimates that there are about two million mines in Mozambique. Although Human Rights Watch's investigation leads it to believe that this figure is high, the devastation caused by landmines in Mozambique—not only to the many civilian victims, but also to the socioeconomic well-being of the nation—is undeniable and appalling. Clearance of mines will take many years, and probably decades. So far, little has been done.

This report documents how this tragedy came about and its terrible, on-going consequences for the Mozambican people. It also documents the efforts being made to undo some of the damage.

Chapter two consists of a brief history of Mozambique and the wars that have ravaged the country for the last thirty years.

Chapter three examines the types of mines which have been used, and how they have been used. Mozambique does not itself manufacture mines; all the devices found in the country have been supplied from abroad by manufacturers, governments and arms dealers who are thereby accomplices in the maiming and death of thousands of Mozambican civilians. Human Rights Watch has confirmed that 32 types of antipersonnel mines and 19 types of antitank mines, manufactured by 15 nations, have been used in Mozambique. But the number of mine types is probably greater. The total number of mines laid on Mozambican soil cannot be known, but it is certainly in the tens if not hundreds of thousands. Some districts suffer badly while others do not have a serious problem. Few of the mined areas have been recorded or marked, and rarely have other measures been attempted to protect civilians. While there may have been a slender military rationale for some mine usage, the main impact has been to render paths and fields unusable to civilians except at great personal danger, thereby terrorizing the community.

Chapter four examines the human impact of the landmines. Although Mozambique's landmines injuries do not compare with the high numbers in Angola or Cambodia, the problem is still a serious one. There are an estimated 8,000 amputees in Mozambique who have received some form of medical treatment. The majority of the victims are civilians. Landmines are likely to claim an increasing number of victims in the short-term, as millions of refugees and displaced people return to homes, fields, roads, and paths mined in their absence. Small bush paths seem to be the worst mined areas. Few civilian victims were warned about the danger of mines. Emergency care for the injured is very basic and longer term medical facilities for them are inadequate. Thousands of prostheses will be needed each year for the foreseeable future.

Chapter five looks at the wider social, economic and political impact of mines. Landmines constitute a serious hindrance to postwar development. The pace and cost of economic reconstruction is directly affected by landmines. While posing dangers, landmines in Mozambique do not appear to be an overwhelming obstacle to repatriation. Mines present the greatest threat to newly re-established rural communities moving into bush areas and to the local communities with little knowledge about the danger of landmines. Mine awareness initiatives will be important in an attempt to avoid further mine casualties.

Chapter six provides an account of current initiatives to clear landmines. Since January 1993 the United Nations has been responsible for overseeing a national mine clearance plan. But little formal mine clearance has gone ahead. The U.N. plan was not approved by the Mozambique government and Renamo until November 24, 1993. Human Rights Watch believes that the U.N. plan is too focused on clearing main roads at the expense of some rural areas which are the source of the greatest number of civilian casualties. Only two mine clearance projects are underway: a pilot project to clear roads in central Mozambique begun in January 1993, and clearance in the Tete province started in September 1993. While U.N. initiatives continue to suffer delays, the government and Renamo have been engaged in their own mine clearance activities.

Chapter seven is an examination of international law governing landmines—primarily customary international law and the 1980 Landmines Protocol. Human Rights Watch believes that landmines are an indiscriminate weapon, and that therefore the use of landmines should be prohibited altogether under the requirements of customary international law. It is evident that the great majority of landmines in Mozambique have been deployed in flagrant disregard of the provisions of the Landmines Protocol. In fact, the Landmines Protocol has

proved wholly irrelevant to the conflict in Mozambique, as unworkable there as elsewhere in the world. Human Rights Watch concludes that only a complete global ban on the production, stockpiling, trade, and use of antipersonnel landmines can alleviate the human suffering caused by these weapons.

Chapter eight is a summary of Human Right Watch's conclusions and recommendations.

BACKGROUND

In October 1992 a ceasefire was signed, ending seventeen years of civil war between the Frente de Libertacao de Mocambique (Frelimo) government and the Resistencia Nacional Mocambicana (Renamo or MNR). The war claimed an estimated one million lives and displaced some five million people. Its economic costs have been estimated at \$15 billion; Mozambique's annual gross national product is less than \$2 billion. The war was characterized by widespread violence against civilians, including the systematic use of mutilations and killings and indiscriminate violence during sweeps through contested areas. Although the implementation of a United Nations-supervised peace accord is behind schedule, the peace appears to be on solid ground. There are reasons to be optimistic that peace will prevail, but the challenge is immense.

Mozambique, a nation roughly twice the size of California, has a population of approximately 16 million, consisting of various ethnic groups including the Chewas, Makondes, Makuas, Ndaus, Rongas, and Shangaans. Mozambique is divided into 11 administrative provinces, one of which comprises the capital, Maputo. The second largest city is Beira.

Colonial rule

Although Mozambique was under varying degrees of Portuguese influence from the fifteenth century on, systematic Portuguese colonial rule took root only in the early twentieth century. From 1890 until 1941 the economy was dominated by a patchwork of private chartered companies and other foreign concessionaries. Little effort was made to develop Mozambique's economic infrastructure or the skills of its population, as the colonial regime was concerned with benefiting the white settlers and the Portuguese homeland. The only period during which Mozambique was governed as a single administrative unit with a national economy was between 1941, when the last of the company charters lapsed, and 1974, when the Portuguese army rebelled in Lisbon. Much of the very limited infrastructure inherited by Frelimo at independence in 1975 was created as late as the early 1970s as part of the Portuguese war effort. Even by the standards of colonial rule in Africa, Mozambique was a uniquely fragile creation.

Unlike most other colonial authorities in the 1950s and 1960s, the Portuguese stated that they would never decolonize. Mozambique became an overseas province of Portugal in 1951, with the right to send deputies to Lisbon, but

the only people eligible were assimilados—a group of less than one per cent of Africans who passed tests to become full Portuguese citizens. Emblazoned in the black and white mosaic pavement outside Lourenco Marques' (renamed Maputo after independence) city hall was 'Aqui e Portugal' (Here is Portugal).

However, Portuguese colonialism crumbled very quickly in Mozambique. The first effective opposition to colonialism came in 1962 when Eduardo Mondlane, Frelimo's first president, succeeded in uniting various nationalist groups to form an umbrella party. In 1964, helped by radical African, Arab, East European, and Chinese aid, Frelimo launched a ten year war to end Portuguese colonialism.

Frelimo suffered from political infighting, which led to a series of deaths and disappearances. The assassination of Mondlane in February 1969 particularly weakened the movement. Following the assassination, Samora Machel became Frelimo's new leader and increasingly consolidated his control.

Although political infighting at first temporarily paralyzed the armed struggle, Frelimo's fortunes gradually improved on the battlefield. The guerrillas expanded their operations, crossing into the northwestern province of Tete in the late 1960s, just as the Portuguese launched their biggest offensive ever, Operation Gordian Knot, complete with napalm and scorched earth tactics, against Frelimo strongholds. Portuguese military commanders adopted harsh tactics against civilians, rounding up peasants and putting them in strategic hamlets, known as aldeamentos.

Frelimo's opening of the Tete front was a psychological blow to the Portuguese. A deal to build the giant Cahora Bassa hydroelectric project on the Zambezi river in Tete province was seen by many analysts as an attempt to draw South Africa into the war against Frelimo and to create a physical barrier between the white regimes of southern Africa and the rest of the continent. In December 1972, Portuguese commandos massacred hundreds of peasants in Tete province by lobbing hand grenades into the village of Wiriamu.

Independence

The war came to a close following a military coup in Lisbon in April 1974, brought about in part by growing disillusionment with Portugal's colonial wars. Portugal quickly decided to grant independence to its five African colonies,

including Mozambique. The Frelimo leadership, bent on the total assumption of power itself, formed a transitional government in September 1974 with Joaquim Chissano (a member of Frelimo's central committee) as Prime Minister, and led the country to independence in June 1975, when Frelimo's leader Samora Machel became President.

With the departure of the Portuguese who had operated the economic and administrative infrastructure, untrained Frelimo cadres struggled to manage the country. At the time of independence, over ninety percent of the population was illiterate and there were insufficient skilled people to run Mozambique.

Still, Frelimo was committed to a radical program of socialist transformation, and intended to reconstruct the entire social and material basis of Mozambican life. This involved exercising a greater degree of state control over the rural population than had been attempted before. Many policies originally introduced as an attempt at socialist transformation were later reproduced as counterinsurgency measures, when the government pursued even tighter control of the population for military reasons.

On the positive side, Frelimo began an ambitious education and health program in rural areas, which won much international acclaim. The number of primary school students doubled in just seven years. In the first decade of independence, the number of health posts quadrupled.

At the same time, the new government cracked down on the churches, especially the Roman Catholic ones which had largely supported the Portuguese during the war. An estimated 10,000 Jehovah's Witnesses were rounded up and sent to a giant re-education camp. Suspected opposition supporters met the same fate. Frelimo also launched campaigns to undercut loyalties to the indigenous religions and forms of social organization. Traditional chiefs, many of whom exercised authority on the basis of spiritual ties to land, were a particular target.

In February 1977, Frelimo formally declared its transformation from a liberation movement into a Marxist-Leninist vanguard party, with a mission "to lead, organize, orientate, and educate the masses, thus transforming the popular mass movement into a powerful instrument for the destruction of capitalism and the construction of socialism." The decision came at a time when Mozambique was beginning to skirmish with Rhodesia, and was seeking to attract military aid from Eastern Europe and the Soviet Union. "Mass democratic organizations" were set up to ensure Frelimo party control of workers, women, youth and journalists. State farms, mainly estates abandoned by the Portuguese, received massive investments, while peasant agriculture was largely ignored.

At the heart of Frelimo's plans to transform society was the communal

village. Frelimo's villagization was mostly compulsory, sparking bitter resentment among the people who were supposed to inhabit these "aldeias comunais." A severe lack of resources and trained personnel undermined the government's ability to provide basic services. The villages were often located and planned without asking local peasants for their views.

By 1981, 1.8 million Mozambicans had been moved into 1,266 communal villages. As the war spread, the army further promoted these villages for their counterinsurgency value, thus reminding many peasants of the aldeamentos, the protected villages from the Portuguese era. The villagization program and the parallel marginalization of traditional chiefs and spirit mediums provided a political environment in the rural areas ready to be exploited by any opponent of Frelimo.

The War

Mozambique imposed sanctions against the neighboring white minority Rhodesian regime in 1976. The closure of the border with Rhodesia disrupted the Mozambican economy and deprived its ports of lucrative earnings. It also marked the start of hostile relations. The Rhodesians began to look at ways of arming and training a Mozambican opposition force - Renamo.

Renamo was created in 1977 by the Rhodesian Central Intelligence Office (CIO) in retaliation for Mozambique's support for Zimbabwe nationalist guerrillas. Just before Zimbabwe gained independence in 1980, the management of Renamo was turned over to South Africa's Military Intelligence Directorate (MID).

The transfer marked a turning point in the war, which soon began to escalate. The South African government used Renamo as a tool for destabilizing Mozambique and as a counter to Mozambique's support for the African National Congress (ANC). Its aims were to disable Mozambique's infrastructure and economy, thereby bringing Frelimo to the negotiating table, and ultimately to overthrow Frelimo, replacing it with a more amenable government. Pumped up with ample military supplies from South Africa, Renamo's strength increased between 1980 and 1982 from less than 1,000 to 8,000 fighters. The first combat areas were Manica and Sofala provinces, but Renamo quickly expanded its military operations throughout most of the country. By 1982 fighting had spread to Gaza and Inhambane provinces and to the country's richest province, Zambezia.

In the early 1980s, Renamo acquired its reputation for savagery. It became particularly well-known for its practice of mutilating civilian victims, including children, by cutting off ears, noses, lips and sexual organs. Renamo also

engaged in numerous attacks on civilian targets such as transportation links, health clinics and schools.

Frelimo made a bid to end the war in 1984, when it signed the Nkomati non-aggression pact with South Africa. South Africa said it would halt its support of Renamo if Maputo stopped its support for ANC military operations. A series of South African-mediated negotiations followed between Frelimo and Renamo, with some positive results. However, further rounds of talks quickly collapsed.

Frelimo largely stuck to the Nkomati Accord, while, by their own admission, the South Africans did not. Foreign Minister "Pik" Botha conceded that "technical violations" of Nkomati had occurred, after Mozambique publicized the contents of rebel diaries found by Zimbabwean and Mozambican troops when they overran Renamo's Casa Banana headquarters (near Gorongosa, Sofala province) in 1985.

The Nkomati accord brought no let-up in the war. Massacres by Renamo continued. Renamo launched its biggest offensive ever along the length of the Zambezi valley in the provinces of Zambezia, Sofala, Manica and Tete. Indeed the Nkomati Accord did not damage Renamo militarily, it merely forced it to change its strategy. During the six months before the agreement was signed, the South African military airlifted a huge quantity of arms to Renamo bases inside Mozambique, and advised the rebels to change their insurgency strategy. Rather than relying on rear bases in South Africa, Renamo would now have to provision itself from the local population and replenish its arms supplies from captured weaponry. Renamo also moved away from attacking military targets (which required large amounts of arms and ammunition) in favor of attacking "soft" civilian targets. Renamo also began to exercise greater control over populated areas and to engage in looting and pillaging on a wider scale.

Although the government scored a major military success in August 1985, with the capture of Renamo's headquarters at Casa Banana and related bases, it found it difficult to maintain the momentum of this success. The government was faced with the classic dilemma of a conventional army facing a guerrilla force which avoided direct military confrontation but which was able to move through most of the countryside freely.

By 1986, Renamo units had pushed deep into Zambezia province and had routed poorly supplied government positions in Tete, especially in Mutarara district. At one point it looked as if Renamo would capture the city of Quelimane (Zambezia), cutting the country into two and giving Renamo the opportunity to set up an alternative government. These Renamo gains and the fears of even more severe famine caused tens of thousands of refugees to flee to Malawi.

As the Mozambique Armed Forces (FAM) weakened, the government took steps to reverse the situation. Diplomatic pressure was put on Malawi to halt Renamo operations on its soil. More Tanzanian and Zimbabwean troops were brought in to help the government forces to regain lost territory from Renamo.

During this period, President Machel was killed in a mysterious plane crash. Joaquim Chissano, Mozambique's foreign minister since independence, became President. Chissano undertook the major review of Frelimo's economic, foreign and human rights policies which Machel had been considering. This ultimately led to the reforms and peace negotiations which began in 1990.

The FAM launched a major counter-offensive along the Zambezi river in 1987. Soviet-trained Red Beret commandos, with air support, toppled one rebel-held town after another on the north bank of the Zambezi river. An estimated 3,000 Tanzanian soldiers took up defensive positions along the river valley, guarding the recaptured settlements. Elite Zimbabwean paratroopers launched an offensive in Manica and Sofala, and pounded rebel strongholds in the mountainous Gorongosa region. The tide had clearly turned and Renamo was increasingly on the defensive.

This FAM counter-offensive and the continuing actions of Renamo sent hundreds of thousands of refugees into the neighbouring countries of Malawi, Zambia, and Zimbabwe. The biggest massacres of the war occurred in late 1987 in Inhambane and Gaza provinces, all by Renamo.¹ Renamo appears to have committed the atrocities in a desperate attempt to stop military reverses in the area.

In April 1988, the U.S. State Department released a report on Renamo's treatment of civilians, as told by refugees.² In this report, Robert Gersony, a specialist in refugee affairs, accused the rebels of killing at least 100,000 people and of running what were effectively slave labor camps in zones they controlled. He reported that only a fraction of the armed attacks against civilians in Mozambique could be attributed to the government army. While the report accurately detailed the horror of much of Renamo's military methods and human rights abuses, it minimized abuses by the FAM.

¹ See "Conspicuous Destruction: War, Famine & The Reform Process in Mozambique," Africa Watch, New York and London, 1992.

² Robert Gersony, "Mozambique Refugee Accounts of Principally Conflict Related Experiences in Mozambique," U.S. Department of State, Washington D.C., 1988.

Peace Negotiations

By late 1988, it had become clear that there could be no military solution to the war. President Chissano met South African President Botha at Songo in Tete province in September 1988 and secured a pledge that Pretoria would abide by the 1984 Nkomati Accord. Unlike the previous South African pledge, this one appears to have been largely honored. Chissano also gave senior church leaders of the Roman Catholic, Anglican and Protestant congregations permission to open direct contacts with Renamo leaders. A breakthrough came in February 1989 in a meeting in Nairobi (Kenya) between church members and Renamo. The message the bishops brought back to Maputo was that Renamo too was tired of war and that peace negotiations were possible.

Indirect contacts through the clerics then began with Renamo in Nairobi, with Kenyan President Daniel arap Moi and Zimbabwean President Robert Mugabe appointed as co-mediators. In August 1989, multiple-point statements of principle by both sides were exchanged. After several failed initiatives and false starts, direct Renamo-Frelimo peace talks eventually began in Rome (Italy) in July 1990, mediated by the Sant' Egidio Catholic lay community.

After five rounds of talks, a partial ceasefire was reached in December 1990. In return for Zimbabwean troop withdrawal into the Beira and Limpopo transport corridors, Renamo agreed not to attack these strategic trade routes. A Joint Verification Commission (JVC) with representatives from eight countries was set up to oversee this. But by January the ceasefire was seriously weakened, with Renamo alleging Zimbabwean violations in 54 locations and Renamo attacking the Limpopo corridor.

Widespread famine conditions injected a new urgency into the peace process in 1991 and 1992, as the war prevented the provision of adequate emergency relief to the needy population. As drought spread, Renamo's ability to live off the land steadily collapsed and it became increasingly desperate in its search for food. Renamo's attacks on Mozambique's main urban and semi-urban areas increased. In January 1992, there were seventy-one attacks on Maputo alone, largely to obtain supplies.

Paradoxically, climatic disaster provided a window of opportunity in the peace process. With Renamo increasingly hungry and finding its traditional external supply sources drying up, peace looked increasingly attractive.

During 1991 and 1992 negotiations between Frelimo and Renamo occurred intermittently while fighting continued across Mozambique. Renamo was

again on the offensive in the south, nightly attacking the suburbs of Maputo. After twelve often torturous rounds of negotiations, a ceasefire was eventually signed in Rome on October 4, 1992 between President Joaquim Chissano and Renamo leader Afonso Dhlakama.

Under the terms of the General Peace Accord (GPA), demobilized Renamo forces and government troops are to form a 30,000-strong army. Subsequently it was agreed that a United Nations Operation in Mozambique (ONUMOZ) force of up to 7,500 personnel will oversee the transition period. Multiparty elections are to follow once demobilization is complete and voters have registered. Elections will be held in late 1994 at the earliest. One of the U.N.'s tasks is to coordinate the clearance of landmines.

THE MINES

This chapter examines the types of landmines used in Mozambique, their origin, and the methods used by the parties to the conflict to disseminate them. While minelaying occurred from 1964 until 1992, most mines were laid by Frelimo and Renamo between 1978 and 1990. Few detailed or reliable records exist on the types or numbers of mines used by the warring armies, or on where and how the mines were used. The information in this chapter has been obtained primarily from Human Rights Watch's own investigations, but includes material gathered in a piecemeal fashion by those responsible for mine clearance activities.

Number and Location of Landmines

In the absence of a comprehensive survey, no one knows the true extent of the landmine infestation in Mozambique. The most commonly cited figure is the December 1992 United Nations estimate of 2 million mines. However, this figure has no scientific basis; it was reached by simply taking the average of estimates being circulated at the time (which tended to range from one to four million). Nevertheless, the U.N. estimate has played a very useful function in focusing international donor attention on Mozambique's disturbing landmine situation.

Human Rights Watch was unable to conduct a comprehensive assessment of the number of landmines, but its systematic survey--the first of its kind in Mozambique--indicates that the U.N. total is an overestimate. The U.N.'s top mines expert, Patrick Blagden, has admitted to Human Rights Watch, "It is likely that our initial figures were over-pessimistic. However, Mozambique has a serious mines problem and we are concerned to improve this situation."¹

The total number of landmines in Mozambique is certainly in the tens of thousands, and probably in the hundreds of thousands. While some districts in Mozambique suffer badly from mines, others do not. Based on Human Rights Watch's own survey and interviews, and statistics provided by the International Committee of the Red Cross (see Chapter 5), it appears that the most heavily mined regions are the Zimbabwean border areas and the provinces of Sofala, Maputo, Manica, and Inhambane. The central areas of Manica and Sofala provinces are particularly bad. The provinces of Zambezia, Gaza, Tete, and Nampula also have a significant mine problem. Niassa and Cabo Delgado appear

¹Telephone interview, New York, July 26, 1993.

the least affected.² It should be noted, however, that some of the lesser affected provinces have pockets which are as badly mined as the more affected provinces. It may be that the most heavily mined district is Mitarare in Tete province.

Mine Types and Sources

The great majority of mines in Mozambique appear to be of former Soviet or East European origin. These mines were used by both government troops and Renamo. The antipersonnel mines found in the largest quantity in clearance operations and inspections of arsenals are former Soviet PMN, POMZ-2 and POMZ-2M mines. Other types are present in smaller, but still significant, quantities.

