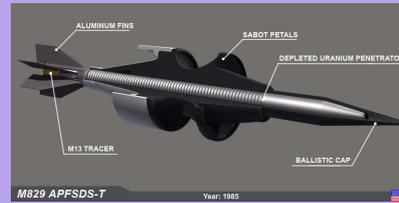


International Coalition to Ban Uranium Weapons – Precaution in Practice



Doug Weir (ICBUW Coordinator)



- DU is **dense**: 18.9 g/cc
- DU is **pyrophoric**: fine particles spontaneously burn in air
- **Kinetic energy penetrators** use kinetic energy instead of chemical explosive to pierce armour



- Iraqi doctors have long reported increase in rates of **cancers and congenital malformations**.
- DU is a potential risk factor for these health problems.



Applying the Precautionary Principle

- **EU environmental law**: when a phenomenon, product or process may have a dangerous effect, identified by a scientific and objective evaluation, the precautionary principle may be invoked if this evaluation does not allow the risk to be determined with sufficient certainty.
- **Customary International Humanitarian Law**: Lack of scientific certainty as to the effects on the environment of certain military operations does not absolve a party to the conflict from taking precautions.
- **Convention on Cluster Munitions**: treaty was precautionary to avoid use of millions of stockpiled submunitions. States were challenged over their failure to record the incidence of civilian harm from their use – burden of proof reversed.



Do we need to act?

- What do we know about the nature of DU as a hazard?
- Can we accurately quantify the risk DU poses to health?
- What factors influence the risk it poses when it is used in conflict?
- What factors influence the risk it poses after conflict?
- Does this justify the application of the precautionary principle?



DU as a hazard?

- **Radioactive, chemically toxic alpha particle emitter.**
- **Inhalational hazard from fine particles, groundwater contamination.**
- **AFRRI, in vitro tests**: mutagenic, genotoxic, induces genomic instability.
- **AFRRI, in vivo tests**: multiple organ distribution, mutagenic, chromosome damage, induces leukaemia (mice), induction of genomic damage in unexposed offspring.
- **Peer reviewed literature consistent with AFRRI (US Armed Forces Radiobiology Research Institute) findings.**



Is DU a hazard?

"On the basis of reports by the Royal Society and others, the MoD does not consider DU is 'safe'. It is hazardous (making the accepted health and safety distinction between a hazard and a risk)," UK MoD.

Hazard = the intrinsic nature of a material and **Risk** = the likelihood of that material having a negative effect.

- **Strict military regulations to avoid exposed personnel.**
- **Strict national regulations to avoid domestic releases.**
- **UNEP, IAEA, WHO, Royal Society all advocate clean up and monitoring.**



Quantifying the risk from DU

DU is a hazard. **Can we accurately quantify the risk it poses to civilians?**

European Commission's Scientific Committee Examining Health and Environmental Risks (SCHER) mandated to perform risk assessment in 2010 after landslide European Parliament resolution in 2008.

- **Unable to accurately model risk because:**
 - Insufficient data on civilian exposures
 - Insufficient data on how different tissues respond to DU dose
 - Uncertainty over the size and form of particles
- **The available science was unable to accurately quantify the risk of a known hazard, therefore the precautionary principle should be invoked.**



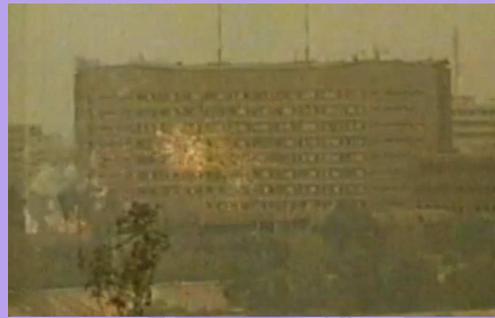
Is DU use in conflict predictable?

DU is a hazard, there is insufficient data to quantify the exact health and environmental risks. **Is its use in conflict predictable or controlled?**

"This munition is designed for use against tanks, armoured personnel carriers or other hard [armoured] targets."

"...should not be used in situations where risks are necessarily created that the fires caused by their use will spread to protected civilian objects or injure civilians..."

