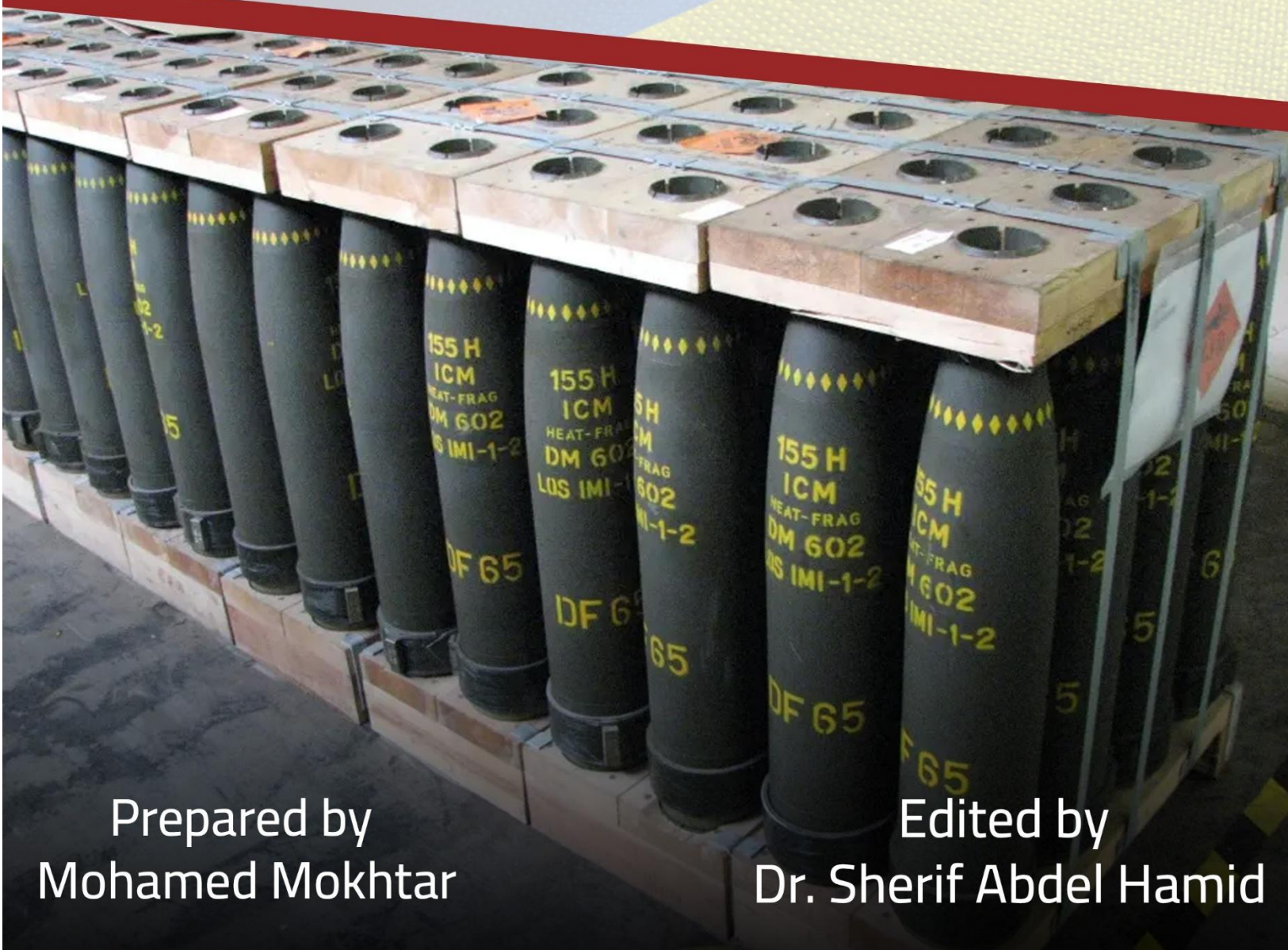


# Human Impact of U.S. Cluster Munitions Exports to Ukraine

Briefing Paper by Maat for Peace, Development, and Human Rights  
On the Occasion of Intersessional Meeting of Convention on Cluster  
Munitions – 2025



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## Overview

International Humanitarian Law (IHL) prohibits the use of cluster munitions in armed conflicts due to their indiscriminate nature and the severe, long-term harm they cause to civilians. These munitions are characterized by a high failure rate, effectively turning into landmines that threaten civilian lives and hinder reconstruction efforts for decades.

