
Contemporary Challenges, Problems and Dilemmas Regarding Human Security

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INTRODUCTION

Contemporary Challenges, Problems and Dilemmas Regarding Human Security

The Svetlana Đurđević Lukić Contest was launched by the CENTRE in the memory of our friend, colleague, co-founder and long-time director of the CENTRE, who tragically died in a traffic accident last year. Honoring Svetlana's long-time engagement and contribution to the empirical and theoretical study of human security is the driving idea behind this contest.

Given the wide range of her interests and her consistent fostering of a multidisciplinary approach in the study of human security, the CENTRE decided to send the invitation to participate in the contest to the students of all faculties in Serbia. Such a wide coverage was further motivated by the desire to make students, future scientists and practitioners, interested in addressing current challenges in the study of security from the perspective of different disciplines, thus encouraging discussion in the general public about the complexity of this topic today.

Hence, this year's (and the first) contest included the topics that have thus far been in the research focus of the CENTRE, such as the problems and issue of proliferation of small arms and light weapons in post-conflict societies and the security of vulnerable groups. At the same time, the contest also proposed the topics attracting increasing attention and addressing transnational challenges related to security of the person. Recognising their significance, the CENTRE also included in the contest the issues of health security, cyber security and security challenges due to increasingly frequent natural disasters also faced by Serbia.

This collection presents six essays written by undergraduate and graduate students, which were selected as innovative and topical among a large number of papers. Essays dealing with cyber security shed light on specific problems. The essay on "revenge porn", whose victims are most often women, presents this increasingly frequent phenomenon of cyber violence, for which adequate criminal sanctions have not yet been introduced in Serbia. The lack of legal framework in Serbia, but also globally, is also exposed by the essay dealing with the issue of blurred lines between the increasingly prevalent application of biometric meth-

ods in protecting citizens from fraud and crime on the Internet, on the one hand, and protection of their privacy, on the other. The authors of these papers thus suggest that the accelerated development of technology creates new hazards and threats to which most societies still seek answers.

The essays dealing with health security focus on the changes in the approach to health and safety issues and the dangers brought by the spread of infectious diseases. Today, health threats become a matter of national security, as well as a matter of human security. The impact of globalization and migrations causes concerns about potential emergence and spreading of new and renewable diseases to which national states are trying to respond, albeit with a delay, as is perhaps the case in Serbia as well?

The third group of the papers deals with the proliferation of illegal small arms and light weapons in Serbia and the threat they present for the security of citizens. Apart from being used in the activities of organised criminal groups and potential ethnic conflicts, firearms also contribute to domestic violence primarily against women and children. Every year, between one-half and one-third of women killed in the cases of domestic violence are murdered by legal or illegal firearms. Regardless of this situation, the legislative activities in Serbia dealing with the connection between weapons and domestic violence are slow and still in early stages.

Although this collection presents the essays of students who are at the start of their career as authors and academics, we believe that their papers will be interesting to various groups of readers and, concurrently useful to all those who are particularly interested in security challenges faced by individuals.

The CENTRE organised this contest with the support of the Democratisation Department of the OSCE Mission to Serbia wishing to promote young students following in Svetlana's footsteps. The CENTRE is grateful to the OSCE Mission for their involvement, which is a symbol of the long-standing cooperation of these two organizations in the field of improving human security in Serbia. At the same time, the CENTRE expresses special gratitude to the expert members of the jury, Mr. Vladimir Bilandžić, PhD, international security expert and special advisor at the OSCE Mission to Serbia, and Mrs. Vanja Rokvić, Faculty of Security Studies of the University of Belgrade, Srdjan Korać, PhD, a Research Fellow at the Institute of International Politics and Economics (IIBE) in Belgrade, and Marina Tadić, a member of the Government Office for Cooperation with Civil Society. They contributed significantly to the quality of work of the CENTRE's jury and thus made the publication of this collection possible.

Belgrade, November 2017

PERSONAL SECURITY ON THE INTERNET – CONTEXTUALISATION OF THE PHENOMENON OF REVENGE PORN AS CYBER VIOLENCE

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Abstract: The increasingly frequent use of the Internet creates an open and accessible space for communication and consequently the expression of violence. Violence expressed through an electronic medium is called cyber violence. The specificity of this type of violence is its reach and the possibility of repeating threatening content. An important and frequent part of cyber violence is online distribution of sexual content without the consent of the person presented by that content. This type of violence is called revenge porn, because a frequent motivation for publishing such content is revenge against a former romantic/sexual partner.

The most common victims of this phenomenon are women. The consent of a woman to create sexual content, usually in the form of a photo or video, is generalised to the distribution of that content. The responsibility for the incident is often attributed to the victim, a phenomenon known as victim blaming and also present in the cases of sexual assaults against women.

The spreading of this content threatens her personal security – the victims of revenge porn often change their place of residence, school, job, and face difficulties in establishing relationships of trust with people from their surroundings, including romantic partners. It has been shown that undergoing this experience can lead to serious mental health problems – depression, post-traumatic stress disorder, and even suicide attempts.

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The cyber violence and revenge porn phenomena have not been subjects of research in the Republic of Serbia or recognised as specific phenomena in the RS Criminal Code. The authors of this text conducted an exploratory study on an appropriate sample, which showed that 15% of persons experience cyber violence, including revenge porn in some forms, which means that there is room for examining this phenomenon and its consequences in Serbia.

A suggestion for reducing the prevalence of cyber violence and mitigating its consequences is to organise preventive workshops at schools before cyber violence assumes more serious and harmful forms such as revenge porn. The security risks for victims can be mitigated by the legal framework explicitly criminalising cyber violence and revenge porn.

Keywords: *cyber violence, revenge porn, personal security*

INTRODUCTION

The increased use of the Internet in the past two decades shifts a large portion of communication to electronic (online) space, which creates a new environment for the expression of violence (Jones, Mitchel & Finkelhor, 2014). Violence (a voluntary and repeated action that causes negative consequences for others) that uses electronic text as a medium is called cyber violence (Patchin & Hinduja, 2006). As in the case of direct conflicts, cyber violence also includes harassment, name-calling, labelling, sexual harassment, and other (Cassidy, Jackson & Brown, 2009). Participation in cyber violence is not necessarily related to specific social groups, but studies often point to the significance and the consequences that cyber violence may have for minors (Ibid.).

What distinguishes cyber violence from direct conflicts are the media through which it can be expressed. In addition to text, it often includes photos and videos (Diamanduros, Downs & Jenkins, 2008). One form of cyber violence is revenge porn, where the medium is a photo or a video. Revenge porn is most often described in literature as an act of publishing sexually provocative portrayals of another person, abusing personal information about this person in order to publicly humiliate him/her (Halder & Jaishankar, 2013). These portrayals can be authentic, as well as false (Ibid.). The reason for such a type of violence, which gave revenge porn its name, is the expression of the perpetrator's anger or frustration due to a terminated relationship with another person – the victim (Ibid.). Although the image or video may originally be authentic and made with the vic-

tim's consent, revenge porn implies **distribution (sharing)** of the person's sexual content without his/her consent (Scheller, 2015; Salter, 2013). The most frequent victims of this phenomenon are women (Bloom, 2013).

Along with the content containing a person's sexually provocative portrayal or sexual act, his/her personal information, such as the address and phone number, is often shared as well (Citron & Franks, 2014; Schelle, 2015). The specificity of cyber violence, as well as of revenge porn, which makes it difficult for the victims to overcome the incident and return to everyday activities, and makes this phenomenon much more harmful, is the constant availability of online content, which leads to constant re-victimization (redistribution of the content and reliving of the incident) (Ibid).

Because of these specificities, the revenge porn phenomenon is an issue present in various social science disciplines – psychology (overcoming victimization), sociology (the field of gender regimes), human rights and security. We intend to present in detail in this paper the revenge porn phenomenon, the context in which it develops, as well as the experiences of the victims of this phenomenon. In the end, an overview will be made of the prevalence of the phenomenon and the respective legal regulations in the Republic of Serbia.

The Term *Revenge Porn*

Before considering the context of the phenomenon itself and the consequences it has for the victims, it is important to briefly explain the term revenge porn and the ways it is interpreted. Namely, although revenge porn is the accepted term for this phenomenon in society and in the public discourse, there are authors who point out that it is not completely appropriate (Franks, 2016).

The first reason is the perpetrator's motive, which is not always a desire for revenge and may instead be a desire for fun or profit (distribution of images to websites that, depending on the number of views, bring profit). Sometimes the perpetrator does not have a clear motive at all. In accordance with this, it is clear that viewing perpetrators solely as embittered former partners presents an oversimplification and shifts the focus away from the fact that even complete strangers may be perpetrators.

The second reason for the inadequacy of the term revenge porn is the interpretation of the act of making a photo or a video (regardless of whether it was done by

the victim or his/her partner) as a pornographic act. It should be emphasised that this is not a pornographic act; instead, making nude photos and videos is a common practice in romantic relationships, which is private and intimate and should not be confused with pornography. However, if this content is publicly posted and distributed without the consent of the person presented by this content, then it is non-consensual pornography. It is this term that the author suggests as a more adequate term than revenge porn (Ibid.). However, since the term revenge porn is generally accepted, it will be used further in the text, with a note that, as such, it may lead to incorrect interpretations of the phenomenon.

GENDER-BASED VIOLENCE

Since the most frequent victims of the phenomenon are women whereas the most frequent perpetrators are men (Bloom, 2013), the widest context for the emergence of the revenge porn phenomenon is the context of gender and heterosexual regimes. In a heterosexual relationship, young girls view the frequently violent and intrusive behaviour of men as normal, attributing it to their “natural” or “uncontrolled” sexual desire (Hlavka, 2014). Sexual harassment of young women is often seen as standard and unavoidable. Therefore, revenge porn presents a particular security challenge for women (Salter, 2013). While open and often violent expression of sexuality is socially acceptable for men, women are historically associated with the practices of maintaining privacy, modesty and innocence. Revenge porn uses this double standard and particularly affects and threatens the dignity and status of women (Salter, 2013).

In addition to providing a context for the emergence of the phenomenon, such a regime offers a justification for perpetrators and leads to victim blaming. The expression of sexuality, including photographing and recording nudity and sexual activities, although perceived as normal in the case of men, is strongly condemned in the case of women (Hlavka, 2013; Salter, 2013). The responsibility for the incident is fully attributed to the victim, which is a phenomenon known as victim blaming, also present in the cases of sexual assault (Bloom, 2016, Hlavka, 2013). Moreover, the analyses of some authors classify revenge porn among other activities of gender-based violence, such as domestic violence, sexual assault, and sexual harassment (Franks, 2013).

Another framework for victim blaming is the transfer of consent from one context to another or from one activity to another. If a woman agrees to some activities (e.g. kissing), this implies her consent to sex (Citron & Franks, 2014).

Furthermore, the victims of revenge porn are blamed because, if they gave their consent to making a photo or a video in one (private) context, it is considered acceptable that this content be shared in another (public, online) context (Citron & Franks, 2014; Salter, 2013). According to some authors, these reasons for victim blaming are just some of many ways of limiting a woman's freedom of movement and expression (Bloom, 2016; Franks, 2013).

EXPERIENCES OF REVENGE PORN VICTIMS

Revenge porn victims face numerous challenges after the incident. The research dealing with the experiences of victims after a revenge porn incident often compare emotional reactions and the consequences of the incident for the victims' social life with extreme cases of sexual harassment, such as rape (Bates, 2012). Revenge porn has an intensive impact both on the online and on the offline functioning of the victim (Bloom, 2016). Victims are often afraid of future re-victimization (in case the content re-emerges), feel the loss of control over their own sexuality and privacy and, in the sphere of social relations, have problems establishing romantic or friendly relationships (Bates, 2012). The issues of negotiation about intimacy consent and vulnerability in romantic relationships in general are raised in this sphere as well (Salter, 2013). Violated privacy and violation of intimacy by the partner make the victims feel betrayed and hesitant to trust a close person in the future (Calvert, 2015).

When the content has been distributed along with the women's personal information, they fear for personal security – they are afraid to leave their home, to participate in everyday activities and to interact with unknown persons who could physically threaten them (Bates, 2012; Citron & Franks, 2014). Such problems also often lead to changing the place of residence (Citron & Franks, 2014).

Many victims change school (Citron & Franks, 2014) or suffer professionally. The negative consequences in the professional area are twofold – due to the stigma caused by the incident, the victims leave their job (Ronneburger, 2009), while, on the other hand, they have a lower chance of finding employment in the future because Internet searches of their names display the sexual content as well (Bates, 2012; Citron & Franks, 2014; Schielle, 2015). Moreover, they have to withdraw from the social networks in which they took part, thus decreasing their professional visibility (Bates, 2012; Citron & Franks, 2014).