Renamo's mines were initially supplied by the Rhodesians and later the South Africans. Most were of former Soviet and East European origin. The Rhodesians obtained some of their mines from South Africa, and captured others during anti-guerrilla operations in Zambia and Mozambique. South Africa produces its own mines, and also captured many Soviet- and East European-made mines during its post-1975 military operations inside Angola in support of the rebels of UNITA (National Union for the Total Independence of Angola).

However, by the late 1980s Renamo had become almost completely

² An Oxfam report on mines in the Niassa province concluded, "Mines do not present a hazardous threat to NGO operations in Cuamba (the main town in southern Niassa). They are not responsible for the closure of any major arteries, nor are they presenting any significant degree of casualties... There is some evidence of mining in the district, but no evidence of a widespread problem." Nevertheless, a local Army mining officer provided Oxfam with a list of 34 locations mined by Frelimo with about 500 mines. While many of the mines may have been cleared or detonated already, it will be necessary to inspect each location. Oxfam, "Recce Notes - Niassa Province," undated (1993).

reliant on the arms, including landmines, that it captured from the Mozambican government forces. Renamo propaganda often boasted of captured government arms. For example, Renamo Presidential Communique No. 11/495/90 reported in 1990 that in Namapa (Nampula), "Our forces captured 8 tons of mortar bombs, 359 antipersonnel mines and one military transmitter." When the government showed off newly captured Renamo bases and weaponry in the late 1980s, a significant proportion of the war booty on display appears to have been originally captured by Renamo from the government.

Still, up to the October 1992 peace agreement, the Mozambican government claimed that it had evidence that the South African government, or individuals in South Africa, continued to supply Renamo with weapons. One such example was reported in the then state-controlled daily newspaper *Noticias* on February 21, 1989. The paper carried an interview with captured Renamo combatant Moises Macaxaze. Macaxaze claimed that while he was with Renamo he saw a South African plane drop supplies of antitank mines, antipersonnel mines and other ammunition in the Chibuto district of Gaza province on November 12, 1988.

Human Rights Watch has been unable to obtain any firm evidence to substantiate Mozambican government and international press allegations that Kenya supplied arms, including mines, to Renamo in the late 1980s.³

Human Rights Watch has confirmed that the following 32 types of antipersonnel mines, and 19 types of antitank mines, have been deployed in Mozambique. This information is based on physical inspection of the mines themselves or detailed descriptions or photographs of them.⁴ It is likely that some additional types have been used, but Human Rights Watch has not been able to obtain reliable evidence on other mines.⁵

³ See, for example, *The Independent*, August 28, 1990.

⁴ Much of the technical information that follows about the mines identified by Human Rights Watch is drawn from *Jane's Military Vehicles and Logistics: 1993-94* (Surrey: Jane's Information Group Limited, 1993).

⁵ The Arms Project of Human Rights Watch has compiled the most comprehensive data base on antipersonnel landmine types and manufacturers worldwide. It lists over 340 antipersonnel mines, manufactured by at least fifty nations. A summary of the data base is reproduced in *Landmines: A Deadly Legacy*, The Arms Project and Physicians for Human Rights, November 1993.

Antipersonnel Landmines**Former Soviet Union**

- 1. PMN**
Source: U.S.S.R. (ex)
Manufacturer: Soviet State Arsenals
Type: Antipersonnel blast
Initiation: Pressure

The PMN, a very common mine, may be responsible for more mine-related deaths and amputations throughout the world than any other mine. Although easily detected, this mine device has a large explosive content (240 grams of TNT) and requires as little as 0.25kg of direct pressure to initiate an explosion. Injuries from this mine can often be fatal.

- 2. PMN-2**
Source: U.S.S.R. (ex)
Manufacturer: Soviet State Arsenals
Type: Antipersonnel blast
Initiation: Pressure

The PMN-2 differs from the PMN most notably in that the delay arming mechanism is irreversible and there is no known neutralization technique.

- 3. PMD-6M**
Source: U.S.S.R. (ex)
Manufacturer: Soviet State Arsenals
Type: Antipersonnel blast
Initiation: Pressure

This mine employs a wooden box body with a block of cast TNT initiated when 1-10kg of downward pressure on the box forces the pin out of a MUV-2 fuze. The design has been widely copied. After having been buried for some time, this mine becomes unstable and finally ineffective once the wood rots. There is a high metallic content in the fuze, aiding detection.

4. & 5. POMZ-2 and POMZ-2M**Source: U.S.S.R. (ex)****Manufacturer: Soviet State Arsenals****Type: Antipersonnel fragmentation****Initiation: Tripwire**

Both types consist of a cast iron fragmentation casing mounted on a wooden stake. The casing contains a 75 gram charge of TNT and a fuze (normally an MUV fuze) which protrudes from the top of the casing. A tripwire is connected to a striker-retaining pin in the fuze. A pull of approximately 1kg on the tripwire will release the striker and initiate an explosion. The POMZ-2 has six rows of fragmentation; the POMZ-2M has only five. Both mines have an effective killing range of up to 25 meters.

6. OZM-3**Source: U.S.S.R. (ex)****Manufacturer: Soviet State Arsenals****Type: Antipersonnel bounding fragmentation****Initiation: Remote, pressure, pull, or tension-release**

This mine can be initiated by electrical or other remote control, or, depending on fuzing, by pressure, pull, or tension release. Following initiation, the mine base explodes, expelling the main charge to a height of 1.5 to 2.4 meters before it explodes. Height is determined by a tether wire. The charge throws metal, from an inner fragmentation shell, with an effective radius of 25 meters.

7. OZM-4**Source: U.S.S.R. (ex)****Manufacturer: Soviet State Arsenals****Type: Antipersonnel bounding fragmentation****Initiation: Pull or pressure**

Derivative of OZM-3 (above), but cannot be fired electrically.

8. OZM-72**Source: U.S.S.R. (ex)****Manufacturer: Soviet State Arsenals**

**Type: Antipersonnel bounding fragmentation
Initiation: Pull, pressure, or remote**

This mine is fired by either electrical remote control or a pull or pressure fuze. As the mine is fired a propellant charge blows it upwards until a tethering wire is drawn taut which detonates the fuze at about 1 meter above the surface. The main charge explodes, sending the steel shrapnel in all directions. It has a lethal radius of 25-30 meters. When an electric detonator is used the mine will explode immediately. In this role the mine will normally therefore be placed above ground.

9. & 10. MON-50; MON-100

**Source: U.S.S.R. (ex)
Manufacturer: Soviet State Arsenals
Type: Antipersonnel directional fragmentation.
Initiation: Remote or tripwire**

The MON-50 is a virtually identical Soviet derivative of the U.S. Claymore (see 28 below), with a lethal range of 50 meters. The MON-100 is a larger version of the MON-50. The cylindrical casing has a face diameter of 220mm and contains 450 pieces of steel fragmentation mounted in 5kg of plastic explosive. The killing area is reported to be 100 meters.

Belgium

**11. NR 409 (M409)
Source: Belgium
Manufacturer: Poudres Reunie de Belgue (PRB SA)
Type: Antipersonnel blast
Initiation: Pressure**

This is a small mine, approximately 80mm in diameter and 40mm high. It contains approximately 75 grams of RDX/TNT. It comes with the detonator sealed in position and is totally waterproof. Operating pressure is approximately 10 kg. It has very low metallic content and is thus difficult to detect.

China

12. **Type 69**
Source: People's Republic of China
Manufacturer: China North Industries, Beijing
Type: Antipersonnel bounding fragmentation
Initiation: Pressure or tripwire

This mine can be set to explode by pressure or tripwire. On detonation it bounds to 1.5 meters before exploding, discharging approximately 250 metal fragments over a lethal radius of more than ten meters.

13. & 14. **Type 72 and 72B**
Source: People's Republic of China
Manufacturer: China North Industries, Beijing
Type: Antipersonnel blast
Initiation: Pressure or anti-disturbance

This small, nearly all-plastic antipersonnel mine is one of the most frequently encountered mines in the world. Because of its low metal content, it is very difficult to detect. The 34-gram explosive charge is small, but is sufficient to produce severe injuries. The Type 72 and 72B are externally identical, but whereas the Type 72 operates only by pressure, the Type 72B also has an anti-disturbance mechanism, so that the mine will explode when it is handled or disturbed in any way, making it extremely unstable.

Former Czechoslovakia

15. **PP-Mi-Sr**
Source: Czechoslovakia
Manufacturer: Czechoslovak State Factories
Type: Antipersonnel bounding fragmentation
Initiation: Pull or pressure

Initial activation of this metallic-cased bounding mine may be by pull-fuze using a tripwire or by pressure-fuze. These fuzes set off the propellant

charge which, after a three second delay, causes the mine to leap upwards to a tethered height of one meter before detonation. The casing of the mine acts as

fragmentation.

France

- 16. M 59 (Mi AP DV 59)**
Source: France
Manufacturer: Societe d'Armement et d'Etudes Alsetex.
Type: Antipersonnel blast
Initiation: Pressure

The case is made of plastic with the undetectable AI-PR-ID-59 pressure fuze inserted in the top of the mine. It can cause traumatic amputation of foot or lower limb.

Former East Germany

- 17. PPM-2**
Source: Germany (former GDR)
Manufacturer: Former East German state factories
Type: Antipersonnel blast
Initiation: Pressure, electric charge

The integral fuze is delay-armed, pressure initiated and electrically fired and utilizes a central spring-loaded "snap column" to transmit pressure on the pressure plate to the piezocrystal.

Italy

- 18. Valmara 69**
Source: Italy
Manufacturer: Valsella Meccanotecnica SpA, Brescia
Type: Antipersonnel bounding fragmentation
Initiation: Pressure or tripwire

This bounding mine is filled with either 650 6mm steel ballbearings or 1,200 4mm steel cubes which act as shrapnel. It can be initiated by either 10kg of direct pressure on the fuze prongs or 6kg exerted on a tripwire. Upon initiation, the mine is fired to approximately 1.2 meters vertically on a tether wire before exploding; it

has a killing zone of 27 meters throughout and an arc of 360 degrees. Exploding at the height of a person's chest, it has the power to rip out the heart of anyone standing within one hundred feet.

19. **VAR-40**
Source: Italy
Manufacturer: Valsella Meccanotecnica SpA, Brescia
Type: Antipersonnel blast
Initiation: Pressure

This mine is compact enough to be carried in a pocket or knapsack. It is buried with a buttonhead jutting out. Twelve kilograms of pressure produces an explosion powerful enough to damage light vehicles.

20. **VAR-100**
Source: Italy
Manufacturer: Valsella Meccanotecnica SpA, Brescia
Type: Antipersonnel blast
Initiation: Pressure

This plastic-cased mine, like the VAR-40, can be carried in a pocket or knapsack, but has a larger blast. It can severely damage light vehicles. A 12 to 13 kg force on the buttonhead activates the mine.

Portugal

21. **M969 (also known as MAPS)**
Source: Portugal
Manufacturer: Explosivos da Trafaria
Type: Antipersonnel blast
Initiation: Pressure

The Portuguese M969 is basically a copy of the Belgian NR409. It is sometimes called Mina Anti-pessoal de Plastico (MAPS) because it is almost entirely non-metallic. The mine body color is normally olive green but may be sand-coloured dependent on customer requirements. The mine comes with a safety cap which is removed when the mine is laid.

Former Rhodesia

22. **'Ploughshare'**
Source: former Rhodesia
Manufacturer: Various companies (because of sanctions)
Type: Antipersonnel directional fragmentation
Initiation: Tripwire

A dish shaped directional fragmentation mine designed to be operated by tripwire. The fuzing mechanism is a standard U.K. pattern No. 4 pull switch (a booby-trap switch) which is located in the middle of the dish. The Ploughshare differs from other directional fragmentation mines such as the Claymore (U.S. M18A1) in that the fragmentation portion (consisting of about 350 pieces of 6mm chopped steel bar) is on the concave rather than convex surface, thus keeping the fragments in a fairly concentrated pattern rather than spreading them in an increasing arc. This is likely to increase the lethal range and hit probability. The stand provided with the mine is designed to allow the mine to swivel once the tripwire is tensioned so that it will always point along the line of the wire and thus directly at the object or person hitting the wire. The mine is approximately 250mm in diameter. The explosive filling is 150 grams of Pentolite (PETN/TNT).

South Africa

23. **M2A2**
Source: South Africa
Manufacturer: Denel Ltd (Successor to Armscor)
Type: Antipersonnel
Initiation: Pressure

This small, pressure-operated blast antipersonnel mine was known as the R2M2 before 1984. The mine body is made of plastic. The overall body color is brown. It requires approximately 10 kg of pressure to cause it to function and contains approximately 50 grams of RDX/TNT. Its dimensions are approximately 60mm in diameter and 50mm in height. The metallic content is minimal. This mine was used during the 1968-

1980 Rhodesian conflict and used in Mozambican operations. It was sometimes

placed on top of a 1 lb (commercial) Pentolite explosive booster to increase its lethality.

24. **No.69**
Source: South Africa
Manufacturer: Denel Ltd. (Successor to Armscor)
Type: Antipersonnel bounding fragmentation
Initiation: Pressure or tripwire

This bounding mine is a copy of the Valmara 69 (see 18 above) but is distinguishable by its brown body color. (The South Africans use a standard color for vehicles, equipment and mines, which is known as Nutria brown - middle brown).

25. **South African Claymore (Shrapnel Mine No. 2)**
Source: South Africa
Manufacturer: Denel Ltd. (Successor to Armscor)
Type: Antipersonnel directional, fixed fragmentation
Initiation: Remote or tripwire

This is a copy of the U.S.-manufactured M18A1 Claymore (see 28 below), and is sometimes called Shrapnel Mine No. 2. It is also identifiable by its brown body color.

26. **South African Mini-Claymore**
Source: South Africa
Manufacturer: Denel Ltd. (Successor to Armscor)
Type: Antipersonnel directional, fixed fragmentation
Initiation: Remote or tripwire

This smaller version of the Claymore is designed to be used either singly or stacked in twos or threes.

United Kingdom

27. **No.6 (nicknamed 'Carrot' mine by Rhodesians)**
Source: United Kingdom
Manufacturer: Royal Ordnance, Chorley; Forpearch Ltd.

**Type: Antipersonnel blast
Initiation: Pressure or tripwire**

At independence, the Rhodesians inherited stocks of this mine from the Southern Rhodesian colonial authorities. The spring-loaded striker is retained by a plastic shear ring. A load acting upon the pressure prongs breaks the ring releasing the striker. The striker fires the built-in detonator which fires the charge. This mine ceased to be manufactured in the 1980s.

United States

- 28. M18A1 Claymore
Source: U.S.A (copies produced in many countries)
Manufacturer: Thiokol Inc. Shreveport, Louisiana and
others
Type: Antipersonnel directional, fixed fragmentation
Initiation: Remote or tripwire**

This directional fragmentation mine is manufactured at the Thiokol/U.S. Army facility in Louisiana and elsewhere in the United States. When exploded, usually by a pull wire or remote electric firing device, 700 steel ball bearings are projected in a 60-degree arc for more than 50 meters to a height of six feet.

- 29. M-14
Source: U.S.A (also produced in India)
Manufacturer: U.S.A
India - Ordnance Factory Board, Calcutta
Type: Antipersonnel, non-metallic, blast
Initiation: Pressure**

An extremely compact plastic pressure mine, measuring only 56mm in diameter and 40mm in height, and weighing less than 100 grams.

Yugoslavia

- 30. PROM 1
Source: Yugoslavia (ex)
Manufacturer: Federal Directorate of Supply &**

Procurement**Type: Antipersonnel bounding fragmentation****Initiation: Pressure**

Pressure pushes the cylinder down, freeing the retaining balls which allows the striker to hit the percussion cap. This ignites the delay element which burns for approximately 1.5 seconds and then ignites the bounding charge, which in turn ejects the mine 0.7 to 1.5 meters above the surface of the ground (as limited by a tether wire). The main charge then explodes, causing fragmentation which is lethal to a radius of 50 meters and dangerous to a radius of 100 meters.

Zimbabwe**31 & 32. RAP-1; RAP-2****Source: Zimbabwe****Manufacturer: Zimbabwe Defence Industries, Harare****Type: Antipersonnel blast****Initiation: Pressure**

These mines were originally produced in small numbers during the Rhodesian period, but were not then used in Mozambique. They appear to be modifications of Portuguese M969s. Production continued after independence. A small batch appears to have been obtained by the Mozambican government in the mid-1980s.

Antitank Landmines

Human Rights Watch recorded 19 types of antitank mines in Mozambique, manufactured by ten different countries. Antitank mines are generally designed to incapacitate tanks and other heavy vehicles, usually by causing damage to the tracks, final drive or idlers, although some are designed to pierce the armor and kill the crew by secondary fragmentation. The government used very few tanks in its war effort against Renamo. Antitank mines were deployed by Renamo against heavy military or civilian vehicles.

The pressure required to initiate an antitank device varies from 60-500kg depending on the make and design. Humans, animals and light vehicles usually pass over them safely. Although they present a lesser risk to civilians than antipersonnel mines, the incidents of cars and trucks (especially when heavily loaded) and their passengers being blown up by antitank mines are still common

enough to be of serious concern. As well as being set off by normal direct pressure, they may be exploded by lesser pressure when there is a fault in the mine, or when an antipersonnel mine is laid on top of the antitank mine, or when another means of initiation is used. Some antitank mines can also be intentionally altered to explode by less pressure.

Antitank mines usually kill many more people at the time of impact. For example, a truck carrying more than 40 people on the road to the village of Nhangau from Beira struck an antitank mine on April 15, 1991, killing nine civilians and injuring a further 20.

Human Rights Watch recorded the following types of antitank mines in Mozambique. The country of manufacture is in parentheses.

1. **TM-46 (ex-U.S.S.R.)**
2. **TM-57 (ex-U.S.S.R.)**
3. **TMN-46 (ex-U.S.S.R.)**
4. **TM-62D (ex-U.S.S.R.)**
5. **TM-62M (ex-U.S.S.R.)**
6. **TM-62P (ex-U.S.S.R.)**
7. **TMK-2 (ex-U.S.S.R.)**
8. **Mk5 (U.K.)**
9. **Mk7 (U.K.)**
10. **M19 (U.S.A)**
11. **M24 (U.S.A)**
12. **Type 72 (China)**
13. **Pt Mi Ba III (ex-Czechoslovakia)**
14. **T-AB 1 (Brazil)**
15. **AC NM AE T1 (Brazil)**
16. **DNW ATM 2000E IPZMI (Austria)**
17. **PRB M3 (Belgium)**
18. **No.8 MK1 (South Africa)**
19. **'Chocolate Cake' (ex-Rhodesia)**

The latter mine is a plastic-cased antitank blast mine containing 6 kg of Pentolite (PETN/TNT). It is normally painted brown or green. The operating pressure required to activate the mine is in excess of 100 kg. The mine is activated when the top cover is crushed by a weight of 100 kg plus and pressure is applied to any of the three antipersonnel mines (normally U.S. or Indian M14s) set in the cast Pentolite charge. The mine also incorporates a No 6 Pressure Release Switch

(U.K. pattern booby trap switch). After 1980 small numbers of this mine were manufactured in South Africa.

Landmine Use—Tactics and Strategies

Landmines were deployed by the parties to the conflict in Mozambique in a variety of ways, frequently in violation of the Landmines Protocol. Frelimo and Renamo regularly disseminated landmines in a random and indiscriminate fashion, although both denied to Human Rights Watch that they used mines in this manner. This was sometimes used as a tactic to deter infantry attack and reconnaissance patrols, but civilians were often the main victims of randomly-laid mines. Neither side made records of randomly disseminated mines. Random laying of mines is irresponsible and without regard for the welfare of the civilian population.

In many instances, particularly in central Mozambique, it appears that the government and Renamo intentionally targeted civilians in their battle to control areas. It appears that both sides used mines deliberately to terrorize civilian communities and to deny them access to fields, water sources, and fishing points. This prevented the peasants from producing food. In the southern provinces, Human Rights Watch found that Renamo was largely responsible for laying mines specifically to discourage or make impossible the return of displaced persons (deslocados) to their homes. In Inhambane and Gaza provinces water wells, clinics, schools, small factories, cashew-nut groves and cattle-dip tanks were mined. Some cemeteries and the access paths to them have also been mined, causing acute distress to the relatives of the dead who traditionally consult the spirits of the deceased for guidance.

Renamo Use of Landmines

Renamo's war against the government was aimed at the devastation of the economy and the isolation of government forces to garrisons and towns. As part of this campaign, Renamo used landmines extensively. In addition to random dissemination and deliberate targeting of the civilian population, route denial and ambush mining were frequently employed tactics. Renamo was assisted in its landmine operations by Rhodesian forces in the late 1970s, and by South African forces in the early 1980s. After 1985, however, Renamo increasingly chose its own targets and laid its own mines. Renamo military officials told Human Rights Watch that many Renamo units experienced landmine shortages during the late 1980s,

partly due to over-extended supply routes. Although Renamo's stockpiles of mines in its main bases were plentiful, transporting them in any quantity over long distances to outlying units became an increasing problem, especially once the covert South African airdrops of munitions significantly declined from 1985 onwards.

