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# DEPLETED URANIUM

## the Superpowers "Weapon of Self-Destruction"

One of the most serious crimes against humanity perpetrated by the US (and to a lesser extent by Great Britain) against Iraq is the radioactive poisoning of its soil, its water and its air through the use of ammunition containing depleted uranium (DU). This ammunition was used for the first time in Iraq in 1991 in the Gulf War and it has also been used in Afghanistan, in the Balkans and in the ongoing war against Iraq, among other places in the cities. In these areas the incidence of congenital malformations and cancer has increased dramatically. Iraqi, American and British soldiers who participated in the war and UN peace-keeping soldiers in the Balkans have also been affected. They have become sick in a number of illnesses called the Gulf War Syndrome and the Balkans Syndrome. Many have died.

In April 2004 an international conference called "The Environmental Effects of War" was held in Stockholm. Scientists and medical doctors from the US, Canada, Great Britain, Iraq and Sweden reported on the latest findings regarding DU and its effects on the environment and human health. Below are some of their conclusions.

The committee for Studies and Documentation of the Environmental Effects of War

[www.uraniumconference.org](http://www.uraniumconference.org)

## What is DU?

DU mainly comprises natural Uranium 238, and is what is left after the fissionable isotope Uranium 235 has been extracted for use as fuel in nuclear reactors or nuclear weapons.

Thus DU is not found in nature. It is chemically poisonous and radioactive, with a half-life of 4,5 billion years. It is a very dense and hard metal - almost twice as dense and 60 times as hard as lead. These qualities, plus its capacity to ignite on impact with a target, make it extremely effective for use in armour-penetrating ammunition. Non-radioactive tungsten is slightly harder and more dense, but is expensive. DU is very cheap, as over 500,000 tons of this waste product from the nuclear industry have accumulated over the years and have to be stored securely.



## DU-ammunition on the battle field

DU ammunition has tremendous explosive power. It is used against tanks and bunkers and cuts through armoured steel like a knife through butter. The steel melts from the enormous heat. One projectile can go through three tanks. And the so called Bunker Buster bombs containing 1.5 tons of DU can go right through tall buildings and into the bedrock before exploding.

A DU projectile emits more radiation in five hours than allowed in an entire year under civilian radiation exposure standards

The first time that DU-ammunition was used on a large scale in battle was during the Gulf war in 1991 in southern and central Iraq. In four days over one million missiles containing DU ammunition were fired from tanks and aircraft. The missiles were so “effective” that they were later used in Bosnia, Kosovo and Afghanistan. The civilians in these countries have been afflicted with the same injuries and diseases as in Iraq.(2,3)



Photo © Peter Turnley / Corbis

In the ongoing war against Iraq ammunition with DU has been used extensively in the cities.

When the bullets, projectiles or grenades containing DU hit the target, e.g. a tank, it ignites and the tank and its crew are burnt. When the ammunition ignites the uranium is vaporised and spreads in the air as uranium oxide particles. They settle on the ground in the form of a fine dust and penetrate the soil and the ground water. About 2000 tons of this dust remains throughout the country. The particles can travel very far with the winds. After the 1991 war the populations in Kuwait and Saudi Arabia have also been affected.

Doug Rokke, ex-major in the US army and ex-chief of the US Radiological Laboratory was commissioned to clean up among American burnt out tanks that had been hit by DU ammunition in so called “friendly fire”:

*“It took us three months to clean up twenty-four vehicles. The rest were left as they were – an enormous, poisoned wasteland”*

Of the 100 people on Doug Rokke’s decontamination team 30 are now dead and the others are sick.

## How does DU affect living organisms?

DU has a doubly toxic effect: one that is chemical and one that is due to its radioactive radiation. It is not the external radiation that constitutes the greatest danger. DU must be inhaled or enter the body some other way (through contaminated water or food) to become dangerous. The problem is that in places where DU has been used it is almost impossible to avoid inhaling the dust. When the microscopically small uranium particles are breathed in they penetrate deep into the lungs and may stay there for years, emitting radiation to the surrounding cells. One single particle lodged in a lymph node can devastate the entire immune system. The particles may also accumulate in the bones, the lymph system, the liver, the kidneys and in other organs and tissues. They can enter the brain, the testicles and the ovaries and also the foetus via the placenta. Besides cancer the radiation can also cause genetic damage.