In-depth analyses of the experiences of the persons identifying themselves as revenge porn victims, or as revenge porn survivors, indicate that there are serious consequences of the incident for the victim's mental health (Bates, 2016). In addition to having difficulties in establishing a relationship of trust with other persons, the research participants, women aged from 21 to 54, also had to face post-traumatic stress disorder, anxiety, depression and suicidal thoughts. It is not a rare occurrence that victims commit suicide (Bazelon, 2013), which demonstrates the gravity of consequences of this form of violence. The findings of these studies have highlighted the devastating effects that revenge porn has on its victims and the similarity of these consequences to those caused by sexual assault in real life.

The data that can be found in foreign literature relate to the general characteristics of persons who are the most frequent victims of cyber violence, and there are also in-depth analyses of their experiences. In Serbian literature, on the other hand, there are no findings in connection with the prevalence of cyber violence or revenge porn. The authors of this text conducted an exploratory survey to gain insight into the people's awareness of the phenomenon and the prevalence of cyber violence (and, more specifically, revenge porn) in Serbia, but also to find out more about their experiences.

The survey results have shown that nearly 62% of respondents were not exposed to any form of cyber violence. However, 15% of respondents were exposed to cyber violence, including some forms of revenge porn, such as abuses of photos and videos on social networks. Interestingly, 23% of respondents were not sure whether they had faced cyber violence. This fact, together with the fact that 58.4% of respondents are not familiar with the term revenge porn, suggests that there is still not enough awareness in Serbia of the presence of this phenomenon (Skočajić & Radosavljević, 2017).

MAINTAINING SECURITY IN SCHOOLS

Cyber violence is widespread among elementary and secondary school students. Research shows that between 20% and 35% of students are exposed to cyber violence (Beran & Li, 2005; Hinduja & Patchin, 2008) and that this number increases with the increase in the use of the Internet. (Jones, et al., 2013). As regards dealing with this problem, it is clear that school psychologists play an important role (Diamanduros et al., 2008). In the first place, psychologists should promote awareness of the presence of cyber violence in general and of the psychological impact it has on children and adolescents, before its presence causes dev-

astating effects. Therefore, focus should be on the prevention of cyber violence through adequate recognition of the problem and its real consequences before it assumes more harmful forms, such as revenge porn. Psychologists are also responsible for assessing the severity of the phenomenon and the prevalence of cyber violence in a particular school. Creating preventive programmes and workshops for children and adolescents is an important mechanism through which the problem of cyber violence can be recognised at an early stage and linked to resolution strategies (Ibid.).

LEGAL FRAMEWORKS

In relation to the history of law and legislation, cyber violence is a very new phenomenon, so it is not surprising that legislation is still quite vague and insufficiently comprehensive. When it comes to revenge porn as a problem, the United States is the country with the greatest awareness in society, but also the largest number of incidents. However, the legal frameworks are not explicit enough, the perpetrators are not adequately punished, and the victims are insufficiently protected. Therefore, there are debates in many spheres of public life on finding an adequate solution (Franks, 2016; Calvert, 2015; Franklin, 2014). On the other hand, much less attention is paid to the legal side of the problem in less developed countries, such as India (Halder & Jaishankar, 2013).

Although revenge porn as a separate phenomenon is not recognised as a criminal offense in the Criminal Code of the Republic of Serbia (2016), and the Internet does not appear as a space for potential criminal offences (nor do the words online and cyber), unauthorised photographing and recording of persons (recording without their consent) is explicitly prohibited, if the recording “noticeably encroaches upon the personal life of an individual” (Article 144). In addition, although the cases where an image or a video recording of sexual content is made by the victim are viewed with greater social reprobation, in legal terms (the Law on Copyright and Related Rights, 2016; Article 16) this can be a mitigating factor for the victim and lead to the removal of the content from the Internet, especially because the content violates the victim’s reputation and dignity (Article 18). All this creates a framework for prosecuting the perpetrators who create sexually provocative content by themselves, without the consent of the person presented by the content. In the cases where the content is created with the consent of all the persons involved, the situation for the victim is more complicated. Nevertheless, the Criminal Code (2016) also explicitly prohibits the **publication** of photographs and recordings of persons that “noticeably encroach upon the personal life of a person” (Article 145).

DISCUSSION

The use of the Internet has become an everyday activity of most people in the last decade, with the benefits that the Internet brings to society as a whole, but also to individuals, being admittedly immeasurable. However, there are also downsides to the Internet, which are less discussed, but have serious consequences. The abuse of the Internet (data availability and the speed of information distribution) that results in harming others in any way is described by the term cyber violence (Patchin & Hinduja, 2006). One of the specific forms of cyber violence is revenge porn – online distribution of sexual content without the consent of the person presented by that content (Scheller, 2015; Salter, 2013). Serious consequences caused by Internet abuse are also widespread among elementary and secondary school students (Beran & Li, 2005; Hinduja & Patchin, 2008). In this context, a systemic solution should be found so that the generations that grow up using the Internet become familiar with its benefits, but also with the responsibility accompanying these benefits. An important task belongs to psychologists, who, through various workshops, should start the students thinking about the phenomenon of the Internet, about cyber violence and the ways of preventing cyber violence before it assumes more serious forms, such as revenge porn (Diamanduros et al., 2008).

Cyber violence is a phenomenon that is not discussed enough in society, although it is clear that the consequences of cyber violence often do not differ from those that are a product of violence in real life (Bazelon, 2013). People often do not perceive cyber violence as a form of violence, which is precisely the reason why violence on the Internet is often ignored, and victims' problems are neglected. Therefore, it is important to raise awareness of this phenomenon in the context of personal security, because a way should be found to protect potential victims of violence on the Internet. A major role in this can be played by the media, which would separate the freedom of speech from the harming of other people by generating public discourse on behaviour on the Internet.

A major problem is also posed by the lack of adequate legal regulations concerning cyber violence; in other words, cyber violence, and therefore revenge porn, are not recognised as specific criminal offences either in foreign or in domestic criminal laws (Calvert, 2015; Franklin, 2014; Franks, 2016; Law on Copyright and Related Rights, 2016; Article 16). Passing a comprehensive law would be the best systemic solution in terms of personal security of Internet users.

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FACIAL RECOGNITION TECHNOLOGY - APPLICATION AND PRIVACY ISSUES

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Abstract: The beginnings of the development of face recognition technology are traced back to the 1960s, but the expansion in the area of face detection and recognition occurs in the 21st century. In recent 20 years, this technology has attracted considerable attention of both academics and the lay public. The topic of this paper is face recognition technology, as one of the biometric methods, and the goals of the paper are to determine the main areas of its application and to identify its advantages and disadvantages. The main advantage of this technology is that it can be applied in various areas, such as information security, surveillance, supervision, access control, etc., while its main disadvantage lies in the fact that mistakes at work are still possible. Further, the goal of the paper is to determine how the privacy of individuals is violated by the use of this technology, and one of the suggestions towards solving this problem is to regulate this area by law.

Keywords: *biometrics, facial/face recognition technology, facial/face recognition software, information security, privacy*

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INTRODUCTION

For many years already humans have used body characteristics such as face, voice, and gait, to recognize each other (Jain et al., 2004: 4). Technological advancements made it possible to facilitate the process of identification¹ and verification² with the help of biometric systems. Biometrics can be defined as a “method of identification, based on the physical features or behavioral characteristics of a person” (Paunović, 2013: 7) or as a “scientific discipline dealing with identification of individuals, by statistical methods in cases when their biological features or behavioral characteristics are used” (Ibid.). Biometrics as a concept has existed for thousands of years. For example, potters from Eastern Asia signed their ceramics with fingerprints, traders from Egypt were identified based on physical characteristics, such as height, weight, eye color, hair color, etc. (Down & Sands, 2004). In order for physical characteristics to qualify as biometric, they have to be (Prabhakar, 2003: 33):

- universal (each person must possess a given characteristic),
- unique (the characteristic must be different for all members of the population),
- unchangeable (the characteristic must not change under different conditions of collection or over time),
- accessible and measurable.

Biometric systems can be divided into two basic categories, namely (Lekić & Mijanović, 2008: 199):

- systems based on the recognition of physical characteristics (fingerprint, face recognition, hand geometry, iris scanning, retinal scanning, DNA, vascular patterns);
- systems based on the recognition of behavioral characteristics (voice recognition, signature, way of walking).

1 Identification is the process of determining a person's identity.

2 Verification is the process of verifying a person's claim of identity.

Face recognition is one of the most acceptable biometric techniques because it is one of the most common identification methods used by people in their visual interactions (Jafri & Arabnia, 2009: 8). In the following sections, attention will be paid to face recognition technology, its application in various fields, evaluation and testing of this technology, as well as privacy concerns. In this paper, a qualitative approach is used and literature analysis is the main research method. An overview of the existing academic papers holdings relating to the development of face recognition software and privacy in the digital age, made it possible to obtain synthetic insights into face recognition technology. The papers were found by searching the key words and analyzing the authored works that are of importance for this paper's topic, and their search has resulted in the compilation of a list of relevant and the most cited papers in this field.

FACE RECOGNITION TECHNOLOGY

As one of the rare biometric methods that possesses high precision and low intrusion qualities, face recognition technology (FRT) has various potential applications in information security, law enforcement and surveillance, access control, etc. (Tan et al., 2006: 1725). FRT has therefore attracted considerable attention of academic and industrial communities over the past 20 years (Ibid.).

The beginnings of the development of face recognition software are traced back to the 1960s, but the expansion in the area of face detection and recognition occurs only in the 21st century (Paunović, 2013: 161). It can be stated that the first software was semi-automatic. When the software was used, the position of some characteristic facial features in the photo, such as eyes, nose, mouth, ears, was first located, and mathematical measurements were then made for the purpose of comparison. The software administrator, who manually performed these "mathematical measurements", was required to be involved in the work, which was the main downside of this software. The first automatic face recognition software was developed by Takeo Kanade in 1973 (Li & Jain, 2011: 1). In 1987, Kirby and Sirovich also contributed to the development of face recognition software. They developed a new facial recognition algorithm, which was based on the introduction of main components of face (*eigenfaces*) (Paunović, 2013: 167). In 1991, Turk and Pentland discovered that the previously known mathematical techniques of eigenvectors could be to detect faces in images (Ibid.).

In 1997, there were 25 face recognition systems available, produced by 13 different companies (Li & Jain, 2011). As the face recognition technology developed,

the number of systems and commercial companies grew. Among *the most representative commercial companies involved in the development of face recognition software are Acsys, C-VIS, Cognitec, Dream Mirh, Eyematic, Iconquest, Identix, Imagis, Viisage, VisionSphere* (Ibid: 618). Also, it should be noted that these companies participated in the evaluation of face recognition software, which was implemented at the initiative of the US government in 2002 (Ibid.). There is also free, i.e. OpenCode software that can be found on the Internet, such as PicTrieV.

APPLICATION OF FACE RECOGNITION TECHNOLOGY

Face recognition technology is primarily used for (Jafri & Arabnia, 2009; Paunović, 2013):

1. **Verification:** Used for the verification process are usually closed systems, where the biometric data, in this case the facial features, are compared with those in the database.
2. **Identification:** In this case, open systems are usually used, when we do not know whether a particular person is registered in the database.

Face recognition technology can be used for state, commercial and private purposes. Further in this paper, the most common areas of its application will be listed.

Surveillance and control

The first users of the mentioned technology were state authorities, such as the police, courts, etc. The police often used this software when performing surveillance and control. In the controller room, face recognition software was used to compare photographs, i.e. faceprints of randomly selected persons with those in the database. The databases with which samples are matched contain faceprints of individuals from criminal records (Lekić & Mijanović, 2016). One of the first large scale applications of face recognition technology for area surveillance was carried out in the year 2000, at a baseball game in Florida. The Facelt software was pilot tested for one year in the city of Tampa, Florida, but no arrests were made based on it, even though the software detected 19 individuals with criminal records at that baseball game (Ibid.). Apart from area surveillance, this technolo-

gy was also used to curb false voting in elections. The said software, Facelt, was used in Mexico in 2000 to prevent double votes in presidential election, because it had happened in the past that people were registered in voters' lists under different names in order to be able to vote more than once (Ibid.). The software was used to identify previously registered voters.

The US Federal Bureau of Investigation (FBI) also uses this technology for surveillance. Namely, the Federal Bureau of Investigation has rolled out its new \$1 billion project named the Next Generation Identification (NGI), which will help the FBI identify and detect individuals with criminal records. The original idea underlying the development of this project was to use this software to improve the outdated fingerprint recognition system. The Next Generation Identification program will use biometric data to perform surveillance. In addition to using the face recognition tool, the software will be able to recognize individuals by using voice, iris and DNA analysis tools. Although the FBI has not revealed which algorithms is used, the 2010 tests showed that the voice recognition tool could recognize persons from criminal files, which contain 1.6 million photographs, with 92% accuracy (Reardon, 2012). However, there is a concern that persons without a file, captured by a security camera next to the person under surveillance, could end up in the database or be subject to unauthorized surveillance (Ibid.). This technology is also used to control crime. For example, in the Newham Borough of London, 300 cameras have been installed and linked to the closed circuit TV (CCTV) controller room. The city council claims that the crime rate has dropped by 34% since the introduction of cameras and face recognition software, and similar systems are in place in Birmingham, England (Parmar, Mehta, 2013).

