



# Dangerous Depots:

## The Growing Humanitarian Problem Posed by Aging and Poorly Maintained Munitions Storage Sites

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### The humanitarian context

The citizens of the United States and the democratic government which represents them desire a world in which people are free to live in safety, peace, and prosperity. To this end, the United States government funds the largest Conventional Weapons Destruction program in the world. This program has invested over \$1.7 billion dollars since 1993 to fund conventional weapons destruction worldwide, including the clearance and destruction of landmines and explosive remnants of war in nearly 50 countries, and the destruction of excess and aging arms and munitions in various countries' military depots. The United States believes that by helping other countries to safely destroy their excess and deteriorating arms and munitions, the less likely it will be that these materials will fall into the hands of criminals, terrorists, and illicit arms traffickers and be used to fuel crime and armed conflict. *Furthermore, the proper disposal of these aged and poorly secured munitions will result in fewer accidental stockpile explosions that can harm innocent people who live in proximity to military depots.*

The United States' commitment to helping other countries destroy their at-risk arms and munitions weapons is real and is evidenced by its expenditures and actions to date. Many other governments and responsible non-governmental organizations share the United States' concerns. The Office of Weapons Removal and Abatement in the U.S. Department of State's Bureau of Political-Military Affairs ([www.state.gov/t/pm/wra](http://www.state.gov/t/pm/wra)) works closely with other governments, international organizations, and non-governmental organizations to protect the lives of men, women, and children everywhere from at-risk arms and munitions. Ultimately, the United States government and its citizens stand shoulder to shoulder with the global community in its aspiration for universal peace and security.



Bulgaria: Police officers stand guard after explosions at an army ammunition depot near the Bulgarian capital Sofia, Thursday, July 3, 2008. A series of powerful explosions at an army ammunition depot near Sofia damaged buildings and forced the closure of the country's main airport. The blasts occurred near the village of Chelopechene, at 6:30 a.m. and were heard throughout the capital. [© AP Image]

## A new post-Cold War threat emerges

On April 29, 2009, a series of explosions in the Mbagala District of Tanzania's capital, Dar es Salaam, killed 26 people, injured hundreds more, and destroyed as many as 7,000 homes. As this and other all-too-frequent incidents illustrate, poorly maintained, improperly stored, or inadequately guarded conventional weapons and munitions pose as significant a humanitarian challenge as that of the better-known threat from landmines and other explosive remnants of war left uncleared from past conflicts.

Since 1990s, there have been an increasing number of catastrophic explosions at arms storage facilities around the world. The frequency of such incidents has increased as urban populations have expanded outward from city centers to the vicinity of what were often previously isolated depots. The Office of Weapons Removal and Abatement (PM/WRA) and the Defense Threat Reduction Agency remain committed to helping to confront it.

The United States has partnered with more than 30 countries since 2001 to promote safe disposal of surplus and aging weapons and munitions, including 1.4 million small arms and light weapons, more than 80,000 tons of munitions, and nearly 32,000 man-portable air defense systems (MANPADS). In addition, U.S. experts have worked with foreign partners to improve stockpile management practices. Where needed, PM/WRA has also deployed its Quick Reaction Force to help partner countries mitigate risks from potentially dangerous depots, as well as operations to safely remove and dispose of materials following incidents at these facilities.

The frequency of such incidents has increased as urban populations have expanded outward from city centers to the vicinity of what were often previously isolated depots. Since 1995 there have been 218 known incidents involving these dangerous depots, resulting in more than 4,700 fatalities and nearly 5,700 injuries, according to experts. As munitions deteriorate further, new tragedies will follow unless this problem is more widely acknowledged and addressed. The humanitarian impact posed by these "dangerous depots" is widespread and worsening, as seen in the timeline below. Following are some examples of these incidents.

# Timeline: Examples of Major Accidents at Munitions Depots

## 2009

**November 13, Russia.** November 13, Russia. A detonation during munitions disposal operations caused a series of explosions at an ammunition storage depot reportedly storing artillery munitions and torpedoes on the outskirts of Ulyanovsk, a city approximately 550 miles (900km) southeast of Moscow. The explosions, which lasted several hours, also forced the evacuation of over 3,000 nearby inhabitants. Reports of casualties varied, but at least two military firefighters were killed with an undetermined number injured as a result of the accident. Eight additional Russian bomb disposal personnel were killed and two others injured in a new explosion at the depot during clean-up operations. Russian President Dmitry Medvedev called for the dismissal of several high-ranking military officials for “criminal negligence.”

**June 8, Kazakhstan.** A series of late night explosions in a Soviet-era munitions depot on the outskirts of Almaty killed one soldier and caused dozens more persons to be evacuated. The explosions, which continued into the next day, involved large stores of artillery shells as well as heavy machine gun ammunition.