The independent UMRC (Uranium Medical Research Centre) in Canada has tested and found DU in the urine of soldiers and civilians nine to ten years after the 1991 war and seven years after the Bosnia conflict.

## Iraq has been seriously afflicted

In the areas where DU ammunition has been used various forms of cancer and congenital malformations have increased dramatically. In southern and central Iraq, which was bombed with DU in 1991, civilians have been especially afflicted. Dr Jawad al Ali, head of the cancer clinic at Basra regional hospital says *“Cancer mortality has increased twelve times. Our health studies suggest that 40 – 48 % of the population in this area will get cancer. That is almost half the local population. Most members of my family have now got cancer and we have never had the disease in the family before”*. According to Dr al Ali it is not unusual that several members of a family



develop cancer, sometimes two different types.

After 1991 children in the Basra area have been born with monstrous and extremely unusual malformations: with a so called Cyclop's eye (one single eye in the middle of the forehead), a cleft palate, without arms and legs, even without a head. Congenital malformations have increased nineteen times.

Dr Jawad al Ali:

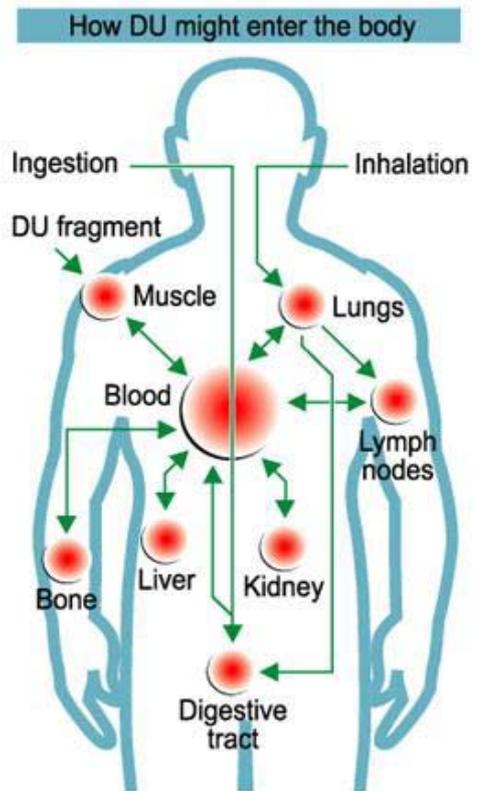
*"The genetic effects are new to us. The mushrooms grow to enormous sizes and the fish in what was once a beautiful clear river are inedible. Even the grapes in my garden have mutated and cannot be eaten."*

The civilians, who are mostly not aware of the danger of DU, can avoid having contact with the toxic dust. Just by walking on the ground they can stir it up. Children play in the burnt out tanks and collect radioactive shrapnel from the ground. Nothing is done to inform or protect the population.

## Soldiers have been afflicted too

American and British soldiers who participated in the war against Iraq in 1991 have developed a number of different diseases, the so-called Gulf Syndrome. Typical are different forms of cancer, neurological disturbances, disruptions in the immune system, kidney disorders, impaired breathing capacity, lung fibrosis. Out of the 700 000 American soldiers that participated in the Gulf War in 1991 about 300 000 have developed incapacitating illnesses. Many of them have been given some kind of invalid pension and approximately 13 000 have died – young men selected for their fitness, good health and stamina.(4,5)

Coalition soldiers too are unaware of the deadly dangers. Several court cases are in progress in the countries that have had soldiers in contaminated areas. Some of the soldiers have received damages for their radiation injuries.



