

# ANTI-PERSONNEL LANDMINES IN MODERN ARMED CONFLICTS. LEGAL REGULATIONS AND THE SCOPE OF APPLICATION

MARIUSZ KUBIAK<sup>1</sup>

## ABSTRACT

---

The aim of the research presented in the article is both to describe and analyse the problem of use of the anti-personnel mines in armed conflicts and the subsequent effects that landmines, in particular anti-personnel mines, have on human health and life. The article discusses a number of problems to solve related to the land mine use long after the end of the armed conflict. The basic source of knowledge concerning legal regulations determining the use of anti-personnel mines are international conventions. In Polish scientific literature, it is difficult to find materials that contain, apart from the contents of the documents themselves, comments and interpretations on the application of international law. In order to explore the above-mentioned issues, it was necessary to make use of the studies of international organizations. The issue of anti-personnel landmine threat and the

---

<sup>1</sup> Assoc. Prof. Mariusz Kubiak, Ph.D., Siedlce University of Natural Sciences and Humanities, Siedlce, Poland; correspondence address: ul. Żytnia 39, 08-110 Siedlce, Poland; email: mariusz.kubiak@uph.edu.pl

support to their victims is widely presented in the work of the International Committee of the Red Cross (ICRC), the International Campaign to Ban Landmines (ICBL), human rights organizations, and others.

## ARTICLE INFO

---

### *Article history*

Received: 24.04.2020 Accepted: 18.05.2020

### *Keywords*

landmine, anti-personnel mine, armed conflict, international law

## INTRODUCTION

The international rules of armed struggle holding during the warfare date back to the beginning of ancient times and since then they have undergone a long evolution that continues up to this day. As the centuries passed, new types and forms of armed conflict as well as approaches and methods of military operations have emerged. The potential of warfare measures has expanded tremendously, in a quantitative and qualitative way, becoming more and more specialized, and thus posing a great danger for all humanity. As a consequence of this, very slowly, usually only after tragic events on an international scale, restrictions or bans on the use of specific methods and means of military struggle have been introduced.<sup>2</sup>

## THE LEGAL BASIS

The basic principles of international law on armed conflict are contained in Article 35 of the *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, and are universally applicable in all situations of an armed conflict.<sup>3</sup> They state that:

- in any armed conflict, the right of the parties to the conflict to choose the methods and means of warfare is not unlimited;

---

<sup>2</sup> A. Ciupiński, M. Gąska, *Międzynarodowe prawo konfliktów zbrojnych, zbiór dokumentów. Wybrane problemy*, Warszawa 2001, p. 5.

<sup>3</sup> *Ibidem*.

- the use of weapons, missiles and materials, as well as methods of warfare that may cause unnecessary suffering is prohibited;
- the use of methods and means of warfare which have the purpose or the expectation of causing widespread, prolonged and serious environmental damage is prohibited.

Additional Protocol II of 1977 to the above Conventions concerns the use of landmines, booby traps and other equipment on land, including mines laid to prevent the access to coastal strips, waterways and rivers. However, it does not apply to the mines directed against ships at sea or in inland waters.<sup>4</sup>

A mine is any explosive placed in, on or near the ground or other surface, and designed to explode or to be fired due to the presence, proximity or contact of a person or vehicle. A remotely delivered mine means a mine installed by a cannon, rocket, mortar or similar means, or dropped from an aircraft.<sup>5</sup> A booby trap is a device or material that is designed, constructed or adapted to kill or injure a person the moment they move an apparently harmless object, or approach it, or perform other seemingly safe action.

Anti-personnel mines have different shapes. Sometimes they are innocent-looking pieces of plastic, while others look like grenades or have the shape of a cylinder with protruding fuse rods.<sup>6</sup> They usually weigh about 1 kg, fit in the hand and cost only a few dollars. Depending on the way they work, they are placed just below the surface of the ground or in high grass where they are difficult to see. Sometimes mines traps can be placed on trees, especially fruit trees.

When the mine is stepped on or struck, it explodes with the force that can rip an adult's leg off or kill a child. Anti-personnel mines rarely cause immediate death. The reason for their victims' death is most often the exsanguination of the body due to the limb wounds, or injuries caused by a shrapnel, or infection of the body caused by a shrapnel and soil that have penetrated into the body's tissues.<sup>7</sup>

---

<sup>4</sup> W. Karp, *Bronie nadmiernie okrutne: od prawa humanitarnego do rozbrojenia*, „Sprawy Międzynarodowe”, 1996, no. 1, pp. 47–64.

<sup>5</sup> A. Ciupiński, M. Gąska, *Międzynarodowe prawo...*, *op. cit.*, p. 3.

