

## THE CONVERSATION

Academic rigour, journalistic flair



Landmine contamination is a problem which has blighted many countries for decades after the conflict has ended. Stringer/Sipa USA/Alamy

# Ukraine war: after the shooting stops landmines will keep killing – as we've seen in too many countries

Published: August 30, 2023 4.07pm BST

**Sarah Njeri**

Lecturer Humanitarianism and Development, SOAS, University of London

By the time the shooting stops the UN predicts that Ukraine will be one of the most mine-contaminated countries in the world. Deaths caused by landmines and other unexploded ordnance are now common. According to Ukraine's prime minister, Denys Shmyhal, in March alone, "724 people have been blown up on Russian mines, 226 of them killed".

The use of landmines is illegal under international law. The Anti-personnel Landmine Convention bans the stockpiling, transfer and use of anti-personnel landmines, requires countries to clear them on their territory and calls for international cooperation in mine clearance from affected countries.

The extensive and fast-moving battlelines in Ukraine (including large areas in the east of the country occupied by Russian troops and their allies since 2014) means that landmines have been planted in 11 out of the country's 27 regions. This is a situation that changes significantly with any shift in the location of frontlines.

The result for the conflict itself is that the heavily mined areas along Russian defensive lines have significantly slowed the Ukrainian counteroffensive as sappers have to clear what one Ukrainian commander described as “five mines for every square metre” in some places.

Landmines also make it very difficult for humanitarian organisations to move relief supplies in areas that may or may not have been cleared. Sometimes the status of mine clearance in an area is hard to tell – for example, the destruction of the Nova Karkhova and Mokri Yaly dams significantly affected the landscape over a large region and huge areas had to be resurveyed.

### **Case study: Angola**

The really insidious thing about landmines is they persist, even after a conflict formally ends. This is a humanitarian tragedy that adds to the complexity of post-war development and presents huge environmental problems. For example, during a research trip to Angola in 2019, in Cuito Cuanavale, a town and municipality in Cuando Cubango province, my group of researchers encountered roads that are still inaccessible nearly 40 years after the conflict due to the presence of mines.



A Soviet-era anti-tank landmine (TM-57) in Cuito Cuanavale that was laid during the Angolan civil war. This picture was taken in 2022. Ronan Shenhav/Shutterstock

The mines have cut off whole municipalities, with implications for access to some of the regions and to Angola's efforts in diversification of its economy. During our visit, our safest option was flying, an option that is out of reach for most Angolans.

It's a similar situation in Cambodia, Laos and Vietnam, where the conflicts ended in the 1970s. Millions of tonnes of ordnance that was dropped by the US remain unexploded in the landscape, leaving many thousands of civilians killed or seriously injured over the years. It's especially a problem in countries whose economies are predominantly agricultural. Farmers take their lives in their hands when they plough their fields or prepare their paddy fields.

### **A land contaminated**

Ukraine's reconstruction can't begin until roads, fields and areas around strategic infrastructure are cleared.

After the war, getting humanitarian aid to civilians will be critical but also difficult. Many of the roughly 14 million people who are displaced and about 8 million who have fled to neighbouring countries will want to return. This will be impossible without surveying the land, getting rid of mines and declaring it safe.

Once that is done, the public will need to be educated about the risks of unexploded ordnance. This will continue as long as there are mines and unexploded bombs in the ground – which could be decades, as we have seen elsewhere.

Landmine contamination will seriously impede Ukraine's economic recovery. In a country that was known as the "breadbasket of Europe" for its fertile soil which produced 41% of the country's exports, about five million hectares (50,000km<sup>2</sup>) of agricultural land is currently unsuitable for use due to mines, contamination with explosive ordnance or armed hostilities. A report on de-mining from international thinktank Globsec has predicted a 45% reduction of arable grain land after two years of war.

De-mining will involve the removal of vegetation and the use and deployment of heavy machinery. This will include the detonation or disposal of large quantities of explosives and the generation of a great deal of waste – some of it toxic – but even so an arduous task to clear. Inevitably, this will cause soil to degrade. Much of the soil will lose its capacity to store water, nutrients and carbon, which will weaken its ability to grow crops or support the wider ecosystem.

To give you an idea of the scale of this problem, a study found that before the invasion of Ukraine in 2022, an estimated 16,000km<sup>2</sup> of eastern Ukraine was contaminated by landmines and unexploded bombs after the incursions in Donetsk and Luhansk in 2014.

Now the problem is much greater, potentially involving 174,000km<sup>2</sup> (about the size of England and Wales combined) and vastly more costly. The same report said 414,56km<sup>2</sup> had been cleared between 2015 and 2021, which gives you an idea of how demanding and painstaking this work is.

## **Costly legacy**

As of July 8, the World Bank estimated that mine clearance and mitigation once the war was over would cost more than US\$37 billion (£28.5 billion). This is huge – especially when you consider the cost of the continuing humanitarian crises and conflicts in other regions.

To compound the problem, there have been reports that Russia has been using several new types of landmines developed since 2021, the properties and capabilities of which will not be fully understood until the work starts in earnest.

So while the world prays for an end to the fighting, peace will bring its own dangers and stresses as people return to their lives in places that may hold hidden dangers that threaten their daily routine. Living in these mine-contaminated communities will add to the emotional and psychological stress for those people who are having to pick up the pieces of livelihoods destroyed and their communities severely disrupted.

Recovery will not be complete until these people's streets and farms are cleared, their livelihoods restored and their children can go to school or play outside without fear of explosions. This could take decades.