Based on these examples, conclusion can be made that the use of these software programs can considerably facilitate the work of state authorities in the fight against crime. Suspicious persons are easier to identify by the use of face recognition software, i.e. by simply matching their photos with databases (e.g. criminal records). However, the privacy concern is raised, because in most cases citizens are not even aware that these software programs are being used.

Financial services

More recently, a possibility arose for clients of various financial services to also use face recognition technology, in addition to standard modalities of protecting their current accounts, transactions and money (e.g. PIN code, signature, etc.).

For access to ATMs, a card and knowledge of the PIN code are normally required. However, a card can be stolen and an individual's PIN code can also be cracked. In order to additionally protect bank clients, ATMs also use face recognition software. Each bank has a database of its clients, which makes it possible to quickly check the identity of clients and allow them to withdraw money from ATMs, if the recognition was successful (Paunović, 2013).

In recent years, face recognition technology has evolved, as a form of protecting clients during monetary transactions. The company MasterCard began testing face recognition technology as an added security measure for consumers paying for purchases with a smartphone. Apart for face recognition, consumers are also given the option of scanning fingerprints (Eddy, 2016). To use the selfie pay option, users must download the company application to their mobile phone. This service is only available to users who have newer generation phones. After downloading the application, the user enters the data about his/her credit card, which is common during online payments, and activates the camera on his/her phone to be able to photograph his/her face. Also, the users have to blink at their smartphones in order to verify that they are not holding photographs in front of them. MasterCard states that their algorithms can recognize if someone attempts to fool the system by using video footage (INF, 2016). Although some people believe that MasterCard's plan is not a good idea, the fact is that investments into face recognition software are on the rise. Tractica says that the amount of \$ 28,500,000 was invested in 2015, and that \$ 122,800,000 will be invested worldwide by 2024 (Ibid.).

The application of face recognition technology for secure operation of financial services has its numerous advantages. It should be noted that it is never used alone, but rather as one of the measures to protect customers. Also, the PIN code and the card can be misused, and the use of face recognition technology can enable prompt detection and prevention of such abuses.

Access control

Face recognition software is also used for control of access to buildings, offices, computers, etc.

In 2000, IBM launched Facelt software, which was used as a computer screensaver (Li & Jain, 2011). When a user leaves the computer unattended, the screensaver is activated and prevents other people from seeing the content on the comput-

er, while the keyboard and mouse are deactivated. Unauthorized persons will not be able to use the computer because it is activated by recognizing the user's face.

The Missouri-Rolla University uses Omron's face recognition system to protect the nuclear reactor used for research (Ibid.). Visitors must pass through several levels of protection. First, through the corridor which is supervised by security officers, then through the second door that requires a key, through the third door that requires knowledge of the code, and finally they reach the face recognition device, which controls access to the nuclear device.

Application of face recognition software in access control functions has its advantages. These pieces of software are most commonly applied to a smaller group of people (for example, two people work in one office or one employee uses one computer), so the possibilities of error are reduced, i.e. there are fewer cases of erroneous rejection of authorized users or of incorrectly accepting unauthorized users. Also, the user's biometric data are obtained in controlled conditions. The controlled conditions are understood to mean the position of the face (e.g. frontal image), artificial illumination, etc. The software can also be operated without contact with the individuals over whom recognition is performed (for example, it is not necessary to place fingers or palms of the hand on the device, it is not necessary to approach the device for retina identification). This method of access control can be combined with other identity verification methods, such as iris or fingerprint recognition systems. By combining these systems, a high level of accuracy and precision in work can be achieved (Ibid.).

EVALUATION OF FACE RECOGNITION TECHNOLOGY

Although it is a relatively reliable technology, which identifies faces with high precision, certain errors in system's operation are possible. Errors may occur in the process of enrolment, identification and verification.

Regarding enrolment errors, there are two parameters for their measurement (Beganović, 2011: 19):

- *Failure To Acquire* (FTA) – error in acquiring data;
- *Failure To Enroll* (FTE) – the percentage of users for which the system is unable to generate a template of sufficiently good quality for enrolment, due to technology limitations.

As for errors in the verification process, three errors are distinguishable (Beganović, 2011: 19):

- *False Accept Rate* (FAR) – false acceptance, where the characteristics of two different people coincide (also called type I error or error of the first kind);
- *False Reject Rate* (FRR) – false rejection, where the biometric characteristics of one person do not match (type II error or error of the second kind);
- *Equal Error Rate* (EER) – cross section of FAR and FRR, should be as small as possible, because it reflects the balance of the system's cross sectional area.

These three errors are in mutual correlation. When one error gets bigger, the percentage of the other error declines, and vice versa.

Advantages and disadvantages of face recognition technology

With the development of numerous face recognition software programs, a need arose to develop an objective system that would evaluate their performance. A necessary prerequisite for testing the existing software programs is the existence of a large number of trial photos on which the testing would be carried out. In addition to testing software algorithms, it was also needed to test the error rate of misidentification.

Over the past years, databases with test samples were formed, as well as systems to evaluate algorithms. The first system of the kind was the FacE REcognition Technology (FERET), which tested the existing algorithms in 1994 (Majcenić, 2008). The evaluation consisted of three tests, each with a different set of photographs (Ibid: 5):

- the first test measured the performance on a group of 316 individuals with one image per individual;
- the second test was a test of misidentification;
- the third test measured the effect that a change of pose had on recognition.

The testing indicated three main problems in recognition (Ibid: 5):

- recognition of duplicates;
- recognition when lighting conditions change;
- recognition when the pose is changed.

Based on FERET, the Face Recognition Vendor Test (FRVT) was organized in 2000. Thus far, three tests were organized in 2000, 2002, and 2006 (Ibid.). Some of the conclusions reached based on the testing, on the expanding bases, are the following (Ibid: 5):

- recognition performance does not decrease significantly with the head deflection of +/-25 degrees, but decreases significantly with movements exceeding 40 degrees;
- transition from outdoor illumination to indoor significantly affects the recognition performance;
- enlarging photos in the database reduces the recognition rate by 2-3%;
- recognition of men is more successful than recognition of women;
- recognition of elderly is more successful than recognition of younger individuals.

A significant advantage of using this technology is reflected in the fact that, when obtaining input data, individuals are not disturbed in their work and activities and there is no need for contact with individuals whose data are being taken; in some cases individuals are not even aware that their identities are being verified. Also, the sampling procedure is easier and faster than in other biometric systems, such as retina scanning, voice recognizing, etc. Ease of use gives a certain advantage to the face recognition technology.

Another advantage of using this technology is reflected in the fact that it may affect the reduction in crime rate. Its use may act both preventively and repressively on criminals. If a person is aware of being under surveillance and of the use of recognition software that can easily detect him/her, such person will find that the chances of committing a crime are considerably reduced and will give up criminal activity. In that way, preventive action could be possible. Repressive action is

reflected in the easier detection and arrest of criminals who have already committed a crime. The databases used by the states are huge. Another reason in favor of using face recognition software is that the identification and verification of people was primarily done by comparing their facial features and photographs on ID cards, passports, etc. People are already familiar with the procedure of obtaining personal documents for which face photographing is necessary, and these photographs can also serve to create a database that would later be used for face recognition software operation. Also, they do not fear possible effects on their health status when samples are taken unlike when other systems are used (for example, retina scanning). Great interest in using the software is observed on social networks, such as Facebook. Finding friends and relatives on social networks can be facilitated and made faster.

Despite its advantages, face recognition software has its shortcomings. Errors in operation are always present. Accuracy and precision of operation cannot always be guaranteed. Its operation depends on many factors. It is necessary to choose a good algorithm, a quality sample, then be careful about the lighting, the position of the face, etc. For example, performances sometimes depend on the specific appearance of a person's face (face make-up, wearing glasses, changing hairstyles, etc.). There is also a problem of differentiating identical twins. The recognition process can also be impacted by the aging of the face. Given the fact that the face is nevertheless not so unique, the level of security in the accuracy and precision of the recognition process is lower. In order to avoid recognition errors, it is recommended to combine face recognition with other biometric technologies (Paunović, 2013).

PRIVACY CONCERNS

The issue of privacy and the right to privacy has been the subject of heated theoretical debates for years. The classic concept of privacy was presented in the paper *The Right to Privacy* by the US Judges Samuel Warren and Louis Brandeis in late nineteenth century, where "the right to privacy" was defined as "the right to be left alone"³ (Dimitrijević, 2011: 202). Privacy can also be defined as a characteristic that certain information is not available or disclosed to unauthorized in-

3 This phrase was coined by Tomas M. Kuli and only after that S. Voren and L. Brendis proposed the term "the right of privacy" in the above mentioned article, which was published in the Harvard Law Review in 1890 (Dimitrijević, 2011; Crompton, 2004).

dividuals, entities, or processes (Kovačević et al., 2017: 11). Generally, three key aspects of privacy are distinguishable (Baase, 2013: 48):

- freedom from intrusion (as already mentioned, the right to be left alone);
- the ability to control information about ourselves;
- freedom from surveillance (from monitoring, supervision, wiretapping).

The right to privacy can be considered a fundamental and inalienable human right. The exercise of this right guarantees the integrity and dignity of the human person, in order to preserve the secrecy and freedom of his/her private life (Dimitrijević, 2011). In addition, the privacy of certain types of information may be important for the safety of people, such as, for example, travel plans, financial data, residence address, etc., so it is necessary to protect them (Baase, 2013). Our privacy can be threatened in various ways, and privacy threats can be classified in several categories (Ibid: 48):

- intentional, institutional use of personal data (in the public sector, it implies the use by law enforcement and tax collection authorities, and in the private sector, mainly by the marketing sector);
- unauthorized use or disclosure by “insiders”, people who have information;
- information theft;
- inadvertent disclosure of information;
- our own actions (sometimes deliberately, and sometimes when we are not aware of the risk).

Therefore, there are numerous ways in which our privacy can be threatened and we cannot expect a constant and complete privacy in our lives. Rapid development of technology has led to the creation of new risks and threats to privacy, and the issue of privacy and its vulnerability becomes increasingly more debated both by lay public and by professionals.

Namely, digital technology – databases, digital cameras, networks, smartphones and global positioning devices – have, among other, profoundly changed what people can learn about us and how they can use this information (Ibid.: 48). Computers, the Internet and a whole range of digital devices – with incredible in-

crease of speed, storage space,⁴ and easier connectivity – allow you to collect, search, analyze, store, access and distribute huge amounts of information and photographs more easily, at a lower cost and faster than ever before (Ibid.: 50). Therefore, the question arises as to whether this technology is safe to use? Does it jeopardize the privacy of an individual, or fundamental human rights? How is it possible to protect personal information? How does biometrics itself i.e. face recognition technology violate our privacy?

Face recognition is not such a new concept. Photos and videos were also used in the past to detect, identify and verify identities. The police most often used criminal records of known offenders, where their images were “clearer” and allowed for easier detection and identification. The development of face recognition technology has certainly facilitated and accelerated the face recognition process, and therefore the question is no longer asked whether the use of this technology is useful or not. The presently topical question is: do we even have a choice when it comes to its use? Civil rights groups argue that we have a fundamental right to privacy and that wanting to be anonymous does not mean we have “something to hide” or plan to do something unlawful. Today, in addition to databases of law enforcement and other state authorities, numerous companies create their own databases, e.g. retailers wanting to improve their sales. These companies use face recognition technology not only to ease and speed up the purchases of their customers, but also to prevent thefts in their facilities. Chris Frey (2016) stated for the British daily newspaper *The Guardian* that we should not be surprised at how far a trader would go to protect his/her goods. The face of a person photographed by camera turns into a unique faceprint and is entered in the database. Thus, retail shops create their own databases, comprising photographs of known criminals. Some stores in the United States give shoplifting suspects the option of allowing themselves to be photographed, rather than arrested (Frey, 2016). The choice seems easy. However, their photos are stored in their databases. Store owners can thus easily recognize them as they enter the store and prevent any attempt at shoplifting by tracking them or removing them from the store.

Excluding police databases, how can citizens know whether their “face images” are stored in one of the databases? How can citizens know whether their identity is being checked somewhere or not? Given the widespread use of this technol-

4 With a declining cost of memory for data storage, our possibility for storing large amounts of data rises. Namely, the cost of 1 GB of storage was \$ 10,000.00 in 1990, but the cost for storing the same amount of data fell to \$ 0.1 in 2010 (Kovačević et al., 2017: 11).

ogy, hardly can a person expect not to be in at least one database without even being aware of it. The Electronic Freedom Foundation believes that the FBI already has 14 million face images in its database and plans to increase this number to more than 50 million (Wall, 2015). In the UK, the police have about 18 million mugshots on file (Ibid.). Also, once identified face is stored in the database and stays identified because facial characteristics and proportions of the head, just like fingerprints, do not change (not taking into account the aging of the face that can affect recognition).

