**GROUP OF GOVERNMENTAL EXPERTS OF THE STATES PARTIES TO THE CONVENTION ON PROHIBITIONS OR RESTRICTIONS ON THE USE OF CERTAIN CONVENTIONAL WEAPONS WHICH MAY BE DEEMED TO BE EXCESSIVELY INJURIOUS OR TO HAVE INDISCRIMINATE EFFECTS**

CCW/GGE/II/WP.16
17 July 2002

Original: ENGLISH

Second Session
Geneva, 15-26 July 2002

# Reflection Paper on Sensitive Fuses of Land Mines Other than Anti-Personnel Mines

**(Submitted by Romania)**

## 1. General Considerations

Historically the development and extensive use of landmines is closely connected with the advent and generalization of motorization and mechanization of military land forces due to increasing demands for enhanced mobility of troops requested by modern military doctrines.

For decades landmines have been valued in the military establishments as one of the most cost-efficient means of restricting the adversary forces mobility and as a force multiplier of own defensive positions in the battlefield.

Due to large availability and relatively low procurement costs, landmines have been stockpiled and largely used by parties engaged in both international and internal armed conflicts. Their most important shortcoming is that they have indiscriminate effects and remain active for a long time after being deployed, affecting the life and social-economic development of a large number of non-combatant persons.

The human sufferance and increased burden posed by anti-personnel mines proliferation for the process of post-conflict reconstruction and rehabilitation of human communities and their settlements is now widely recognised. The International Community has taken steps aimed at eliminating the plague of anti-personnel mines by establishing the regimes of the CCW Amended Protocol II and the Ottawa Convention for restricting the use, respectively, for banning this category of weapons.

The last decade witnessed an important multiplication of local armed conflicts, especially those of internal nature. As a general trend, these conflicts are limited in terms of the territorial area affected and are classified as "*low intensity armed conflicts*". However, many analysis of recent internal armed hostilities show an increased resort of the warring parties to heavy offensive weapons systems such as armoured vehicles and self propelled heavy artillery, along with an increased use of a wide range of types of landmines other than anti-personnel mines.

This is an indication that there is an increasing proliferation of this category of weapons to non-state organisations - both in terms of numbers and of quality - with consequent potential

negative effects already encountered and acknowledged in the anti-personnel mines humanitarian dimension.

While probably most of the landmines other than anti-personal mines currently used in recent armed conflicts seem not to feature yet an advanced degree of technological sophistication, they generally have indiscriminate effects, provide for high explosive energy and are difficult to detect with commonly available equipment.

In absence of comprehensive information on types of landmines other than anti-personnel mines stockpiled or employed by parties involved in recent internal armed conflicts, it might be also right presuming that an important number of them are of a rather obsolete make. Consequently they might be equipped with fuses sensitive enough to be fired by stimulation much lower than normally provided for by the original targets. In-field intervention for enhancing fuse sensitivity is not to be excluded either.

Such an evolving trend, notably the use of anti-vehicle/anti-armour by organisations other than accountable state legitimate and recognised armed forces, indicates that there is a growing potential risk of landmines other than anti-personnel mines to become a humanitarian problem of a magnitude similar to the anti-personnel mines.

The potential of increased use of mines of landmines other anti-personnel mines in internal armed conflicts, underscores the need to improve the humanitarian standards in a field of a non-discriminatory category of conventional weapons not yet sufficiently regulated by the International Community and existing International Humanitarian Law norms.

The recent decision on extension of the scope of the CCW Convention to armed conflicts other than international conflicts provide a suitable framework for addressing by the International Community the humanitarian concerns posed by landmines other than anti-personnel mines.

## 2 Humanitarian Concerns

Use of landmines other than anti-personnel mines is not prohibited by current international law, being a defensive weapon category recognized by the International Community.

The military values of landmines other than anti-personnel mines have been presented in the previous chapter. However, the risk of potential uncontrolled contamination of the territory of an armed conflict, especially in cases of internal armed conflicts is rather high, affecting mobility of non combatants, disrupting the road communications system, and exposing to loss valuable transport assets provided by peace keeping forces and humanitarian operators.

Notwithstanding the problem of the detectability of landmines other than anti-personnel mines, mines equipped with sensitive fuses do not achieve their military objective and can also be accidentally initiated by persons or vehicles operating in their vicinity.

Landmines other than anti-personnel mines equipped with sensitive fuses laid in unmarked minefields in combination with anti-personnel mines might hamper mine clearing operations, putting at risk the physical integrity of the staff and of the eventual mechanised demining equipments.

Therefore existing practice shows that there are sufficient arguments to approach the issue of landmines other than anti-personnel mines equipped with sensitive fuses and initiate a debate for identifying appropriate technical standards for fusing this category of weapons, and render them less discriminatory.

## 3. The Technical Approach

The most important component of a landmine assembly is the fuse, which is designed to fire the explosive charge on appearance of external stimulation (generally pressure, but also other physical factors such as vibrations or magnetic field variations).

The many and usually divergent technical requirements imposed to fuses, have generated a vast number of technical/technological solutions ranging from quite simple mechanisms to very sophisticated multiple fuses components.

The complexity of the technical approach might become complicated by the different military doctrinal approach on the classification of landmines other than anti-personnel mines. Some schools do not recognize the concept of anti-vehicle mines, but only that of anti-tank/anti-armour mines, while other place anti-vehicle mines in a separate category of its own.

But, let aside the different military doctrinal schools approach, the fuse remains the central element of a landmine and its sensitivity to external stimulation is the main operational feature for fulfilling the designed function of the mine.

Therefore, the relation “degree of external stimulation – fuse activation” seems to be capital for the technical approach on fuses for landmines other than anti-personnel mines in an attempt to minimise the humanitarian concerns and achieve only the specific legitimate military requirements.

## 4. Possible matters to be debated by the military experts

The debate should be oriented to exploring the following possible approaches:

- Identification of possible technical standards aimed at improving the “discriminating capacity” of the fuses equipping landmines other than anti-personnel mines

- Identification of possible technical standards aimed at ensuring deactivation/neutralisation of the fuses equipping landmines other than anti-personnel mines;

- Identification of technical solutions used currently for fusing landmines other than anti-personnel mines, which are known from past practice to have insufficient “discriminatory capacity” and might be fired by unintentional human action in their vicinity.

- Identification of possible technological solutions aimed at preventing unauthorized action by field operators for increasing the sensitivity of fuses equipping landmines other than anti-personnel mines

_____