Quick facts on unplanned explosions at munitions sites (UEMS)*

UEMS: Incidents and consequences

Casualties of UEMS, 1979–2019: During the period January 1979 to December 2019 almost 30,000 casualties resulting from UEMS incidents were recorded. The highest number of casualties was recorded in 2002, mainly due to the devastating UEMS incident that occurred in Lagos, Nigeria. Similarly, the incident in Abadan, Turkmenistan, in 2011 and the one in Brazzaville, Republic of Congo, in 2012 contributed strongly to the spikes in 2011 and 2012.

USSR, where 91 people were killed and more than 1,000 injured during the accidental explosion of ammunition loaded onto a train, which had been wrongly recorded as occurring in 1998 instead of 1988.

Comparing casualties per year with incidents per year shows that the numbers do not always correlate.

The main goal of dealing with UEMS is not to prevent incidents altogether—which is impossible—but to mitigate the consequences for the victims of these incidents.

Casualties per year vs. incidents per year:

During the period examined (1979–2019) the main causes behind UEMS incidents were:

- Improper physical security and stockpile management (PSSM) practices increase the probability of UEMS occurring.
- Environmental influences and events
- Inappropriate working practices
- Failure to take into account external environmental influences and events
- Inappropriate storage systems and infrastructure
- Lack of surveillance leading to ammunition deterioration
- Handling errors and inappropriate working practices
- Poor security
- Cause currently unidentified or unrecorded
- Unknown actors
- Military organizations
- Non-state facilities
- Private entities
- State facilities

Percentage of UEMS incidents occurring in:

- 7% stockpiles held by unknown actors
- 73% state facilities
- 0.8% stockpiles held by private entities
- 6.4% stockpiles held by commercial companies
- 11.4% stockpiles held by non-state facilities
- 18.6% stockpiles held by armed groups

Average annual casualties per decade:

<table>
<thead>
<tr>
<th>Decade</th>
<th>Casualties per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980s</td>
<td>4,872</td>
</tr>
<tr>
<td>1990s</td>
<td>2,083</td>
</tr>
<tr>
<td>2000s</td>
<td>9,190</td>
</tr>
</tbody>
</table>

For the 1980s and 1990s, the change to prior updates in casualty numbers comes mainly from the redating of incident no. 107 in Arzamas, USSR, where 91 people were killed and more than 1,000 injured during the accidental explosion of ammunition loaded onto a train, which had been wrongly recorded as occurring in 1998 instead of 1988.

**Sex-disaggregated numbers are not available for most of the incidents, although it is clear that women, men, boys, and girls were equally among the victims in most cases, given the fact that all of the incidents happened in heavily populated residential areas.

Total casualties of all UEMS incidents from January 1979 to December 2019: 29,932

Average yearly incidents per decade:

<table>
<thead>
<tr>
<th>Decade</th>
<th>Number of incidents per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980s</td>
<td>411</td>
</tr>
<tr>
<td>1990s</td>
<td>1,035</td>
</tr>
<tr>
<td>2000s</td>
<td>2,699</td>
</tr>
</tbody>
</table>

An average of more than 748 deaths and injuries per year have been recorded 1979–2019.

UEMS incidents with the largest number of casualties:

- 1st: 27/01/2002, Lagos, Nigeria, 6,500
- 2nd: 04/03/2012, Brazzaville, Republic of Congo, 3,777
- 3rd: 22/04/2004, Ryonchon, North Korea, 1,460
- 4th: 07/07/2011, Abadan, Turkmenistan, 1,428
- 5th: 10/04/1988, Rawalpindi, Pakistan, 1,193
- 6th: 04/06/1988, Arzamas, NIZ, Russian Federation, 1,091
- 7th: 21/12/1987, Alexandria, Egypt, 1,006
- 8th: 29/04/2009, Dar es Salaam, Tanzania, 726
- 9th: 22/03/2007, Malhazine, Mozambique, 622
- 10th: 20/11/2002, Riobamba, Ecuador, 568

Casualties of UEMS from January 1979 to December 2019: 29,932

- 1980s: 4,872
- 1990s: 2,083
- 2000s: 9,190

Figures for 2019 include data up to 31 December.