<sup>6</sup> [www.stop-minom.pck.org.pl/miny,rodzaje.php](http://www.stop-minom.pck.org.pl/miny,rodzaje.php) (accessed: 15.11.2019).

<sup>7</sup> *A world without landmines. European Parliament resolution on a mine-free world*, Strasbourg, 7 July 2005, <https://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2005-0298+0+DOC+XML+V0//EN> (accessed: 15.11.2013).

Never before in the history of armed conflicts and wars has a simpler way of killing and mutilating as many people as with mines been invented. However, this fact is not the most severe and threatening one. The use of anti-personnel mines on a very large scale has made the lives of many civilians threatened by the deadly remnants of war. In jungles and deserts, on mountain trails and dirt roads all over the world, there are millions of mines, which are still dangerous. It is estimated that one third of all countries in the world are still mined.<sup>8</sup>

Other devices listed in the Second Additional Protocol to the above-mentioned Conventions are hand-placed explosives and devices designed to kill, injure or cause damage. They are remotely or automatically activated after a certain period of time.<sup>9</sup> Under no circumstances is it allowed by law to use mines, booby traps or other devices against civilians and single individuals for offensive, defensive and retaliatory purposes. It is also prohibited to use these weapons in an uncontrolled way by placing mines, booby traps or other devices unless it is done in a military facility or targeted directly against it. Additionally, this prohibition comprises methods or means of delivery that do not ensure targeting at a particular military object; or which, as it might be expected, will result in the accidental civilian casualties, injuries or the damage to civilian infrastructure, or any loss or damage at the same time if is disproportionate to the anticipated specific and direct military benefits.

It is prohibited to use mines other than remotely laid ones, traps or other devices in cities, settlements, villages and other areas with a similar concentration of civilians where the fights against land forces are not conducted, or such fights are not a direct threat. However, there are exceptions, namely, when they are placed on or in the immediate vicinity of a military facility owned or controlled by the opposing party, or when measures had been taken to protect civilians against the mines in the form of setting up warning signs, standing sentries, issuing warnings or setting up fences.<sup>10</sup> It is forbidden to use remotely delivered mines, unless such mines are used only in the area considered as a military facility or which comprises military facilities; when their location can be accurately registered or when a mine is

---

<sup>8</sup> *Metody upowszechniania międzynarodowego prawa humanitarnego konfliktów zbrojnych w Polsce, Materiały z konferencji PCK, Legionowo 2000.*

<sup>9</sup> W. Karp, *Bronie nadmiernie...*, *op. cit.*, pp. 47–64.

<sup>10</sup> *Ibidem.*

equipped with an effective, self-eliminating mechanism. This may be either a self-activating mechanism whose function is to disarm or destroy a mine if it is expected that the mine will no longer serve the military purposes for which it had been laid, or a remotely controlled mechanism designed to disarm or destroy the mine if it no longer serves the military purpose.

Regardless of the circumstances, it is forbidden to use booby traps aiming to cause unnecessary injuries or excessive suffering. Under all circumstances, the use of booby traps is prohibited:

- when they take a form of apparently secure, portable objects which are specially designed and constructed to contain explosives that are to explode when approached or moved,
- when they are in any way attached to or similar to internationally recognized protective emblems, signs or signals;
- to the sick, wounded or corpses;
- to the places of burial or cremation or graves;
- towards medical devices, medical equipment, medical resources or sanitary transport;
- to children’s toys or other portable objects or products specially designed for nutrition, protection of health, hygiene, clothing or children teaching;
- towards food or drink;
- to equipment or kitchen accessories, with the exception of the ones located in military units, military locations or military warehouses;
- to objects of a clearly religious nature;
- to monuments, works of art or places of worship that constitute cultural or spiritual heritage of nations;
- to animals or their remains.

For decades anti-personnel mines have been a means of combat used massively in all armies of the world. They do not have the characteristics of mass destruction weapons causing death and paralysis of many people in a short time. However, their use in numerous armed conflicts has caused the international community to talk about the “global mine crisis” for years. The scale of this phenomenon has increased so enormously that in some countries almost all areas of life are affected by this crisis.

### SOCIAL CONSEQUENCES

Numerous local armed conflicts and the needs of troops have contributed to the emergence of new construction solutions aimed at producing mines that are difficult to detect. The classic method of demining is based on the detection of mines with inductive metal detectors.<sup>11</sup> Producing mines without metal elements makes this task very complicated and risky. In order to meet the needs, manufacturers have developed new types of mines whose low production costs enable their mass production. These mines are characterized by low weight, small dimensions, and quite high resistance to the effects of mine clearance. In addition, their hulls are made of non-metallic elements such as bakelite, plastics, wood, or even cardboard. Due to the weather conditions, mines with a plastic hull may remain active longer than mines with wooden or cardboard hulls, which decompose after some time.

