

Factors that make cluster munitions unacceptable

- Technical terms
- Problems due to technical factors
- Problems due to factors associated with use
- Impact of submunitions on civilians
- Recommendations

Technical terms

- “Submunition” refers to an individual bomblet or grenade that is contained within a larger casing such as a mortar, bomb, rocket or missile.
- “Cluster munition” refers to the canister that contains the individual submunitions. At a specified moment the larger munition releases the submunitions over the target area.
- “Cluster bomb” refers to a cluster munition delivered by air from a bomber, fighter or helicopter.

Technical terms

- “Bomblet” refers to an individual submunition from an air-dropped cluster munition.
- “Grenade”, in the context of cluster munitions, refers to an individual submunition from a ground-launched artillery system, rocket or missile.
- “Footprint” refers to the area where the submunitions dispensed from the cluster munition impact on the ground. Footprints can be as large as two football fields.

Technical terms

- “Unexploded munition” refers to a munition that has been fired or dropped, but that failed to explode as intended. These items are also often referred to as duds.
- “Failure rate” refers to the percentage of submunitions that were launched, but that failed to function and remain unexploded.

Technical factors related to failure

Problem: Complexity of the fusing and arming system

- Aging cluster munitions that require spinning to arm
- System often too complex and fails to function leaving unexploded submunitions
- Examples: BLU-26, BLU-61, BLU-63

Problem: Age of munition

- After several years munitions no longer function as intended.
- Like any piece of machinery, components become less reliable and more likely to become duds
- Examples: AO-1Sch, BLU-26, BLU-61, BLU-63, Mk 118

Problem: Lack of self-destruct mechanism

- When a munition fails to explode it becomes a dangerous piece of UXO
- Sometimes unexploded submunitions can be as dangerous as AP mines
- Without a self-destruct mechanism it will remain unexploded indefinitely
- Examples: AO-1Sch, BLU-26, BLU-61, BLU-63, Mk 118, BLU-97, M42, M46, M74, M77, KB-1, KB-2, AO-2.5 APAM, PTAB 2.5

Problem: Presence of ribbon or parachute or other external device

- Many submunitions, especially DPICMs have external devices to stabilize them
- This device often catches on vegetation etc. and fails to hit the ground
- This prevents it from detonating and results in an unexploded submunition
- Examples: M42, M46, M74, M77

Problem: Presence of an All-Ways-Acting (AWA) fuse

- This fuse is extremely hazardous as it can be initiated by pressure from many directions.
- Submunitions with AWA fuses are more dangerous to civilians and make clearance operations more difficult
- Example: BLU-97

Problem: Inaccuracy of cluster munition

- Artillery and rockets are less accurate than other forms of delivery
- They are vulnerable to wind and cannot be relied on to hit their intended target
- Both the cluster munition and the individual submunitions are inaccurate
- Examples: M42, M46, M74, M77

Factors associated with use

Problem: Use of cluster munitions in or near populated areas

- Because of the problems outlined in this paper, cluster munitions are particularly dangerous when used in populated areas
- Inaccuracy and high failure rate make them unacceptable for use in civilian areas
- Examples: This problem applies to all cluster munitions used in populated areas

Problem: Failure to provide timely warnings to civilian populations and deminers

- Warnings are required to prevent civilian populations from interacting with submunitions out of curiosity
- Deminers often have difficulty locating potentially dangerous areas which need to be marked and fenced
- Examples: This problem applies to all cluster munitions

Problem: Incorrect drop/launch altitude

- Most submunitions are not armed until they are clear of the delivery system
- If dropped at an inappropriate altitude they may land before being armed, resulting in a dangerous piece of UXO
- Examples: This problem applies to all cluster munitions that are armed after delivery

Problem: Insufficient impact due to soft terrain

- Submunitions often land in sand, swamp, water or thick vegetation
- Since most submunitions are designed to explode due to impact, this causes many UXO
- This also increases the risk of unexploded submunitions under the surface – a serious problem for humanitarian deminers
- Examples: This problem applies to all submunitions used in areas where there is soft terrain

Problem: Failure due to weather conditions

- Rain or moisture can damage the fuse of a submunition and prevent it from functioning
- Wind can blow the munitions away from the target area
- Examples: This applies to all cluster munitions used in these weather conditions

Impact on civilians

- Submunitions cause a double hazard to civilians.
- First, when used in or near populated areas, they kill and injure due to their inherently indiscriminate delivery.
- Second, when they fail to explode on impact, submunitions become similar to landmines and can be activated by the presence or interaction of a person.

Impact on civilians

- Even if they do not explode, the presence or assumed presence of unexploded submunitions has a socio-economic impact.
- Development and projects and relief work can be severely hampered by the presence of ERW.

Recommendations

- Ban all submunitions with the following characteristics:
 - Overly complex fusing and arming system
 - Excessive age
 - Lack of self-destruct mechanism
 - Presence of ribbon or other external device
 - Inaccurate delivery systems such as artillery

Recommendations

- No use of cluster munitions in or near populated areas
- Timely information provided to civilian population and/or humanitarian deminers
- Appropriate drop or launch altitude
- Proper analysis of type of weather and terrain in target area
- Destruction, not transfer of obsolete submunitions