Route Denial

Renamo planted mines on major supply roads and rural tracks, primarily using antitank devices, in an attempt to deny such routes to opposing forces. In some cases, especially along the Zimbabwe border, the antitank mines were surrounded by antipersonnel mines in order to hinder clearance attempts.

Airstrips were also an important target for Renamo mining. In order to make air resupply of besieged government positions difficult, Renamo frequently dispatched groups to lay mines on government airstrips in outlying districts. Government forces used vehicles, or occasionally herds of animals, to sweep airstrips of potential mines before planes were allowed to land.

During 1991 and 1992, there were several incidents where International Committee of the Red Cross (ICRC) flights were affected by mined airstrips in Renamo zones. However, it is unclear who planted these mines. The government was reluctant at the time to see humanitarian aid flown to Renamo areas. Renamo also alleges that Zimbabwean troops mined ICRC-used airstrips in Sofala province. (See below).

On occasions when Renamo experienced a shortage of mines (which Renamo military officials told Human Rights Watch happened frequently in the late 1980s), or when mines were difficult to lay, Renamo would block roads by other means, such as deep trenching or the placing of felled trees and large rocks. There were 114 trenches across the Inhaminga-Caia road.

Ambush

Renamo frequently used mines on roads and tracks to set up ambushes. Both antitank and antipersonnel devices were employed, depending on the target, i.e., whether it was a vehicle convoy, an armored column or a foot patrol. Renamo officials indicated to Human Rights Watch that since antitank and vehicle mines were scarce, they would deactivate unused mines, lift them, and deploy them elsewhere if the ambush failed. The process was described as "fishing." Specially trained soldiers were used to lift these devices; they were given better food

rations and other rewards in return.

In some cases tracks were trenched or blocked to channel pedestrians and vehicles into mined areas. Antipersonnel mines were also used to attack people trying to escape or take cover at ambush sites.

One minelaying technique used by both Renamo and the government were "patrol traps." These were interlinking mines normally set so that the point man passed several devices before triggering a mine, thus ensuring that the remaining members of the patrol were within the killing zone of the mine pattern when the initial detonation occurred.

Government Use of Landmines

The government's use of landmines was primarily defensive in nature, although like Renamo, it also engaged in random dissemination, deliberate targeting of the civilian population, route denial and ambush.

Defensive Mining

The government and its allied forces used defensive mining to protect key economic installations and strategic locations from insurgent sabotage and capture. The government used antipersonnel mines to protect the bases of electricity pylons and bridges from sabotage. Some stretches and verges of roads and railways, dams, factories and water pipelines were also protected in this manner. In addition, the government laid protective and nuisance minefields around the perimeters of towns and municipal centers where Renamo attacks were expected. Many government hospitals and clinics were also defended by landmines in an attempt to stop Renamo from raiding them for medicines. Large minefields also surround the quartels and entrenched defensive positions of government units, especially in Zambezia. Renamo sometimes used herds of animals to breach defensive minefields. They used this tactic during an attack on the Piquenos Limbombos Dam project (Maputo) in 1989.

In the early 1980s the government laid large defensive minefields along the South African border in anticipation of a possible South African invasion. Parts of the Malawian border were also mined. Large numbers of both antipersonnel and antitank mines were used. Many of these defensive minefields appear to have been recorded. The minefields around some military installations are clearly marked.

Government patrols also laid mines around their positions when they

stopped at night. Many of these mines were left behind when the patrols moved on, posing a lethal danger to civilians.

Most of the government's mines were laid in the mid-1980s. By 1990 declining air transport capacity meant that few shipments of mines were sent to outlying districts from the provincial capitals.

Other Government Uses

In late 1991, in Tacuane (Zambezia), an ICRC relief plane had its wheels blown off while landing. The airstrip had been under Renamo control when the plane took off, but by the time it landed, the government had taken control and had mined the airstrip, fearing it might not hold the area if Renamo launched a counter-offensive. It is possible that the government mined other airfields as well, particularly in Zambezia and Manica and Sofala, as the government was reluctant at the time to see food aid and medical supplies flown to Renamo areas. However, this can not be firmly established. It is known that when operating in Renamo zones government units laid antitank mines on well-maintained stretches of road which they suspected might be used as airstrips by Renamo.

Government forces also used landmines in ambushes against Renamo. They primarily employed antipersonnel mines to ambush foot patrols. Since Renamo lacked vehicles and generally operated off roads, the government only very rarely deployed antitank mines in ambushes.

Use of IEDs and Booby-Traps for Mines

Improvised Explosive Devices (IEDs) and booby-traps for mines were used by both Renamo and government forces. Both the Rhodesians and the South Africans trained Renamo combatants in booby-trapping mines, using tripwire devices linked to other mines, plastic explosives, grenades, and other ordnance. In January 1993, south of Nambui village (Morrumbala district, Zambezia province), government forces uncovered two TM-46 antitank mines, laid without fuzes and packed with RPG-7 projectiles to increase the blast. The device had been planted by Renamo as part of a failed ambush attempt. Former Rhodesian and South African Special Forces operatives who worked with Renamo up to the mid-1980s admitted to Human Rights Watch that they improvised booby-traps from plastic

explosives, and that such devices were placed along the Cahora Bassa powerline.

A Renamo mines expert interviewed by Human Rights Watch in June 1993 nevertheless claimed that his men very rarely bothered with booby-trapping, saying it was "too much work, especially as we might need those devices again." Interviews with government soldiers and mine victims support this. It appears that the only time Renamo consistently used booby-traps was when it wanted to deter rehabilitation of economic and communications installations, such as power and telephone lines. Mines used for sabotage were not always placed in the ground. For example, a Renamo booby-trapped landmine exploded on August 31, 1989 on the roof of the Mobeira flour and biscuit factory (Beira), killing one worker.

Government soldiers were also trained in booby-trapping and IED techniques. Some mines in defensive minefields were booby-trapped because Renamo units captured mines to re-use them against the government. This became increasingly common in the early 1990s.

Anti-lift or anti-disturbance devices, which explode when an attempt is made to clear a mine, were used in Mozambique but were not widespread. Human Rights Watch obtained evidence that a small quantity of South African manufactured No8 MK 1 antitank mines were delivered to Renamo; these may have an anti-lift switch developed by the South Africans in 1985.

Landmine Training

Renamo

Rhodesian military officials began training Renamo combatants in landmine use in 1977, giving them basic training in how and where to plant mines, and how to activate and booby-trap them. By 1979 there were frequent landmine incidents along Mozambique's borders. Barbara Cole's 1986 pictorial book about Rhodesian Special Air Service (SAS) operations includes a photograph of a Rhodesian SAS unit teaching Renamo how to plant mines. Cole notes, "The Rhodesians trained and guided the infant Resistance (Renamo), teaching them how to lay mines, attack targets and make the most of captured weapons and ammunition."⁶

⁶ Barbara Cole, *The Elite: Rhodesian Special Air Service Pictorial* (Transkei: Three Knights,

When South Africa took over management of Renamo in 1980, it continued training in mine warfare. A 1981 Renamo training manual obtained by Human Rights Watch explains how and where to plant mines. It particularly focuses on the craft of ambush and how to channel vehicles into the mined sides of the road. The document also emphasized the importance of using captured weaponry.

Renamo soldiers interviewed by Human Rights Watch in June 1993 confirmed the existence of mine specialists trained specifically in laying and lifting mines. A German aid worker, Robert Rosskamp, who was held by Renamo at its Tete provincial base for a month in 1986, noticed a hierarchy amongst Renamo where each person showed his rank by wearing a particular colored cloth; special leaders at his camp, who wore yellow neckchiefs, led units of mine layers, grenade throwers, or radio operators.⁷ As indicated by Rosskamp's account, minelaying was a specialist activity, which was also rewarded by privileges. Several Renamo members indicated to Human Rights Watch that often these specialists were reluctant to pass on their expertise as this could potentially threaten their privileged position.

Government

Frelimo began planting mines in 1977 when Rhodesian incursions started to pose a security threat. Many of the technicians had received training in mine laying in Tanzania, China and Algeria when they were still operating as nationalist guerrillas against Portuguese colonial rule. As a Frelimo military official told Human Rights Watch in December 1992, "I was trained in Algeria in 1968 in mine laying techniques. I have since used them against the Portuguese, Rhodesians and Renamo. Over the years I must have planted over thirty types of mines in Mozambican soil."

The government's chief mines expert for Manica and Sofala provinces, Captain Bonaventura Gavalho, told Human Rights Watch that in the 1980s soldiers were selected for training in mine warfare in the Soviet Union and that a training

1986), p. 123.

⁷ N. Baron, "Diary of a Kidnapping in Mozambique by Robert Rosskamp: An Analysis," in A. Vines and K. Wilson (eds.), *War in Mozambique: Local Perspectives* (forthcoming).

school was also opened up in Nampula in the early 1980s. Captain Gavalho received additional mine training in 1987 when he attended the British Military Assistance Training Team (BMATT) course at Nyanga, Zimbabwe. He claims that the government's best mine laying/mine clearing specialists obtained their training there. Government troops use British and former Soviet mine detectors to assist them in their clearance.

Other Landmine Users

In addition to Renamo and government forces, troops from Portugal, Rhodesia, South Africa, and Tanzania also used landmines in Mozambique.

Portugal

Mines still remain from the 1964-1974 nationalist struggle against Portuguese colonial rule. Although Portuguese minefields continue to exist, few records appear to have survived from this period. Portuguese-laid minefields are evident in Nampula province along the Lurio river which formed a barrier between Portuguese colonial forces and Frelimo forces, and in Cabo Delgado along the Rovuma river. The Portuguese also defensively mined their military camps, especially in the Mueda and Nangade districts of Cabo Delgado province. Once these facilities were abandoned, the mines were left behind, effectively leaving an unknown number of mine circles in the bush. A similar hazard is left from shifting Frelimo positions during the recent war.

Rhodesia

Rhodesian Special Air Service (SAS), Selous Scouts and Rhodesian Light Infantry (RLI) units deployed mines with Renamo between 1977 and 1980. These units often preferred to use South African-manufactured Claymores during their special operations in Mozambique. Supplies of these and other ammunition were air-dropped inside Mozambique for these units. Claymores were used in an SAS attack against Chioco garrison (Tete province) on 24 March 1977. The SAS set up a bank of ten Claymores against the walls of two corrugated iron barrack rooms and wired them up to a switch so that they would explode simultaneously. In September-October 1979, the SAS planted Claymores on their flanks and to their

rear during ambush operations in the Chimoio area.⁸

South Africa

Between 1980 and 1985 South African special forces also directly assisted Renamo in mining economic and infrastructure targets. Both South African-manufactured mines and captured Soviet/East European mines were used in these operations.

Tanzania

A force of some 5-7,000 Tanzanian soldiers assisted the Mozambican government in the fight against Renamo. Human Rights Watch has discovered that Tanzanian troops laid defensive minefields around their bases in Zambezia province. The north bank of the Zambezi river around the village of Chimura (Mopeia district), 25 km northeast of Mocubela, has antipersonnel mines laid by the Tanzanian army. Morrumbala probably also has landmines laid by the Tanzanians. No maps of these minefields were left behind when the Tanzanian force returned home in December 1988.

Zimbabwe

During the war Renamo claimed that the Zimbabwe National Army (ZNA) was responsible for laying mines against their forces. For example Renamo's Presidential Communique No/010/495/90 (dated September 1990), states, "Zimbabwean troops have laid antipersonnel landmines along the banks of the Zambezi river to kill anyone trying to cross it. To date, 275 people have been killed and 491 wounded. The wounded civilians are receiving treatment in Renamo hospitals."

Attempts by Human Rights Watch to ascertain whether Zimbabwean forces laid (presumably defensive) minefields in Mozambican territory have been inconclusive. Colonel Lionel Von Dyck of the Zimbabwe-based mine clearance company Mine-Tech has been active for many years in military operations inside Mozambique, starting as a Rhodesian trainer of Renamo. After independence he

⁸ Barbara Cole, *The Elite: The Story of the Rhodesian Special Air Service* (Transkei: Three Knights, 1985), pp. 123, 129, 354.

used his experience in command of an elite ZNA parachute regiment in operations against Renamo. He denied categorically to Human Rights Watch that his ZNA men had used mines in their Mozambican operations saying such charges were "horse manure, pure propaganda."⁹

Renamo also alleges that Zimbabwean troops mined ICRC-used airstrips in Sofala province. An April 1, 1991 Renamo Communique from the Office of the President and signed by Renamo spokesman, Joaquim Vaz, states:

(J)oint Frelimo-Zimbabwean forces attacked a centre of the International Committee of the Red Cross, ICRC, in Senga-Senga last Saturday, 30th March 1991. Besides setting ablaze clothes and medicines meant for the people in the area, a Zimbabwean military unit specialised in sabotage, laid landmines along the runway of the Canxixe Airstrip.

It is everybody's knowledge that the ICRC planes land at the Canxixe Airstrip bringing relief supplies for the people in the Senga-Senga area. But the Zimbabwean forces chose to lay more than 70 antipersonnel and antigroup landmines which were supplemented by an explosive network inside the Airstrip besides creating mines zones around the same Airstrip.

Faced by the sabotage, the President of Renamo, Afonso Dhlakama, has ordered the closure of the Airstrip. However, a group of Renamo's military engineers will soon embark on the task of removing the mines which are inside and outside the Airstrip. Therefore, all the flights by the ICRC planes to the Airstrip are closed until all the mines have been removed.

Human Rights Watch has been unable to confirm this particular incident although it has established that there was a government offensive against Renamo in this area at the time and that the ICRC was forced to temporarily suspend its operations in this area because of the fighting.

Malawian forces do not appear to have planted mines in Mozambique.

Landmine Records

⁹ Telephone interview in Harare, August 19, 1993.

Landmine records are scanty. The government and the U.N. claim that there are none. Despite these public denials, Human Rights Watch gained access to the government's national mines map. Classified as "Top Secret," the map reveals the locations of the government's strategic minefields nationwide. There are no surprises on the map, with the main minefields located in the south to protect the capital Maputo from any potential South African invasion, along parts of the Malawian border and around various military and economic installations. The map does not account for mines randomly disseminated in the countryside.

The government also denies that it has any records of the types and numbers of mines it imported. However, Human Rights Watch learned from government military officials that the Ministry of Defence has records of imported shipments. These are regarded as highly confidential. Although unable to gain access to these files, Human Rights Watch was told that the majority of shipments came from Eastern Europe and the former Soviet Union. One shipment of Brazilian antitank mines was also made. During the construction of the Pequenos Limbombos dam in Maputo province the Italian construction firm supplied Italian landmines to protect it. This could explain the findings of Valmara-69s in the Limpopo valley although some of these could also be South African imitations.

The South African Special Forces and Rhodesian units recorded the location of at least some of the mines they laid in case they posed a threat to future covert operations. Some of the companies contending for clearance contracts employ individuals with this knowledge, using it as part of their credentials for bidding for clearance contracts.

Renamo has few written records of the mines its forces laid or the types it used. Knowledge remains with local commanders and combatants. When a World Food Program (WFP) truck hit a landmine in June 1993 on a road which Renamo had declared safe and cleared, Renamo eventually apologized saying that the individual responsible for planting the mine died three years ago, so the location had been forgotten. Where Renamo has long occupied an area, it appears to have better knowledge of the exact mine locations. An Oxfam worker travelling in a Renamo area in Zambezia in January 1993 describes an example of this in his field report: "In a certain point the (Renamo) guy at my back said: 'Be careful, there is a mine somewhere nearby. Don't leave the main way.' I was terrified. Nothing happened but the U.N. and MSF people were not informed and had already overcome the mined place. Brrriiii!!!"

A U.N. official told Human Rights Watch that, while the U.N. would welcome maps, they would be of limited help and could not be relied on operationally since their comprehensiveness and accuracy would be

questionable.

THE HUMAN COST

The human costs of the landmine problem in Mozambique have been high. The number of landmine casualties in Mozambique is not as great as in the world's most afflicted nations (such as Afghanistan with hundreds of thousands of mine injuries, Cambodia with more than 30,000, or Angola with approximately 20,000), but the problem is very serious for an impoverished population struggling to emerge from decades of uninterrupted war.

Landmines have claimed more than 10,000 victims in Mozambique. Although neither the government nor Renamo has kept detailed records of the numbers of people killed or injured by landmines, there are an estimated 8,000 amputees who have received medical treatment. Thousands more have been killed, or did not require amputation, or did not seek medical treatment. A recent report by a mine clearance organization stated that health care officials in Mozambique have suggested that half of all mine casualties die before reaching a hospital, and another five percent either die in the hospital or were not recorded.¹ The same study estimated that over 500 people have been killed or maimed by landmines since the war ended in October 1992.²

The total number of landmine casualties in Mozambique therefore is probably between 10,000 and 15,000. With a population of about 16 million, that would represent roughly one landmine victim in every 1,000 to 1,600 people.

Greatly compounding the terrible toll taken by landmines is the fact that Mozambique's capabilities and facilities for evacuation, emergency treatment, hospital treatment, and rehabilitation of landmine victims are inadequate and not improving. Landmines, when they do not kill, inflict ravaging wounds, usually resulting in traumatic or surgical amputation. Those who survive the initial blast require antibiotics, large amounts of blood, and extended hospital stays. After discharge from the hospital, mine amputees require physical therapy and prosthetic devices to lead normal and productive lives. Some are horribly disfigured and may need therapy to cope with their trauma. Many mine victims in Mozambique, as in so many landmine-infested nations in the developing world, will never receive these services.

This chapter first recounts some of the circumstances in which Mozambicans fell victim to landmines. It then goes on to discuss the medical care and rehabilitation which is provided, and some of the problems affecting

¹ Elizabeth Sheehan and Mike Croll, "Landmine Casualties in Mozambique," Halo Trust report, October 23, 1993, p. 5.

² *Ibid.*, p. 1.

landmine victims in their attempts to live a semblance of a normal life.

The material for this chapter is derived from several sources. Information on twenty-seven landmine victims was obtained from interviews carried out by Human Rights Watch in June and July 1993. This sample size is small, but the cross-section of the victims represented gives an indication of the type of Mozambicans who have suffered, and continue to suffer, from landmine injuries. Information was also provided by the International Committee of the Red Cross (ICRC), Handicap International (HI), and other sources. The ICRC permitted Human Rights Watch access to its prosthesis clinic files in Maputo and Beira. From these, Human Rights Watch analyzed the post-1990 data on landmine victims.

The Victims

The only reliable available records on landmine injuries are those of the ICRC and Handicap International prosthesis workshops. Even their figures are only rough estimates. Until 1990 the government refused to let the ICRC indicate in its records what type of device caused the injury of an individual needing prosthesis treatment. They were only allowed to write "war." They also could not record whether the victim was a soldier or civilian. This policy was changed in 1990, and subsequent forms have become more detailed. Since 1993, even the exact location of the accident has been recorded.

One also has to be careful in comparing ICRC and HI data. Soldiers appear to prefer to go to ICRC clinics for treatment and consciously avoid visiting HI if possible, perhaps believing the quality of treatment is better at the ICRC because it uses more expensive materials

(though there is no evidence of a disparity in quality between the ICRC and HI workshops). HI also consciously encourages civilians rather than soldiers to attend its clinics. The victim statistics must be assessed in this light.

The ICRC files on victims receiving treatment at the Beira clinic reveal the following:

Category	1990-92	1993 (January-June)
Male	223	21

Female	51	8
Civilians	151	13
Military	123	11
Children	14	5
Road	64	9
Track	60	6
Fields	49	3
Bush/paths	108	11
Sofala	165	19
Manica	64	6
Tete	10	1
Zambezia	10	1
Inhambane	10	2
Maputo	13	0
Gaza	8	0
Cabo Delgado	1	0

These figures indicate 54% of the landmine victims were civilians, and 80% were male. Children constituted six percent of the victims. Bush paths were a far more prevalent location for mine accidents than roads, tracks, or fields.

Human Rights Watch also conducted a random sample of 160 ICRC files from its national data base in Maputo. These files revealed a similar ratio of civilian to military victims, and male to female victims. The bush paths were once again the scene of the greatest number of incidents.

However, the ICRC figures contrast markedly with statistics from Handicap International's Inhambane clinic, where 97% of mine casualties were civilians, and only 40% were male.

Of the 27 mine victims interviewed by Human Rights Watch, twenty (or 74%) were civilians, and twenty (or 74%) were male. However, the number of military victims is small at least in part because soldiers were locked in a compensation dispute with the government and were reluctant to speak to us. Government officials also showed little enthusiasm for Human Rights Watch's

attempts to interview military mine victims. No Renamo military mine victims were interviewed by Human Rights Watch.

Taking the ICRC, Handicap International, and Human Rights Watch information together, it seems clear that a significant majority of landmine victims in Mozambique in recent years have been civilians. Men have suffered more casualties than women, and children have also been victims.

The majority of the soldiers recorded in the ICRC files were under thirty years of age. Overall, a disproportionate number of the disabled are young men, a fact which reflects conscription policy. Three government child soldiers (aged between 14-16) were also listed in these files. The age span of civilian victims is much wider.

While male landmine victims outnumbered female landmine victims, it appears that more women die from landmine injuries than men.³ Women also tend to be more badly injured than men. The damage done by a blast mine is related in part to the weight of the person affected; larger people tend to suffer less severe injuries. Women in rural areas are often lighter than men and so suffer worse injuries. Human Rights Watch also found that communities transferred male mine victims to hospitals quicker than females and supported them more fully for follow up treatment.