Video surveillance and face recognition systems have become the subject of interest particularly after the terrorist attacks on September 11, 2001 (Bowyer, 2004). Governments of various countries have become interested in this technology for the purpose of surveillance and as a way to identify people who pose a threat to security. However, its widespread use can jeopardize the privacy of citizens and create the feeling of being constantly under government supervision. Biologist Peter Watts stated that mammals consider surveillance a threat and it makes them paranoid, aggressive and vengeful (Kovačević et al., 2017: 12). Studies have shown that constant surveillance, or even the perception of constant surveillance, is not healthy, either physically or emotionally, and that it creates a feeling of depression and/or anxiety (Kovačević et al., 2017: 12).

There is another way of jeopardizing privacy that stems from the very nature of face recognition technology. The effectiveness of this biometric method depends on the use of computer technology and electronic devices. This means that privacy risks encountered with computer technologies and devices also apply to biometric systems (Crompton, 2004: 55). Namely, biometric systems that involve storing, processing, and transfer on computers are susceptible to hacking, unauthorized access, use and disclosure (Ibid.).

There are attempts to come up with a voluntary code of practice governing how facial recognition technology should be used for commercial, government or private purposes, without violating fundamental human rights. In Europe, companies have to seek permission first before using face recognition technology for commercial purposes (Wall, 2015). In the US, just two states - Illinois and Texas - have adopted Europe's approach (Ibid.). In the United Kingdom, the Data Protection Act stipulates that citizens have to be informed when they are under video camera surveillance and by whom. They also have the right to request any recorded images they feature in (Ibid.).

CONCLUSION

We encounter the beginnings of the development of face recognition technology back in the 1960s, with the appearance of first face recognition software programs that were semi-automatic and very imprecise. Owing to the work of numerous researchers, such as Kanade, Kirby, Sirovič, Turk, and Pentland, face recognition technology has greatly advanced. Today we are witnessing that this technology is used for various purposes and in different places (e.g. banks, airports, office buildings, etc.). The interest in face recognition technology is certainly not declining, because it facilitates and accelerates various activities of its users. Face recognition technology has many advantages (ease of use, numerous uses, etc.). However, it should be noted that all errors that affect its operation have not been eliminated, and that therefore, face misidentification is still possible. With the view to improving the software performance, numerous tests were carried out to determine which factors affect the accuracy and precision of its operation. Owing to these tests, the number of errors in the operation of these software programs was considerably reduced. Further, the problem of violation of privacy remains outstanding. Personal data of individuals can be stored in various databases, without their being aware of it. In many countries, face recognition technology, and the mode of its use, are not legally regulated. The lack of protection mechanisms can undermine the confidence of citizens in the security of its application and can lead to the violation of fundamental human rights. Therefore, laws or codes must be adopted, to regulate this area.

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SECURITIZATION OF HEALTH – EXAGGERATION OF THE PROBLEM OR NECESSARY RESPONSE?

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Abstract: Since the end of the Cold War brought many changes in the thinking about security, health and hazards associated with the spreading of infectious diseases have become one of the most important issues. The paper presents academic attempts to define health security as one of the dimensions of human security, but also the need to securitize this issue within the national framework so as to analyze in the best possible manner the political and security nature of health, and possible responses to threats that may emerge in this domain. It points to the connection that must be made between public health and security in the Republic of Serbia, particularly in view of the fact that in its past Serbia did not remain immune to large epidemics that jeopardized significant resources of the government resources. To this end, the most important implications of (potential) health threats to human and national security of a state are highlighted. Concluding remarks reflect on the question of why it is important to view health through the security lens, and which mechanisms may be used to achieve it.

Key words: *health security, securitization, public health, Republic of Serbia*

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INTRODUCTION

The lessening of geopolitical tensions between the USA and USSR in late 1980s brought a significant change in the development of security studies and the state centred approach to security issues was no longer the primary focus of this discipline. The emerging security paradigm departed significantly from conventional views of security in the context of military threats and defence of the national territory. Namely, economic interdependence, Third World poverty, and environmental issues gained importance and were included in the security agenda (Baldwin, 1995: 124). In that period, there were noticeable endeavors by many authors to analyze the new, non-military threats in a new security context characterized by a changed, post-cold war environment. One of such attempts is the concept of human security, which is based on the idea of an individual as the main reference object of security and the protection of his/her welfare and prosperity.

The modern discourse of human security begins with Human Development Reports (HDIs) from 1993 and 1994, which were produced within the United Nations Development Program (UNDP).⁵ The 1994 Report states that “security has for too long been interpreted too narrowly: as security of territory from external aggression, or as protection of national interests in foreign policy, or as global security from the threat of a nuclear holocaust” (UNDP, 1994: 22). In addition, “Human security is not a concern with weapons – it is a concern with human life and dignity” (1994: 22).⁶ Accordingly, human security can mean safety from such chronic threats as hunger, disease and repression, but also safety from sudden and hurtful disruptions in the patterns of daily life – whether in homes, in jobs or in communities. (1994: 23). Considering such rather broad definition of human security, the authors of the Report identified seven specific dimensions that make up this concept (together with threats to each of them): economic security (freedom from poverty), food security (free access to food), health security (free access to healthcare and freedom from various diseases), environmental security (protection from environmental pollution and unreasonable consumption of resources), personal security (physical security from various types of violence), community security (survival of traditional cultures and physical security

5 The central figure in the launching of the human security concept is thought to be Mahub ul Haq, a Pakistani development economist and a long-time UNDP consultant, responsible for the preparation of the Human Development Index (HDI) (Bajpai, 2000).

6 Besides this distinction, the Report underlines that it is necessary to distinguish between human security, on the one hand, and human development, on the other, since the latter is a much broader concept (UNDP, 1994: 23).

of ethnic groups), and political security (enjoyment of civil and political rights and freedom from political repression) (UNDP, 1994: 24-25; Paris, 2001: 90). As may be observed, the concept of human security originated within an organization responsible for global promotion and encouragement of development so the presence and dominance of a strong economic development tone is not surprising.

Since the object of interest in this paper is health security, the focus in the text below will be on this particular dimension of human security. It is important to note here that although the concept of human security made it possible for the issue of health to become one of the security issues, the paper will also elucidate some of the elements of health security and their implications for the national security of the Republic of Serbia.

ATTEMPTS TO DEFINE HEALTH SECURITY AND SECURITIZATION OF HEALTH

As previously stated, the 1994 Human Development Report identified health security which, as a common denominator, encompasses infectious diseases in developing countries and the diseases that are a product of the lifestyle typical for developed countries (UNDP, 1994; Lo Yuk-ping & Thomas, 2010: 448). The greatest problem in this respect identified by the Report is unequal distribution of resources to fight diseases and unequal access to health services. However, while this Report launched the concept of human security and, among other, pointed to significant problems in the context of health security, it did not offer any answers to the questions of how such health challenges are construed as a security threat. In other words, it neither point to the indicators which turn something (in this case health challenges) into a security threat, nor to what the appropriate responses are in the case such process materializes.

This gap in the Report was compensated by the securitization theory developed by the Copenhagen School of security studies. It (the theory) is, in fact, a discourse by which political elites designate certain phenomena as security threats and in fighting them seek legitimacy for adopting special measures that deviate from the usual political procedures (Wæver, 1995). Therefore, an important role in securitization of health is played by high ranking political officials, who by their statements, through a “speech act”, identify health problems as security problems that need to be regulated by resolutions and strategic documents (Rokvić, 2016: 226). In addition, securitization of health involves not only the use of speech, but also the building of security networks and implementation of rele-

vant policies (Caballero-Anthony & Amul, in: Rushton & Youde, 2014: 36).⁷ In this respect, looking at contemplation of health through the lens of security is typical for both the academic community and international organizations and other actors interested in this issue.

Although there is no universally accepted definition of health security, the literature review has shown that this concept is related to the mass spreading of infectious diseases that threaten not only individuals but the society at large, and the fact that pathogen organisms may be used as a biological weapon, while certain diseases (particularly HIV/AIDS) may have implications for the social, political, economic, and military security of a country and region (Rokvić & Jeftić, 2015: 54). As for the academic thematization of health security, some authors state that viruses, bacteria, and various plant and animal species have never respected national borders and that now there are concerns, more than ever, about the growing impact of globalisation on potential development and spreading of new and renewed diseases over increasingly porous (national, *author's comment*) borders (Pirages & Runci, 2000). Thus, such a phenomenon is characterized as a cross-border threat which, as such, deserves a great deal of attention of the academic and international communities.

The pre-1990s period⁸ was characterized by neglect of the issue of infectious diseases' control. Whitman (2000) and Altman (2003) reached similar conclusions - they showed how political and social structures inhibited responses to HIV/AIDS due to their preoccupation with state sovereignty as the main reference object of security. Dealing with potential infectious disease threats with particular emphasis on HIV and solutions of American government agencies in response to it, Brower and Chalk (Brower & Chalk, 2003) showed the necessity to develop strong connections between non-governmental, governmental, and internation-

7 Thus, for example, when SARS broke out in East Asia, all official statements and media reports marked SARS as a "national security problem". All crisis management measures, such as mandatory and voluntary quarantine, closure of schools and entertainment centers, and other public institutions, stricter border and immigration controls were implemented in all the affected states in the region. At the regional level, coordination effected through the ASEAN Plus Three mechanism implied the implementation of short-term and medium-term solutions through the exchange of information, cooperation between field teams, and harmonization of travel procedures for health screening (Caballero-Anthony & Amul, in: Rushton & Youde, 2014: 36). Such limited responses put at the forefront the need for the health security agenda to overcome "the narrow framework of securitizing health" and to move in the direction of recognizing and understanding the link between health and human security.

8 The beginning of 1990s is taken as the period of increased securitization of non-military, until then neglected threats.

al agencies when it comes to security threats caused by infectious diseases and other biological hazards. Aware of the strong effect of securitization, Caballero-Anthony (2006) noted in her research that by applying the securitizing approach aimed at prevention of infectious disease outbreaks, securitization actors would have a greater capacity both within and across countries for facing pandemic consequences. In his study, Enemark states: “health threats most suitable for securitization are the outbreaks of infectious diseases – specifically those that inspire a level of dread disproportionate to their ability to cause illness and death – whether arising as a result of natural processes or human agency “ (2007: 8). As a result of such a situation, “health challenges now feature in national security strategies, appear regularly on the agenda of meetings of leading economic powers, affect the bilateral and regional political relationships between developed and developing countries, and influence strategies for United Nations reform“ (Fidler & Drager, 2006: 687). David Fidler’s observation about the state of affairs is that global health governance has even entered a “post-securitization phase”, meaning that it is now almost universally accepted that health issues are viewed through the lens of security (2007: 41).

Hence, it should be noted that while a disease is ultimately a condition of the body, once it becomes conjoined with security, it becomes a political construct – a set of practices for defining and resolving problems. In this respect, numerous initiatives and practices which place this issue on the very top of the security agenda both at the global and local level are relevant. In other words, the securitization theory is a very useful starting point in the analysis of “the political nature of health security” (Nunes, in: Rushton & Youde, 2014: 61). It is important to underline here that securitization in this case is not necessarily understood as a process characterized by the use of a “speech act” alone, but also as a process that results in placing a certain issue in the security context by incorporating it into political frameworks that are connected to security topics.

PUBLIC HEALTH AND SECURITY IN THE REPUBLIC OF SERBIA

As stated in the 2008 analytical study of the Serbian Institute of Public Health, infectious diseases in Serbia are still a significant public health problem due to their epidemiological properties, particularly the speed of transmission in the environment of increased mobility and interconnected populations (2008: 104). According to available data, since the 1970s one or more new infectious diseases on average have been detected annually. In their research into the relation

between public health and security in Serbia during the 20th and 21st centuries, Rokvić et al. (2016) based their study on the most prominent such cases, covering the events such as the typhoid epidemic in 1915,⁹ smallpox epidemic in 1972, and the period between 1991 and 1999 that was marked by wars, sanctions imposed by the international community, and NATO air strikes. However, the greatest epidemic that resulted in the closure of borders, economic losses and lost lives, as well as deployment of armed forces, was the 1972 smallpox epidemic (Rokvić, 2016). According to the available data, from 1896 to 1910, the variola epidemic killed 38,953 persons. The last death from variola in Serbia was registered in 1926, while the last case of illness was registered in 1930 (Krajinović, 1972).¹⁰

The 1990s in Serbia were characterized by a higher mortality rate, increase in malignant diseases, decreasing population, rise in the number of suicides and post-traumatic stress disorders, and epidemics of infectious diseases (Rokvić, 2016: 234). The sanctions imposed by the international community created additional obstacles in obtaining the necessary medications, while the NATO bombing together with significantly weakened social, economic, and health status, resulted in a lower natural birth rate, increased number of malignant diseases and mental disorders, and generally, weakening of the immunological status of the population.¹¹ In the period from 1997 to 2007, there were 3,565 epidemics with 2.2% mortality rate (Rokvić, 2016: 235).