Since the outbreak of the armed conflict between Russia and Ukraine in February 2022, **Maat for Peace, Development, and Human Rights** has documented several indiscriminate attacks using cluster munitions by both parties in the conflict, including the Ukrainian armed forces. This reflects the widespread violations associated with the use of this type of prohibited weapon.

In light of the significant risks associated with the use of cluster munitions—both in terms of potential serious violations of IHL and human rights law, and the long-term humanitarian impact—the transfer of these weapons to conflict parties constitutes a clear breach of international obligations. It undermines international efforts to protect civilians and prevent the recurrence of systematic patterns of violations.

Despite the grave humanitarian costs resulting from the use of cluster munitions, the United States has sent seven military shipments containing cluster munitions to the Ukrainian armed forces between July 2023 and October 2024. This transfer occurred despite a documented

record of previous violations by Ukrainian forces in using these weapons, increasing the likelihood of civilian casualties and perpetuating damage to critical infrastructure, as well as the long-term contamination from unexploded ordnance. Notably, many of these munitions are over twenty years old, raising the chances of detonation failure.

While U.S. government has indicated that Ukraine provided written assurances regarding the use of these munitions to minimize civilian harm—such as restricting their use within Ukrainian territory, refraining from urban areas, and maintaining accurate records of their deployment for removal after the conflict—the lack of transparency regarding the adherence to these principles raises legitimate concerns that these commitments may not be effectively implemented on the ground.

This briefing paper aims to highlight the serious humanitarian and legal impact resulting from the transfer of U.S. cluster munitions to Ukraine. It explains the international legal background that prohibits the use and transfer of these weapons, outlines the risks associated with a significant failure rate, and points to the lack of transparency regarding their actual use, which increases the likelihood of escalating civilian suffering during and after the conflict.

## Key Findings

- U.S. government supplied Ukraine with seven shipments of cluster munitions between July 2023 and October 2024, raising widespread concern over the potential humanitarian impacts of these weapons.
- The transfers of munitions lack sufficient transparency, with U.S. government failing to disclose specific details about the types and quantities of munitions sent or their failure rates, hindering an objective assessment of the associated risks.
- Estimates indicate that the failure rate of these munitions ranges between 15% and 20%, meaning thousands of smaller bombs will remain dormant after the conflict, posing an ongoing threat to civilian lives, particularly for children, agricultural workers, and humanitarian aid personnel.
- The widespread contamination of land due to unexploded ordnance presents a significant barrier to reconstruction efforts, hindering the rehabilitation of agricultural land and the restoration of critical infrastructure, ultimately undermining food security and obstructing economic development in affected areas.

## Cluster Munitions: Clear Violation of IHL Principles

Cluster munitions are inherently indiscriminate weapons that cause severe and disproportionate harm to civilians. For this reason, customary IHL prohibits their use in all armed conflicts, as they explicitly violate fundamental principles of this law, primarily the principles of distinction, proportionality, and precaution.

Cluster munitions release hundreds of smaller bombs that scatter over vast areas, potentially covering hundreds of square meters, without the capability for precise control over their drop zones. This pattern of indiscriminate dispersal makes it impossible to limit their effects to only legitimate military targets, increasing the likelihood of direct civilian casualties, destruction of property, and targeting of civilian objects protected under international law.



Estimates show that the failure rates of these munitions range from 10% to 40%, meaning large quantities remain dormant after deployment, effectively becoming deadly landmines that threaten civilian lives for decades, especially for children and farmers. They also contribute

to environmental contamination, exacerbating their catastrophic effects on affected communities.

The use of these weapons directly contradicts the principle of distinction, which requires parties to the conflict to clearly differentiate between civilians and combatants, as well as between civilian objects and military objectives. It also violates the principle of precaution, which mandates taking all feasible precautions to minimize civilian casualties and damage. Furthermore, the extensive incidental losses resulting from the use of cluster munitions are often excessive when compared to any potential military advantage, making their use a violation of the principle of proportionality.

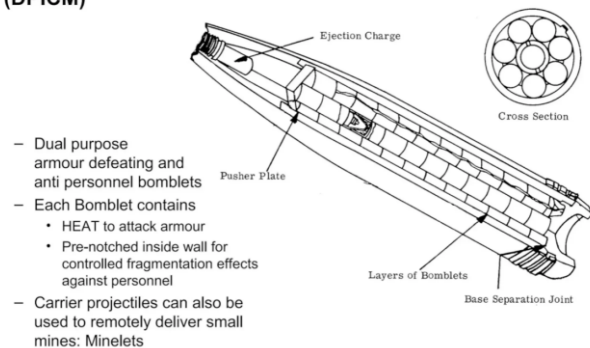
In light of the above, the continued use or transfer of cluster munitions to conflict areas constitutes a grave violation of IHL and poses a direct threat to civilian lives and community stability even after armed conflicts have ended.