**April 29, Tanzania.** April 29, Tanzania. A large explosion involving rockets, artillery, and mortar shells rocked the Mbgagla munitions depot located approximately eight miles (14 kilometers) from the center of Dar Es Salaam. The initial explosion, followed by a series of additional blasts, killed 26 people, injured more than 300, destroyed as many as 7,000 homes, and prompted mass evacuations of residential neighborhoods surrounding the depot.

## 2008

**July 10, Uzbekistan.** An explosion at a military depot in Kagan, southeast of Bukhara, killed at least three persons and injured 21, according to government reports.

**July 3, Bulgaria.** A series of explosions at the Chelopchene munitions depot in the capital, Sofia, forced the evacuation of residents within a 3.7 mile (six kilometer) radius. Tons of ammunition and explosives detonated immediately. Tons more were damaged in the fire creating additional hazards for the surrounding community. The United States immediately offered to help remediate this hazardous explosive site and Bulgaria accepted.

**March 15, Albania.** A series of massive explosions at an Albanian government munitions depot in the village of Gërdec, northwest of the capital, Tirana, killed 27 people, and injured more than 300. The blasts extensively damaged 400 homes and other civilian structures within a 1.5 mile (2.5 kilometer) radius and forced the evacuation of 4,000 nearby residents. Contributing factors included old, unstable ammunition, and reportedly improper storage and unsafe handling at the depot, which was serving as a munitions demilitarization facility. The U.S. Embassy, Department of State, and Department of Defense provided assistance immediately. Subsequently, the Office of Weapons Removal and Abatement committed \$2 million to help Albanian authorities thoroughly and safely clean up all of the highly dangerous unexploded ordnance that littered the site and the surrounding areas.



Photograph of Gerdec Ammunition Dump, post-explosion. [Photo courtesy of Richard Kidd, Former Director of PM/WRA]

## 2007

**December 29, Colombia.** A series of explosions at an army base in Medellin killed two people, injured seven, and caused neighboring civilian residents to flee. The first explosion was reportedly caused by a grenade that detonated inside a weapons storage area.

**November, Mozambique.** Three people in Beira were killed by a piece of unexploded ordnance they discovered that had been ejected from a depot explosion in 2002.

**July 26, Syria.** An explosion at a munitions depot at a military complex approximately six miles north of Aleppo killed 15 soldiers and wounded 50.

**June 17, Democratic Republic of Congo.** A Congolese Army munitions depot near Mbandaka in Equateur Province was destroyed in an explosion, which killed three people and injured 52.

**April 7, Sudan.** The international airport in Khartoum was closed temporarily due to an explosion in an adjacent munitions depot. Fortunately, there were no reported casualties.

**March 22, Mozambique.** An explosion at the Malhazine Ammunition Depot in a densely populated neighborhood 6.2 miles (10 kilometers) from the center of the capital, Maputo, killed more than 100 people and injured 500 others. Unexploded ordnance continued to injure people for several days afterwards. Hot weather and negligence were cited as the cause. The depot was constructed in 1984 by the Soviet Union and stockpiled with obsolete Soviet-era weapons and munitions. It had previously experienced an explosion in January, which injured three people.

## 2006

**October 19, Serbia.** An explosion in a munitions depot injured approximately 20 people in the adjacent town of Paracin, as well as in the surrounding villages of Cuprija and Jagodina. The United Kingdom and United Nations Development Program (UNDP) provided assistance.

**March 23, Afghanistan.** A fire in a storage area for confiscated weapons and ammunition in Jabal Saraj, northeast of Kabul, resulted in an explosion that killed two Afghan civilians and injured more than 60 others, including 18 Afghan Army soldiers. The site was eventually cleared by an explosive ordnance disposal team funded by the Office of Weapons Removal and Abatement.

## 2005

**October 1, Russia.** A fire in a Russian Pacific Fleet ammunition storage depot on the Kamchatka Peninsula forced the evacuation of five local towns. Although subsequent explosions in the depot scattered flying ordnance over a five mile (eight kilometers) area, there were no reported casualties.

**May 2, Afghanistan.** Illicit munitions stockpiled by a local militia commander exploded in Bajgah, north of Kabul, killing 28 people, injuring 13 more and leveling 25 houses in the village.

## 2004

**May 6, Ukraine.** Railroad cars loaded with ammunition exploded at a munitions storage site near Melitopol in the Zaporozhye region of Ukraine. Five people were killed, more than 300 injured, and more than 5,000 people living within a 9.3 mile (15 kilometer) radius of the disaster site were forced to evacuate. More than 300 buildings were destroyed, while six villages within nearly 25 miles (40 kilometers) of the depot—Novobohdanovka, Vorozhdeniye, Privolnoye, Spaskoye, Oriovo and Vysokoye—were reported to be partially or totally destroyed in the incident.

**February 19, India.** An explosion at a munitions depot in Amritsar, India, killed 30 people.

## 2003

**October 11, Ukraine.** A series of explosions ripped through a munitions depot at Artemovsk in the eastern Donetsk region, shattering windows of surrounding apartment blocks, and prompting the evacuation of several thousand area residents.