"...in combat situations involving the widespread use of DU munitions, the potential for inhalation, ingestion or implantation may be locally significant. These risks, of course, are potentially dangerous to friendly civilian populations as well as enemy populations." US Air Force legal review of A10 gunship ammunition.



A10 gunship strike on Ministry of Planning, Baghdad, 2003. Notorious only because it was caught on camera by TV crews...



Is DU use in conflict predictable?

- Were the DU munitions fired by a tank (single rounds, 105-120 mm) or by an attack aircraft or armoured vehicle (multiple rounds 20-30 mm) with a narrower or wider dispersal and at what angle?
- Is the contamination focused on a specific military object such as a tank or armoured vehicle and is the wreckage still present?
- Is the bulk of contamination in the soil or did it impact on a hard surface producing a greater fraction of fine or fragmentary residues?
- Were buildings struck and to what extent are they in use or accessible?
- What quantity of DU was fired at each location?



Post-conflict: transparency

DU is a hazard, there is insufficient data to quantify the exact health and environmental risks. Conflict is an uncontrolled environment, DU is used against civilian infrastructure. **Is DU properly managed after conflict?**

- **Users have been reluctant to release targeting data.**
 - to do so infers responsibility for clean up.
 - precise data crucial as DU is difficult to locate in the field.
 - states with data unwilling to publicise it to civilian population.
- **Serious implications for civilian exposure and efficient clean-up.**
- **In 2010, 148 states supported UNGA resolution calling on users to transfer data to affected states.**



Post-conflict: capacity

- States recovering from conflict lack the capacity to manage DU.
 - few have domestic expertise.
 - decontamination is expensive, time consuming and technically challenging.
 - many lack waste storage sites.
 - no international mechanism for providing funds and capacity.
 - users place responsibility with affected states.
 - awareness of DU in demining community is low.
- Iraq has hundreds of contaminated sites, new ones still being discovered, few have been cleared.



Monitoring and management

Good practice:



Serbia



Marking and monitoring

Bad practice:



Iraq



Post-conflict: hazard awareness

- If DU is a hazard, is everything that can be done to reduce the risk of exposure being done?
- No, civilian hazard awareness schemes are underdeveloped.
 - explosive weapons prioritised.
 - radiation hazards create a significant psychological burden.
 - design of responsible hazard awareness programmes very difficult.
 - civilians coming into contact with DU through playing on wreckage, living and working in contaminated hotspots, gathering and processing scrap metal.



Post-conflict: monitoring health

- Can we accurately measure the post-conflict health impact of DU?
 - health services and health records often destroyed or restricted by conflict.
 - migration, stability and security issues make large studies difficult.
 - lack of transparency limits effective study design.
 - lack of resources and pressure on health system shifts focus to treatment and not research.
 - conflict creates a range of social and environmental risk factors for civilian health.
- If a sufficiently detailed epidemiological study into the impact of DU will never be possible, how should we proceed?



Factors supporting precaution

- Is DU a hazard? **Yes.**
- Can the best available data show that it poses no risks to civilians? **No.**
- Does the way that DU is used in conflict increase the risk to civilians? **Yes.**
- Does the way that DU is managed after conflict increase the risk to civilians? **Yes.**
- Do the difficulties in studying civilian health after conflict support a precautionary approach? **Yes.**



DU: essential or unacceptable?

- Like land mines and cluster bombs, users argue that the utility of the weapons overrides humanitarian and environmental concerns.
 - analysis of DU's utility suggests that many other factors can improve the performance of KE weapons.
 - low number of user states suggests that they are not essential.
- They argue that the benefits DU munitions offer outweigh the risks...
 - this calculation favours only the users: they reap the benefit while civilians and affected governments pay the health, environmental, financial and psychological costs.




DU: essential or unacceptable?

- Are DU weapons politically or publicly acceptable?
 - history of public concern, national bans and EU and UN resolutions suggests otherwise. This is a question for politicians and the public – not the military.
- Why ban DU?
 - Wars are increasingly fought in civilian areas.
 - DU is inherently indiscriminate and hazardous.
 - DU use poses a health and environmental risk.
 - DU places a significant burden on states recovering from conflict.




1997 - Anti-personnel Landmines	X
2008 - Cluster Bombs	X
20?? - DU	☒

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