### Transfer of U.S. Cluster Munitions to Ukraine: Ignoring Humanitarian and Legal Risks

In February 2023, during the Munich Security Conference, the Ukrainian Deputy Prime Minister appealed to the United States for cluster munitions, despite the serious risks they pose to civilians and the legal and humanitarian concerns surrounding them. Despite the gravity of this request, U.S. government responded by supplying the Ukrainian armed forces with seven shipments of cluster munitions from July 2023 to April 2025.

The first shipment occurred in July 2023 and included military assistance worth \$800 million, comprising 155 mm artillery shells containing dual-purpose improved conventional munitions (DPICM). Although U.S. government announced that the failure rate of these munitions is below 2.35%, this rate exceeds the threshold set by U.S. Congress in a 2009 law, which prohibits the export of cluster munitions with a failure rate exceeding 1%. U.S. has not disclosed the exact quantities or types of munitions sent.

Dual Purpose Improved Conventional Munition (DPICM)



A graphic with basic details about a typical artillery shell loaded with DPICM submunitions. DOD

Image from The War Zone illustrating the design of multi-purpose cluster munitions.

DPICM are artillery shells that disperse hundreds of small bombs in the air and can be used against both personnel and armored vehicles. Most of these munitions were produced between the 1970s and 1990s, and their failure rates are highly controversial. A 2000 U.S. Army report cited a failure rate of up to 14%, while previous conflicts have documented rates exceeding 20%, making their use a significant threat to civilians even after the conflict ends.

Despite the Ukrainian government's commitment to five principles regarding the use of these munitions, including not using them in urban areas and documenting their deployment for clearance purposes after the

conflict, these commitments have not yet translated into transparent practices. Ukraine has not released any reports detailing the locations of cluster munitions use or its compliance with these principles.

In October 2023, U.S. supplied Ukraine with cluster munitions launched by ATACMS ballistic missiles, each containing 950 M39 submunitions and with a range of up to 100 miles. It is noted that U.S. last used these munitions in Iraq in 2003, where a significant percentage failed to detonate, causing widespread damage, especially to agricultural land. These munitions are over 20 years old, raising concerns about an increased failure rate, particularly under the challenging environmental conditions in some areas of Ukraine.

In March and April 2024, the supply of 155 mm artillery shells containing DPICM cluster munitions continued, yet details regarding the quantity or specific type were not disclosed. This pattern repeated in September and October 2024 with new announcements of medium-range cluster bombs, again without revealing specifications, including failure rates or shelf life.

The common thread in all these operations is a lack of transparency. There is no publicly available information on the types or quantities of munitions sent, their failure rates, or an assessment of their actual impact. Moreover, the age of these munitions, which often exceeds two decades, increases the likelihood of failure and their transformation into landmines that could threaten civilian lives for decades.

**Table: U.S. Transfers of Cluster Munitions to Ukraine (Prepared by Maat)**

Date	Type of Munitions Transferred
July 2023	155 mm artillery shells containing dual-purpose improved cluster munitions (DPICM)
September 2023	155 mm artillery shells containing dual-purpose improved cluster munitions (DPICM)
October 2023	ATACMS ballistic missiles containing M39 submunitions
March 2024	155 mm artillery shells containing dual-purpose improved cluster munitions (DPICM)
April 2024	155 mm artillery shells containing dual-purpose improved cluster munitions (DPICM)
September 2024	Type of munitions unspecified
October 2024	Type of munitions unspecified

### Human Rights Concerns Regarding U.S. Cluster Munitions Transfers to Ukraine

Maat expresses deep concern over the serious humanitarian and human rights implications arising from U.S. export of cluster munitions to the Ukrainian armed forces. These concerns revolve around several key points, foremost among them the weak guarantees provided by the Ukrainian government regarding the responsible use of these weapons.

Despite U.S. stating that an agreement exists with the Ukrainian government concerning the controls on the use of these munitions, it has not disclosed

the content of this agreement or its oversight mechanisms. Furthermore, the five principles announced by the Ukrainian Defense Minister in July 2023 regarding the use of cluster munitions lacked any clear mechanisms for monitoring, follow-up, or accountability. To date, Ukrainian authorities have not issued any official statements detailing where these munitions have been used or the locations containing unexploded ordnance, increasing the likelihood of direct danger to civilian populations when returning to or approaching these areas.