In order to limit further production of undetectable anti-personnel landmines, a requirement was specified in the Technical Annex to the *Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices as amended on 3 May 1996 (Protocol II, as amended on 3 May 1996) annexed 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*.<sup>12</sup> According to it, mines produced after 1 January 1997 must be constructed in such a way that, when searched with inductive detectors, they give a feedback signal equivalent to eight grams of iron. Mines produced before that date but stored in warehouses should be equipped with an element that performs the afore-mentioned function.<sup>13</sup> The intention of the Protocol is to force countries that ratify its provisions to use safer mines which are easy to detect or which will cease to be active after the end of hostilities.<sup>14</sup>

Poland ratified the Convention in 2012, and it came into force in the country on 1 June 2013. The Convention itself was adopted in Oslo in 1997; it was signed in Ottawa the same year and went into effect in 1999. Poland

<sup>11</sup> J. Kopeć, *Pola przeciwwminowe*, „Polska Zbrojna”, October 1997, no. 39.

<sup>12</sup> M. Flemming, J. Wojciechowska, *Zbrodnie wojenne. Przestępstwa przeciwko pokojowi, państwu i obronności*, Warszawa 1999, p. 570.

<sup>13</sup> M. Flemming, *Międzynarodowe prawo konfliktów zbrojnych: zbiór dokumentów*, Warszawa 1991, p. 7.

<sup>14</sup> *Metody upowszechniania...*, *op. cit.*

made a declaration that by 2017 it would have destroyed all its reserves of anti-personnel mines. At the Anti-Personnel Mine Ban Convention (APMBC) conference in Santiago, Chile, on 1 December 2019, the Polish ambassador confirmed that 1,005,971 mines had been destroyed in Poland.<sup>15</sup>

So far, 162 countries have joined the APMBC and 157 of them have declared that they no longer have stocks of anti-personnel landmines. In total, as declared, more than 48 million mines had been destroyed. However, countries that have not signed the Convention yet include: Russia, China, the United States, India, Israel, North Korea, and South Korea.

The surest way to implement the ideas of safer (shorter-acting) mines is to produce devices that will self-eliminate or self-inactivate after the end of hostilities. Self-elimination process consists in self-destruction (usually by an explosion) when the time of supposed usefulness of the mine expires<sup>16</sup>, whereas self-inactivation should be understood as “an automatic process that makes the device [mine] inoperative due to the irreversible depletion of one element, for example the battery, essential for its operation”.<sup>17</sup> Many experts believe that the first solution is a better one, because in the second case the mine will remain in place with no possibility to assess whether it is active or not. In recent years, five theoretical ways of neutralizing anti-personnel landmines have been developed.

The proposed solutions consist in<sup>18</sup>:

1. Acid treatment of metal parts of the fuse to cause explosion. This method is simple and can be applied to mines currently stored in warehouses. It requires structural changes to fuses. The disadvantage of such a solution is that it is not possible to cause the igniter to act precisely at the specified time.
2. Causing detonation or self-inactivation with a suitable electronic device controlled by a processor similar to the one used in a watch. This sys-

---

<sup>15</sup> Oceans & Law of the Sea – United Nations – Division for Ocean Affairs and the Law of the Sea, *United Nations Convention on the Law of the Sea. MEETING OF STATES PARTIES. Resumed Twenty-fifth Meeting*, updated 25 February 2016, [www.un.org/Depts/los/meeting\\_states\\_parties/resumedtwentyfifthmeetingstatesparties.htm](http://www.un.org/Depts/los/meeting_states_parties/resumedtwentyfifthmeetingstatesparties.htm) (accessed: 12.12.2019).

<sup>16</sup> *Metody upowszechniania...*, *op. cit.*

<sup>17</sup> *Ibidem.*

<sup>18</sup> *Materiały do szkolenia wojsk w zakresie osiągnięcia interoperacyjności z wojskami NATO w dziedzinie minersko-zaporowej*, Warszawa 1999.

tem can be activated by radio or laser. Similar systems are used in some anti-tank mines which remarkably raises their cost. In fact, it is a basic obstacle for installing them in anti-personnel mines.