### Precautionary steps

- ☑ Do not enter known DU targeted sites prior to site decontamination.
- ☑ If entry is necessary, wear personal protective equipment (PPE) including rubber boots, gloves and as a minimum a dust mask.
- ☑ Additional caution should be taken as DU is frequently used in combination with cluster bombs during an attack. Not all cluster bombs detonate during an attack and a few may still be present on such sites.
- ☑ Attacks may have also taken place in mined areas.
- ☑ If DU munitions are found or suspected, do not touch or pick it up.
- ☑ Mark the exact location with a flag and/or a circle of paint and leave it on site.
- ☑ Contact and inform the relevant authority about the finding.
- ☑ Only authorized personnel with PPE are permitted to handle DU.
- ☑ Authorized personnel will take the necessary health and safety precautions before removal and proper storage of DU.
- ☑ Effects of DU can be long-term with the resuspension of particles and groundwater contamination. Therefore, local authorities should monitor the site on a regular basis.



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## Active denial

Before the 1991 Gulf War, the US Pentagon ordered a study on DU and issued warnings about its negative effects on human health. Nevertheless the Pentagon has systematically denied the possibility of DU causing diseases. They have tried to explain the undeniable Gulf War Syndrome by stating several other probable reasons: posttraumatic stress, vaccines, exposure to biological and chemical weapons from bombed factories, smoke from oil fires. But these factors cannot explain the fact that the symptoms are the same for veterans from Afghanistan and the Balkans.

The reason for the denial is that they want these weapons. In March 1991, when Doug Rokke, ex major in the US Army, was in Saudi-Arabia on a clean-up mission of the US tanks that had been contaminated by “friendly fire” he received the following memorandum from a colonel Zenceki:

*“If DU penetrators proved their worth during recent combat activities, then we should ensure their future existence until something better is developed.....If proponency is not garnered ( i e if there is not enough support for further development of this ammunition. Ed comment) then it is possible that we stand to lose a valuable combat capability. I believe we should keep this sensitive issue in mind whenever after action reports are written”*

A critical research report on DU written by the chief consultant to the WHO was stopped by the WHO itself. (6) What pressures were behind this step?

## International Law

Weapons containing DU-ammunition are produced, exported and used as “conventional weapons”. There is no convention or law that explicitly ban them. But in the perspective of international law they are nevertheless illegal.

If the use of a weapon goes against the following principles it violates International Law:

- 1) The effects of the weapon must be limited to the actual battle field**
- 2) The weapon must not continue to maim and kill once the war is over**
- 3) The weapon must not cause lengthy and extensive environmental damage**

The use of DU-ammunition violates all these principles, which have been established in various conventions and international agreements:

The Hague convention of 1899 and 1907

The Geneva protocol 1925

The Geneva Convention, 1949, article 23

The Nuremberg Laws 1945

The 1980 “Inhumane Weapons Convention” (The CCW convention)

According to the American Constitution international conventions and so-called customary law are included in the US federal laws. Thus if the US violates international laws it also violates its own laws and its constitution.

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The use of DU ammunition thus violates a number of international treaties and agreements, including the Non-proliferation Treaty and the Test Ban Treaty.



## **UN and EU resolutions ban DU ammunition**

In 1996 the Lawyers' Committee on Nuclear Policy and Human Rights Watch appealed to the UN Commission for Human Rights to adopt a resolution banning DU, nuclear weapons, chemical and biological weapons and cluster bombs. It was passed with 15 for, one against (the US) and one abstention. The E U Parliament has voted for an immediate moratorium on DU-weapons and so has International Physicians for the Prevention of Nuclear War.

It may seem strange to make laws to “humanise” anything as inhumane as war and we know that today it is mainly civilians that suffer in war. But the laws are there and the fact that they are broken is no reason not to have them..

## Our responsibility

Many years ago, during France's brutal war against Algeria, Jean Paul Sartre spoke to the French intellectuals:

*"Dear compatriots, you who know very well what is done in our names – this is not right! It is not right that you don't say a word about it to anybody, not even to your own soul. You are silent out of fear to answer to yourself. I admit that in the beginning you may not have been aware of what was happening; later you doubted that such things could occur. But now you know and yet you are silent."*

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