Children (aged under sixteen) are also affected. Beira's ICRC files record nineteen children. Human Rights Watch interviewed two children. In one incident a child stepped on a mine going home from school and lost her left leg. A 14-year-old boy lost his right leg in March 1993 when gathering firewood for his parents. Old people, being less mobile, are less prone to landmine injuries. ICRC files in Beira revealed only ten. However, three of the 27 victims interviewed by Human Rights Watch were over 50 years of age.

The great majority of the mine victims interviewed were injured by antipersonnel mines. In Human Rights Watch's interviews there were only three antitank/antivehicle victims. However, antitank/antivehicle mines typically caused many more deaths at a time; in March 1993 one antivehicle mine incident near Inhaminga destroyed a tractor and trailer, killing 27 and injuring five, some of them seriously.

The majority of victims interviewed in the southern provinces blamed Renamo for planting mines. In central Mozambique, 40% of the victims blamed the

³ In Angola, Human Rights Watch observed both a similar sex casualty ratio and sex fatality ratio. See, *Landmines in Angola*, (New York: Africa Watch, 1993).

government, 10% blamed Zimbabwean units, and 30% blamed Renamo. The other 20% did not know. However, it is also likely that some of those who said they did not know who planted the mines, especially in central Mozambique, had their own suspicions but preferred not to identify them. All the victims in Renamo areas blamed the government or Zimbabwean troops, although in several cases involving antivehicle mines, further enquiries by Human Rights Watch indicate that these were planted by Renamo. The Renamo combatants responsible for planting the mines had died or moved away leaving behind no record of the mine location.

Case Studies

Mine Locations

The ICRC data identified four basic locations for mine incidents, indicating that bush paths were the most common at 37% of the total, then roads (23%), tracks (21%), and fields (16%).

The Human Rights Watch 1993 survey identified the locations of mines and circumstances of landmine incidents in more detail. From a total of 27 injury cases, four occurred in fields.

Case 1. A.G. is a forty-six-year old peasant farmer and father of five from Gorongosa district (Sofala province). A.G. stepped on a mine in July 1987. It had been planted in his machamba (cultivated field), which was in an area normally patrolled by Zimbabwean troops. He had not been aware of the presence of landmines in the area. He was then evacuated to the hospital in Gorongosa where his left leg was amputated below the knee. After one week, he was transferred to Beira's hospital for three months of treatment. A.G. moved in 1990 to Gondola and has a machamba there now.

Even after the signing of the peace agreement, landmines continue to pose a threat to farmers.

Case 2. G.Z. is a twenty-year-old peasant farmer and tradesman from Zavala (Inhambane). In October 1992, G.Z. went into his field to cut grass. While cutting the grass his sickle hit a landmine which exploded. He was helped by friends who evacuated him by tractor to the rural hospital in Zavala. After one week there, he was transferred to the hospital in

Chicique, where he underwent surgery and remained in the hospital for a month. He has lost both hands and one eye and is undergoing eye surgery in Chicique.

The vast majority of people interviewed by Human Rights Watch were injured by mines placed on small bush paths. People were walking to their fields, to wash, to go to church or to the cemetery. Often those injured were walking at the head of a line of people in single file, frequently along a path that they had passed safely before.

Case 3. *O.D. is a twenty-five-year old farmer. He stepped on a landmine in 1987, while walking along a frequently used path returning to his home village from school in Vunduzi (Sofala). He was evacuated to the hospital in Gorongosa for first aid and amputation. After two days of internment in the local hospital, he was transferred to Beira's provincial hospital. His right leg was amputated below the knee.*

Case 4. *A.J. is between forty and forty-five-years-old. She was born in Dombe (Manica). In 1981 she stepped on a mine on a path to her machamba. She was then evacuated by military convoy to Chimoio, where she stayed in the hospital for four months. Her whole left leg was amputated. She was not aware of the existence of landmines in her area but remembers government soldiers and Renamo being active in her area at the time. She now lives with an old uncle in conditions of extreme poverty.*

Case 5. *C.J. is a peasant farmer from Nhangoma, Mutarara (Tete). In 1989 she was walking on a path to her machamba with her husband when she stepped on a mine. Her husband died instantly but she survived and was evacuated to Chimoio in a military convoy for hospital treatment. After six months in hospital she was discharged and has decided to stay in Chimoio where she now has a small machamba.*

Mines placed on paths continue to claim victims:

Case 6. *S.A. is thirteen-years-old, and in the fourth class of primary education. In October 1992 he went with three other school-children friends to the nearby bush to cut grass for the roof of his parents' house. On the way back he stepped on a landmine on a path commonly used by local villagers. He was evacuated from*

Machaze (Manica) by air two days later to a hospital in Beira where he underwent surgery. His left leg was amputated below the knee. S.A. has been in the hospital ever since.

Case 7. A.C. is a 47-year-old peasant farmer from Munguine, Manhica (Maputo). In December 1992 he stepped on a mine on a seldom used path to the cemetery where his parents are buried. He had been on the way to clean their graves. This was the second time he had used the path since the war ended. Local peasants managed to get A.C. into a car which evacuated him to the rural hospital in Manhica for first aid. He was then transferred to the central hospital in Maputo. After one month at the hospital he returned to Manhica.

Many mines have been planted on riverbanks, especially around bridges. As bridges and their approaches are a well-known location for mines, civilians tend to be very careful when nearing them. The only mines detected and destroyed by Gurkha Security Guards (GSG) clearing the Inhaminga-Caia (Sofala) road in June-July 1993 were at a destroyed bridge. Both were antipersonnel mines, probably laid by Renamo to deter rebuilding.

Case 8. S.A. is 37-years-old. He is a former telephone operator at the Acucareira de Mocambique, in Mafambisse (Sofala). In April 1992 he was walking home from work when he stepped on a mine under the N.8 bridge over the Pungue river. He suspects government soldiers planted it. A company truck took him to a hospital in Beira. After three months treatment he returned home.

Case 9. M.A. is a 53-year-old demobilized soldier. In April 1990 he stepped on a mine along a river bank of the Thoa river in a neighborhood called Primeiro de Maio (First of May) near Chimoio (Manica). He had been going to fish with some friends. He was evacuated to Chimoio's Provincial Hospital where amputation was performed. M.A. has had a long and difficult recovery due to post-surgery complications.

Mine Warnings

The majority of victims were on well-used paths and were unaware of the immediate danger of mines. Most victims believed that the mines had only been recently laid at the time of their accident, based on discussions with other villagers and other information, such as whose forces were in the area. Since the

October 1992 peace accord, many villagers have started to travel on less frequently used paths, thus increasing their exposure to mines. These victims have no idea when the mine which caused their injury was laid.

Case 10. T.C. is between 35 and 40 years old. She stepped on an antipersonnel mine in the late 1980s, during the war, while returning home to Cancinza village from her machamba near Lake Nhancorossa, on a path normally used by the local population. She was carried by other peasants to the rural hospital in Gorongosa town (Sofala), where she was treated for three months. She was then evacuated on a military convoy to Beira (some 190 km southeast) for further treatment. Later T.C. found out that the path had been mined by government soldiers operating in the region, in the belief that the path was being used by Renamo guerrillas to infiltrate the area. The soldiers did not warn local villagers, fearing that some of them could be Renamo sympathizers and pass on the information to the rebels. She knows of nine other people from her village who also suffered similar accidents with landmines.

Case 11. V.M. was a local government militiaman from Boquisso (10-15 km north of Maputo). While patrolling his village with a colleague at night in 1989 he stepped on a landmine. His colleague lost one foot; he lost both legs up to the thighs. He suspects that the landmine was planted by Renamo agents in his village. Both victims were helped by government soldiers, who provided transport to evacuate them to hospital in Maputo. He has spent two years in hospital.

While most minefields are not marked, local people are aware of the location of most minefields and they are able to inform newcomers of the paths to use or to avoid. There are some attempts to fence off minefields or put up warning signs. Several of the government's attempts to do so have failed because the impoverished local population has taken down the wire and signs to use them for their own domestic purposes or for selling in the informal market (Dumba Nengues or Tchunga Moyos).

Commercial estates such as Lonrho's citrus estate at Umbeluzi (Maputo) are also surrounded by a defensive mine field. There has been no attempt to put up warning signs or fence-off the area. Local officials justify the lack of signs by arguing that, although the war is over, these minefields are needed to stop fruit thieves.

Poor clearance

Poor quality mine clearance is also a problem.

Case 12. S.T. is a 23-year-old from Machaze (Manica). In May 1993 he stepped on a mine along a path in an area that government soldiers had previously declared safe. In April 1993 government officials had informed the village that they had neutralized all landmines in the area and S.T. had seen some military personnel digging out and exploding mines at the time. He was evacuated by air to Beira and had been at the hospital for five weeks at the time of our interview.

Human Rights Watch was told of another incident that highlights the danger of mines in areas presumed safe. A middle-aged man was driving a car with Swaziland license plates to Maputo. He stopped to urinate near Impaputo, about 20 kilometers from the border town of Naamacha. He walked two meters off the tarmac and stepped on a landmine. He was badly injured. His four women passengers could not drive and flagged down a car to take him to the nearest hospital in Naamacha. Witnesses claimed that there had been other similar incidents along the road.

UNICEF has related a tragic story about the danger in areas thought to be clear of mines:

"On 11 November 1993, a nun and a team of workers were transporting seeds provided by UNICEF. Their truck hit a landmine on the road from Barue to Macossa in Manica province, a route believed to be free of mines. The nun escaped with minor injuries, but five of the workers were killed instantly and two others died on the way to hospital. Seven were seriously injured."⁴

NGO and U.N. Mine Incidents

International attention on the need for mine clearance in Mozambique has increased since February 5, 1993 when a humanitarian agency convoy hit an antitank mine on the road between Regone and Namarroi (Zambezia). A local

⁴ *UNICEF Mozambique Emergency Situation Update, September/October 1993.*

Renamo official and Oxfam (UK) worker were killed. A Medecins Sans Frontieres (MSF) physician was slightly injured. An Oxfam press release dated February 7, 1993 tells the tale:

A convoy of 3 vehicles was travelling on the main road north from Mocuba to Regone, which is near the border of Gurue District. In the first vehicles were people from the Christian Council of Mozambique (CCM). The second vehicle belonged to the ICRC. The Oxfam Land Cruiser was the third vehicle in the convoy. They were going to make contact with people in a Renamo controlled zone.

The vehicles were following all the established security guidelines. The trip was a scheduled one, approved by UNOHAC (the U.N. Office for Humanitarian Coordination) two weeks ago. This means that it was approved by the U.N., by the Government and by Renamo. The ICRC vehicle was flying the ICRC flag. The CCM had travelled safely along the road at least four times. It was a branch road used because the main road has yet to be declared safe. The accident occurred in a "no-man's land" between government and Renamo-held areas.

The first two vehicles passed the mine without incident, but the Oxfam Land Cruiser's rear left wheel detonated the mine. It had been raining very heavily recently, and this could have caused the mine to come to the surface. There were five people travelling in the Oxfam vehicle. The three who survived probably owed their lives to the fact they were wearing seat belts.

The Oxfam Land Cruiser was carrying 200 litres of fuel, which miraculously didn't explode. The accident happened about 10 km from the nearest village. People from both the Government and the Renamo side heard the blast of the explosion and came to see how the survivors were at 1:00 p.m. They offered to return with food, but didn't do so. The three survivors decided not to try to travel by road and, together with

two ICRC delegates, spent Friday night near the scene of the accident. They were rescued at (7:30 a.m.) on Saturday by an ICRC helicopter, which had flown up on Friday from Beira to Quelimane, and then on to Mocuba, where it collected the two bodies and transported them back to Quelimane hospital...

Oxfam and MSF then temporarily suspended relief distribution operations in the province until they received new guarantees that the roads they used were cleared of mines. In this incident Renamo had guaranteed that the road was mine clear. In the same month rainfall exposed an antitank and an antipersonnel mine on a Zambezi road which had been considered safe for international humanitarian vehicles. Renamo claimed that the government had mined the road to reduce agency activity into Renamo zones.

Between October 1992 and July 1993 seven incidents involving either the ICRC, the WFP or ONUMOZ occurred. In February 1993, the tenth truck in a WFP food convoy hit two antipersonnel mines on the Dondo to Inhamitanga road (Sofala); nobody was injured on that occasion.

In March 1993, after a WFP convoy had hit two antipersonnel mines, the WFP, frustrated at the slow rate of mine clearance, used a bulldozer to push mines to the side of the Dondo to Inhamitanga road. During the operation the bulldozer and a grader were damaged by three more antipersonnel mines. Although there have been no incidents since, the road will have to be professionally cleared because, once the rains start, mines pushed to the side are likely to drift back into the road, posing a renewed threat to traffic.

ONUMOZ has suffered only one mine accident. The commander of the Uruguayan contingent, Lt. Col Jorge Puentes, suffered minor leg wounds in a landmine explosion on April 27, 1993 when he went on patrol for the first time after his force had arrived in Inhambane province.

Emergency Care for the Injured

Although the majority of those injured by mines in government areas receive first aid, there is a serious problem with response and evacuation time. According to the twenty civilians interviewed, the average time of waiting for initial emergency care was three hours. The maximum wait was twelve hours. For soldiers, assistance was usually more rapid, often with immediate evacuation by vehicle. In remote areas the time it took to receive medical aid was longer. Several soldiers estimated that it took two days for them to reach a health clinic

which could give them first aid treatment. Many mine victims had to be carried to a health clinic by foot. They were then transferred to the nearest hospital by car, bus or lorry, and occasionally aircraft.

First aid for mine victims is usually very basic, consisting of no more than a bandaging of the wounds and providing comfort, perhaps with painkilling drugs. The tardiness and rudimentary nature of emergency care is particularly disturbing not just because of the immediate suffering of the mine victim, but because it has been established that the length of delay between the injury and access to antibiotic treatment is an important determinant of infection and its severity in landmine blast victims. Royal Army Corps surgeons estimate that an upper limit of six hours delay before antibiotic treatment appears to be the "safety net." Many mine victims in Mozambique do not get such treatment until they arrive at a hospital, on average two days after injury. (See below).

Traditional healers, Curandeiros, are the only source of first aid medical care in many areas. However, most mine victims interviewed by Human Rights Watch said that they were not referred to the Curandeiros and that when they were, the Curandeiros refused to treat them, advising their friends to take them to secular health care facilities. Government soldiers also told us that Curandeiros refuse to treat them for mine injuries. Curandeiros also would not prescribe "protective medicine" against mines, although they provided lotions and amulets to protect against other types of battlefield injury. A Curandeiro based in Renamo-controlled Inhaminga explained to Human Rights Watch in June 1993 that, "Mines are created outside this region. My ancestors do not know them so I refer them to outside medicine."

As the war progressed health care facilities deteriorated. By 1990 the government reported that Renamo had looted and destroyed about 1,000 health clinics. Although Renamo depicted its "liberated zones" as being well-serviced, health care facilities were very limited, and in practice few of the government's health clinics were replaced by alternative Renamo ones. Renamo's clinics were mostly located at its major bases.

Until recently the treatment of those injured by mines in Renamo areas has been very rudimentary. The following case illustrates the poor medical conditions.

Case 13. M.M. is a 38-year-old peasant farmer. He lived in Quirione (Sofala), a Renamo-controlled area. In 1985 he stepped on a landmine on a frequently used path to his machamba. A few days before his own accident, two other people died in similar incidents in the locality. He suspects that the mines were planted by

government soldiers trying to overrun the area. M.M. was evacuated to Renamo's nearest base which offered health facilities—Cuampunga, near the border with Zimbabwe. The trip lasted two weeks and he received no treatment during this period. The amputation and treatment were performed by a nurse. He remained 10 months at this base (from September 1985 to July 1986), and was then sent to a Renamo camp at Grudja.

When M.M. heard about the government's amnesty law, he decided to leave Renamo and seek better health care in government-controlled areas. After six days in the bush he eventually arrived in Nhamatanda where he gave himself up to the local administrator. He was then treated at the local hospital for ten days and was afterwards evacuated to the hospital in Beira. He was again submitted to surgery to take away splinters. He has since returned to Nhamatanda (Sofala) where he lives with his mother and daughter. He has received support from the administration, the Red Cross, and the relief agency, Department for the Prevention and Combat of Natural Calamities (DPCCN).

Hospital Treatment

After emergency first aid is performed (usually in a health clinic), mine-injured government soldiers and civilians are generally then taken to military hospitals, before being referred to the ICRC for specialist treatment. While these hospitals function relatively well in a limited role, they are clearly not staffed or equipped to deal with the complicated injuries that result from mine explosions.

As with the response time for emergency first aid, the time needed to get victims to the hospital after initial care has been very problematic. It took civilian landmine victims two days on average to reach the hospitals after their accidents. Several victims told Human Rights Watch it took three or four days to arrive.

Victims in Renamo areas were even less fortunate. Limited health resources meant that victims had to be transported to bases large enough to merit basic health facilities. Even there Renamo was often unable to adequately care for mine victims. Many underwent poor amputations and require further medical assistance. Francisco Chimoio, the Head of Renamo's Department of Health in Inhaminga (Sofala), the largest Renamo-held town, told Human Rights Watch:

We don't have adequate health facilities in our areas. We keep asking the international community to help the government of Renamo, but we have received very little help.

Therefore, we conduct amputations under very basic conditions. However, we try and resolve everything in our zones and not refer anyone to Frelimo's health system.

From other interviews Human Rights Watch learned that this has not always been the case. During the war Renamo transported badly injured people to villages near government health clinics so that they could gain access to treatment in the hospitals. In the late 1980s Renamo also brought badly injured mine victims to the ICRC. Some of these were airlifted to ICRC clinics by ICRC planes.

Beginning in October 1992, Renamo became more restrictive about letting people leave its zones for humanitarian purposes. Humanitarian organizations informed Human Rights Watch that this was particularly the case in Manica, Sofala and Zambezia provinces. At the time of Human Rights Watch's visit in July, there were seven civilian mine victims in a Renamo base in Mossurize district, southern Manica province, who urgently needed further medical treatment. Although an international humanitarian organization had asked that they be flown out for treatment, the commander of the base refused to let them go.

In late 1993, Renamo appears to have relaxed its control in some areas. But, Renamo is still reluctant to allow complete freedom of movement, even though this is specified in Article 3a of Protocol 3 of the October 1992 GPA which states: "All citizens have the right to travel throughout the country without needing administrative authorisation."

Rehabilitation

Not surprisingly, rehabilitation efforts in Mozambique focus on trying to fit mine amputees with prosthetic devices. Mozambique lacks the financial and technical resources for systematic physical therapy for mine victims. The Mozambican government relies heavily on non-governmental organizations (NGOs) and foreign aid to meet the rehabilitation needs of mine victims. For example, the U.S. Agency for International Development has given \$5.5 million to the Mozambican Ministry of Health over the past four years for the provision of artificial limbs.⁵

There are two organizations offering prosthesis treatment: the ICRC and

⁵ Mozambique News Agency, "US money for new limbs," No. 17, September 23, 1993.

Handicap International. Both have waiting lists, although nobody is turned away. Two American NGOs, the Save the Children Federation and Health Volunteers Overseas, are also involved in training Mozambican health workers in orthopedic techniques and physiotherapy.

Mozambican organizations, such as Secretario de Estado de Accao Social (SEAS), are active across the country in drawing up lists of people needing prosthesis treatment, but do not themselves provide medical or rehabilitation treatment. Because hostel space is limited there are waiting lists. The Centro de Accomodacao dos Servicos Provinciais in Beira is in an appalling condition, starved for funds and interest from those in SEAS. Human Rights Watch noted that SEAS managerial staff in Beira

conducted their own commercial business affairs rather than social work. This contrasted dramatically with the efficiency and concern of the SEAS Chimoio office.

Places at the hostels are determined by how quickly a prosthesis can be fitted, a process which requires measurement, manufacture and fitting. Once the prosthesis is ready, adjustments are made and the victim practices with the new limb. Adults in particular can find the training difficult. Anastacio Manihique a Mozambican technician at the ICRC prosthesis clinic in Maputo commented, "People can't imagine how difficult it is to learn to walk. Children are more flexible than adults, who sometimes have problems. They believe that once they get their leg, that's it. But it can take up to 30 days of practice."

ICRC Activities

The ICRC was invited by the Ministry of Health in late 1979 to assist in running an orthopedic workshop which had previously been producing limbs for Zimbabwe African National Union amputees in the Zimbabwean war of independence. By late 1979 funding had dried up and the government looked for an alternative source of support. An ICRC team arrived in 1981 and set up a workshop in Maputo which began to produce plaster, and later conventional prostheses. In 1982/83, the ICRC began a training course for Mozambicans in prosthetics (eight students) and orthotics (2 students). This lasted 18 months. Repair workshops were then opened in Nampula (1984) and in Beira (1985). In 1986 treatment began outside Maputo for the first time, when the ICRC opened pilot prosthesis workshops in Beira and Quelimane (Zambezia). Production of

conventional legs began in Nampula in 1989.