3. Evaluation of the charge level of the cells supplying the mine igniter initiation system by the electronic system. In the event of an excessive drop in the electromotive force of the cell, the mine becomes self-inactivated. The mine activity time can be up to about 30 days, and sometimes up to one year. However, using cells does not guarantee that after a certain period of time, the mine will remain inactive, as it is always possible to replace the cell with a new one.
4. The use of chemical and biological systems, which are currently still very imperfect and remain in the sphere of research. Their theoretical assumptions are based on the fact that some explosives used in the detonators become more sensitive over time, and thus capable of spontaneous detonation.

If the ageing process of explosives is controlled, it will be possible to produce anti-personnel mines that would self-eliminate after a certain period of time. On the other hand, trinitrotoluene (TNT), which is the main component of most mines, is resistant to ageing as well as to the interaction of chemical compounds. For this reason, attempts are being made to use special microorganisms that would cause decomposition of the explosive.<sup>19</sup> The solutions proposed above are criticized because they do not provide 100% certainty. It has been found, as a result of the research, that about 10–15% of the proposed solutions are unreliable. Even if one in a hundred mines does not detonate, the effect may be disastrous for the people thinking that the area is safe. The necessity to equip the mines with the proposed equipment is connected with higher production costs. Poorer countries are unable to bear them and, thus, to respect international law. Even if the mines were equipped with one of these devices, they would still remain dangerous until the process of their inactivation or self-elimination is completed.<sup>20</sup>

The lack of a global agreement on equipping mines with such devices only reinforces the conviction that the provisions of the *Protocol on*

<sup>19</sup> W. Karp, *Bronie nadmiernie...*, *op. cit.*, pp. 47–64.

<sup>20</sup> *Budowa i pokonywanie zapór inżynierskich*, sygn. inż. [engineer signature] 576/93, Warszawa 1993.



*Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices* of 1996 are not being respected. The impact of anti-personnel mine use on the quality of life and health of the inhabitants of the given countries where these combat measures have been used is much greater than it apparently seems to be. The most visible effect of using mines in the area is a large number of casualties, as well as people who have lost their limbs or sight. These effects can be determined as primary ones.<sup>21</sup> According to the statistics published as a part of the global campaign to ban anti-personnel landmines, in 2018 at least 3059 people worldwide were killed and 3837 people got injured due to the explosion of mines and misfires. Every second victim was a child.<sup>22</sup>

Mine victims require specialist medical care. First aid consists in evacuating the injured person from the scene of the accident and ceasing the bleeding. Due to the fact that the area is mined, the time to reach the wounded to evacuate them can be very prolonged. In order to stop the bleeding, compression bands need to be used. However, when the procedure is carried out by a non-professional and the band is tied well above the bleeding site, this activity may be a direct threat to the health and life of the injured, particularly if the time to reach the hospital is longer than six hours. Then there is irreversible necrosis of the ischemic tissues, followed by the need to amputate a limb well above the place where it was ripped off.<sup>23</sup> After arriving at hospital and performing the initial activities, a wounded person is directed to the operating theatre for surgery. Due to extensive wounds, the victim usually requires to be administered two or even three times more the amount of blood than during a standard surgery. The increased demand for blood means that the blood used happens to be not tested properly, which results in HIV or malaria during the transfusion procedure.<sup>24</sup> The duration of treatment, not to mention the number of performed surgical procedures, is also much greater. According to the Red

---

<sup>21</sup> *Materiały szkoleniowe dla instruktorów MKCK*, Radziejowice 2010.

<sup>22</sup> *Trump znosi zakaz stosowania min przeciwpiechotnych. Niemcy krytykują*, "DW.com", 3 February 2020, <https://www.dw.com/pl/trump-znosi-zakaz-stosowania-min-przeciwpiechotnych-niemcy-krytykuj%C4%85/a-52245624> (accessed: 20.02.2020).

<sup>23</sup> W. Karp, *Bronie nadmiernie...*, *op. cit.*

<sup>24</sup> *Program szkolenia pododdziałów wojsk inżynieryjnych*, sygn. inż. [engineer signature] 582/93, Warszawa 1993.

Cross data, the average periods of hospitalisation of bullet, shrapnel and mine injuries are 18.1, 13.7, and 32.3 days respectively, and the number of performed procedures is 1.9, 2.1, and 4.0, respectively. The cost of hospital treatment amounts for between 3,000 and 4,000 USD.<sup>25</sup>

After the end of the hospital stay, a long period of rehabilitation begins, during which, after fitting the prosthesis, the victim learns to live in new conditions.<sup>26</sup> At this time, in addition to the necessary physical rehabilitation, mental rehabilitation plays an extremely important role, especially when a victim is a young person. The costs associated with convalescence and the subsequent victim's life are of considerable importance for the budgets of the countries affected by the problem of mines. The price of one prosthesis is about 100–150 USD, whereas throughout their life, on average, a person uses twenty five prostheses. For this reason, in the developing countries, not all people affected by this tragedy can count on state support.<sup>27</sup>