Regarding the main causes of health-related deaths in Serbia, in the first decades of the 21st century, the most commonly mentioned are cardiovascular diseases, cancer, HIV virus, and flu viruses. Since the HIV epidemic is considered

9 Namely, it is estimated that between 500,000 and 600,000 inhabitants contracted typhoid fever, while the number of deaths is estimated at 135,000 of which number up to 35,000 were soldiers (Rokvić, 2016).

10 The epidemic took 35 lives, a total of 15,595 people were quarantined, while economic losses were estimated at 600 million US dollars (Čobeljić, 2004: 569-573).

11 Thus, for instance, according to the *Strategy on the Development of Mental Health Protection*, the number of diagnosed mental disorders and behavioral disorders was constantly rising from 1999 to 2002, from 271,944 (1999) to 309,281 (2002) (Official Gazette of RS, No. 8/2007), while the suicide rate rose from 1,472 (1991) to 1,546 (2000) cases per 100,000 inhabitants (for more details see: Ministry of Health, Employment, and Social Policy (2006). Samoubistva u Srbiji: I dalje oko evropskog proseka, *Demografski pregled*, 22(4): 2) [Suicides in Serbia: Still around the European Average, *Demographic overview*, 22(4): 2].

one of the most destructive in the history of human civilisation to date,¹² it requires special attention. Although Serbia is believed to have a low prevalence of HIV infection, the HIV testing rate is very low (Rokvić et al., 2016: 1142). Namely, HIV positive individuals are very often faced with discrimination and stigmatization (Stojanovski et al., 2007), which, combined with low level of health culture and awareness of key health issues, results in negative effects on the prevention of infectious diseases. The health picture of Serbia also shows a disproportionately high exposure of disadvantaged and vulnerable populations of the Republic of Serbia to the most common diseases and injuries directly linked with social and economic components of health, which is recognized in the proposed *RS Public Health Strategy 2016-2025*. Such a situation indicates a causal link between various human security dimensions. Furthermore, health problems have consequences for the economy of a country¹³ which indicates the interdependence of threats to public health and other sectors of importance for the security of that state.

CONCLUSION

Over the last several years, the securitization of health has been a topical issue in the academic and political discourse. This is confirmed by a large number of international, regional, and national conferences devoted to this topic, and the fact that health threats to security are also recognized in the national security strategies of many countries (USA, Great Britain, France, Russia).

Certain infectious diseases have also been designated as threats to international peace and security, through the UN Security Council Resolutions.¹⁴ In this regard, there are visible efforts both in the academic and political communities to place health issues within the political and security frameworks. It is a noteworthy fact that health challenges as potential threats to security (both national and human) are not recognized as such in the National Security Strategy of the Republic

12 Since 1981 when it was first recognized as a new disease, HIV/AIDS killed over 30 million people globally (Institute of Public Health of Serbia "Dr Milan Jovanović Batut", 2008: 108).

13 Regarding the effects of swine flu on the Serbian economy, it is estimated that this epidemic caused between 6.2 and 8.2 billion dinars of damage to Serbian manufacturing and trade (Kešetović, 2013).

14 This is the case, for instance, with HIV/AIDS, SARS, pandemics of the H1N1 and Ebola viruses (Rokvić and Jeftić, 2015: 53).

of Serbia. Furthermore, the strategic platform covering public health issues in Serbia is outdated. For example, the proposed new Public Health Strategy that would replace the still valid strategy from 2009 has not yet been adopted, while the last Strategy of the Development of Mental Health Protection was adopted a decade ago. In addition to the need for revising the key strategic documents at the national level in the context of new health (and security) challenges, the need for such activities on the local level is also recognized.¹⁵ Moreover, the history of epidemiological diseases shows that Serbia is not immune to such events, which additionally enhances the need to view public health through the security lens. The synergy of acting at the national and local levels, in accordance with examples of good practice in the international community and cross-cutting cooperation on these issues are of crucial importance in the prevention of health threats.

15 The search for local public health policies/plans in the Republic of Serbia has shown that only a small number of local self-government units have them (such as Šabac, Rača, Aleksinac, and Kragujevac).

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IMPACT OF MIGRATIONS ON PUBLIC HEALTH SECURITY

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Abstract: Due to the inflow of a huge number of people from the Middle East, Europe is gripped by fear. This is also indicated by the strengthening of right-wing parties that can ascribe their success to anti-immigration policy. Serbia is one of the rare European countries pursuing a “soft” policy towards migrants and refugees, and for the moment is their country of transit rather than of destination. The attitude of the Republic of Serbia and its institutions towards them is based on the Constitution of the Republic of Serbia, international treaties, laws and bylaws. Some international treaties, such as the Readmission Agreement, caused a lot of controversy in the Serbian public. Currently most important for Serbia is to ensure appropriate conditions for the fulfilment of its international obligations in this field, comply with the laws, but also ensure the security of its citizens. The risks associated with migrations are numerous, but this paper focuses primarily on health risks and threats to health security. Early prevention with special emphasis on the importance of immunisation is of substantial importance for epidemics control. Failure to comply with such measures, with increasing strengthening of the anti-vaccination movement among the Serbian citizens, may bring serious diseases, such as polio, back to Serbia. Continuing monitoring of the epidemiological situation enables a timely response, while respecting the measures for infectious disease control ensures adequate protection of the population.

Key words: *migrations, health security, public health, preventive measures, polio*

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INTRODUCTION

Global security, especially in Europe, is almost impossible to discuss in a context that does not include the issue of migrations. The risks associated with migrations are obvious and therefore all European states must act together to minimise them. The aim of this paper is to examine the problem of migrations from two perspectives:

1. politico-legal, focusing on the impact of migrations on political events in Europe and possible consequences that may arise from conclusion of international agreements;
2. medical, focusing on the importance of prevention, primarily immunisation, regular health check-ups and providing appropriate living conditions in reception centers.

Migrations no longer bring challenges only for “the Others”, but indirectly or directly affect us all. Listening and reading about possible adverse scenarios involving migrants and refugees in main roles causes fear in people. Fear of potential terrorists, various infectious diseases, and many other irrational and rational fears led to the strengthening of right wing and far right parties throughout the old continent. The primary cause of their growing strength is their anti-immigration policy, regardless of the fact that the success of these parties reopened old wounds from the European past. Thus, Alternative for Germany, which achieved great success in the last German elections, is accused of Nazism. Also, there are numerous conspiracy theories that depict migrants as the soldiers from the Trojan horse that will conquer Europe, just like the Greeks who defeated Troy with a devious plan. However, it must never be forgotten that these refugees are innocent people who are fleeing the horrors of war and must not be discriminated against because of individuals who abuse the situation.

In the public perception, the terms *refugee* and *migrant* are frequently used interchangeably, but there is a difference between them. Refugees are persons who leave their country fleeing armed conflicts or persecution, while migrants choose to leave their country in order to improve their lives. Unlike migrants whose status depends on the national legislation of the countries in which they are residing, the status of refugees is defined and protected by international law. Refugees may not be returned to the state from which they have fled while their life is under threat in such state, and must be provided with appropriate conditions (UNHCR, 2015).

REFUGEES AND MIGRANTS IN SERBIA

In the first six months of 2017, there were 3,251 persons who expressed their intention to seek asylum in Serbia, and several thousand persons without a regulated legal status who stayed on the territory of the Republic of Serbia. About eighty percent of persons who are placed in asylum and reception centers come from the states that are considered to be refugee “generating” countries – Afghanistan, Iraq and Syria, and of the total number of persons provided with accommodation, 41% are children. Considering the current circumstances in Europe, the wall erected by Hungary to prevent the entry of migrants, and increasingly stricter requirements for entry into the European Union (EU) member states, the number of persons who will seek asylum in Serbia will certainly increase (Belgrade Centre for Human Rights, 2017).

The Republic of Serbia, its authorities, institutions, non-governmental organizations, etc., have a duty to treat them in accordance with the Constitution, international conventions acceded to and ratified by the state, and in accordance with the national legislation.

The Serbian Constitution (Art. 57) is in compliance with international regulations of the United Nations where the right to asylum is defined as a human right. Protocol No. 4 additional to the European Convention on Human Rights ratified by Serbia, prohibits collective expulsion of foreigners. The 1951 Refugee Convention, its 1967 Protocol, and the Serbian Constitution obligate the state to respect the right to asylum and principle of non-refoulement – prohibition of returning a person to where he or she may face persecution (Kovačev, 2015).

The pieces of national legislation governing the issue of migrants and refugees in Serbia are:

- Law on Asylum (Official Gazette of RS No. 109/07);
- Rulebook on Accommodation and Basic Living Conditions in Asylum Centers (Official Gazette of RS No. 31/08);
- Rulebook on Social Assistance to Persons Granted Asylum (Official Gazette of RS No. 44/08 and 78/11);
- Rulebook on Asylum Center House Rules (Official Gazette of RS No. 31/08),
- Rulebook on Medical Examinations of Asylum Seekers on Admission to Asylum Centers (Official Gazette of RS No. 93/08), etc.

In 2007, Serbia entered into a Readmission Agreement with the European Union, which is a document that attracts a lot of attention in the Serbian public. Under this Agreement, Serbia shall readmit, upon application by an EU member state and without further formalities other than those provided for in the Agreement, all third-country nationals or a stateless person who do not, or who no longer, fulfil the legal conditions in force for entry to, or presence in, or residence on, the territory of the requesting member state provided it is proved, or may be validly assumed on the basis of *prima facie* evidence furnished, that such persons:

- a. hold, or held, a valid visa or residence permit issued by Serbia; or
- b. illegally and directly entered the territory of the member state after having stayed on, or transited through, the territory of Serbia.

The problem with this Agreement for Serbia is that Turkey, Greece, and the Former Yugoslav Republic of Macedonia did not register refugees, but the first country that registered them was Serbia and they entered the EU territory from it (Kovačev, 2015).

Migrations raise many other issues, but this paper will not deal with forecasts and possible events in the future, but rather focus on the impact of migrations on health security.

Although people in Serbia treat migrants and refugees humanely, the situation changes when one needs to share everyday life with these 'aliens'. Local population is mostly afraid for their own and their children's health. Health risks do exist and it is therefore necessary to comply with the regulations in order to minimize such risks.

HEALTH RISKS AND MIGRANT CRISIS

Geographic distribution of Hepatitis A indicates its high prevalence in the Middle East. The main sources of infection are infected persons who shed the viruses in their faeces, and children with asymptomatic infections, who shed a large amount of viruses, pose a particular risk. Adults more often have symptoms such as pain on the right side beneath lower ribs, nausea and vomiting, loss of appetite, and possible presence of jaundice (Jovanović & Marković, 2008). A large share of asymptomatic and anicteric forms makes identifying the cases of disease difficult when planning public health surveillance. In refugee camps, the

yellowing of the whites of the eyes is most often sought out, and we thus exclude all persons with the atypical form. For this reason, it is important that all persons have access to the healthcare services where they can undergo serologic and laboratory tests. The route of transmission is faecal-oral, and may take place by direct contact with an infected person, through contaminated food and contaminated drinking water. The most effective are the general prevention measures, such as maintenance of adequate hygiene, control of drinking water and health check-ups of persons in charge of distributing food in shelters. After any registration of a Hepatitis A case, epidemiological investigation needs to be initiated, and immunoglobulin needs to be administered to the persons who have been in contact with the sick person (Vlajinac & Jarebinski, 2009).

Poliomyelitis (infantile paralysis) is another disease with intestinal source than needs to be the subject of a special epidemiological surveillance in situations like these. It is an acute disease that may cause damage to the nervous system causing flaccid muscle paralysis, particularly of limbs. However, the central nervous system is affected in only a small number of infected persons. Most infections (90%) pass without clinical symptoms or pass as a “small disease” of very mild symptomatology with fever, weakness, nausea and vomiting. This condition may progress causing the onset of a “big disease”, which in 5-10% of the cases is fatal due to the paralysis of the muscles of respiration (Lončarević & Kanazir, 2011). Owing to vaccination, the incidence of the disease plummeted, and the last case in Serbia was registered in 1996. The Polio Eradication Initiative was launched by the World Health Organization (WHO) in 1988, and in June 2002 Europe was certified as a polio free region. Polio is endemic in three countries (Pakistan, Afghanistan, and Nigeria), so global eradication has not yet been achieved. At its 30th meeting held in Copenhagen in 2016, the Regional Certification Commission for Poliomyelitis Eradication identified Serbia as a country at intermediate risk of wild poliovirus transmission after possible import or introduction of the virus into a previously healthy population. For this reason, it is necessary to invest additional efforts in maintaining a high level of immunisation coverage and in constant active search for any cases of acute flaccid paralysis. The basic strategies of such a program include the provision of appropriate experts, required financial resources, and performing additional immunisation in risk zones (poor sanitary conditions and existence of specific populations with low immunisation coverage rate). In Serbia in 2006, the registered immunization coverage against poliomyelitis was 94.2%, which is below the target of 95% (Batut, 2016). The anti-vaccination movement is also a significant challenge, as it leads to the avoidance of a combined pentavalent vaccine that is part of the Mandatory Vaccination Calendar in the Republic of Serbia (Rulebook on Immunisation and Manner of Protection by Medications, 2017; Articles 15 and 18). Thus, the most important step in the

primary prevention of this disease is circumvented. Collective community immunity weakens, and such population no longer presents a barrier for spreading the agent. If we also take into account the presence of migrants and refugees coming from endemic countries or the countries where virus circulation is registered (Syria), the “polio free country” status may be jeopardized.

