

Depleted Uranium in Bosnia and Herzegovina

Post-Conflict Environmental
Assessment



United Nations Environment Programme

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Foreword

In 2001, the United Nations Environment Programme (UNEP) published the findings from the first-ever assessment on the environmental impact of the use of depleted uranium (DU) originating from a real conflict situation. This work was conducted in Kosovo in 2000 and followed-up one year later in Serbia and Montenegro. Since then, UNEP has become a reference in the scientific community regarding the impacts of DU when used in a conflict situation. When, in the summer of 2002, the Council of Ministers of Bosnia and Herzegovina (BiH) requested UNEP to conduct a similar assessment in BiH related to the use of DU ordnance in 1994-95, UNEP was naturally ready to initiate action.

In this new study, we learn that more than seven years after the end of the conflict it is still possible to detect DU in soil and sensitive bio-indicators at sites where DU had been used. A large number of contamination points (holes where DU penetrators hit the ground), as well as loose contamination, including DU penetrators, fragments and jackets/casings were found. UNEP could confirm local DU contamination around impact points, although the levels were low and no significant level of radioactivity could be measured.

Importantly, for the first time during an assessment in the Balkans, it was possible to detect DU contamination in drinking water. The contamination, however, was very low and remained below the World Health Organization's (WHO) reference value. Finally, DU was also detected in several of the air samples where it had been unexpected to find any DU particles in the air so long after the end of the conflict. Again, detected levels remained below international safety limits. However, for precautionary purposes, confirmation of DU contamination inside some buildings leads UNEP to recommend to the local authorities decontamination and clean-up measures.

The mission also analysed the handling and storage conditions of radioactive sources within BiH. The representative from the International Atomic Energy Agency (IAEA) provided valuable analysis on these issues.

During this challenging work, our cooperation with BiH authorities has been excellent. The government shared their scientific and health expertise with UNEP, as well as their important civil protection and mine clearance experience. NATO/SFOR co-operated with UNEP throughout the study, and UNMIBH, as our local UN partner, helped make this work possible in many ways.

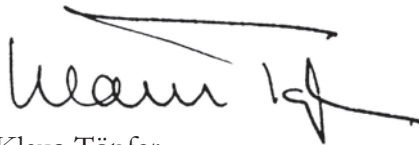
All of the scientific members on this mission were experienced from earlier UNEP assessments. I want to congratulate these scientists not only for a work well done, but also for producing new and valuable information on the behaviour of DU. Close cooperation with our colleagues from the IAEA and the WHO was a success. Health related information was

presented and reviewed by the WHO during meetings with hospitals and government health officials. The WHO assessment, as the competent United Nations agency on health issues, is included in this report.

This work could never been conducted in such an efficient manner without the professional work by the national institutes of Greece, Italy, Russia, Sweden, Switzerland, the United Kingdom and the United States, ensuring the highest quality discussion and results. Above all, my gratitude goes to the governments of Italy and Switzerland that provided UNEP with experts, laboratory assistance and generous financial support.

Following this third DU assessment in the Balkans, the collective information from these reports can now be used to minimize any health and environmental risks from depleted uranium. These studies confirm that the behaviour of DU is a complex issue, and that DU can be found in soil, vegetation, water and air in certain conditions many years after the conflict.

For this reason, UNEP strongly encourages further studies in the areas where risks could be higher than in the Balkans.

A handwritten signature in black ink, appearing to read 'Klaus Töpfer', with a long horizontal stroke above it.

Klaus Töpfer
United Nations Under-Secretary-General
Executive Director of the United Nations Environment Programme



Introduction

The question on environmental and health impacts originating from the use of depleted uranium (DU) ammunition has, after several conflicts, become a much debated issue. Since there has been very little scientific fieldwork with proper measurements as well as laboratory work outside of the military community, until recently it has been difficult to come to any significant conclusions.

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