Secondary effects constitute a much larger group of problems. They are manifested by an increased number of diseases that have been considered extinct until recently. One of them is Heine-Medin disease. It occurs in the areas where roads, arable and breeding areas are mined or where communication and, thus, the access to health centres, is very limited. This makes it impossible to carry out preventive vaccinations.<sup>28</sup> In the countries with low levels of health education, it is mobile medical groups that get involved to carry out such vaccinations. Unfortunately, in unmarked mined areas, they cannot move smoothly and therefore are forced to bypass many villages and settlements. The inability to reach such settlements and carry out preventive vaccinations in Afghanistan has resulted in a marked increase in the polio

---

<sup>25</sup> R.M. Coupland, *Assistance for victims of anti-personnel mines: needs, constrains and strategy*, Geneva 1997, <http://www.icrc.org/icrceng.nsf/c1256212004ce24e4125621200524882/dafee8f89b11b10d412564eb002a62bd?OpenDocument> (accessed: 16.11.2013).

<sup>26</sup> U.S. Department of State, Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs, *Hidden Killers 1998: The Global Landmine Crisis. Report released by the U.S. Department of State, Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs*, Washington, D.C., September 1998, <http://www.state.gov/www/global/arms> (accessed: 10.11.2013).

<sup>27</sup> "Polski Czerwony Krzyż", [www.pck.pl](http://www.pck.pl) (accessed: 10.12.2019).

<sup>28</sup> ICRC, *Landmines must be stopped*, Geneva, September 1995.

incidence.<sup>29</sup> In other countries, for the same reasons child mortality has increased significantly due to six major childhood diseases.<sup>30</sup>

The above-mentioned effects in terms of the health deterioration of the population are not the only effects that have been noted so far. Among the poor agricultural population there is an increase in the number of infectious diseases caused by the consumption of contaminated water as well as other diseases resulting from the increased susceptibility of human organisms to diseases caused by malnutrition.<sup>31</sup> The reason behind it is the fact that many paths leading to fresh water sources as well as to firewood harvesting sites are mined. For this reason, the population is forced to drink infected, unboiled water which causes diarrhea, especially among children.<sup>32</sup> It is amoebosis and lambliosis that are on the increase, among other parasitic gastrointestinal diseases. Apart from that in many countries, especially those with a hot climate, cholera occurs cyclically every summer. In default of the possibility to use clean water suitable for food purposes, there is a significant increase in the number of deaths caused by this disease.<sup>33</sup>

The neighbourhood of minefields forces numerous poor agricultural populations to live in closed enclaves. The impossibility to exchange the produced crops with other villages makes it necessary for them to feed only on their own harvest. As time passes, the fields get barren and such foods become less rich in minerals. As a result, people living in such enclosed areas have large iodine deficiencies which cause disorders of functioning of their organisms as well as high perinatal mortality.

In order to assess the health condition of the inhabitants of mined countries, one can observe a relationship between the existing mine threat and malnutrition within the society. In these countries, the number of men between 15 and 50 years of age, who are the breadwinners in their families, has decreased dramatically. Due to the lack of income most families are unable to buy or produce food.<sup>34</sup>

---

<sup>29</sup> U.S. Department of State, Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs, *Hidden Killers 1998...*, *op. cit.*

<sup>30</sup> *Ibidem.*

<sup>31</sup> "Polski Czerwony Krzyż", *op. cit.*

<sup>32</sup> *Ibidem.*

<sup>33</sup> "Polski Czerwony Krzyż", *op. cit.* (accessed: 15.01.2020).

<sup>34</sup> *Ibidem.*

The situation of women, who are victims of mines in a double sense, is particularly difficult. They are primarily responsible both for the care of their children and of mutilated men. If they have lost their limbs themselves, then they have no chances of getting married, which in traditional society means being cut off from the main source of income.<sup>35</sup> Further mine victims even more exacerbate their families' difficult social and economic situation. To make matters worse, if these people become disabled due to limb amputation or blindness, they gradually begin to suffer from mental illnesses caused by the lack of appropriate therapy and social programmes which could prepare them for the life in the new conditions. In this way, these people contribute to the deterioration of their relatives' mental health. Considering the above problem on a broader scale, it can be concluded that such a situation accounts for the physical and mental health of entire nations, placing them among the countries that have to deal with serious health problems of the entire population for many years after the end of the armed conflict.<sup>36</sup>