The significance of successful immunisation is also reflected in the example of tuberculosis, where the coverage with the BCG vaccine is at a very satisfactory level of 97.9% (Batut, 2016). The incidence rate in 2015 was 13.52 patients per 100,000 inhabitants (Belgrade Public Health Institute, 2016). The countries of origin of migrants and refugees are exhibiting higher incidence according to WHO data - *Global Tuberculosis Report*, and are classified in special categories with 20-49 rate per 100,000 inhabitants (Iraq and Iran) and 50-124 rate per 100,000 inhabitants (Afghanistan) (WHO, 2016). Such increased disease burden in a society may change the indicators of disease in Serbia as well. This is a chronic disease characterized by the formation of granulomatous lesions in the lungs, although almost all organs may be involved. The source of infection is a person suffering from tuberculosis expectorating large quantities of bacilli. It takes only a small amount of the inhaled pathogen for a person to be infected, but not necessarily to become sick. When immunity is weakened, the chances of the disease developing are greater. At an early stage, the symptoms observed are fatigue, night sweats, fever, and weight loss, while a progressed disease is characterized by cough, chest pain, bloody sputum, and characteristic findings in the lungs. An additional difficulty in the treatment of this disease is an increasing bacilli resistance to numerous antibiotics. A case in the Novi Pazar Grammar School attracted a lot of public attention when the school was closed because of 16 ill students who sought medical help towards the end of November 2016. In addition to clear failure to properly plan health protection, one must not forget the impact of socio-economic factors on the development of this disease. Improvements in the economic status and living conditions mean more for the reduction of mortality from tuberculosis than any medical therapy directly targeting the pathogen. Therefore, the presence of at-risk subgroups in refugee and migrant accommodation centers requires appropriate implementation of general prevention measures. This involves avoidance of large gatherings of people indoors, disinfection of tableware and toys.

When faced with massive population movements, one must not forget a potential movement of vectors that adapt to the new natural foci of infection. In infectious disease epidemiology, a vector is defined as a living organism transmitting pathogens from one host to another. Therefore, special surveillance measures must also be directed towards insects. Increased number of imported malaria cases

is not yet an alarming sign, as no autochthonous cases have been registered for the past 53 years. Malaria is a disease with obligatory vector, meaning that the *Anopheles* mosquito is the only natural route of transmission. Spraying the areas where people and animals stay with insecticides, drying out of wet areas that are insects' habitats, and putting up nets on windows and doors, are the most important preventive measures against the disease transmitted by mosquitoes.

Socio-economic conditions are more relevant for the onset of some vector diseases. Poor hygiene increases the probability of lice infestation, and sleeping outdoors and poor housing additionally increase the exposure to infections (Vlajinac & Jarebinski, 2009). It is these additional risk factors that the migrants and refugees are exposed to prior to finding accommodation in appropriate reception centers. Such a situation increases the likelihood of the onset of epidemic typhus, the disease that has been eliminated from Serbia owing to great effort, but in this way threatens to re-emerge as a significant health problem.

The measures for the control of infectious diseases are prescribed by the Law on the Protection of Population from Communicable Diseases (Official Gazette of RS No 15/2016) and relevant bylaws. Any identified health disorder occurring at a scale larger than usual for a given population and period points to health security problems. Under the current law, the reporting of 70 communicable diseases is mandatory, including those that are of major epidemiological and public-health significance. The reports are submitted by healthcare institutions, based on the reports of physicians who made the diagnosis on the basis of clinical presentation and laboratory findings. Properly completed reporting forms are submitted to the Regional Public Health Institute, which sends regular aggregate reports to the Serbian Institute of Public Health. Adequate reporting enables continuing monitoring of the epidemiological situation, and the evaluation of implemented preventive measures. The next step in disease control is isolation and proper treatment of patients. Separating infected persons during the infectious period creates the conditions for stopping the transmission of infectious agent from infected to vulnerable persons. It is most commonly done through hospitalization, although home isolation is also possible. Appropriate therapies enable adequate treatment and improve the clinical presentation. However, a special problem is posed by disease carriers, i.e. persons who, without displaying clinical symptoms of the disease carry a specific infectious agent, and thus serve as possible sources of infection. Hence, long-term follow-up of all cases, and constant surveillance of all suspect forms are necessary.

Registration of a disease triggers epidemiological investigation aimed at early detection of all sources of infection and routes of transmission of infectious diseases. Special attention is given to the persons who have been in direct contact

with the patient. Such persons must report to competent healthcare institutions on a daily basis, where they undergo required assessments. Such health surveillance lasts as long as the maximum incubation of a given disease, counting from the time of the last contact with the source of infection. If it is stated that there are epidemiological indications, it is necessary to protect the population with immunoprophylaxis, seroprophylaxis, and chemoprophylaxis. Implemented for the purpose of additional environmental protection are measures of disinfection, disinsection and deratization. The above methods lead to a reduction in the number of live microorganisms by killing or eliminating them, namely they constitute a set of actions for controlling arthropods and rodents relevant for humans from the epidemiological or economic standpoint. Continuing health education should remind the population of the importance of implementation of sanitary and hygiene measures. They include personal hygiene, hygienic processing of foodstuffs, supplying the population with safe drinking water, hygienic removal of waste, and ventilation of indoor spaces (Vlajinac & Jarebinski, 2009).

The use of epidemiology in public health practice enables the use of best available evidence for planning health policies and programs. Developing intervention strategies is the primary aim of a health service. Their validity is assessed by ongoing evaluation of public health programs, while looking into their impact on population health, and the cost-benefit ratio. Proper collection of information will enable the development of effective health initiatives for the improvement of health and prevention of diseases in the community.

CONCLUSION

Migrations are a dynamic process of population movement with the consequences that are impossible to foresee. That is why the focus should be on the present situation. Ensured health security is the starting point for the normalization of the situation, as threats to health security harm everyone. Informing the competent authorities about appropriate preventive measures, and raising public awareness about the importance of complying with prescribed health measures, are the only way for Serbia to retain its status of a country with a low incidence of bacterial, viral, and parasitic infections. Eradicated diseases may again become a real problem, and Serbia does not have an appropriate diagnostic and pharmaceutical approach. For this reason polio and tuberculosis viruses attract the greatest attention. The new situation requires a more proactive approach of healthcare centers, which will ensure appropriate protection of the population with regular check-ups and assessments.

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TARGETING SERBIA: FIREARMS AS A REAL THREAT?

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Abstract: Since the end of the Cold War, human security has become one of the dominant concepts in the international community, and one of the major threats to personal, economic, political and security community is posed by small arms and light weapons (SALW). For years, Serbia has been struggling to reduce the amount of this type of weapons despite a long tradition of conducting various activities with the view to their reduction and legalisation. While indicating certain trends and shortcomings in conducting campaigns and actions within the fight against misuse of small arms and light weapons, certain proposals have been made in order to enable state institutions and NGOs to better deal with this phenomenon. These proposals include conducting research into the trend of a declining number of applications for weapons registration, conducting research on attitudes toward weapons and carrying weapons, reducing taxes on weapons, better cooperation with non-governmental organizations, among others.

Key words: *small arms and light weapons, human security, firearms, illegal weapons*

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INTRODUCTION

Small arms and light weapons are used as the main instrument for the conduct of interstate wars, organized crime, and are one of the main causes of death in the world. However, during the Cold War, efforts of the international community and the states were mainly aimed at controlling nuclear weapons and weapons of mass destruction. The position of the international community changed with the end of the bipolar division of the world and the disappearance of the USSR, because the reference object of protection was no longer the state but the individual, which is embodied within the human security concept (Lipovac & Glušac, 2011). Buzan states that man is the basic irreducible unit to which the concept of security can be reduced (Buzan, 1991: 35). Preservation of human values is the basis for obtaining legitimacy and mobilizing resources in creating a security policy. Therefore, people must be treated not as a means of gaining security, but as a goal of security (Booth & Wheeler, 1992).

This has also been recognized at the international level. As pointed out by Lipovac and Glušac, after the end of the arms race due to the breakdown of the Eastern Bloc, “the question was raised about the necessity of investing huge financial resources in the military industry/defense complex. On the other hand, uneven economic growth, deepening of the gap between the rich and the poor at the global level, but also the idea of sustainable development have sparked thoughts about the need to resolve these issues. Thus, the idea emerged that funds that had previously been invested in increasing military capabilities be redirected to solving the problems of people and human communities in need.” (Lipovac & Glušac, 2011: 59). That is why the United Nations Development Program (UNDP) published its notable 1994 “Human Development Report” in which it formulated the concept of human security that has two key aspects: the security from chronic threats such as hunger, illness and repression; and protection against sudden and painful disorders that disrupt daily life – regardless of whether they occur at home, at work or in the community (UNDP, 1994: 24). This report played a key role in establishing this concept where an individual is a central object of protection, while the state is the primary security provider.

In parallel with the establishment of the concept, the international community has recognized that small arms and light weapons (SALW) are one of the main obstacles to achieving sustainable human development. Thus, the Inter-Agency Standing Committee (IASC) has also recognized the following negative consequences of irresponsible use of small arms and light weapons: the death and injuries of millions of people (especially women and children), violations of hu-

man and humanitarian law, higher risk of widespread violent conflict, creation of atmosphere in which business and investment are impossible, destruction of infrastructure, increased opportunities for intra-group and intergroup violence that affects all social groups, etc. (Inter-Agency Standing Committee, 2015). We can thus conclude that small arms and light weapons negatively affect four out of seven sub-categories of human security (economic, personal, political security, and community security).¹⁶ Due to these facts, one of the main tasks of the state and the entire international community is to work to reduce legal and illegal small arms and light weapons as one of the prerequisites for achieving human security. Therefore, when creating any policies on small arms and light weapons, one should bear in mind the individual, his/her needs, expectations and consequences that he/she will suffer as a result of a particular policy.

Indicating the risk and threat of small arms and light weapons for individuals and society at large, we need to raise the issue of where Serbia stands in this regard. This paper will present the situation in Serbia and indicate some major shortcomings in the field of the small arms and light weapons policy and legislation, and after the final consideration it will also give recommendations for improving them.

THE ORIGIN OF SMALL ARMS AND LIGHT WEAPONS IN SERBIA

The appearance of illegal weapons in Serbia is a consequence of the end of the Cold War and the break-up of the former Yugoslavia in early 1990s. The Socialist Federal Republic of Yugoslavia (SFRY) at the time had a developed defense industry and a developed security system, compulsory military service and reserve army. However, a series of international circumstances (including disintegration of the USSR) that made the concept of mass armies unsustainable and the beginning of wars in the SFRY strongly impacted an increased weapons proliferation in this region, because there were massive leaks of military supplies and numerous armed groups appeared. In addition, an arms embargo was imposed against the Federal Republic of Yugoslavia (FRY), which practically destroyed the defense industry and resulted in massive activity in the black and gray market (Đurđević-Lukić, 2015a: 438-439). Many disputes and problems that arose in

16 For more details on all sub-categories of human security see: UNDP (1994). Human Development Report 1994. New York: UNDP, pp. 24-33.

that period have not yet been resolved and have strongly impacted the mass possession of illegal weapons. Among them are: partly implemented exercise of the rule of law, post-traumatic syndromes, dislocation, and lack of economic prospects for an individual. The same factors that contribute to proliferation of weapons also contribute to proliferation of crime, domestic and community violence.