With increasing prosthesis demand, the ICRC began a second training course in Beira in 1990 for prosthetic/orthotic technicians. In the following three and one-half years, 38 students attended the course. In 1990 polypropylene technology and Debre-Zeit knees were introduced, reducing dependence on erratic local timber supplies. At the end of 1990 an amputee hostel was built in Nampula. This facilitated access to the ICRC workshop for patients from remote districts and the northern provinces. In 1992 the ICRC fitted 1,027 prostheses, making a total of 5,891 since it started operations in 1981. In 1992 its doctors conducted 982 amputations (not all mine-related).

The Ministry of Health refers all relevant orthopedic cases to either ICRC or Handicap International clinics. The numbers coming forward for treatment at ICRC clinics have not always been consistent. In the late 1980s numbers declined and the ICRC embarked on a media campaign through local radio, encouraging mine victims to come forward for treatment. This was successful and the numbers of patients increased to their previous levels.

With the signing of the October 1992 GPA, the ICRC is preparing to withdraw most of its staff and operations from Mozambique and is looking to hand over the management and funding of its prostheses workshops in Beira, Maputo, Nampula, and Quelimane to other foreign or local organizations. The U.S. Agency for International Development has assured funding for the Maputo center in 1994-95. The Portugal-based Santa Casa da Misericórdia de Lisboa, a powerful institute which receives funds from the Portuguese state lottery, is currently negotiating to take over the ICRC's southern operations. One possibility is to have Handicap International servicing the north and the Santa Casa da Misericórdia servicing the south.

Handicap International Activities

HI has been active in Mozambique since 1986. After opening a prosthesis workshop in Inhambane in 1986, it has expanded in recent years, opening additional workshops in Nampula (1987), Tete (1990) and Vilanculos (Inhambane). It hopes to open two new ones in Pemba (Cabo Delgado) and Lichinga (Niassa) and possibly take over management of the ICRC's facilities in Nampula. HI's capacity to manufacture and fit prostheses is much smaller than the ICRC. HI has also begun a mine awareness campaign that will initially be focused on Inhambane and Tete provinces. Recently, Handicap International has launched an effort to lobby the

Mozambican government and Renamo to provide a pension for disabled veterans of the war, as stipulated by law in Mozambique.

A prosthesis can be expected to last two or three years, but children require a new one at least every year, as they outgrow the old one. This means that prosthesis manufacture will likely have to be maintained at a level of thousands per year for the next sixty to seventy years.

Human Rights Watch interviewed one victim from the struggle for independence.

Case 14. A.P. was born in Chimoio in 1949 and was a black lorry driver in the Portuguese army. His lorry hit a Frelimo mine in Antadora, near Macomia in Cabo Delgado in 1971. He lost his right leg. He was evacuated to Mueda, where he underwent surgery and was then transferred to Nampula for further treatment at the military hospital. Now living in Chimoio, he returns to Beira every three years to receive a new prosthesis from the ICRC.

Need for a U.N. Trust Fund for Mine Victims

The deadly legacy of landmines will plague the people of Mozambique for many decades. While vastly expanded mine clearance operations are urgently needed, the response of the international community and the Mozambican authorities should not be focused only on mine clearance. The plight of the victims of mines must also be addressed.

In October 1993, the U.N. General Assembly passed a resolution calling on the Secretary General to assess the advisability of a voluntary trust fund to finance mine clearance programs and operations.⁶ While Human Rights Watch supports the creation of such a fund, it also calls for the creation of a parallel voluntary U.N. Trust Fund for mine victims.

In Mozambique and in many other mine-stricken nations, there is a desperate need for additional funds to help mine victims survive, adapt to their handicap and rebuild their lives. These funds would be devoted to the enhancement of medical care for mine victims, with an emphasis on rehabilitation services, such as prostheses, physical therapy, and therapeutic

⁶ U.N. Document A/48/L5. October 8, 1993.

treatment, as well as mine awareness schemes which are needed not only to teach people to avoid mines, but also to demonstrate that victims can still live a full life and play a constructive role in society.

Local and international nongovernmental organizations could apply to the Trust Fund for grants for programs to assist mine victims. Landmine producers and exporters should contribute to the Trust Fund. Companies profiting from mine clearance operations should also consider contributing, particularly in light of the fact that some of the commercial mine clearance companies operating or hoping to operate in Mozambique employ non-Mozambicans who planted mines in Mozambique and trained Mozambican combatants in mine warfare.

THE SOCIAL AND ECONOMIC IMPACT

In its July 1993 report on international demining, the United States Department of State says of Mozambique:

Mozambique is a classic example of how mines inhibit refugee repatriation and hinder economic reconstruction. Nation-building efforts in Mozambique will be heavily dependent upon the success of U.N. and other demining operations.¹

Similarly, a report from the office of the United Nations High Commissioner for Refugees (UNHCR) on its mission to Mozambique in March and April 1993 states:

Beside other difficulties which stand against the development of the destroyed country, there are a large quantity of landmines and other dangerous ordnance in Mozambique which are the sad result of the long civil war. The danger of these mines exists not only on main roads and former important strategical points but are also a reality on remote roads and paths on farmlands and unused rural land nearly everywhere in the country.²

These are dramatic statements which emphasize the serious social and economic impact of landmines in Mozambique. But, they are also somewhat misleading. They generalize too much; not all of Mozambique is greatly affected by mines. The distribution—and danger—of landmines in different areas directly reflects the varied patterns of the war and the military aims of both sides. Moreover, some officials from local non-governmental organizations (NGOs) involved in repatriation efforts believe that the danger of mines to refugees has been exaggerated, or at least overemphasized in light of other problems facing returnees.

¹ U.S. Department of State, *Hidden Killers: The Global Problem with Uncleared Landmines* (Washington: U.S. Department of State, July 1993), p. 127.

² UNHCR, Program and Technical Support Section, PTSS Mission Report 93/21, "Malawi, Mozambique, Swaziland, Zimbabwe: Mission to Prepare a Mine Awareness Programme in Mozambique and Neighbouring Countries, 15 March-06 April 1993," p. (D).

Still, it is clear that landmines have had and will continue to have a powerful negative impact on Mozambique. Many of the landmines laid by Renamo in particular were deliberately intended to cause maximum social and economic disruption. Key Renamo objectives in the war were to disrupt the economy, disrupt land communications, isolate government-held areas from each other, and isolate rural areas from government centers. To accomplish these objectives, Renamo mined fields, roads, paths and bridges.

Perhaps the most devastating use of landmines was the random dissemination of mines in fields and along their access paths to stop peasants from producing food. This tactic was employed primarily by Renamo, especially in the south, although government forces also laid mines for this purpose in the central provinces, albeit to a lesser extent than Renamo. Even though the war is over, these mines continue to pose a serious threat to civilians, especially as peasants return to cultivate neglected but fertile lands, sown only with landmines.

Repatriation

At the time of the peace accord, there were more than 2 million Mozambican refugees in the six border nations, in addition to 4-to-5 million internally displaced people. The UNHCR estimated that as of the end of 1993, more than 650,000 Mozambican refugees had returned, mainly to the provinces of Tete, Manica, Sofala, and Zambezia. It is estimated that nearly 400 refugees are now returning each day.

In particular, large numbers of the more than 1 million Mozambican refugees in Malawi started crossing back, mostly into Tete province, as soon as the ceasefire was formally signed. They were anxious to return and claim their land before others grabbed it, and to start rebuilding their lives.

Many more Mozambican refugees are preparing to return home if the peace holds. Up to 1.6 million Mozambican refugees are still located in the six neighboring countries, of which some 1 million are registered with UNHCR.³ UNHCR-organized repatriation has begun from Zimbabwe and Swaziland. Repatriation from Tanzania will begin in 1994. Plans for repatriation from Malawi, Zambia, and South Africa are still being formulated.

³ As of January 1, 1994, the UNHCR lists 650,000 Mozambican refugees in Malawi; 250,000 in South Africa; 100,000 in Zimbabwe; 22,000 in Zambia; 20,000 in Tanzania; and, 18,000 in Swaziland.

The entire repatriation process is expected to take some three years to complete. Its total costs are expected to be close to \$200 million. The UNHCR claims that when completed, it will have been the biggest UNHCR repatriation operation ever undertaken in Africa. This may not turn out to be the case because many of the refugees will have returned home on their own accord. The UNHCR repatriation process is voluntary, although the Zimbabwean government, in addition to South Africa, appears keen to ensure that all refugees leave.

The situation for the estimated 250,000 unregistered refugees in South Africa has been especially uncertain because the UNHCR has not had a presence there. The South African military has been deporting an average of 200 Mozambican refugees daily. However, after extensive discussions, the UNHCR and the governments of South Africa and Mozambique signed an agreement on October 15, 1993 under which they will cooperate in the repatriation of refugees. Details must still be worked out, but it is expected that organized repatriation will begin in the first quarter of 1994.

The Mine Threat

Mines are an obvious threat to refugees and internally displaced people when they return to their villages and lands after months or years of absence. As noted in a recent report by the U.S. Committee for Refugees, "In a repatriation filled with uncertainties, one of the few certainties is that some refugees who managed to survive years of war, drought, and crowded refugee camps will return home, step on a landmine, and die."⁴

It may well be that landmines will take a greater toll during peacetime, as hundreds of thousands of people return home, than they did during wartime. According to one account, in Tete province during September and October 1993, fifteen people were injured and two died as a result of mines; eleven of these were men returning home from Malawian border camps.⁵ Mines planted since people fled from their homes pose the greatest danger. In its report cited above, the UNHRC noted,

⁴ U.S. Committee for Refugees, *Issue Paper*, "No Place Like Home: Mozambican Refugees Begin Africa's Largest Repatriation," December 1993, p. 27.

⁵ Elizabeth Sheehan and Mike Croll, "Landmine Casualties in Mozambique," Halo Trust report, October 23, 1993, p. 6.

The local population that remained in Mozambique is familiar with the danger and is aware of affected areas. Nevertheless, there are serious injuries caused by landmines on a daily basis.. It is therefore to be feared that the number of victims of landmines and other unexploded ordnance will, with the start of the main repatriation, dramatically increase, if the returnees are not aware of the danger.⁶

Alice Simbane is a refugee who returned home after three years in a refugee camp in Zimbabwe. In December 1992 she told Human Rights Watch in a Maputo hospital, "I was excited by the peace. I and my family hoped to return to peace. We wanted no memories of war. However, my brother on the long walk home stepped on a landmine and has lost his foot. What have I done to deserve this? They told me we have peace."

Case 15. J.B. is a 20- to 25-year-old peasant farmer. She lived in a Renamo-controlled area, near Maringue, until mid-1990. Because of drought and hunger, she and her family were trying to reach government-controlled areas, when she stepped on a landmine near Casa Banana. She received first aid in the village, and was evacuated to hospital in Beira one week later by military helicopter where her left leg was amputated.

Local workers told the U.S. Committee for Refugees that the refugee transit center in Capiridzanje (Moatize district, Tete province) may be partially surrounded by mines, some less than 500 yards beyond the center's perimeter, even though it is astride a major re-entry path for returnees from Malawi.⁷

Many externally-based Mozambican refugees are aware of and concerned about the risks mines might pose when they repatriate. Francesca Dagnino of the Italian nongovernmental organization Centro Informazione E Educazione Allo Sviluppo (CIES) is working with Mozambican refugees in Zimbabwe. She told Human Rights Watch, "People are worried and we get reports

⁶ UNHCR, p. (iii).

⁷ U.S. Committee for Refugees, "No Place Like Home," p. 27.

of refugees who pass through unfamiliar areas and have got killed or injured by mines. My organization is looking to have some main route ways professionally cleared of mines to avoid this type of accident."

Mines are probably a greater impediment to organized repatriation efforts than individual, spontaneous repatriation, since antivehicle mines on particular roads will have to be cleared before refugees can be transported back to their home areas. Despite the tragic experience of the Simbanes and others, those repatriating on their own on foot can often utilize much-travelled paths and trackways known to be safe.

Indeed, many thousands of refugees are returning home along uncleared, but well-used paths and roads known to be safe. There are well-established safe routes through the substantial minefields which border South Africa near Massingir (Gaza), along the Malawian border at Mandimba (Niassa) and through a 72-mile-long minefield along the southern Zimbabwean border in Chicualacuala district (Gaza).

In fact, despite the dangers, the picture across much of the country is that repatriation will not be badly affected by landmines. There are only a few of the large defensive mine fields. In Angonia district (Tete) there are very few mines, as has finally been recognized by the UNHCR. Mines were mostly laid on the short dirt roads to Malawi via Domue and Tsangano. The Norwegian People's Aid (NPA) program is clearing the main roads in Mutarara district to ensure that those southern Tete roads are open for repatriation traffic. (See Chapter 6 for more on the NPA program). The Zimbabwean company, Mine-Tech, hopes to clear the roads used by returnees from Zimbabwe into Manica province. Although some repatriation routes remain blocked there are usually other ways around mined areas.

With the end of mine laying, many major paths are likely to be clear. Traffic has returned to many roads, even those that have not been professionally cleared. In the May/June issue of Africa Report, BBC World Service journalist Dan Isaacs wrote:

As the de-mining team works its way methodically down the road, a small pick-up truck arrives. It is weighted down with passengers, chickens, sacks of corn. This is the daily bus service from Gorongosa to Carvelo, 18 miles up the road, and they want to get past. "I'm making the journey almost every day now, and if there were any [mines] along here, we would have hit them by now. And besides, now the war is over, the

people want to travel." And off they all go, laughing and clucking into the distance.⁸

Local knowledge of where the mines are located is often very good. In one instance, Human Rights Watch saw locals use pieces of cloth and sticks as warnings of mined areas on a small path to a water source. There are also examples of peasant farmers cultivating in fields around small mounds which identify where mines are present.

Officials from local NGOs dealing with repatriation believe that the mine threat for returnees is exaggerated. They argue that money is better spent rebuilding health clinics and schools and educating people properly about the dangers of mines. There has been criticism of the UNHCR and some NGOs for having frightened people by overemphasizing the dangers of landmines, when other risks such as cholera and malaria may pose a greater threat to returnees. A local government official in Chimoio, the provincial capital of Manica province, told Human Rights Watch in June 1993:

The reports from the local administrators suggest that mines are in most localities not a serious problem. Only one administrator has contacted me saying that children can't go back to school because there are mines in the playground. Mavonde is a bad area, so is Nguawala.

Equally dangerous, and often more prolific, are the live ammunition, rocket-propelled grenades and other unexploded ordnance which litter towns and settlements after years of war. Gurkha Security Guards (GSG) often spent their day off from mine-clearing roads attempting to clear Inhaminga of unexploded RPG-7 rocket-propelled grenades and other ordnance. They also discovered an unexploded and modified Russian RBK-250 bomb sticking out of the soil upside down near huts, with children sitting on its fins. This bomb was safely destroyed in July, with ONUMOZ permission. (See Chapter 6 for more on the GSG project).

It appears that the impact of landmines on different areas of Mozambique varies greatly. Where there is a bad mine problem, the effects on the local community are immediately obvious. One victim from Vunduzi, near Gorongosa (Sofala), told Human Rights Watch that he knew of between 40 and 50

⁸ Dan Isaacs, "Mozambique: Life After Landmines," *Africa Report*, May/June 1993, p. 23.

victims of antipersonnel mines from his area. Another person from a village near Gorongosa told Human Rights Watch that she knows five other people from her village who had been injured by mines. In Maputo and Gaza provinces certain areas are badly mined. One medical doctor at Maputo's Central Hospital told Human Rights Watch that the majority of amputees he operated on came from in and around Manhica. The ICRC's files confirm that Manhica is particularly bad.

Mines may take their greatest toll when returnees and long-established communities lower their caution and start walking on seldom-used paths and entering less frequented areas to begin new cultivation. But even returnees to already densely populated areas face risks until they become thoroughly reintegrated into the village.

Case 16. F.V. is a 45- to 50-year-old peasant farmer. He stepped on a mine on April 30, 1992 in Massiana (Maputo) while cutting wood to repair his house. Following treatment he returned home and says that despite fear of the presence of other landmines in his area, displaced people have begun to return there and are building their houses.

Mine Awareness Initiatives

Educating the returnees about the risks of mines and raising the awareness of mines in local communities is critical. But this education needs to be based on a correct assessment of the threat posed by mines in a particular district so as not to be overly alarmist. Mine awareness initiatives also need to be designed around what the people already know. If properly designed, such schemes will deal with the mines problem where the dangers are greatest—along the bush paths.

Mine awareness programs in general are aimed at teaching civilians how to recognize and avoid mines, and the proper steps to follow if mines are found (i.e., mark them, inform community leaders, wait for experts to disarm them). Mine awareness programs usually consist of verbal instruction sessions, and the widespread distribution of brochures, leaflets, posters, and other means of alerting the entire community, from the very young to the very old, to the danger of mines.

Handicap International and Norges HandiKapforbund printed 10,000 color brochures in Portuguese for children in June 1993 entitled "The day I found a mine." Through pictures and simple text it tells the story of a child who sees a mine in the bush but is stopped by an adult from touching it. The child is then told

by the adult why she should not touch mines and that she must tell the elders and everybody about its presence. This brochure is being distributed initially in Tete province amongst refugees there as part of a wider HI and Norges Handikapforbund campaign. The campaign hopes to use military mine victims from the Associacao dos Deficientes Militares Mocambicanos (ADEMIMO) to distribute it and to lecture returning refugees on the danger of mines. Schools, health centers, local administrators and curandeiros are being asked to participate in the campaign and to help set up in each community a group which will collate new reports of landmines in their locality. HI has targeted the districts of Angonia, Mutarara, Moatize, Changara and Tsangano for this campaign. HI has also set up a mobile orthopedic clinic to visit several of these districts once a month. It is unclear why HI is targeting Angonia and Tsangano because there are very few mines in these localities.

Handicap International and the Mines Advisory Group are discussing a similar mines awareness campaign in Inhambane province for internally displaced people returning to their rural homes after years of living in the towns. This will focus on the districts of Zavala, Inharrime, Jangamo, Panda, Homoine, Inhambane, Morrumbene, Massinga, Funhalouro, Mabote, Vilankulo, Inhassoro, and Govuro.

In collaboration with Handicap International and UNHCR, UNICEF will also assist in the mine awareness initiative. The BBC has been contracted to produce a "Mine Awareness" program to spread the message to the general public and particularly to children and returnees (who may not be aware of newly mined areas since their departure). The plan is to have a special spot allocated on a local radio program to instruct people what to do if they see a mine and whom to contact in case of injury. These programs will be transmitted from Zambezia. The program also plans to develop a "Soap Opera" with the BBC World Service at some later date. The "Soap Opera" will trace the adventures of returning Mozambicans from Malawi and contain stories about mine incidents and tips on mine awareness. It will also be transmitted by the BBC's Portuguese Service from London in order to reach Mozambican refugees in neighboring countries.

A mine awareness campaign was also conducted in Malawi's six southern districts. Organized by the U.S.-based International Rescue Committee and Norwegian People's Aid workers, the project was originally going to train up to 2,000 people in mine awareness over a three month period. These people were then going to work among returning refugees. Because of the delays over mine clearance in Tete province this training did not begin until September 1992 and was reduced to six weeks of training for several hundred people. In a case of good

intentions going for naught, the UNHCR supplied mine awareness videos for use on Malawian television; however, Malawi does not have a television station and the videos are in Portuguese, while most refugees speak various vernacular dialects and understand little Portuguese.

A mine awareness program for Mozambican refugees in Zimbabwe is underway as well, organized at UNHCR's request by the Zimbabwean HelpAge Refugee Program. Initially, Norwegian People's Aid was contracted to train 17 HelpAge workers in mine awareness techniques. These HelpAge will then train 120 refugees, who will in turn teach other refugees. This program is making use of actual size models of mines, and posters and T-shirts with the simple message (in Shona) "Danger Mines" in red; the red matches a boy's leg being blown off. HelpAge had initially been frustrated with material sent from the UNHRC in Geneva, which were largely English language with confusing graphics; HelpAge found much greater understanding and interest in the community in the mine awareness program after it employed a local artist who designed materials based on local field testing.

In addition to its activities in Malawi and Zimbabwe, the UNHCR has established mine awareness workshops in refugee camps and settlements in Swaziland, and intends to do the same in Tanzania, Zambia, and South Africa.

The Italian non-governmental organization Centro Informazione E Educazione Allo Sviluppo expects to begin a mines awareness project in the Mossurize district in Manica province early in 1994. It will be funded by the EC and UNOHAC.

Economic Implications

Landmines have damaged significant parts of Mozambique's economic infrastructure, and will continue to disrupt—and make more costly—efforts to rebuild economically for years to come. Railways essential to commerce, power lines needed for domestic energy consumption and export earnings, valuable game parks, and many other areas are impacted by landmines.

Renamo regularly targeted railways for attack during the war. In addition to derailing trains and blowing up bridges with explosives, Renamo occasionally used landmines in its ambush attacks on the trains themselves, leaving the mines behind after attacks to make reconstruction work more difficult.

The first recorded Renamo mine attack on a railway was in October 1980 when a government patrol came across a group laying a mine on the Beira to Mutare (Zimbabwe) line; the patrol shot at the mine which exploded and killed the

guerrillas. Mines were more frequently used against trains on the southern Goba line via Swaziland and the Ressano Garcia line to South Africa. Between November 1988 and February 1989 mines were used in two Renamo attacks on the Ressano Garcia line resulting in six people killed and 47 people injured. Many of the injuries were from derailment.