The societies of the countries in which armed conflicts have taken place often get divided into several groups. These divisions often result from racial, religious or ethnic differences. For these reasons, peace in such territories requires the agreement of different parties, which can be a long-term process. In order to achieve this objective, the affected nation needs the presence of efficient state administration and the government institutions throughout its territory.<sup>37</sup> Landmines threaten the peace process, both due to their physical presence and due to the fact that they hamper the reconstruction of the country from war damage. As already mentioned above, the basic factor necessary to extend the influence of the government throughout the country is the ability to reach all its corners. In the situation where road and rail networks are mined, expensive air transport can be the only means of transport making it possible to reach the most inaccessible regions of the state. In a country destroyed by war, military transport often plays an important role. However, its excessive use reduces the army's military readiness for combat, and thus the defence capability of

<sup>35</sup> ICRC, *Landmines...*, *op. cit.*

<sup>36</sup> *Ibidem.*

<sup>37</sup> W. Karp, P. Kłudka, *Miny lądowe (Międzynarodowe konwencje a broń nadmiernie okrutna)*, „Wojsko i Wychowanie”, 1996, no. 8, pp. 87–91.

the country. Unfortunately, even this form of transport sometimes happens to be inaccessible due to the mined roads giving access to the airports, and due to the airport infrastructure not working for this reason.

#### GEOGRAPHICAL AND SOCIAL DIVERSITY

Anti-personnel mines, which have been laid in many countries during armed conflicts, have had a negative impact on the economic life of the states trying to recover from war damage. It is obvious that due to the locations of battlefields, the branch that is mostly affected of all areas of economic life is agriculture. For many countries worldwide, it is the source of food for the population and source of raw materials for the processing industry. Poor rural population is the social group mostly dependent on farming.<sup>38</sup> The lack of conditions for these people to do their jobs causes continuous impoverishment and, as a consequence, the collapse of the entire economic sector. Numerous mines, and sometimes a mere assumption of their occurrence, make the previously cultivated agricultural areas fall into fallow land. For the same reasons, livestock population decrease significantly. Countries that used to be self-sufficient in food now need outside help. In such a situation, food prices are rising exponentially, thus increasing areas of poverty. It is estimated that if it were not for the presence of anti-personnel mines, the level of agricultural production would be much higher, sometimes even by 100 per cent or more, as in Afghanistan or Cambodia.<sup>39</sup>

Apart from agriculture itself, other areas of the economy suffer too. Trade and exchange of goods cannot develop due to the mined roads. Tourism, which is a significant source of income for many countries, is in recession in the mined ones. For instance, in Zimbabwe, numerous minefields prevent the access to the famous Victoria Falls, which used to be the driving force of tourism in this country. Mines scattered across many countries also have an impact on urban areas which have been in economic crisis for many years due to the decline of crafts, industry and energy sectors.<sup>40</sup> Anti-personnel mines make the entire state infrastructure very unstable. Difficult access to power lines, bridges, hydroelectric power plants, roads and rail net-

---

<sup>38</sup> "Polski Czerwony Krzyż", *op. cit.* (accessed: 20.11.2019).

<sup>39</sup> U.S. Department of State, Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs, *Hidden Killers 1998...*, *op. cit.*

<sup>40</sup> [www.biurose.sejm.gov.pl/teksty\\_pdf\\_03/i-996.pdf](http://www.biurose.sejm.gov.pl/teksty_pdf_03/i-996.pdf) (accessed: 14.11.2019).

works slows down the reconstruction of countries from war damage. Due to landmines, land transport does not exist in many places in the world, which significantly reduces the distribution of all types of goods. For the same reasons, such a state of affairs makes it impossible for people to move which, for people at the working age, means no employment opportunities in other regions of the country. Another consequence of transport recession is the collapse of trade and its related areas.<sup>41</sup>

In such a situation, the basic task is to create programmes to rebuild the infrastructure of the country. Its efficient functioning is necessary if one wants to reduce suffering of the population resulting from the constant mine threats, and to support the efforts of the population to consolidate peace. The costs of repairing the backbone of the state, i.e. infrastructure, are huge, but the failure to do so will cause further economic decline of the countries, increasing internal tensions and the threat of resuming conflicts.<sup>42</sup>

The presence of armed landmines has a great impact on the natural environment of a given country as well. The stagnation in agriculture caused by mining of numerous arable areas, or at least the assumption of such a state of affairs, makes the rural population move to the cities, leaving the previously inhabited areas. The phenomena of migration are accompanied with overpopulation of the cities, and with it the emergence of a large number of the homeless and the unemployed. Cities whose municipal services are not prepared to receive such a large population struggle with the problems of excessive amounts of rubbish and pollution, at the same time not being able to guarantee basic hygienic requirements. In such a situation, along with the newcomers, epidemiological threats are likely to arise.<sup>43</sup>

Also, mine threat significantly affects animals, not only livestock but also animals that live in the wild. Environmental changes caused by anti-personnel landmines do not occur immediately and can therefore only be thoroughly assessed after some time. However, one of the first signs of the change is a significant reduction in the number of animals. Some studies estimate that around 627,000 animals have already died from mines in 23

---

<sup>41</sup> [www.icbl.org/index.php/icbl/layout/set/print/content/.../treatypolish.pdf](http://www.icbl.org/index.php/icbl/layout/set/print/content/.../treatypolish.pdf) (accessed: 21.11.2013).