NUMBERS AND TRENDS

In early 2001, there were 920,000 pieces of registered weapons, and this number grew to about one million in 2006. By 2017, however, the number of registered weapons was reduced to 940,000-960,000 (Spasić & Tadić, 2017: 30-31). As for illegal weapons in Serbia, Miljko Simović, Assistant Head of the Department for Administrative Affairs of the Ministry of Interior (Mol), says that there are between 200,000 and 222,000 pieces of illegal weapons of various types.¹⁷ National surveys have not indicated thus far why this number has declined. We can indicate two possible explanations for this phenomenon: that the number of weapons owners is declining or that people, for various reasons, are not willing to register their weapons purchased on the black market. Supporting the latter is the fact that tax liabilities for weapons possession do not reflect either the cost of certain types of weapons on the market or the economic standard of the average citizen.¹⁸ We believe that precisely the high amount of tax liabilities is a significant deterrent both for purchasing weapons legally and for legalizing them. Another important factor that can be indicated is the fact that weapons give citizens a sense of security, which is an indicator of the lack of confidence in the rule of law and in the ability of state institutions to provide security (Spasić & Tadić, 2017: 29).

The competent authorities in Serbia have been extremely active in conducting numerous weapons collection actions since 1992. Of the seven actions conducted since then (in 1992, 1997, 1999, 2003, 2007, 2015, and 2016) most “were conducted within the context of demobilization of paramilitary formations after the conflict and subsequent post-conflict reconstruction measures aiming at the general population” (Đurđević-Lukić, 2015b: 7). The number of collected pieces and ammu-

17 The Mol's assessment is based on the fact that illegal weapons always account for 10% -20% of the number of legal weapons.

18 In 2017, the Tax Administration of the Republic of Serbia delivered a decision on the tax on registered weapons: automatic rifle – 12,920 dinars, submachine gun – 5,180 dinars, collector's license / possession of a firearm - 3,500 dinars and, finally, carrying of a firearm 17,450 dinars (Blic Online, 2017).

dition in the last four legalizations amounted to 100,179 pieces of weapons and 2,460,520 rounds of ammunition (Spasić & Tadić, 2017: 31). Thus far, citizens have usually had two options for handing over their weapons: a handover without the obligation to prove the origin or filing an application for registration of weapons. The largest number of weapons was collected in 2003 within the “Operation Saber” (82,769 pieces of weapons and 2,226,765 rounds of ammunition), while the smallest number was collected during the most recent action (2016) (only 1,410 pieces of weapons and 61,755 rounds of ammunition).¹⁹ There is a constant downward trend in the number of collected weapons if we consider the last four legalizations, which indicates serious deficiencies in their planning and conduct.

(NON) COOPERATION BETWEEN THE STATE AND NON-GOVERNMENTAL ORGANIZATIONS

One of the major shortcomings in the fight against illegal small arms and light weapons is the non-cooperation of state institutions with civil society organizations. The contribution of non-governmental organizations is immense, since their activities relating to small arms and light weapons include: surveys, policy making, advocacy, public awareness raising and education, implementation of practical measures (Batchelor, 2002). Therefore, their contribution to the long-term fight against illegal weapons is certainly necessary, as it directs and complements the measures taken by the state in all stages. Even though cooperation is envisaged in the Small Arms and Light Weapons (SALW) Control Strategy and the Action Plan for the Implementation of the SALW Control Strategy in the Republic of Serbia for the period 2010-2015, it was never implemented in practice.²⁰ As Serbia started its EU membership negotiations, work began on developing a new strategy and action plan under Chapter 24 – Justice, Freedom and Security, but the working group in charge of their drafting did not think about involving civil society representatives because representatives of the Government Office for Cooperation with Civil Society are its members (Spasić & Tadić, 2017: 30). Also, a possibility should be borne in mind to include non-governmental organizations in the planning and implementation of legalization, e.g. in the planning and implementation of media campaigns, or a possibility of educating the population on small arms and light weapons.

19 The 2017 legalization data were not available at the time when this paper was written.

20 In the Strategy, it is listed among the specific objectives, then among the tasks of the SALW Council, while in the Action Plan it is listed as the seventh goal.

In Serbia, there is no comprehensive study on citizens' attitudes towards weapons, but their attitudes permeate through the media and the opinions of subject matter experts or partial research, which do not necessarily reflect the reality. The Public Policy Research Center (CENTRE) conducted in-depth interviews on weapons among vulnerable groups²¹ (a total of 37 participants) and the prevailing opinion about weapons and weapons carrying was negative (Tadic, 2016). Also interesting is the Internet platform "Targeting Weapons", which was launched in 2012 by the South Eastern Europe Clearinghouse for Small Arms and Light Weapons (SEESAC) and which allows some insight into the opinions of Serbian citizens on the issue of firearms. Namely, citizens can voluntarily enter their views or their knowledge about the presence of particular firearms, in complete anonymity.²² In 2015, an analysis of these entries was made (a total of 59 at the time of the analysis) and it turned out that 27 people (46% of the sample) had a positive opinion whereas 21 had a negative opinion (35%). Mentioned as the main arguments for the possession of weapons were self-defense and protection, as well as the justification of possession by persons working in the security sector and on other risky jobs. As for carrying weapons, the results were somewhat different, as 31 citizens (52%) were opposed to carrying weapons, in contrast to 27 (46%) who were in favor of it (Đurđević-Lukić, 2015b: 29-30). Based on this analysis, it is implicit that citizens have a relatively divided opinion when it comes to weapons and their carrying. However, this platform cannot be understood to represent the entire population for several reasons: these site visitors in most cases did not leave data about themselves; the platform has attracted a lot of citizens who are already interested in weapons and their real sex cannot be determined. Also, in this example, just like in the previous case, it should be emphasized that due to the non-representative sample the opinions cannot be assigned to the entire population but can be a good basis for further research into this matter. We believe that an adequate national-level research into attitudes about possessing and carrying weapons would have manifold relevance: the precise identification of vulnerable groups would be a source of unbiased information on weapons and armed incidents for the general public; the basis for

21 Based on media reports and surveys conducted by other non-governmental organizations, assessment is made that these are young people and women. Also see: Tadić, M. (2016). Possession of firearms and human security: Do weapons protect us or scare us? Belgrade: Public Policy Research Center; Spasić, D. & Tadić, M. (2017). Misuse of Firearms and Gender-Based Violence. Belgrade: Public Policy Research Center.

22 The platform is located at <http://www.oruzjenameti.org>. Citizens have the option to describe the situation in which the weapons appear, to determine the time and place, to express their opinions about the weapons, whether they find that the carrying of weapons in public is acceptable, and finally, if they wish, to describe the situations in which they consider it acceptable.

policy-making of state institutions, researchers and civil society; and would allow matching of the data with data on participants in armed incidents (sex, age, occupation, etc.). Its periodic repetition would, among other, enable monitoring of efficiency and effectiveness of educational measures concerning threats posed by small arms and light weapons.

CONCLUSION AND RECOMMENDATIONS

Although Serbia has a decades-long tradition of fight against misuse of small arms and light weapons, which is best indicated by the fact that it has undertaken as many as seven actions of weapons collection and legalization, conclusion can be made that Serbia has not yet managed to identify an adequate model, measures and mechanisms that would have a more significant impact on reducing the number of illegal weapons. Moreover, there is a noticeable trend of a declining number of weapons in legal possession, which if continued may have long-term negative consequences for human security (personal, economic, political and community security) in Serbia. Also, the public administration in Serbia has a problem with regard to full implementation of the adopted strategic and legal documents which is best illustrated by its (mostly) poor cooperation with civil society organizations. Considering all this, there is a need to thoroughly examine the effectiveness and efficiency of existing measures and activities, as well as legal and strategic solutions in the field of small arms and light weapons and their misuse.

With the view to improving the situation to some extent, we suggest the following recommendations to state institutions and non-governmental organizations:

1. State institutions and/or non-governmental organizations should conduct a research to determine why in the past ten years there has been a downward trend in the number of applications for weapons registration and to identify the most significant deterrence factors.
2. The Tax Administration of the Republic of Serbia should adjust the price of weapons so as to reflect the real economic situation of citizens, which will contribute to their greater motivation to hand over or legalize their weapons, and to purchase them legally.

3. Adequate state institutions should, in cooperation with non-governmental organizations, undertake an analysis of the last four legalizations and a comparative analysis with successful legalizations of other states in order to identify deficiencies and to preserve and adopt good practice.
4. The MoI should be taken into account when planning the next legalization and the possibility of introducing a state purchase of illegal weapons without the obligation to prove origin as a form of incentive measure among citizens.
5. State institutions should improve their cooperation with non-governmental organizations, primarily by directly involving them in the working group for the development of a new SALW Control Strategy and the new Action Plan for the Implementation of the SALW Control Strategy in the Republic of Serbia, and by involving them in the planning and conduct of the next legalization and education of citizens.
6. State institutions and/or non-governmental organizations should conduct a national - level research into attitudes towards weapons and weapons carrying.

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ILLEGAL WEAPONS: BURDEN OF THE PAST AS A THREAT TO SECURITY

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Abstract: This policy paper deals with the problem of illegal weapons. The war operations during the breakup of former Yugoslavia contributed to the appearance of a huge number of illegal small arms and light weapons in the territory of the Republic of Serbia, which poses a threat both for the security of citizens and for national security. The normative framework that deals with this problem does not take sufficiently into account the existing post-conflict context, for which reason the policies aimed at collecting and legalizing these weapons are insufficiently effective. Based on the analysis of documents and interviews with relevant subject matter experts, the authors present proposals for improving the existing policies.

Key words: *illegal weapons, post-conflict environment, domestic violence*

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CONTEXT AND IMPORTANCE OF THE PROBLEM

Illegal small arms and light weapons (SALW) are one of the major threats to human, regional and national security. A large amount of illegal weapons resulted from armed and other conflicts of the 1990s, when a considerable number of military formation weapons ended up in private possession. This problem was particularly enhanced by the concept of territorial defense, on which the Yugoslav defense strategy was based. This strategy envisaged that, in the event of a war, territorial defense units would be formed of citizens who would be equipped with weapons that were held in the territorial defense warehouses. When the conflict broke out in the territory of Yugoslavia, all parties tried to establish control over the warehouses, and weapons from the warehouses were distributed without keeping precise records or records were lost, which contributed to diverting weapons into illegal flows. Among the military weapons that were diverted to illegal flows, also noteworthy are the weapons that were awarded to members of the armed forces for their performance in service. They were held in possession based on a military firearms license, for which a special register was kept within the armed forces, but which was not connected with the register of the Ministry of Interior (MoI). Also, a large amount of illegal weapons can be explained by a patriarchal culture that promotes the tradition of keeping firearms in households, the custom of inheriting family weapons, and the tradition of using guns during celebrations and festive holidays (Taylor, Phillips, Bogosavljevic, 2005: 37). This problem is further complicated by insufficient training of citizens of the Republic of Serbia in weapons handling, for which reason, due to their irresponsible use, there are frequent accidents with innocent victims shot because of negligence. Accidents involving weapons happen even to highly skilled professionals, which is yet another confirmation of the dangers of ready availability of weapons.

The normative framework that regulates possession of personal weapons in the Republic of Serbia is in line with the *acquis communautaire*, which does not take into account the existence of such a context. The exact number of illegal weapons cannot be established with certainty, because there is no methodology that would provide an accurate assessment, but rather the data on the number of illegal weapons that are made public provide an indicative perception. There are estimates from 2015 stating that “of 100 citizens of Serbia, 15 have illegal weapons”, while the Minister of Interior of the Republic of Serbia presented an estimate in that same year according to which there were between 200,000 and 900,000 pieces of weapons in illegal possession (NIN, 2016).

Large amounts of illegal small arms and light weapons in the possession of citizens of the Republic of Serbia endanger national security but also security of citizens. Illegal firearms pose a threat to citizens since the largest number of crimes committed by firearms is committed precisely by this type of weapons (Đurđević-Lukić, Tadić, Milić, 2015:4). Illegal weapons are also used in the activities of organized crime groups, where innocent passers-by are often hurt. Large quantities of illegal weapons can also contribute to fueling ethnic tensions that are part of the post-conflict environment. The recent discovery of a large arsenal of illegal weapons in the vicinity of Bujanovac can be a good indicator of how easily illegal weapons can contribute to the outbreak of ethnic conflicts, as the Republic Public Prosecutor expressed serious suspicion that the weapons found were planned to be used for a terrorist act (Blic, 2014). It is believed that there is always a sufficient arsenal of weapons for a smaller formation that could cause serious security problems, since it is difficult for security services to deal with them, especially in urban conditions, such as in the case of Kumanovo. The problem is further exacerbated by the issue of returnees from the Middle East warzone and from Ukraine, who due to their training and war experience can participate in forming terrorist formations. The connection between terrorism and illegal weapons is also indicated by terrorist attacks in Paris and Brussels for which there are serious indications that they were committed by weapons originating from these areas (Večernje Novosti online, 2015).

