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Item 7 of the Provisional Agenda

Explosive Remnants of War

Working Group on Explosive Remnants of War

Military Utility of Cluster Munitions

Prepared by the United Kingdom

1. There has been much debate in this forum on the implementation of existing principles of International Humanitarian Law for cluster munitions. The UK believes that, as an element of that discussion, it is important to explore the military utility of cluster munitions and their likely future. This paper will focus principally on the way in which cluster munitions are used.
2. Cluster munitions are **area-effect** weapons, which may be either air-delivered or ground-launched. In both cases a carrier munition releases a number of bomblets on to the battlefield to cause the destruction, neutralisation or suppression of personnel and materiel. The area covered by the bomblets, or *submunitions*, is known as the ‘footprint’.
3. The UK has both air-delivered and ground-launched cluster munitions, which can serve as examples of how cluster munitions are used. The details of those used by other states inevitably differ.
4. The UK air-delivered cluster bomb, the RBL755, contains 147 bomblets ejected from the casing by hot gasbags. These bomblets produce a footprint of roughly 100x200m. They are unguided and their damage mechanism combines blast and fragmentation.
5. Ground-launched munitions can be divided into a further 2 categories: tube artillery-launched and rocket-launched. The tube artillery-launched carrier shell disperses 49 munitions with a similar sized footprint to the air-delivered, 100x200m, and with a high level of accuracy at medium range of around 20km. Again the bomblets are unguided, impact-fuzed and combine blast and fragmentation. They also self-destruct within 15 seconds if the impact fuze does not detonate the bomblet, thus leaving fewer than 1% unexploded. The rocket-launched cluster munition releases a much larger number of smaller bomblets (644). The range of the rocket is

over 31km and at mid-range produces a dispersal pattern similar to those quoted above. At maximum range the footprint approaches a linear release of submunitions over 1200m.

Air-delivered Cluster Munitions

6. In the recent conflict in Iraq the UK used air-delivered cluster munitions predominantly against military vehicles, both armoured and soft-skinned, in the open and in revetments. Cluster munitions are still the most appropriate air-delivered weapons in many situations because of their ability to destroy enemy assets dispersed over an area. In Iraq none was released in an urban area.

7. Cluster munitions are not indiscriminate, either by design or in the way that the UK uses them. As the definition above suggests, they are designed to be spread over a pre-determined footprint, thus making very effective against area targets. In addition to military vehicles, such targets may include logistics sites and troops in the open. They are not designed for use when a target is not precisely known but when a target is dispersed or spread widely. Indeed it is militarily inefficient to use weapons where there is a high likelihood they will not reach the desired target.

8. Furthermore the Royal Air Force applies robust collateral damage considerations to every use of cluster munitions. This is, in part, illustrated by the large number of sorties flown by our aircraft in Iraq carrying these weapons, where no releases were made. In its paper CCW/GGE/IX/WG.1/WP.1 given at the November session, the Cluster Munition Coalition suggests that a major problem associated with cluster munition use arises from 'inappropriate drop or launch conditions'. UK pilots decided not to release the weapons on 73 occasions either owing to bad weather, no targets found, or a lack of positive identification. The UK does not regard it appropriate to use cluster munitions when the coordinates or location of a target are not known.

9. The crucial question here remains: What would the alternative weapon be against the area targets mentioned?

10. The area effect capability of air-dropped cluster munitions is not matched by current precision weapons, or by large unguided unitary bombs, which serve different purposes.

11. In considering this question it is firstly important to clarify what is meant by **area targets**, and thus an *area-effect weapon*. If it means a number of fixed or static targets over a large area, such as armour in defensive positions, these could in theory be attacked by a number of GPS (global positioning system) guided weapons released from a single aircraft in a single pass. However, such technology is only gradually becoming available and cluster munitions remain effective in attacking a number of mobile targets over a wide area. Were they to be replaced in this capacity by more widely available precision guided weapons, using laser or infrared tracking, an attack could only be made on a single part of the target for each aircraft pass. Multiple attacks of unitary precision weapons would be inefficient and would significantly increase the risk to the delivery aircraft.

12. The risk of causing greater collateral damage by using unitary weapons against an area target is also an important consideration. This possibility is, of course, very much dependent on

the relative location of civilian objects, which would in turn influence the decision on whether to mount an attack and on which weapons could be used. If unitary weapons are precision guided, the risk of collateral damage could well be less than if cluster munitions were used. This will depend, however, on the exact nature of the target. Dropping sufficient tonnage of unguided unitary munitions to destroy targets across an entire designated area would undoubtedly lead to an increase in collateral concerns. However, were several guided weapons used over the same designated area to locate, identify and target a series of individual vehicles, there would be a likely reduction in collateral damage, compared to the use of an air-delivered cluster weapon.

13. The development in future of new ‘smarter’ capabilities is likely to mean that the long term trend will be to use air-dropped cluster munitions less. This is reflected in future UK investment, which is focused on precision guided munitions.

14. Furthermore, using precision weapons will allow increasingly strict Rules of Engagement, which in turn will mean it is unlikely that the use of current area-weapons will be considered where there is any significant risk of collateral damage.

Artillery/Rocket-launched Cluster Munitions

15. All UK artillery-delivered cluster munitions are currently fired at area targets as their primary purpose is **suppression** (at ranges of less than 30km). They have not been used as a substitute for air-delivered cluster bombs, as the two types are used under different circumstances for different purposes. In Iraq artillery-delivered cluster munitions were used against armour and artillery, predominantly to engage armour in the open. This is generally the weapon of choice in such cases because it has a greater range than a fragmenting high explosive round and is more effective against light and heavy armoured targets. UK Forces certainly did not practise the deliberate targeting of residential neighbourhoods using ground-launched cluster weapons.

16. Artillery-launched cluster munitions will maintain a crucial capacity in the suppression of area targets for a long time to come. In the long term, however, the UK believes that there may be a general trend away from ground-launched cluster weapons altogether, although it must be emphasised that this change is not imminent. The UK is moving towards a more **effects-based** way of operating. Precision attack weapons, especially those that discriminately attack several targets within an area, will be able to achieve more than mere suppression. The present type of cluster munitions will eventually cease to be the most effective way of engaging area targets as precision weapons become more available.

Conclusion

17. In the short term, however, the UK is committed to improving the technical aspects of its submunitions in order to reduce the likelihood of them becoming explosive remnants of war. The persistent nature of cluster munitions when they fail to explode forms one of the most problematic aspects of these munitions. The UK accepts that its air-dropped cluster bombs have a failure rate that is unacceptably high. This particular weapon will go out-of-service in coming years and by 2015 all UK submunitions will contain a self-destruct mechanism reducing their failure rate to less than 1%.

18. Currently cluster munitions represent an essential capacity against area targets, particularly groups of military vehicles. Stringent considerations of the risk of collateral damage are applied each time they are used. In the long term they are likely to be used more sparingly, as new precision weapons come into service, and may one day be removed from service altogether.