<sup>42</sup> U.S. Department of State, Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs, *Hidden Killers 1998*, *op. cit.*

<sup>43</sup> *Ibidem.*

countries.<sup>44</sup> It concerns endangered species such as African elephants, brown bears in Bosnia and Herzegovina, and buffaloes in South Asia. Mines have significantly reduced the numbers of cattle, sheep, and goats that are the basis for the rural population maintenance. Animals, which have so far been a source of food and transport, have become the cause of land contamination and the spread of diseases. The reason behind it is lack of the possibility to remove animals killed by mines for fear of entering the minefield. The consequence of this state of affairs is the massive appearance of mosquitoes spreading malaria along with other infectious diseases, and in the long run, the threat of an epidemic.<sup>45</sup>

The continued presence of landmines throughout many countries leads to their militarisation, which is probably the greatest obstacle for their society structures to reconstruct. Mines are the basic weapons of the poor. Partisan troops use them to stop the pursuit of government troops. Mines are also an effective tool of terror used against civilians. It is not a rare case that the purpose of the mines is not to stop the enemy, but to extort protection money from farmers and lumberjacks.<sup>46</sup> People who live in constant fear, in mined areas, expect security, which should be provided to them by legal authorities. Due to the lack of permanent presence of the army or police forces, they most often ask for help from paramilitary organizations or other armed groups in exchange for food or payment. As a result, the presence of these groups thwarts the efforts of international organisations and representatives of government agencies who come to such mined areas to provide necessary assistance to those in need. Non-governmental international organisations providing humanitarian assistance to the victims of conflicts are often intimidated or even forced to leave the areas controlled by armed groups. This state of affairs limits greatly the ability to deliver aid where it is actually needed and most expected.<sup>47</sup> The social costs of using landmines can be measured in many ways, ranging from the years of essential surgical and prosthetic assistance to their victims, through the constant depletion of limited financial resources of mined countries, ending with

---

<sup>44</sup> *Ibidem*.

<sup>45</sup> "Polski Czerwony Krzyż", *op. cit.*, (accessed: 14.11.2019).

<sup>46</sup> *Regulamin Ogólny Sił Zbrojnych RP*, Sygn. Sztab. Gen. [General Staff signature] 1426/94, Warszawa 1994.

<sup>47</sup> R. Żuchowski, *Saperzy w przededniu nowego tysiąclecia*, PWL 2000, no. 4, pp. 5–8.

huge expenses borne by the communities around the world. Regardless of the adopted research methods, these costs cannot be precisely estimated; one can only state that they are enormous on a global scale.<sup>48</sup>

## CONCLUSION

Modern international relations are based on, *inter alia*, the principle of providing civilians with maximum protection against the effects of armed conflicts. This is in accordance with the standards of civilized warfare, which have been practised for more than a hundred years; as well as with the principle of using such weapons that do not cause more suffering than necessary to eliminate a soldier from the battlefield and do not cause casualties among those not participating in the conflict. Restrictions also apply to any conventional weapon which, because of its design and usage, provides only partial control over the effects of its application. Such measures certainly include anti-personnel mines.<sup>49</sup> The pursuit of the international community to limit their use, or preferably to eliminate it completely, must become an important task for the first decades of the 21st century on the way to further humanitarianisation of armed conflicts and wars.

## REFERENCES

1. [www.biurose.sejm.gov.pl/teksty\\_pdf\\_03/i-996.pdf](http://www.biurose.sejm.gov.pl/teksty_pdf_03/i-996.pdf) (accessed: 14.11.2019).
2. *Budowa i pokonywanie zapór inżynierskich*, sygn. inż. [engineer signature] 576/93, Warszawa 1993.
3. Ciupiński A., Gąska M., *Międzynarodowe prawo konfliktów zbrojnych, zbiór dokumentów. Wybrane problemy*, Warszawa 2001.
4. Coupland R.M., *Assistance for victims of anti-personnel mines: needs, constraints and strategy*, Geneva 1997, <http://www.icrc.org/icrceng.nsf/c1256212004ce24e4125621200524882/dafee8f89b11b10d412564eb002a62bd?OpenDocument> (accessed: 16.11.2013).
5. Flemming M., *Międzynarodowe prawo konfliktów zbrojnych: zbiór dokumentów*, Warszawa 1991.
6. Flemming M., Wojciechowska J., *Zbrodnie wojenne. Przepięstwa przeciwko pokojowi, państwu i obronności*, Warszawa 1999.