It is noteworthy that illegal weapons are often used in various cases of domestic violence. The massacre in Žitište is a tragic example of abuse of illegal weapons in ominous combination with domestic violence (Deutsche Welle, 2015 and Bajekal, Walt, 2016). Likelihood is seven times bigger that someone will get hurt because of misuse of firearms in domestic violence than in criminal activities (Đukić, 2017). According to research, the presence of firearms increases the risk of fatal outcome for women in family situations (Božanić 2016: 22). Almost half of the women victims of homicide in 2012 were victims of their partners or family members, compared to only 6% of men, which shows that in this context women are disproportionately more at risk than men. (Božanić 2016: 23). In addition, it is not difficult to see another aspect of danger of illegal weapon possession. It is reflected in the intimidation of vulnerable groups, mainly women, thus their mere presence in the home is sufficient for their use for threatening the victims of violence (Taylor, Phillips, Bogosavljevic, 2005). Therefore, it is very important to report both violence and possession of illegal weapons.

The existing policy of collection, seizure and legalization does not give optimal results, because decision-makers do not sufficiently recognize the existing post-conflict context. The existing policy also demotivates citizens and does not

encourage them to legalize or hand over their weapons, so the number of pieces of illegal weapons collected is not satisfactory given the current estimated amounts of illegal weapons in the Republic of Serbia.

A CRITIQUE OF OPTIONS

In the normative acts of the Republic of Serbia, illegal weapon is defined as a weapon whose possession is not permitted by the legal framework (automatic weapons, mine-explosive devices, silencers), as well as a weapon whose possession is permitted by law, but citizens do not have a license for it (Law on Weapons and Ammunition, 2015). The basic act relating to the holding and carrying of weapons is the 2015 Law on Weapons and Ammunition. The Law gives the Minister of Interior a possibility to periodically announce legalization of weapons and ammunition (Law on Weapons and Ammunition, 2015). Aiming to reduce the amount of illegal weapons, seven weapons amnesty actions have been conducted since 1992, the most successful of which was the one in 2003, when 47,852 pieces of various firearms were collected. The most recent actions were conducted in 2015 and 2016, but without such good results. Even though these actions are relatively frequent and a considerable number of weapons were handed over, it is still negligible considering the estimated quantities of illegal weapons. After the amnesty conducted during the “Operation Saber” in 2003, a gradual decline in the number of collected weapons was noticeable. During the 2003 action, the existing context raised public awareness about the dangers posed by the possession of illegal weapons and enhanced confidence in law enforcement authorities (Taylor, Phillips, Bogosavljevic, 2005: 65). Based on the gradual decline in the number of weapons handed over in subsequent amnesties, conclusion can be made that public awareness weakened and confidence and trust in law enforcement authorities declined.

Also noteworthy are other options dealing with this problem. Among other, efforts should be made to educate citizens and raise their security awareness and culture about the problem of illegal weapons. In the Republic of Serbia, a preventive campaign “Before It’s Too Late” was conducted in order to raise public awareness about the dangers of misuse or abuse of illegal firearms and to mobilize the society. The main intention of the campaign initiator was to encourage the reporting of abusers and those who possess illegal weapons (Vestionline, 2016).

The importance of this problem is recognized by the 2009 National Security Strategy of the Republic of Serbia. Section I, entitled *Security Environment*, provides a list of problems inherited from the past, historical controversies and conflicts of peoples and states in the Balkans, which still affect the security situation in the region. In addition to other terrorist and criminal activities, the Strategy states that illegal trade in firearms significantly burdens the security situation in Southeast Europe. Illegal weapons can be used in armed rebellions, in disputes involving the use of weapons and terrorist acts, which are listed in Section II of the Strategy as challenges, risks and threats to the security of the Republic of Serbia. In this section, within organized crime as one of the challenges, risks and threats, the proliferation of conventional weapons is also mentioned as a serious threat to security. The Strategy also highlights the commitment of the Republic of Serbia to the activities to counter illegal trafficking and accumulation of small arms and light weapons, as a way to eliminate the consequences of armed conflicts and conflicts from recent past. Also mentioned are plans for the adoption of the SALW Control Strategy and its accompanying Action Plan. Efforts of the Republic of Serbia to align its legislation with the international commitments and the standards of the European Union (EU) in the field of arms control are also emphasized. The section on *Internal Security Policy* particularly emphasizes that the functioning of internal authorities and institutions should be aimed at preventing and combating proliferation of conventional weapons (National Security Strategy of the Republic of Serbia, 2009).

As stated in the National Security Strategy, in 2010 the Government of Serbia adopted the Strategy on Small Arms and Light Weapons Control (SALW Control Strategy) for the period 2010-2015 and adopted in 2013 the Action Plan for its implementation. The aim of the adoption of SALW Control Strategy in the Republic of Serbia was alignment with the European Union legislation (SALW Control Strategy for the period 2010-2015). By this Strategy, the Republic of Serbia “recognizes the need to define the control of small arms and light weapons (SALW), their components and related ammunition at all levels and in all aspects relating to illegal possession, production, stockpiling and transfers and with the view to preventing access to weapons by criminal groups and terrorists” (Ibid.). The Strategy states that illegal possession of weapons may fuel conflicts and violence and contribute to insecurity of citizens. Also, uncontrolled proliferation and possession of illegal weapons can pose a threat to sustainable economic and social development. Illegal weapon possession leads to continuous misuse of weapons in criminal activities, by illegal use of firearms and for committing homicides. The SALW Control Strategy in the Republic of Serbia for the period 2010-2015, and the Action Plan for its implementation, envisaged the establishment of a Small Arms and Light Weapons Council (SALW Council) in the Republic of

Serbia, which was established by the Government decision in late 2011, and the SALW Coordinator as Chairman of the Council. After the expiry of the period covered by the Strategy, a new SALW Control Strategy was drafted for the future period. The adoption of the new Strategy is envisaged by the Action Plan for negotiating Chapter 24 (Ibid.).

The SALW Council was a temporary body established by the Government, with the view to achieving communication, cooperation and coordination of state authorities in control of small arms and light weapons (Ibid.). The most significant result of the work of the Council is the adoption of three new laws: the Law on Weapons and Ammunition, the Law on Export and Import of Weapons and Military Equipment and the Law on Export and Import of Dual-Use Goods. Chairman of this Council, Miljko Simović, as well as other members, actively participated in the process of harmonization of the regulations from chapters 1 and 24, during the negotiations on Serbia's accession to the European Union. Also, members of this Council participated in the work of regional disarmament conferences.

Nevertheless, in the course of its functioning, the SALW Council in the Republic of Serbia encountered numerous problems. The primary goal of the competent authorities of the Republic of Serbia was to align regulations with the *acquis communautaire* and, thus, insufficient attention was initially paid to the work of the Council, which later affected its functioning. As an advisory Government body, the Council did not have executive powers but rather coordinated the work of ministries in drafting the respective regulations. Its members were officials from multiple ministries who, due to the structure of the ministries and the principle of subordination that was dominant in them, had to seek approvals and opinions from their superiors, which slowed down the work of the Council and influenced its effectiveness. The main problem in the work of the Council were frequent parliamentary elections and long campaign periods, negotiations on reshuffling of the government and the adoption of the Law on Ministries. It is realistic to assume that the Council members were not sufficiently motivated for work in this body, because they often perceived that task as secondary to their primary jobs in the ministries that appointed them as Council members. The aforementioned problems in the functioning contributed to the failure to achieve the goals set in the SALW Control Strategy and the Action Plan. Although the Council achieved significant results in drafting the new laws, creating the conditions for safe storage of small arms and light weapons and in identifying surplus small arms and light weapons in possession of the state and in their disposal, the other goals set by the SALW Control Strategy and the Action Plan for its implementation were

met only partially or not at all. It should be highlighted in particular that the following goals were not met:

- Raising public awareness about the consequences of misuse and educating citizens and legal entities about the risks posed by weapons. The Action Plan had envisaged the development of an analysis on the impact of small arms and light weapons on security and citizens and implementation of a media campaign, which was not fully achieved.
- Planning and implementing long-term and regular actions of control of small arms and light weapons in order to collect them. Within this goal, envisaged activities were aimed at legalization and handover of weapons. During the duration of the Strategy and functioning of the Council, only one legalization action was conducted after the entry into force of the new law on weapons and ammunition.
- Engaging civil society in support of the SALW Control Strategy. This goal implied the establishment and implementation of a model of cooperation with civil society. As a basis for cooperation with civil society, the signing of a Memorandum on Cooperation with Civil Society was envisaged. During the functioning of the Council such a Memorandum was neither drafted nor signed, for which reason assessment can be made that the Strategy implementation process was least successful precisely in the fulfillment of this goal.

RECOMMENDATIONS

The new SALW Control Strategy in the Republic of Serbia should envisage giving some political weight to the SALW Council by including in its work the ministers and their deputies in the Council. The excessive political authority could hinder the regular functioning of the Council, so it would not be meaningful to establish it within the Office of the Prime Minister or Deputy Prime Minister. That would lead to identification of the work of the Council with the personality of the Chairperson. We therefore believe that the involvement of ministers in the work of the Council would give it adequate authority and sufficient political weight. The Ministers would meet as needed, once or twice a year, and make the most important decisions. The ordinary work of the Council would be left to their deputies, who would like up till now be officials of the ministries with adequate subject matter expertise. We believe that this would contribute to a more efficient work of the Council, because its members would not have to seek approvals and

opinions from their superiors, which slowed down their work in the past. On the other hand, the Council would have more weight owing to the presence of ministers as political figures, which would contribute to giving it a higher profile.

The establishment of better cooperation with civil society organizations through the conclusion of Memorandum of Understanding, which would result in the implementation of joint actions and media campaigns. In addition to civil society organizations with which the Council has cooperated thus far, it is necessary to establish relations with organizations such as those of disabled war veterans, associations of mothers who lost their children in war, associations that gathering victims of domestic violence, organizations that care about the safety of children, and public media service. The goal of connecting with these organizations is to involve them in campaigns that draw attention to the consequences of the use of weapons, with the view to raising awareness about the importance of this problem. We believe that thus the campaigns and messages that they carry would leave a much stronger impression on citizens than the monotonous speeches of public servants. Personal stories of victims that would be part of the campaign are important for maintaining public attention and that is why this recommendation is very important in the fight against illegal weapons (Vreme, 2016). This recommendation is feasible because it does not require large financial inputs, but on the other hand it could attract attention of international organizations that would further contribute to the successful implementation of such campaigns. Brochures with a special space for children's drawings related to the dangers arising from weapons are a successful example of this kind of cooperation. Croatian experience has shown that this type of campaign had more significant effects than traditional campaigns, precisely because of involvement of vulnerable social groups and of the impressions that children's drawings made on their parents and family.²³ This type of cooperation is also an important part of our next recommendation.

Institutionalize the weapons handover action. If Article 46 of the Law on Weapons and Ammunition is amended, weapons amnesty would not be periodic and subject to the decision of the Minister of the Interior but would be a continuous action. The most recent amnesty action that was conducted after the massacre in Žitište has shown that hasty decisions and insufficiently planned actions prompted by public pressure do not produce the expected results. In the course of four months, some 900 pieces of weapons and a small number of explosive devices

23 See more about the action: *Less weapons - less tragedy* and the brochure *Remove the Intruder*, at: <https://www.mup.hr/UserDocImages/topvijesti/2013/kolovoz/Bro%C5%A1ura.pdf>

es were collected, which confirms that this action failed (Tadić, 2016). As shown by experiences from the region, the best method to solve the problem of illegal weapons is by a continuous amnesty action. By using this method, Croatia, which was directly affected by war operations, collected a considerable number of illegal small arms and light weapons relative to the estimated quantity. In order to be successful, amnesty actions should be associated with campaigns such as those mentioned in the previous recommendation. Promotion costs do not necessarily have to be high, because the public media service should be involved in the campaign, which would reduce the promotion campaign costs. In such actions, citizens would not have to transport and hand over their weapons to the police department on their own. For reasons of security, the present lack of trust of citizens in security authorities, fear from being registered and from reaction of the environment, there is a need to provide unmarked vehicles and professional mixed teams comprising men and women who would collect weapons from interested citizens upon the citizens' call. As shown by the Croatian experience, international organizations are interested in financing such actions. The European integration process and the European Union's increased attention due to recent terrorist attacks have indicated that the EU would also be interested in financing such a project.

As an additional measure that would accompany permanent amnesty, we propose the introduction of economic incentives for local communities. The increased interest of the European Union in this problem should be taken advantage of when it comes to financing such actions. To encourage success, annual awards programs for the most successful local communities in collecting illegal weapons should be organized, through the improvement of infrastructure in such local communities. We believe that this kind of incentive would contribute to promoting and familiarizing citizens with the legalization action, as well as to raising awareness. An example of contribution of such a measure to increasing the number of collected weapons is the legalization action conducted in Albania. The legalization was accompanied by this type of economic incentive for local communities, which, according to the assessment of international organizations involved in its implementation, contributed to the success of legalization (Public Policy Research Center, 2016). This measure would involve the construction of new or reconstruction of existing children's parks or sports grounds in three municipalities that are proportionally most successful in collecting illegal weapons. We believe that this recommendation is implementable by not only relying on state finances or European funds but by involving private companies which would thus show social responsibility by supporting an action aimed at enhancing general security.

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