In this context, Maat expresses concern over U.S. government's disregard for Ukraine's negative human rights record regarding the use of cluster munitions in populated areas, particularly in the Izyum region and surrounding areas in eastern Ukraine and the Kharkiv region. Multiple human rights reports indicate that Ukrainian forces have used missiles carrying cluster munitions during military operations that resulted in civilian casualties. U.S. should have subjected this record to a stringent evaluation before proceeding with further exports of such munitions.

Compounding these concerns is the lack of transparency surrounding all U.S. transfers. U.S. government has not provided detailed information on the types or quantities of munitions sent in any of the seven shipments, nor on their associated failure rates or shelf life. This absence of information hinders an understanding of the scale of the danger and prevents the establishment of effective policies to

address the long-term impacts, especially given that some of these munitions date back over two decades.

Maat also raises serious questions about the absence of accountability mechanisms in the event that Ukraine violates its commitments regarding the use of these munitions. U.S. government has not clarified what actions it would take if these munitions are used in civilian areas or if civilian casualties occur, nor whether it would provide assistance for the removal of unexploded ordnance or support for its victims.

Additionally, the geographical and environmental characteristics of large areas of Ukraine—such as vegetation density, strong winds, and soil density—may contribute to increased failure rates and unexploded ordnance, exacerbating the risk in the medium and long term.

The use of cluster munitions poses a serious threat to the right to life and physical safety. The danger of these weapons lies in their indiscriminate nature, leading to the death or injury of civilians during conflicts or when they encounter unexploded remnants. Survivors suffer severe injuries, including amputations, loss of vision, and physical disfigurement. The impact of cluster munitions extends beyond individuals to the environment and natural resources, as they pollute agricultural land and deny communities the ability to utilize it, threatening food security and undermining the economic and social rights of future generations.

With estimates indicating failure rates ranging from 15% to 20% for some of these munitions, risks remain high even after the conflict ends. This underscores the necessity of imposing a comprehensive ban on the export and use of such weapons and activating accountability measures against any party that uses them unlawfully.



### Recommendations and Actions to Mitigate Impact of U.S. Cluster Munitions Exports to Ukraine

The export of cluster munitions from the United States to Ukraine raises fundamental human rights and ethical issues regarding compliance with IHL. The "military necessity" cited by U.S. to justify this export does not align with the core principles of this law, particularly the principles of distinction between civilians and combatants and proportionality.

Despite official U.S. and Ukrainian statements about the "responsible" use of these munitions, the ambiguity surrounding the details of these guarantees

and their implementation mechanisms leaves the door open for potential violations that threaten civilian lives and environmental safety.

In light of the above, Maat recommends the following:

**1. Enhance Transparency and Disclosure:** U.S. government should publish detailed information regarding the nature and quantities of cluster munitions exported, including their failure rates and shelf life for each type. This disclosure will enable the international community and humanitarian organizations to accurately assess risks and provide appropriate responses to protect civilians.

**2. Establish Effective Monitoring and Reporting Mechanisms:** The Ukrainian government should create an independent monitoring system to track the use of cluster munitions, issuing regular public reports detailing affected locations and actions taken to mitigate threats. This should include mapping areas containing unexploded ordnance and providing accurate data to facilitate relief and rescue efforts.

**3. Strengthen Accountability for Illegal Use:** U.S. should define clear accountability measures in the event of violations by the Ukrainian side, especially if munitions are used in populated areas or cause destruction to civilian infrastructure. These measures should include transparent investigation and punishment mechanisms to ensure accountability.

**4. Support Unexploded Ordnance Removal Efforts:** U.S. should allocate financial and technical resources to support efforts to remove unexploded ordnance from Ukrainian territory after the conflict. This requires collaboration with specialized international organizations to ensure safe and comprehensive removal operations that meet international standards.

**5. Ensure Victim Rights and Provide Humanitarian Support:** U.S. should develop comprehensive programs to support civilian victims, including medical treatment, physical and psychological rehabilitation, and appropriate financial compensation for affected individuals and their families, in line with UN guidelines concerning victims.

**6. Support Relevant UN and International Initiatives:** Cooperation with the United Nations and international organizations that monitor the use of cluster munitions should be strengthened, providing financial and political support for initiatives aimed at preventing their use and ensuring compliance with IHL.

**7. Assess Economic, Environmental, and Social Impacts:** Both U.S. and Ukrainian governments should conduct a comprehensive assessment of the impact of cluster munitions on agriculture, the environment, and local development. Plans should be developed for rehabilitating contaminated land and supporting rural communities that rely on these lands for their livelihoods.

**8. Enhance Civil Awareness Programs:** Public awareness campaigns should be launched in affected areas, in partnership with local and international civil society organizations, to raise awareness among residents about the dangers of unexploded ordnance and train them on how to avoid and report hazardous areas.

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