<sup>48</sup> *Ibidem*.

<sup>49</sup> *Metody upowszechniania...*, *op. cit.*



7. [www.icbl.org/index.php/icbl/layout/set/print/content/.../treatypolish.pdf](http://www.icbl.org/index.php/icbl/layout/set/print/content/.../treatypolish.pdf) (accessed: 21.11.2013).
8. ICRC, *Landmines must be stopped*, Geneva, September 1995.
9. Karp W., *Bronie nadmiernie okrutne: od prawa humanitarnego do rozbrojenia*, „Sprawy Międzynarodowe”, 1996, no. 1, pp. 47–64.
10. Karp W., Kłudka P., *Miny lądowe (Międzynarodowe konwencje a broń nadmiernie okrutna)*, „Wojsko i Wychowanie”, 1996, no. 8, pp. 87–91.
11. Kopeć J., *Pola przeciwwminowe*, „Polska Zbrojna”, October 1997, no. 39.
12. *Materiały do szkolenia wojsk w zakresie osiągnięcia interoperacyjności z wojskami NATO w dziedzinie minersko-zaporowej*, Warszawa 1999.
13. *Materiały szkoleniowe dla instruktorów MKCK*, Radziejowice 2010.
14. *Metody upowszechniania międzynarodowego prawa humanitarnego konfliktów zbrojnych w Polsce, Materiały z konferencji PCK*, Legionowo 2000.
15. Oceans & Law of the Sea – United Nations – Division for Ocean Affairs and the Law of the Sea, *United Nations Convention on the Law of the Sea. MEETING OF STATES PARTIES. Resumed Twenty-fifth Meeting*, updated 25 February 2016, [www.un.org/Depts/los/meeting\\_states\\_parties/resumedtwentyfifthmeetingstatesparties.htm](http://www.un.org/Depts/los/meeting_states_parties/resumedtwentyfifthmeetingstatesparties.htm) (accessed: 12.12.2019).
16. “Polski Czerwony Krzyż”, [www.pck.pl](http://www.pck.pl) (accessed: 10.12.2019).
17. *Program szkolenia pododdziałów wojsk inżynieryjnych*, sygn. inż. [engineer signature] 582/93, Warszawa 1993.
18. *Regulamin Ogólny Sił Zbrojnych RP*, Sygn. Sztab. Gen. [General Staff signature] 1426/94, Warszawa 1994.
19. [www.stop-minom.pck.org.pl/miny,rodzaje.php](http://www.stop-minom.pck.org.pl/miny,rodzaje.php) (accessed: 15.11.2019).
20. *Trump znosi zakaz stosowania min przeciwpiechotnych. Niemcy krytykują*, “DW.com”, 3 February 2020, <https://www.dw.com/pl/trump-znosi-zakaz-stosowania-min-przeciwpiechotnych-niemcy-krytykuj%C4%85/a-52245624> (accessed: 20.02.2020).
21. U.S. Department of State, Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs, *Hidden Killers 1998: The Global Landmine Crisis. Report released by the U.S. Department of State, Bureau of Political-Military Affairs, Office of Humanitarian Demining Programs*, Washington, D.C., September 1998, <http://www.state.gov/www/global/arms> (accessed: 10.11.2013).
22. *A world without landmines. European Parliament resolution on a mine-free world*, Strasbourg, 7 July 2005, <https://www.europarl.europa.eu/>

sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2005-0298+0+DOC+XML+V0//EN (accessed: 15.11.2013).

23. Żuchowski R., *Saperzy w przededniu nowego tysiąclecia*, PWL 2000, no. 4, pp. 5–8.

**CITE THIS ARTICLE AS:**

M. Kubiak, *Anti-personnel landmines in modern armed conflicts. Legal regulations and the scope of application*, "Security Dimensions", 2020, no. 33, pp. 110–117, DOI 10.5604/01.3001.0014.2671.

Licence: This article is available in Open Access, under the terms of the Creative Commons License Attribution 4.0 International (CC BY 4.0; for details please see <https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided that the author and source are properly credited. Copyright © 2020 University of Public and Individual Security "Apeiron" in Cracow