All the main railway lines are operational again except the Dondo-Moatize line, which was first sabotaged by Renamo with mines in 1981. This is an important economic route because of the coal mines at Moatize (Tete), with a branch line from the important Sena sugar complex which travels up the Shire river and enters Malawi. Due to Renamo sabotage the railway has been completely closed since 1984. Human Rights Watch flew over the track and noted two trains stuck where they were ambushed with landmines along the stretch from Dondo to Inhamitanga (Sofala).

Rehabilitating the line will take at least two years and many millions of dollars, not least because the railway bridge which crosses the Zambezi river at Mutarara, at 3.6 kilometers the longest bridge in Africa, had two 90 meter spans damaged in September 1986. Renamo admitted to Human Rights Watch that there are still unexploded mines along the railway.

Rehabilitation of the power lines from the 2,000 megawatt Cahora Bassa hydro-electric dam in Tete province is also affected by mines. These lines are held up by pylons along a 890 kilometer span between South Africa and the dam. Some 1,416 pylons were damaged by Renamo between 1982 and 1988, denying the government valuable energy export earnings from South Africa. The cost of reconstructing the power line is currently estimated to be \$125 million. Rehabilitation work is barely underway, and it will be slow. Many of the pylons are surrounded by protective mines placed by the government, but Renamo also placed booby-trapped mines to deter reconstruction. Some stretches of the power lines may be so badly mined and dangerous to clear that a new line will have to be built and the old mined stretch fenced off. Initial estimates are that the power line will not become operational until 1996 at the earliest.

National game parks such as Gorongosa (Sofala) and the planned Mozambican extension of South Africa's Kruger National Game Park in southern Mozambique will require mine clearance. Mozambique's elephants not only had to survive the soldiers who would kill them for their ivory and meat; in the mid-1980s, when their numbers were greater, elephants were found maimed by antipersonnel mines or killed outright by antitank mines.

The Social Plight of the Victims

The victims suffer most, as no money can return their lost sight or limbs. Many have also suffered severe hardship and social rejection following their accident. A number of organizations are involved in efforts to ease the plight of landmine victims.

The Associacao dos Deficientes Mocambicanos (ADEMO) was founded in 1989 with financial assistance from Handicap International. ADEMO sought to be an umbrella organization for all handicapped people and was initially closely linked with the Frelimo party. ADEMO has offices in every province but is weak in the north. With UNICEF funds it started a monthly newsletter in August 1992 and has worked closely with Handicap International in Inhambane and Tete provinces.

With an increasing number of people disabled due to war injuries, the government-linked Secretario de Estado de Accao Social (SEAS) sought government support for a physical rehabilitation and social reintegration program for the physically handicapped. SEAS proposed to the Ministry of Employment that employers should ensure that handicapped individuals constituted one percent of their workforce. However, this scheme failed to get government support.

An initiative by SEAS for handicapped soldiers had better results. Starting in December 1991, SEAS assisted handicapped soldiers in setting up their own pressure group organization. In November 1992, the Associacao dos Deficientes Militares Mocambicanos (ADEMIMO) was launched. ADEMIMO has since suffered from a lack of funds. In cooperation with non-handicapped soldier groups it is currently pushing for unpaid salaries and compensation.

ADEMO and SEAS have an ambivalent relationship. Terezinha da Silva of SEAS described ADEMO to Human Rights Watch as "an organization that has little local roots and is very weak; completely dependent on foreign funding such as Handicap International. For this reason its activities reflect outside interests rather than the realities on the ground."

Relations between ADEMO and ADEMIMO are poor because ADEMO, believing it should be an umbrella organization for the handicapped, campaigned vigorously against ADEMIMO's creation. There is little liaison between them. Several of the amputees interviewed by Human Rights Watch were critical of ADEMO, claiming that the organization did little for them and spent most of its resources on its own management.

Because of the lack of any significant support from the state, amputees have on their own adopted differing survival strategies.

Case 17. A beggar outside the main Interfranca shopping complex in Maputo described to Human Rights Watch why he spent the whole day outside the complex begging.

I have to survive so I spend the day outside here asking ONUMOZs (expatriates) to give me money. The government doesn't care about us so I live off what ONUMOZs give me. Mozambicans also don't give. ONUMOZ is the one that has been sent to give.

Physical disability is not all that victims suffer. Discrimination and rejection often follow.

Case 18. S.A. was fired in 1992, after he had been maimed by a landmine and the company paid no compensation. S.A. wrote a complaint to the provincial department of employment, but has received no answer so far. Ever since he has been living at the Centro de Acomodacao in Beira. Late in 1992 he tried to go to Zimbabwe, where he has a brother, but the customs officers at the Zimbabwean border did not allow him into Zimbabwe. He lives in hope of a positive answer to his complaint, and will again try to go to Zimbabwe to live with his brother.

Case 19. R.S. from Sussundenga (Manica province) is 63 years old. He was a tractor driver at the Empresa de Citrinos de Chimoio. In 1980 he was driving a tractor in an orange tree plantation when the vehicle hit an antitank mine. He lost his left leg. The same day two other tractors drove over landmines in the same plantation. Renamo had briefly occupied the area a week before, and people were suspicious of the existence of landmines, but nobody did anything to prevent the movement of people or vehicles. R.S. had his first prosthesis fit in 1982 in Maputo. He currently lives in Chimoio. He works in his machamba with his family and goes regularly to Beira for new prostheses. After his accident the Empresa de Citrinos payed him MT 2,444,096.00 (just over \$500 at current rates, a small fortune at the time), and fired him.

The difficulties faced by female amputees are particularly severe. Three of the women interviewed by Human Rights Watch had been abandoned by their husbands for other women after their landmine accidents. Life for amputated men is also difficult, with several having had their wives leave them. Unmarried young men and women feared that they would not find a partner because of their

disability. The majority of amputees interviewed survived day-to-day with family help, but complained of feeling a burden on their families. In separate interviews several immediate family members of amputees admitted that it was difficult for them to look after a handicapped person.

However, with few exceptions the amputees were trying to continue to make a living by producing crops from their family machambas. Those with some basic education hope to find secretarial work or work as telephone operators. But such jobs are scarce and employers often discriminate against amputees unless they come from their family area or have been schooled together.

Although most amputees interviewed by Human Rights Watch responded to their handicaps with fatalism, some clearly expressed their bitterness.

Case 20. Manuel, a demobilised FAM soldier, feels diminished for having to beg to survive, and is particularly angry with Frelimo, whom he accuses of having used him (as a soldier in the liberation war and afterwards) and ditching him now that he is no longer physically able after stepping on a landmine in 1990. Manuel also complained about the Ministry of Defence and other government agencies who, in his opinion, should take the responsibility for the necessary travel arrangements to send him back to his native village, where he can have a more dignified life. In Beira he told Human Rights Watch:

I served Frelimo all these years, and now I am no more than a limping beggar. Where are my comrades, where are the chefes (leaders)? Nobody cares. I gave my youth, and this is what I get in return, total indifference. Why can't they send me back home to my mother who will certainly take better care of me? I just want to go home, I ask no more.

With little state assistance to amputees, the work of the humanitarian NGOs such as Handicap International is becoming increasingly important. HI's rehabilitation center in Inhambane offers amputees basic counselling and training to improve their skills. Amputees passing through the center are encouraged to participate in handicrafts and farm activities while waiting for their prosthesis. They are also offered basic literacy lessons in the afternoons. But some sort of longer term provisions is required for amputees who have become completely destitute. Teresa is one of these.

Case 21. Teresa lives in Cancinza (Sofala) with her sister who is a widow. Her

parents died a long time ago. Her two brothers died in a Renamo ambush. Her husband died of cholera. Teresa and her sister live on whatever earnings they obtain from their small machamba. In the last few years relief assistance (food, clothing, etc.) was given by the Red Cross and other donors, but following the peace accord she is finding that these have become more scarce.

MINE CLEARANCE INITIATIVES

Despite the obvious and urgent need for demining, and despite increased international attention to that need, mine clearance activities in Mozambique are moving forward slowly and fitfully. After much haggling, at the end of 1992 the government and Renamo agreed to a road clearance pilot project by a private British firm. Shortly thereafter, the United Nations announced a national mine clearance master plan which focused on priority road clearance. Almost a year later, only two major professional clearance operations are underway, one of which is partially financed by the U.N. Mine clearance initiatives have been plagued by domestic Mozambican politics and bureaucracy, as well as the U.N.'s own bureaucracy. In the meantime, random and uncoordinated clearance by the government and Renamo is taking place on a small scale across the country. Mozambicans continue to take daily risks on paths and roads and in fields that have not been professionally cleared.

GSG Pilot Project

In their first joint attempt to deal with the landmine problem, the Mozambican government and Renamo agreed at the December 31, 1992 meeting of the Supervisory and Control Commission (CSC) to a list of 25 priority roads for mine clearance.¹ This list had been drawn up by the ICRC and U.N. World Food Program (WFP).

At the same meeting, the government and Renamo agreed to hire a British company, Gurkha Security Guards Ltd. (GSG), to clear some of the mined roads in central Mozambique.² The agreement ended a dispute over who should be contracted. Renamo wanted to hire a South African security company, Minerva, and the government wanted the Zimbabwe army to clear mines. The government

¹ There is some confusion about the number of roads on this list. Although the number is often reported as 28, the list actually contains 27 routes. However, two of the stretches of road (Inhaminga-Inhamitanga and Inhamitanga-Marromeu) are duplicative of other routes on the list, leaving 25 that need to be cleared.

² In October 1992, under contract to the WFP, another private British firm, Defence Systems Limited, had conducted a two-week mine assessment survey of 2,000 kilometers of road in central Mozambique.

opposed Minerva's bid because it was linked with Garth Barrett, a former officer in the Rhodesian SAS who was active in training Renamo when it was based in Rhodesia. Renamo opposed using the Zimbabwe army, fearing that the Zimbabweans would be partisan and favor the government during clearance operations.

GSG is a privately-owned British company, founded in 1990, specializing in security and explosive ordnance disposal throughout the world. GSG mainly recruits former British and Indian Army Gurkha soldiers and officers. GSG has operated in Mozambique since 1990, when it was contracted to protect Lonrho de Mocambique (Lomaco) commercial interests against Renamo attack. In this capacity GSG technicians were frequently required to clear areas and roads which had been mined or booby-trapped.

On January 26, 1993, GSG began its formal mine clearance operation in Mozambique in cooperation with Lomaco. The program is directed by the U.N. and is funded by the European Community. The aim is to clear designated roads of mines and unexploded ordnance, in order to allow relief vehicles carrying food and other forms of aid to reach more remote regions. GSG's initial one month contract was extended in February for two months, in April for three months, and in July for five months so that additional roads could be cleared.

The contract called for clearance of six roads in Sofala province and one in Gaza province, namely:

- | | |
|-------------------------------------|-----------|
| a. Gorongosa-Vunduzi | (43 kms) |
| b. Gorongosa-Canda | (35 kms) |
| c. Goonda-Dombe | (70 kms) |
| d. Fundeze-Macossa-Maringue-Canxixe | (130 kms) |
| e. Muxungue-Chibabava-Magunde | (30 kms) |
| f. Dondo-Inhaminga-Caia | (250 kms) |
| g. Nalazi-Dindiza (Gaza province) | (78 kms) |

GSG's clearance initially concentrated on roads north of Beira. By the end of February three priority routes had been cleared: Gorongosa-Vunduzi; Gorongosa-Canda; and Goonda-Dombe. The first two routes did not yield any mines, but 13 antipersonnel mines were found on the

Goonda-Dombe road. Unscheduled clearance of the Gorongosa-Inchope road also produced some thirty mines, mostly PMN mines at bridge footings, as well as several PMD-6 box mines.

In March, GSG began clearing mines between Inhaminga and Caia at an average pace of 3 kilometers a day. The road was cleared by July 17th.³ GSG only found two PMN antipersonnel mines by a damaged bridge.

GSG's team was made up of five ex-Gurkha engineers under the command of an ex-British Army Royal Engineer Non-Commissioned Officer, and an interpreter/driver. Frelimo and Renamo also had representatives with the team who advised where mines were likely to be and who monitored the clearing progress.

GSG used only hand clearance techniques because mechanical means, such as flails and rollers, are expensive and would damage the roads and fail to produce the high standard of clearance required for humanitarian purposes.⁴

After months of delay in payment by the European Community, some funds for GSG came through on July 27th. GSG's contract was extended for a further five months, with operations beginning in September and ending in February 1994. The contract called for five additional teams, each with one EOD specialist, one expatriate medic and five Gurkhas, to clear roads selected by the U.N. World Food Program (WFP) from among the 25 roads approved by the CSC in December 1992. The E.C. has indicated that it will not renew the contract when it expires, but UNOHAC has asked GSG to continue clearance on the Inhaminga-Dondo road and the Casa Banana airstrip.

A GSG document dated December 17, 1993 indicated that the following had been cleared: 11 kilometers of the 45.5 kilometer Caia-Chiramba route; 1.15 kilometers of the 9.6 kilometer Casa Luis-Espungebera route; and, 1.4 kilometers of the 9.3 kilometer Vanduzi-Casa Banana route. There were no mines encountered on any of these routes.

The first mine injury associated with the GSG operation occurred in November 1993, when a Frelimo soldier working with GSG stepped on a Type 72

³ Gurkha Security Guards Ltd, "Operation Lincoln: Phase Two—Opening the Route from Inhaminga to Caia (Sofala Province)," August 1993.

⁴ For a detailed explanation of the demining process and various mine clearance techniques, see *Landmines: A Deadly Legacy*; The Arms Project and Physicians for Human Rights, November 1993.

mine. He lost his toes. GSG has said that its South African-manufactured Barcom mine detector failed to register the mine. While the Type 72 is known as a low-metal-content mine that is difficult to detect, GSG told Human Rights Watch that it dismantled another Type 72 found at the same site and that it contained no metal whatsoever.

In December 1993, a vehicle hit a landmine on a road already cleared by GSG. There were no injuries. The incident occurred on the River Pungwe to Caia road, about two kilometers south of Caia. GSG believes that it was a Type 72 mine that had been washed into the road by the rains.

The U.N. Mine Clearance Plan

U.N. Special Mines Expert Patrick Blagden unveiled ONUMOZ's "Mine Clearance Plan for Mozambique" on January 26, 1993. During the presentation Blagden said that neither he nor other U.N. mine experts had travelled extensively in Mozambique, and that he had not seen any Mozambican minefields. Human Rights Watch has learned that this was a result of pressure from within ONUMOZ and the U.N. Department of Humanitarian Affairs to be seen to be acting quickly on the mines issue, particularly because of continued incidents involving NGOs and U.N. agencies. Not until March 26th did a U.N. Program Manager and Chief Technical Manager for Mine Clearance arrive to coordinate the U.N.'s mine clearance plan. The Manager, Andre Millorit, arrived directly from the U.N. mine clearance operation in Afghanistan.

The U.N. plan for Mozambique incorporates many elements drawn from the U.N.'s experience in the clearance programs in Afghanistan and Cambodia. It also draws upon Blagden's own experience during commercial clearance operations in Kuwait. The plan's long-term objective is for Mozambique to carry out its own demining operations and serve as a source of expertise for other mine clearance operations in Africa.

The first stage calls for identification of some 2,000 kilometers of road as priority for clearance. Despite its vast size, Mozambique has only an estimated 29,000 kilometers of roads, of which 5,000 are paved. Remaining roads are of stabilized earth or simple tracks.

The plan indicates priority routes should be those necessary for: the humanitarian transport of food to feeding centers in the areas most seriously affected by drought; the establishment and administration of transit centers for refugees; and, access to assembly areas for demobilized soldiers.

As a practical matter, the U.N. has accepted the list of 25 priority roads for demining that was approved by the CSC in December.

The second stage of the U.N. plan calls for identifying and clearing routes necessary for the return of refugees to Mozambique from neighbouring states and for the economic development of Mozambique. The third stage calls for establishing a school in Mozambique to train mine clearers who will then complete the clearance of the remaining mines.

The U.N. plan calls for the use of private, commercial firms for mine clearance at the outset, because "civil contractors have the advantage that they can start clearance work almost immediately."

According to the original U.N. timeframe, contractors were to be on the ground in Mozambique at the end of May 1993 to begin road clearance in conjunction with the government's Direcção Nacional de Estradas e Pontes (National Ministry for Roads and Bridges). During June and July the mine clearing school was to be established, with a site identified, equipment supplied, and the first group of instructors in place. The first group of students was expected to complete an eight-week course in August. Under the U.N. plan, 140 Mozambicans were to be trained in 1993, with a total of 570 students certified as mine-clearers by 1994. Eventually, 1,500 Mozambicans would be trained as deminers.

The U.N. plan is aimed at eventually replacing all foreign mine clearance companies with Mozambicans. Aldo Ajello, the U.N. Special Representative in Mozambique, estimates that the demining effort could provide employment for up to 2,000 people. These jobs would be earmarked for demobilized soldiers. The U.N. hopes to train demobilized soldiers from both sides in mine clearance techniques. This would not only create employment, but might also promote reconciliation, especially if former Renamo and FAM soldiers work together for a common goal in a dangerous environment. However, until demobilization is completed—and it has hardly begun—the allocation of soldiers requires approval from the Commission on the Establishment of the Mozambique Defence Forces.

Mine Clearance Delays

Regrettably, the U.N. plan failed to get government and Renamo approval in its original form. Throughout nearly all of 1993, there was almost no progress in implementing aspects of the U.N. plan. The U.N. mine clearance efforts were paralyzed by delays attributable to both Renamo and the government on matters largely unrelated to demining, as the struggle for power by the government and

Renamo shifted from the battlefield to the bureaucracy. In particular, there has been constant jockeying for power within the two peace commissions: the Supervisory and Control Commission (CSC), and the Commission on the Establishment of the Mozambique Defence Forces (CCFADM). Disputes within the commissions have had a very negative impact on mine clearance efforts.

The UNHCR summarized the difficulties thusly:

The political situation, the organizational and decision-making structure of the political body, the slowdown, or better, stagnation of the demobilization process, the lack of coordination of all interested parties (Government, Renamo, UN and other international organizations, NGOs and commercial interested groups) delay the process of solving the mine problem at the moment and it is extremely difficult to act properly.⁵

U.N. plans for demining have to be approved by both sides in the CSC, but little of substance was agreed upon between December 1992 and November 1993, as U.N. initiatives were blocked or delayed by either the government or Renamo. At the December 31, 1992 meeting, both the government and Renamo agreed in principle to the U.N. plan, but objected to some of the wording. Government officials told Human Rights Watch that they disagreed with the text of the original plan because it suggested that the government had been as responsible as Renamo for laying mines. Subsequently, U.N. demining expert Patrick

Blagden and the U.N. Demining Project Manager Andre Millorit attempted to redraft the plan in a way acceptable to the government and Renamo.

Following U.N. lobbying, both sides agreed that individual mine clearance initiatives could go ahead before the overall Mine Clearance Plan was approved by the CSC. However, all individual initiatives would still require CSC clearance. Despite the delays, the U.N. continued to press forward with its plan. For example, two Dutch mine clearance experts arrived in August 1993 to assist with planning and setting up the proposed mine school. Apparently, the U.N. also engaged, if only on a sporadic basis, in some actual clearance activities. Human Rights Watch

⁵ UNHCR, PTSS Mission Report 93/21, p. 1.

was told that an Italian demining team under U.N. auspices cleared some bridge areas in Manica province early in 1993.

At the CSC meetings from January to March 1993, the government blocked proposals to extend mine clearance. Renamo started a three month boycott of the CSC in March, making approval of any mine clearance initiatives impossible. Renamo eventually returned to Maputo and the CSC resumed functioning on June 3rd. But, with other pressing business, such as ceasefire violations, mine clearance was not high on the agenda.

A Mine Clearance Sub-Committee (MCSC) was finally set up on June 30th. (This was called the Mine Policy and Planning Sub-Committee until the CSC rejected the name.) The first MCSC meeting achieved little except the announcement of the extension of GSG's contract. The Renamo official participating in this first meeting refused to approve any proposals, saying he lacked the mandate to make decisions in the subcommittee. In July, Renamo nominated its delegate for the subcommittee, Mr. Jose Bute. Lt. Col. Osorio leads the government delegation. The U.N.'s Andre Milloret oversees the subcommittee. All decisions made in the MCSC must still be put forward to the CSC for approval.

Since March, the government has been increasingly cooperative toward the U.N. with respect to mine clearance, perhaps recognizing that open roads are to its advantage, and also seeing the political advantages if only Renamo could be blamed for hampering clearance efforts.

In contrast, from mid-1993 to late 1993, Renamo became less enthusiastic and was increasingly responsible for serious delays and the postponement of decisions in the commissions. Renamo's delegates on the MCSC initially had not been briefed by their superiors on earlier mine clearance discussions with the U.N., and did not have copies of the correspondence related to mine clearance. The U.N. office for mine clearance in Maputo has since been in frequent touch with the Renamo delegates in an attempt to ensure that they are as well-briefed as the government delegation.