**March 23, Ecuador.** An explosion at a navy base in Guayaquil killed one, injured 22 people and damaged more than 350 homes.

**January 23, Peru.** An explosion killed seven Peruvian military personnel who were inspecting ammunition at a base depot located outside the city of Tumbes, and injured 15 other military personnel and 80 civilians on the base.

## 2002

**November 21, Ecuador.** Two explosions in the munitions depot of Ecuador's largest military installation outside Riobamba killed seven people and injured 274 others.

**October 30, Mozambique.** An explosion at a munitions depot in Beira killed six people, injured 50 others, and affected approximately 900 more.

**January 29, Thailand.** An explosion at a munitions depot in Pak Chong caused 11 casualties. Experts subsequently traced the cause to munitions stored in the depot that had been damaged by a previous incident in October 2001.

**January 27, Nigeria.** A catastrophic explosion at the Ikeja ammunition depot in the center of Lagos, resulted in more than 1,100 deaths, and 5,000 injuries. The accident displaced 20,000 people and destroyed much of northern part of Lagos. While a fire near the depot reportedly initiated the explosion, many blamed the accident on the deteriorated condition of many of the old munitions stored there. The U.S. Department of State's former Office of Humanitarian Demining Programs (a precursor to the Office of Weapons Removal and Abatement) provided cleanup assistance to Nigerian authorities.

**January 11, India.** An explosion at a munitions depot in Bikaner killed two people and injured 12 others.

## 2001

**October 25, Thailand.** A series of explosions killed 19 military personnel, and injured 90 others at a munitions depot in Nakhon Ratchasima's Pak Chong area (Korat). The incident occurred during the movement of unserviceable ammunition.

**August 16, India.** An explosion at a munitions depot in Tamil Nadu killed 25 people and injured three others.

**August 8, Kazakhstan.** A fire caused an explosion at a munitions depot 30 miles from the town of Balkhash. While several surrounding villages were evacuated, there were no reported casualties.

**June 8, Vietnam.** An explosion at an army base in central Vietnam detonated approximately three and half tons of explosives and ammunition blew up, injuring four people and damaging approximately 100 homes.

**May 24, India.** Fire and explosions reportedly caused by the ignition of artillery propellant destroyed an Indian Army munitions depot near the town of Suratgarh in the state of Rajasthan. The explosions killed one person and injured five others, subsequently forcing the evacuation of about 3,000 people from surrounding villages.

**May 20, Yemen.** 14 people were killed, and 50 wounded when munitions blew up in Al-Bayda.

**April 29, India.** A fire at a munitions depot on the outskirts of the city of Pathankot in the state of Punjab forced the evacuation of thousands of residents and destroyed more than 500 tons of ammunition.

**March 3, Guinea.** A fire caused a series of explosions at an ammunition depot at an army base in the capital, Conakry, killing 10 people.

## 2000

**April 28, India.** Fire and explosions at the Bharatpur munitions depot in Rajasthan killed five personnel, injured seven others, and caused extensive damage to 20 surrounding villages. The incident damaged 20 open storage areas and nine warehouses holding approximately 12 tons of munitions, including missiles.

**April 14, Democratic Republic of Congo.** A fire triggered a series of explosions in a hangar being used as an ammunition storage area at Kinshasa airport, killing 101 people and injuring more than 200 others.

## 1999

**October 9, Afghanistan.** An explosion at a munitions depot in Mazar-e-Sharif, caused by improper handling, killed seven people and injured twelve others.

## 1997

**July 8, Ecuador.** An explosion at a munitions depot in La Balbina killed four people, wounded several dozen others, and destroyed 1,200 homes.

**March 19, Afghanistan.** A large explosion in a munitions depot near Jalalabad detonated an estimated 200 tons of munitions. The blast killed 30 people and injured approximately 200 others.

**March, Albania.** A series of explosions in munitions storage sites in 15 towns killed 59 people, and injured 59 others. These incidents prompted NATO to provide an Ammunition Storage and Disposal Team to train the Albanian armed forces to safely clear the large quantity of unexploded ordnance scattered by the blasts.

## 1996

**February 15, Afghanistan.** An explosion in a munitions depot outside Kabul killed 60 people and injured more than 125 others.

## 1995

**July 16, Brazil.** An explosion at a munitions storage area near the city of Boquerio killed more than 100 people.

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*Information presented in this timeline was drawn from:*

- “Major Ammunition Accidents—1917 to 2009” compiled by Colonel George Zabaczevsky, U.S. Army (Retired). Colonel Zabaczevsky was formerly the Director of the U.S. Department of Defense’s Humanitarian Demining Research & Development Program.
- “Recent Explosive Events in Ammunition Storage Areas,” a report of 137 incidents released in June 2007 by the South Eastern and Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons (<http://www.seesac.org>).
- *Explosive Capabilities Limited (ecap)*, “The Threat From Explosive Events in Ammunition Storage Areas.”