Priority Road Clearance

The problems with the commissions have forced the U.N. to adhere rigidly to clearance of the 25 CSC-approved roads, which combine for 2,022 kilometers of road. U.N. officials admit that with the end of the drought and further intelligence, the priority of roads has changed. However, fearing that any change will cause further delays, they believe it is better to get a core of projects underway before any new agenda is pushed.

Eighty percent of the 25 roads CSC-approved roads are in the central provinces of Manica and Sofala. (See Chart).

PRIORITY ROADS APPROVED FOR DEMINING

Section	Km	Type	Status
SOFALA			
Maringue - Canda	142	Earth	Lot of destroyed bridges + culverts
Number One - Magunde	21	Gravel	Very poor road
Magunde - Chibabava	15	Gravel	Very poor road
Dondo - Muanza	82	Gravel	Poor road, 2 bridges broken, anti tank mines
Muanza - Inhaminga	65	Gravel	Very poor, 3 bridges broken, anti tank mines
Inhaminga - Caia	114	Gravel	Very poor, 5 bridges broken
Gorongosa - Inhaminga	112	Gravel	Very poor, 4 bridges broken, antitank mines
Gorongosa - Vunduzi	43	Gravel	Poor, antitank mines
Maqueze - Dindiza	116	Earth	Sandy road, deep scours, 5 bridges broken
Marromeu - Chemba	224	Gravel	Not passable, many broken bridges
Chemba - Tambara	96	Gravel	Very poor conditions, 2 bridges broken

Gorongosa - Canda	35	Gravel	Poor condition
SOFALA SUB-TOTAL:	1065		
MANICA/SOFALA			
Macossa - Maringue	59	Gravel	Big scours + broken bridges + antitank mines
Goonda - Dombe	90	Gravel	At least 5 bridges broken
Chitobe - Chibabava	70	Gravel	Very poor, impassable
MANICA/SOFALA SUB-TOTAL	219		
MANICA			
Sussundenga - Dombe	90	Gravel	Poor condition
Catandica - Choa	26	Earth	Big scours, mountainous.
Guro - Mungari	20	Earth	Very poor condition, one broken bridge.
Mungari - Buzua	93	Earth	Big scours + 2 broken bridges
Espungabera - Inhacufera	37	Gravel	Poor condition, heavily mined
Inhacufera - Citobe	87	Gravel	Very poor
Fundeze - Macossa	85	Gravel	Poor condition
MANICA SUB-TOTAL:	438		

ZAMBEZIA			
Nicoadala - Derre	144	Earth	Big scours, broken bridges
Derre - Liciro	105	Gravel	Big scours, broken bridges
Liciro - Milange	51	Earth	Lots of vegetation, growth
ZAMBEZIA SUB-TOTAL:	300		

GRAND TOTAL: 2022 KILOMETERS

The U.N. has already identified an additional 2,231 kilometers of road for clearance in Zambezia province, but it has not been approved by the CSC. The U.N. has indicated that the government has given its approval, but not Renamo.⁶ Included are the following roads, several of which are already in use:

**Malei - Namanjavira (219 kms); Namanjavira - Liciro (82 kms);
 Derre - Alto Benfica (93 kms); Morrumbala - Pinda (30 kms);
 Pinda - Megaza (30 kms); Megaza - Chire (61 kms);
 Chire - Chilombo (38 kms); Milange - Majaua (65 kms);
 Majaua - Chire (67 kms); Namarroi - Regone (28 kms);
 Regone - Gurue (56 kms); Namarroi - Tacuane (125 kms);
 Tacuane - Liciro (73 kms); Liciro - Chire (108 kms);
 Nauela - Gurue (86 kms); Alto Molocue - Mutala (57 kms);
 Mutala - Gile (94 kms); Alto Molocue - Nauela (51 kms);**

⁶ Paper provided by U.N. Program Manager for Mine Clearance, "Status of Mine Clearance in Mozambique," dated October 21, 1993, p.2.

**EN 1 - Campo (38 kms); Campo - Mopeia (79 kms);
Mopeia - Luabo (70 kms); Lugela - Tacuane (32 kms);
Mulevala - Mocubela (70 kms); Mulevala - Morrua (51 kms);
Morrumbala - Guerrissa (53 kms); Guerrissa - Lualua (49 kms); Morrumbala - Zero (55 kms); Zero - Mopeia (52 kms);
Maganja - Pebane (140 kms); Morrua - Marropino (33 kms);
Marropino - Pebane (100 kms); Malei - Liciro (46 kms)**

According to the U.N., Regional Humanitarian Commissions will propose priorities among these roads, and the U.N. Program Manager will then coordinate and propose clearance plans to the Mine Clearance Sub-Committee of the CFC for approval.

Once clearance gets properly underway in Manica, Sofala and Zambezia, the U.N. intends to draw up a list of priority roads for clearance in Cabo Delgado and Niassa provinces.

Human Rights Watch believes that the United Nations plan for mine clearance in Mozambique continues to be too focused on demining main roads, at the expense of clearance in rural areas. All available statistics indicate that bush paths are the location of the largest number of civilian mine injuries. Bush paths are likely to pose the gravest danger to civilians in the years to come.

There may be a number of reasons for the U.N. focus on road clearance: the political reality that thus far demining of main roads is the only thing that the government and Renamo have been able to agree on; pressure from humanitarian agencies that utilize the roads; and the fact that clearance of bush paths is simply not commercially attractive to private firms. Nevertheless, the United Nations, as the overseer of demining nationwide, should do all it can to ensure that badly-mined rural areas are a top priority.

NPA Clearance in Tete

Some progress was achieved in late August 1993 following a visit to Mozambique by Patrick Blagden. Blagden issued an ultimatum to both the government and Renamo on August 20th, and threatened to withdraw U.N. support for mine clearance if some headway was not made. This appears to have produced results. Both sides agreed to a nationwide survey of the mines problem by the British NGO Halo Trust, although the contract was not sent to Halo until mid-December.

Additionally, at a meeting on August 24th in Tete between Andre Millorit

and Renamo and government officials, it was agreed that a second professional mine clearance operation (in addition to the GSG pilot project) could proceed, in Tete province. The project is jointly

financed by Norway and ONUHAC, and is being carried out under the supervision of a nongovernmental organization, Norwegian People's Aid (NPA).

Frustrated with the months of delays, NPA had quietly trained 64 demobilized government soldiers in mine clearance techniques in July and August. These soldiers were all demobilized prior to the peace agreement, thereby not requiring CCFADM clearance. They initially cleared a minefield near the village of Changara, removing and destroying 124 antipersonnel mines in two weeks time.⁷ NPA is now employing them in two teams to clear mines from rural roads in Mutarara district that are used by refugees returning from Malawi. On January 19, 1994, one of the Mozambican deminers was injured in a mine clearance accident and had a below-the-ankle amputation. He subsequently died from a pre-existing condition exacerbated by his mine injury.

There was no agreement at the August 24 meeting with regard to mine clearance in Renamo areas, because Renamo's local officials claimed they had not yet obtained permission to reveal where mines are laid in their zones.

Recent Progress

On November 24, 1993, the CSC finally approved the U.N. clearance plan in a revised form. The U.N. is now proceeding with the establishment of its training school, and is expected to award a major clearance contract very soon. The CSC also approved mine clearance operations in Zambezia province by Halo Trust. (See below.)

U.N. Mine Clearance Training Center

The U.N. Mine Clearance Training Center (MCTC) officially opened on January 15, 1994 with Lt. Colonel Arend van der Veen as its head. It is located just outside Beira in a facility provided by the government, but which will have to be refurbished by the U.N. Although no training has yet taken place, demobilized

⁷ United Nations Security Council, "Report of the Secretary-General on the United Nations Operation in Mozambique," Document No. S/26666, November 1, 1993, pp. 9-10.

soldiers from both government and Renamo forces will be trained, in four-week-long courses. The U.N. will hire foreign trainers until a sufficient number of Mozambicans have the experience to take over. Human Rights Watch has been told that, in addition to the two instructors from the Netherlands who have been in Mozambique since August, the MCTC will employ 6 trainers from Bangladesh, and two each from Australia, New Zealand, and Italy. ONUMOZ has budgeted \$3.2 million for the MCTC for vehicles, equipment, salaries for instructors and trainees, and other expenses during a 14-month period. In the long run, it is expected that as many as 1,200 deminers may need to be trained, depending on the degree of mine contamination encountered as the program develops.⁸

Funding for Mine Clearance

The United Nations estimated that \$30 million would be needed for the first year of mine clearance in Mozambique. To date, the U.N. has earmarked \$14 million for mine clearance in Mozambique—\$7 million from the ONUMOZ budget and \$7 million from the Department of Humanitarian Assistance (DHA) Trust Fund. In addition, individual nations are contributing funds. The U.N.'s Humanitarian Assistance Coordination office (UNOHAC) announced on February 19, 1993 that Sweden, Holland and Norway will provide financial assistance for demining. Sweden will provide \$4.3 million and Holland \$2.7 million for the DHA Trust Fund for mine clearance. Norway will provide \$1.1 million for mine clearance in Tete province. Italy has also announced it will provide funds for mine clearance.

UNOHAC is expected in the very near future to award a major contract to a private company for mine clearance of roads in Mozambique. The final selection will be made by the United Nations Development Program Operations Department in New York. Human Rights Watch has been told that only three companies are now under consideration: Royal Ordnance of the U.K.; Mecam of South Africa; and Lonrho de Mocambique (Lomaco). Other companies that had been on a U.N. short-list—Defence Systems Ltd (DSL)⁹ of the U.K., Compagnie Francaise d'Assistance

⁸ Paper provided by U.N. Mine Clearance Program Manager, "Status of Mine Clearance in Mozambique," dated October 21, 1993, pp. 3-4; Mozambique News Agency (AIM), "Mine Clearance," December 21, 1993.

⁹ DSL was involved in adhoc clearing of mines along access roads to the Nacala railway line from 1988 through December 1993, with funding provided by the European Community. DSL now has a funding proposal before the French government for mine clearance along

Specialisee (COFRAS) of France, Societe D'Exportation de Ministere D'Interieur (Sofermi) of France, and SDS International of the U.S.—have either been eliminated from or dropped out of the competition.

U.S. AID

At the end of September 1993, the U.S. Agency for International Development (USAID) awarded a \$3.9 million contract to the Washington, D.C.-based Ronco Consulting Corporation for clearance of 2,170 kilometers of priority-designated roads in Manica, Sofala, and Zambezia provinces. Some of the roads will be chosen to complement USAID's Rural Access Road Project. Ronco has begun training demining teams, with both government and Renamo personnel. Ronco intends to train 140 deminers. Initial deployment of the teams is not expected for several months.

Human Rights Watch obtained a copy of USAID's specifications for the companies bidding on its contract. They are as follows:

The contractor will be responsible for clearing the road over its entire width, and to a distance of at least 3 meters from the edge of the road surface unless this is impractical. If the route way has no defined road surface, the clearance will be four meters either side of the track centerline. Where the road edge is less than two meters from the centerline of the road the contractor will be required to clear a total width of eight meters. Passing and parking places will also require a clearance up to three meters.

Where bridges have been mined or destroyed the contractor will be responsible for clearing all mines and munitions from the bridges, abutments and piers to a distance of 3 meters from the structures concerned. The bridge repair agency will also determine if further areas require clearance. Eight square meters of area cleared will be considered

the railway line to Lichinga in Niassa province.

equivalent of one meter of road clearance.

The contractor is to undertake to remove all mines and munitions from the area cleared. He will be responsible for removing at least 99.6% of all mines and munitions present. All mines and munitions are required to be destroyed in situ unless this action will cause damage to other structures. If this is the case, the munition or mine has to be disarmed and destroyed in a safe location. All mines and munitions are to be destroyed on the working day of discovery.

The contractor is obliged to keep records of all mines and munitions cleared, preferably stating their location and type. The contractor is expected to maintain a rate of progress sufficient to clear 2170 kilometers of road or tracks within 214 days of the award of the contract. The contractor may be expected to operate in one, two or three locations, each being up to 600 kilometers from the next.

The clearance work carried out will be subjected to Quality Assurance checking. If the sample testing indicates that mine or munition clearance rates have fallen below 99.6%, a proportion of payment will be withheld until the particular section has been cleared and rechecked.

At least fifteen companies and organizations bid for the the USAID mine clearance contract in Mozambique, in what was apparently a very aggressive competition. The USAID selection panel originally made its decision in August, but another company appealed the decision delaying the contract award until September. This competition is evidence that a significant number of companies involved in the mine, ordnance and demolition industries are viewing humanitarian mine clearance as a new and potentially lucrative business opportunity.

In addition to Ronco, other companies bidding included:

- * CMS, Tampa, FL
- * Environmental Chemical Corporation, Explosive Ordnance Disposal Division, San Diego, CA

- * **FOD Technology Inc., Oak Ridge, TN**
- * **Explosive Ordnance Disposal, World Services Incorporated, Fort Walton, FL**
- * **First Texas Manufacturing Co., El Paso, TX**
- * **Human Factors Applications, Inc., Explosive Ordnance Disposal Division, San Diego, CA**
- * **The Rimfire Foundation, Inc, New York, NY and London, UK**
- * **SDS International, Arlington, VA**
- * **UXB International, Inc., Chantilly, VA**
- * **IADB, Washington, DC**
- * **IDAS, San Salvador, El Salvador**
- * **US Defense Systems, Washington, DC**
- * **Brown and Root, Houston, TX**
- * **Sparta, Inc., Laguna Hills, CA**

U.S. Department of Defense

From March 21-30, U.S. Department of Defense (DoD) sent a mission to Mozambique to assess whether U.S. Army engineering teams could contribute to the rebuilding of roads and infrastructure. Mine clearance was part of their assessment. The assessment team was made up of officials from the U.S. Army Belvoir Research, Development and Engineering Center, Ft. Belvoir, Virginia; the U.S. Army Foreign Science and Technology Center, Charlottesville, Virginia; and the U.S. Army Special Warfare Center and School of Combat Developments, Fort Bragg, North Carolina.

The team's conclusion was that direct U.S. Army involvement would be too costly for the U.S. taxpayer and that funds channeled through private sector contract bids would be more cost effective. It is Human Rights Watch's understanding that the Belvoir RD&E Center's Countermines Systems Directorate has put together a catalogue, with color pictures, of the mine types recognized during this Mozambique mission, and that the intention is to publish this report in an unclassified form so that it is accessible to Freedom of Information Act requests. However, apparently a dispute between the Foreign Science and Technology Center and the Defense Intelligence Agency over who will pay for publication costs continues to delay this project.

Mine-Tech

A German nongovernmental organization which will be involved in

construction activities in Mozambique hired the private Zimbabwean mine clearance company, Mine-Tech, to do mine assessment surveys in Manica and Sofala provinces. In December 1993, Mine-Tech conducted the surveys in the Gorongosa region of Sofala and along an 8 kilometer stretch of the Espungabera-Gogoi road in Manica. Mine-Tech has told Human Rights Watch that its survey in the Gorongosa region indicated that it is not as badly affected as earlier reports suggested, although some areas are heavily mined.

On the other hand, Mine-Tech was surprised at how badly mined the border area is in Manica province, and believes that mines will be a serious threat to repatriation in that area. Mine-Tech hopes to obtain funding from the Italian NGO Centro Informazione E Educazione Allo Sviluppo (CIES) to clear roads in the Espungabera region of Manica. These roads have been designated as routeways for returnees from the Zimbabwean refugee camps.

Mine-Tech is a division of Strongman Engineering Ltd, located in Harare. It is run by Col. Lionel Von Dyck, a former Rhodesian army officer who worked with Renamo. After independence, Von Dyck stayed on in the Zimbabwe army and commanded an elite paratroop unit which operated in Mozambique against Renamo. Mine-Tech boasts of its unparalleled Mozambican experience, with some of its employees also having first trained Renamo in mine laying techniques and then operated against it in the late 1980s.

Mecam

South African companies are also bidding for clearance contracts, most notably Mecam, which is under consideration for the major U.N. contract. Mecam is headed by Vernon Joynt, who previously designed mines for the South African Defense Force, including, in all likelihood, some of those now found in Mozambique.

A U.N. memo on mine clearance reveals that three British-based companies considered for initial road clearance contracts were favored because of their good ties to South Africa and South African mine clearance expertise.

Independent Mine Clearance by the Government and Renamo

Although both Renamo and the government have been responsible for delaying mine clearance initiatives in the commissions, independent, uncoordinated mine clearance by both sides is underway across the country. The government and Renamo sometimes do not even bother to inform the United

Nations about their demining activities.¹⁰

The government has been clearing roads through its areas since November. The government's mines expert for Manica/Sofala provinces, Captain Boaventure Chupica Gavalho, told Human Rights Watch that the government has made Manica/Sofala a priority area for its own clearance. Government clearance has taken place, or will take place, on the following seven roads:

**Inchope - Save
Machurure - Chibabava
Naboa - Machaze
Vunduzi - Casa Banana
Chemba - Sena
Marromeu - Inhamitanga
Buzi - Tica**

According to Captain Gavalho, once these roads have been cleared, operations will move to Maputo province, seen by the government as the second-worst affected zone. Government soldiers have also been active in mine clearance in many other areas. The private firm Edlow & Gemcor has supervised soldiers clearing mines at Micuine, 50 kilometers south of Quelimane. Parts of the Nampula-to-Angoche road have also been cleared by government soldiers. After government deminers cleared 20 kilometers of road west of Milange (Zambezia), Renamo confiscated their mine clearance bulldozer in Milange, saying that the soldiers did not have permission to enter Renamo areas.

The government has also been pressing for certain strategically important roads to be cleared in the GSG pilot project. For example, significant pressure was put on GSG to clear the road between Vunduzi and Casa Banana. Casa Banana, which has a military garrison, was the location of Renamo's headquarters from 1983 until it was captured by the government in 1985. The road has been cleared up to the point where a major bridge is down, delaying further operations.

The government's National Ministry for Roads and Bridges (DNEP) is also active in mine clearance. Under pressure from commercial entrepreneurs to re-

¹⁰ Following a meeting in Pretoria in October 1993 between Foreign Minister Pik Botha and Renamo leader Afonso Dhlakama, it was reported that South Africa made an offer to Renamo and Frelimo to train 25 soldiers in mine removal.

open lucrative trade routes quickly, the DNEP has been using soldiers demobilized before the peace accord on short contracts.

Although Renamo is also actively clearing mines along certain roads in its areas, it is reluctant to see some roads opened through its areas for fear that the government could then move armored units through the areas Renamo controls. Particularly sensitive is the Macossa-Maringue-Canxixe stretch of road; Maringue is Renamo's current headquarters.

The quality of much of the clearance by Renamo and the government is not good. Many of the roads supposedly cleared are regarded as unsafe by international humanitarian agencies and the U.N. Still, many local Mozambicans are taking the risk of using them. One trucker interviewed in central Mozambique by Human Rights Watch described his incentive:

There is much money to be made just now. Timber especially. I can't wait for ONUMOZ. I'm happy to risk my vehicle if the road has been cleared by Renamo or the government. Also if other vehicles use the route frequently, I'll follow their tracks. I will not be the first down those roads after the rains. I'll let some one else risk that!

The international agencies have found evidence that Renamo's clearance is particularly poor. Renamo denies this, claiming that the government has continued to lay mines in an attempt to denigrate Renamo's reputation.

An official from Mine-Tech told Human Rights Watch of an appalling example of dangerous and incompetent clearance by the government. In December 1993, along the Espungabera-Gogoi road in Manica province, he observed a government team of five clearers at work. Fifty yards ahead of the team, fifty refugee peasants, who were being paid by the government, were walking along the road and clearing it of grass, despite the near certain knowledge of the existence of mines. Moreover, the Mine-Tech official observed that there were many gaps in the clearance of the team, who were using prodders incorrectly, and that there were no safety procedures, no radios, no medical officer; all the explosives and fuzes were being kept in the same box. Apparently the team was being paid by the number of kilometers cleared, which is an incentive to work as quickly as possible without adequate concern for safety or quality.

NGO Mine Clearance Initiatives

Aside from the Norwegian People's Aid mine clearance operation in Tete, other nongovernmental organizations are involved in mine clearance activities in Mozambique, notably Halo Trust and the Mines Advisory Group (MAG).

Halo Trust

Halo Trust, a London-based humanitarian non-profit mine clearance organization, has been granted a U.N. contract to conduct a nationwide assessment of the landmines problem. As noted above, Renamo and the government agreed to this project in late August, after months of paralysis, but the contract was not signed until December 15. Vehicles and other equipment were shipped in January and Halo began work in early February 1994. Six teams will be sent with questionnaires to every district and municipality in an attempt to draw up a more scientific assessment of the worst areas for landmines. The information

will be put into a data base and plotted onto a 1:250,000 map. These maps will then be available to NGOs and other organizations who require landmines information for their work.

Halo Trust estimates that the work will take four months, based on a similar survey they conducted for the UNHCR in Cambodia in 1991. However, Human Rights Watch found during its partial survey of Mozambique that obtaining specific details about landmine locations is a lengthy process. One informant told us that a mine was located "two cigarettes away." It turned out that he wanted cigarettes for giving us the information and that the distance to the mine was the time he took to smoke a cigarette. As his mood determined how long he smoked his cigarette, we found it difficult to obtain a firm location from him, although other villagers confirmed he knew where the mine was because he planted it. The whole conversation lasted nearly thirty-five minutes.

In addition to the survey, Halo Trust received approval from the CSC in November to engage in mine clearance in Zambezia. Halo plans to train three demining teams. Training for the first team was completed in January 1994, training for the second team began in early February. The first team began operations in Cariua, clearing around abandoned buildings; four mines were found. Halo is carrying out the work under a contract with three NGOs—Oxfam (UK), Save the Children Fund (UK), and Action Aid—which have received a grant of some

£700,000 from the British Overseas Development Administration.

Mines Advisory Group (MAG)

MAG, a British-based mine clearance NGO, sent an assessment mission to Mozambique in March-April 1993, which visited Maputo, Tete, and Inhambane provinces.¹¹ MAG is seeking funding from the European Community to conduct a six month pilot project in Inhambane province. MAG also plans to send six expatriates to Mozambique who would spend three months selecting and training 40 local staff to conduct mine surveys and clearance. In addition, MAG hopes to link up with Handicap International in a mines awareness project.

¹¹ Rae McGrath, "Mines Advisory Group Summary Report: Assessment Mission to Evaluate the Potential for Humanitarian Landmine Eradication Projects in Mozambique," May 1993.

INTERNATIONAL LAW GOVERNING LANDMINES¹

The use of landmines by all parties in Mozambique, as documented in earlier chapters in this report, violates both customary and treaty laws of war. This chapter outlines the general structure of international law governing landmines, including disarmament law, customary law of war, and the 1980 Landmines Protocol.

International Disarmament Law

No international law currently governs the production, stockpiling, or transfer of landmines. Thus, landmines do not fall within the scope of international treaty law of disarmament. Nor is there even a requirement that landmines be reported as a category under the recently operational United Nations Conventional Arms Register.

Human Rights Watch regards the failure of international disarmament law to include landmines in both substantive arms control regimes and reporting regimes as unfortunate, given the vast abuses wrought by these weapons. Human Rights Watch endorses the U.S.-sponsored resolution passed by the U.N. General Assembly on November 17, 1993, which calls upon all states "to agree to a moratorium on the export of antipersonnel landmines that pose grave dangers to civilian populations," "urges States to implement such a moratorium," and requests the Secretary-General to prepare a report on this initiative, "including possible recommendations regarding further appropriate measures to limit the export of antipersonnel landmines."²

Human Rights Watch also endorses national export moratoria voluntarily undertaken by several countries, including the United States, France, and Belgium. At the same time, Human Rights Watch believes that export moratoria, even widely adopted, are insufficient to deal with the magnitude of the landmines crisis. Export moratoria alone, unaccompanied by bans on production and stockpiling, rest inevitably on the assumption that "our" armed forces are capable of "responsibly" using landmines even if "theirs" are not.

In reality, the experience of the past twenty years has shown decisively, in too many diverse places throughout the world, that there is no "responsible"

¹"Landmines" or "mines," as used in this chapter refers to antipersonnel, and not antitank, landmines, unless otherwise specified.

²United Nations General Assembly, 48th Session, Document A/C.1/48/L42.

use of landmines. The weapon has been proven in practice to be indiscriminate. This is as true of its use by technologically sophisticated militaries such as those of the United States and the former Soviet Union slewing millions of remotely-delivered mines from aircraft in Vietnam and Afghanistan, as it is of technologically primitive guerrilla armies handling millions of cheap mines mass-produced in factories in both the developed and developing world.

The problem with landmines, however, is not only one of indiscriminate placement. The fundamental difficulty is that because of their delayed-action function, landmines are inherently indiscriminate weapons. They usually outlast the military purpose for which they were placed, thereby creating grave, long-term danger for civilians.

Disarmament law, national as well as international, therefore should take into account the need to ban not only export of landmines, but also their production, stockpiling, and use. These measures were taken with respect to biological and toxin weapons in the 1972 Biological Weapons Convention. The indiscriminate effects of landmine use, the grotesque injuries mines cause, and their terrible potential for long-term and widespread devastation, urge that landmines similarly be banned.

International Humanitarian Law

Although production, stockpiling, and export of landmines are not currently regulated by international law, *use* of landmines is. The use of landmines in armed conflict is governed by international humanitarian law, or, the laws of war. Two bodies of international humanitarian law regulate the use of landmines in armed conflict: first, customary international law and, second, international treaty law found in Protocol II to the 1980 Weapons Convention, known as the Landmines Protocol.³

³ Protocol on Prohibitions or Restrictions on the Use of Mines, Booby Traps and Other Devices (Landmines Protocol); U.N.G.A. Doc. A/Conf. 95/15 and Corr. 1-5; 19 Int'l Legal Materials 1534 (1980). In addition to the Landmines Protocol (Protocol II), two other agreements concerning Non-detectable Fragments (Protocol I) and Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III), are attached to the Weapons Convention. The provisions of the Weapons Convention apply to all three Protocols. The Weapons Convention and the Protocols entered into force on December 2, 1983. Thirty-six countries are parties to the Landmines Protocol as of this writing; the United States is not among them, having signed but not ratified the treaty.

International Customary Law

International customary law derives its status as law not by being written down in a formal international agreement or treaty, but by reason of having been followed for a long period of time by a large number of states, and regarded as binding law by them. It is referred to as "customary" law on account of its unwritten nature.

Customary law is often codified in treaties, although it is not the treaty that gives it the status of law in the first place. One such treaty that, in part, codifies matters of customary international law relevant to the regulation of landmines use is 1977 Additional Protocol I (Protocol I).⁴ Its provisions codify, at Article 51, customary law prohibiting, first, direct attacks on noncombatants. Second, its provisions also codify, a prohibition, as stated in Article 51, on indiscriminate attacks. Although Article 51 of Protocol I refers by the treaty's terms to international armed conflict, it is the view of Human Rights Watch that customary law prohibiting direct attacks on noncombatants and indiscriminate attacks is binding in all armed conflicts, international as well as non-international.⁵

Direct Attacks on Noncombatants

Preceding chapters of this report have described circumstances in which landmines have been used to attack civilians directly – circumstances in

⁴ **The Additional Protocols of June 8, 1977 to the Geneva Conventions of August 12, 1949 (Additional Protocol I Relating to the Protection of Victims of International Armed Conflicts, and Additional Protocol II Relating to the Protection of Victims of Non-international Armed Conflicts, respectively). U.N.G.A. Doc. A/32/144, Anns. I and II, Aug. 15, 1977; 16 Int'l Legal Materials 1391 (1977).**

⁵ **See e.g., ICRC, Commentary on the 1977 Additional Protocols, pp. 598; 615-616; 619-622 and Michael J. Matheson, Deputy Legal Advisor, United States Dept. of State, "The United States Position on the Relation of Customary International Law to the 1977 Protocols Additional to the 1949 Geneva Conventions," in The Sixth Annual American Red Cross—Washington College of Law Conference on International Law, *American U.J. Int'l Law and Policy* (Fall 1987), p. 419, 424-426; U.S. Air Force *Pamphlet on the Conduct of Armed Conflict and Air Operations* pp. 110-31.**

which the purpose for using landmines was to harm or threaten harm to civilians. These purposes have included the sowing of landmines to empty certain regions of populations, create refugee flows, and interfere with civilian food supplies. Such actions aim directly to harm civilians, and as such are illegal under the laws of war because they are direct attacks within the meaning of Article 51 of Protocol I, codifying customary law.

Indiscriminate Attacks

Even where the purpose of using landmines is not for attacking noncombatants directly, Human Rights Watch views any use of landmines as an indiscriminate attack within the meaning of customary law, as codified by Article 51 of Protocol I. This conclusion arises from the delayed action nature of the weapon. Article 51 codifies a customary prohibition on indiscriminate attacks, specifically those which "are of a nature to strike military objects and civilians or civilian objects without distinction," those which "employ a method or means of combat, the effects of which cannot be limited..." and those "which employ a method or means of combat which cannot be directed at a specific military objective."

Each of these describes what, in fact, happens when landmines are used. Because of their delayed action design, unless triggered, mines continue to remain armed long after the battle, even long after the conflict, and ready to explode no matter who steps on it, soldier or civilian. Thus, by their nature, mines cannot distinguish military objects and civilians, their temporal effects cannot be controlled, and a mine explosion cannot be directed at a specific military objective. Accordingly, international prohibitions on indiscriminate attacks, if properly applied, should bar all landmine use.

Human Rights Watch's view of customary law in the matter of indiscriminate attack is strengthened by considering the official Commentary by the International Committee of the Red Cross on Article 51 of Protocol I. It agrees that "the use of mines constitutes an attack" not merely at the moment a mine is laid, nor merely when it is armed, but instead "when a person [is] directly endangered by such a mine."⁶ Since an "attack" by a mine stretches until the moment when a person is endangered by it, the determination of whether the weapon is a means or method of warfare capable of fulfilling the so-called

⁶ ICRC, Commentary on the 1977 Additional Protocols, p. 622.

"principle of distinction" must include not only the presumably military target intended in the initial placement on the battlefield, but all future noncombatants who might step on the mine. Understood as the ICRC Commentary understands "attack," it is evident that the delayed action nature of mines causes them to be an indiscriminate, and hence prohibited, weapon.

The ICRC has also recommended that:

belligerents should refrain from using weapons..which on account of their imprecision or their effects harm civilian populations and combatants without distinction...[and] whose consequences escape from the control of those employing them, in space or time.¹

Implementing this recommendation requires a ban on using landmines because of their indiscriminate effects: they harm civilian populations and combatants without distinction, and escape from the control of those employing them.

Military Utility Versus Humanitarian Costs

In addition to the two customary rules prohibiting certain direct and indiscriminate attacks, customary law also requires that the military value deriving from the use of a weapon outweigh its humanitarian costs. This customary law rule applies as a balancing test in two distinct circumstances. First, any particular use of mines on the battlefield requires that the commander contemplating their use weigh up the immediate and concrete military advantage to be gained from a mine attack against its collateral costs to civilians. This is a calculation made with respect to the benefits and costs of using mines in a particular instance.

Second, humanitarian law, in evaluating mines as an overall weapons system, must consider whether the aggregate military benefits conferred by mines outweigh the aggregate humanitarian costs of mines. This is a calculation

¹ ICRC, *Report on the Reaffirmation and Development of the Laws and Customs applicable in Armed Conflicts*, submitted to the Twenty-first international Conference of the Red Cross (Istanbul, 1969) quoted in Aubert, Maurice, "The International Committee of the Red Cross and the problem of excessively injurious or indiscriminate weapons," *International Review of the Red Cross* (November-December 1990), pp. 479-480.

undertaken with respect to the weapon as a whole, and it is essential to whether international law ought to permit the use of the weapon. Whole categories of weapons, such as explosive bullets and chemical weapons, have been banned in earlier times based on this form of calculation, and the same determination ought to be applied to mines as a weapon system.

Human Rights Watch believes that landmine use can never satisfy this proportionality test. With respect to the first calculation, the required localized evaluation by a field commander of military utility versus collateral costs demonstrates the unique nature, and risks, posed by mines as a weapons system that operates practically in perpetuity. Where a commander is required to calculate the military utility versus costs of using a non-delayed action weapon system – even one of great destructiveness – that calculation, while typically a rough guess based on imperfect information, at least considers the effects the system will have at the moment it is used. The time delay inherent in landmine use, however, means that the possible effects are hidden from the commander making the calculation required by the laws of war. He is required to take into account not only the uncertainties of today, but to look forward into the future and estimate costs over the lifetime of the mine, often decades. The battlefield commander cannot know whether the immediate and concrete military advantages of mines in a given situation are outweighed or not by the future humanitarian costs of a delayed action weapon. The fact that the calculation cannot meaningfully be made is reason to doubt, under the proportionality principle, the legality of the weapon.

With respect to the second calculation, the military utility versus humanitarian costs of mines as a whole weapon system, Human Rights Watch believes that the humanitarian costs have been concretely demonstrated to be so enormous that they simply outweigh the utility of mines on the battlefield. The humanitarian costs of mines are so high that, in the view of Human Rights Watch, mines would have to perform not just a useful military function, but a truly indispensable one. It would have to be a military function which was absolutely essential and which could not be covered by any other weapon system. After lengthy discussions with military experts of many countries, and understanding fully the value that conventional and irregular armies attach to mines, Human Rights Watch does not believe that this threshold of indispensability is met.

Thus, in the view of Human Rights Watch, under the proportionality principle, as well as under the prohibition on indiscriminate attacks, any use of mines is forbidden.

The Landmines Protocol

The purpose of the 1980 Landmines Protocol was to adapt customary humanitarian principles, particularly those expressed in 1977 Additional Protocol I, to the peculiar vagaries of antipersonnel and antitank mine warfare. It has failed to achieve this goal, either in theory or in fact. To conform with customary laws prohibiting indiscriminate attacks and requiring prior to attack, the balancing of the attack's military utility against its humanitarian costs, the Landmines Protocol would have to ban all uses of antipersonnel landmines.

Instead, it puts in place a thicket of limitations on how they may be used. Chief among these are provisions whose stated purpose is to prohibit both deliberate attacks on civilians and indiscriminate use. Under the Landmines Protocol, combatants must refrain from directing mines against civilians; attempt certain precautions to minimize collateral harm to civilians resulting from mine attacks aimed at military targets; and undertake the use of mines only in situations where the anticipated military advantage outweighs the expected harm to civilians. In addition, the Landmines Protocol places specific restrictions on the use of remotely delivered mines and booby-traps; mandates that the location of mines be recorded and disclosed in certain circumstances; and urges that these records be used to assist demining efforts after the close of hostilities as well as to warn civilians about the location of minefields.

Despite these provisions, the Landmines Protocol is acknowledged to be a seriously flawed document by virtually all international organizations, states, and outside commentators that have examined it. The fundamental problem is that the drafters of the Protocol ignored the defining feature of landmine use: that landmines are delayed-action weapons. Because of this delayed-action quality, landmines frequently survive their military purpose and remain active for many years, placing civilians at great risk. The time lapse between the point at which a mine is planted and the point at which it explodes, virtually ensures indiscriminate effects. Thus, rules that simply regulate the placement of mines fail to deal with the heart of the problem: that landmines produce indiscriminate effects regardless of how they are placed.

As weapons which produce indiscriminate effects, landmines are illegal under customary humanitarian law. The Landmines Protocol, thus, not only does not deal practically with the central problem of mine warfare; it is itself in violation of customary laws prohibiting indiscriminate means of combat.

Similarly, the Landmines Protocol ignores the problem of applying the proportionality principle to the use of landmines; as noted above, because of the

delayed-action function of landmines, it is impossible for a field commander to apply the proportionality test in any meaningful way. In addition, the evidence of the last two decades shows overwhelmingly that, on aggregate, the tremendous cost to civilians of landmines use far outstrips their relatively limited military utility. Thus, the Landmines Protocol's rule requiring combatants to weigh military utility against collateral harm to civilians, actually fails to provide any real protection. It provides an apparent, rather than real, protection. In addition, by permitting the use of landmines, the Landmines Protocol does not comply with customary law requiring a realistic assessment of whether the employment of a particular weapon system satisfies the proportionality test.

The Landmines Protocol contains other serious problems. Its complex rules, discretionary language, and broad exceptions and qualifications to its general prohibitions also limit significantly its utility. Moreover, because its provisions apply only to international wars, it is effectively irrelevant to the internal armed conflicts in which landmines are chiefly used.

In addition to these theoretical flaws, the Landmines Protocol fails on a practical level: even its modest restrictions have not been followed in conflicts waged since its entry into force almost ten years ago. Some combatants regularly use landmines directly against civilians. Others utilize mines without taking even minimal precautions to safeguard civilians. No armed force in the last decade is known to have consistently and accurately recorded the location of minefields in actual combat conditions. As previous chapters document, all of these failures are amply evident in Mozambique.

The Landmines Protocol will be the subject of a United Nations review conference in 1995; expert meetings are being held in 1994 to develop views on reform of the Landmines Protocol. Human Rights Watch maintains that the Landmines Protocol requires more than just reform to bring it into conformity with controlling customary international law, particularly as expressed in Additional Protocol I. The only satisfactory measure is to prohibit the use of antipersonnel landmines altogether. Anything else falls short of the requirements of customary law prohibiting direct and indiscriminate attacks against civilians, and attacks in which it cannot be shown that the expected military value outstrips the anticipated humanitarian toll. Pending this change in the Landmine Protocol, Human Rights Watch believes that the relevant legal standard that ought to be applied to the use of landmines is that of customary law: that any such use violates laws against indiscriminate attack and contravenes of the proportionality rule.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Mozambique has a serious landmines problem. Certain parts of the country, such as Sofala, Maputo, Manica, and Inhambane provinces, are very badly affected. Some areas in other provinces are also heavily mined. Most combatant forces, including those of the Mozambican government, Renamo, Rhodesia, South Africa, Tanzania, and Portugal, have been responsible for laying landmines, especially antipersonnel mines. At least fifteen countries, most notably the former Soviet Union, have manufactured more than 50 different types of mines used in the Mozambican conflict.

Most of the mines were laid without markings or warnings to the civilian population. A large proportion were laid in such a way that their victims could not be other than civilians. More than 8,000 civilians are amputees as a result of landmines. Thousands more have been killed or have not received treatment. The impact of landmines is likely to increase in the short term, with the return of refugees and displaced people to homes, fields and paths which were mined in their absence.

Mozambique's capabilities and facilities for the evacuation, emergency treatment, hospital treatment and rehabilitation of landmine victims are inadequate and not improving. The social needs of landmine victims are not attended to properly. Prostheses operations will be required for thousands of victims for many decades to come.

Since the October 1992 ceasefire, little professional mine clearance has taken place. Although the United Nations is responsible for coordinating initiatives, its plans have been postponed and delayed by government and Renamo political fighting, as well as the U.N.'s own bureaucracy. Meanwhile, the government and Renamo themselves clear roads they want opened, often without consultation with the U.N. The U.N. has focused too much on road clearance, in part because of pressure from humanitarian agencies. Extensively-mined bush paths are consistently causing the greatest human suffering. Unfortunately, the clearance of bush paths is not commercially attractive.

The use of landmines is subject to international law, primarily customary international law and the 1980 Landmines Protocol. International law prohibits the indiscriminate use of weapons and the direct use of landmines against the civilian population. The law requires that mines be marked and recorded. It is clear from this report that, in practice, all parties to the conflict in Mozambique have

routinely abused these provisions. It is hard to avoid the conclusion that one of the purposes of the random dissemination of mines in inhabited areas was precisely to cause excessive civilian casualties and thereby terrorize the population. The experience of Mozambique suggests that the Landmines Protocol has been wholly ineffective.

Recommendations

I. General

The experience of Mozambique has shown that antipersonnel landmines present a serious and long-term threat to civilians, far in excess of any short-term military advantage which may have been gained in combat. Accordingly, Human Rights Watch believes that there should be an international ban on the production, stockpiling, trade and use of antipersonnel landmines.¹

II. To the Mozambican Government/FAM

(1) The Mozambican government should take immediate steps to assist the U.N. in setting up a systematic and coordinated mine clearance program which will eradicate mines from all areas used by civilians.

Essential components of this assistance should be:

- Providing deminers access to all necessary maps and information on mine imports and types of mines used.
- Permitting soldiers with local knowledge of minefield and mine locations to participate in mine clearance operations.

¹ For a comprehensive examination of the global landmines problem and of the need for a ban on production, stockpiling, trade, and use, see Human Rights Watch Arms Project/Physicians for Human Rights, *Landmines: A Deadly Legacy*, November 1993. This book contains many recommendations for addressing the global landmines crisis. The recommendations in this report are largely intended to be Mozambique-specific.

- **Marking clearly the location of minefields and ensuring that civilians are aware of why these areas are being fenced off.**

- **Ensuring that landmines are destroyed and not returned to stores.**

(2) The Mozambican government should sign and ratify the 1980 Landmines Protocol and abide by its provisions in any future internal or international conflict, and should support international efforts to limit the production, trade, and use of landmines.

III. To Renamo

(1) Renamo should cooperate fully with the United Nations mine clearance efforts and should provide expert personnel to assist demining operations.

(2) Renamo should provide all available information to the U.N. Demining Projects Office or any CSC-approved mine clearance operation or survey. This information should include details of the types of mines they used in Mozambique, the strategies of dissemination (including methods for preventing mine clearance), and the location of the mines (including, wherever possible, minefield maps).

(3) Renamo must immediately allow landmine victims freedom of movement in order to seek adequate treatment in line with Protocol 3, Article 3a of the October, 4, 1992 General Peace Accord.

IV. To the United Nations

(1) The United Nations should ensure that those responsible for causing delays or blocking mine clearance initiatives are made publicly accountable.

(2) The U.N. should ensure that mine clearance is not just focused on roads. Bush paths and other badly-mined rural areas should be a top priority.

(3) The U.N. should create a voluntary Trust Fund for mine victims. Local and

international nongovernmental organizations could apply to the Trust Fund for grants for programs to assist mine victims. Landmine producers and exporters, and mine clearance companies profiting from demining, should contribute to the fund.

V. To Mine Producers and Exporters

(1) All countries which have manufactured, designed, or provided landmines used in Mozambique should contribute to the cost of the national mine clearance program.