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Dissertation

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SAFETY OF SHOOTING RANGE USERS AND PEOPLE AROUND THEM

The currently binding building law does not contain provisions regulating the construction of shooting ranges. This means that these facilities are built and equipped according to the initiative and idea of the future owner. It should be emphasized that the existing regulations do not provide for any requirements for indoor shooting ranges. This legal status does not require any interference or inspection of such facilities by building authorities.

The topic is very topical due to the fact that more and more people are starting to use it from shooting ranges; the number of people with firearms licenses for sports purposes and members of shooting and collecting clubs, as well as members of pro-defence groups, is growing year by year. The number of shooting ranges in the Tri-City and its vicinity is also increasing. Russia's aggression against Ukraine in February 2022 caused people to sign up en masse for shooting classes. On the other hand - nowadays, the purchase of weapons and ammunition became a very good investment of capital.

The author is currently professionally involved in shooting. As a shooting instructor, he has been to various shooting facilities many times, both in the Pomeranian Voivodeship and throughout the country. Many times he came into contact with trainees who, asking questions about the regulations of shooting ranges, asked about the safety of their use,

whether it is safer to shoot indoors or outdoors. This question gave rise to a deeper comparative analysis of both variants.

The final choice of the topic was greatly influenced by the decision made by the author about the independent construction of an indoor shooting range. It had to be answered during construction

to some of the questions that will appear in the text of this dissertation, because the safety of instructors and trainees depends on the materials used, the type of selected bullet trap, ventilation and other security measures. This practical knowledge had to be confronted

with the results of the conducted research.

The author's interests in shooting crystallized - during the service in the 6th Air Assault Brigade in Krakow. Supported by life and professional experience in the field of defense and conducting licensed trade in weapons, ammunition and explosives, resulted in extensive knowledge of the latest types of weapons and military technology. This allowed for the exchange of views on the functioning of similar facilities in other countries.

This work aims to organize views on the functioning of shooting ranges as a threat to safety. Forensic information and research indicate that illegally possessed weapons are used in crimes, contradicting popular opinion

about the threat posed by persons legally possessing.

It is also very important to draw up the regulations of the shooting range approved by the competent local government authority - the head of the commune, the mayor, the president of the city. Also, the requirements that a shooting range should meet have not been defined. In the event of violations of the regulations, the authority cannot withdraw or suspend consent to its operation - this was the position taken by the Mayor of Gdynia in response to residents' protests against the existence of a shooting range that causes noise.

This work also partly fills the gap in the literature, systematizing knowledge about the types of threats at shooting ranges, describing the issue from both the perspective of the instructor and the user, i.e. a person who does not need to have knowledge about the functioning of the shooting range. The topic related to firearms is dominated by literature on improving shooting skills, ballistics or the design of the weapon itself. There is a lack of literature on the safety of practicing shooting sports and safety at shooting ranges. There are few scientific studies on the conditions of use of commercial shooting ranges. There are also no regulations in the construction law; the phenomenon of acceptance by the Building Supervision Inspector is practically non-existent, there is full freedom in the use of facilities. The available specialist studies concern technical and operational conditions for military or police shooting ranges. The poor number of studies on the subject shows the importance of filling this research gap through the presented dissertation. In addition, the result of the work, which is to determine the technical aspects of shooting ranges that have an impact on increasing the sense of security of users, can be the basis for people or institutions wanting to set up a new shooting range or increase security in an existing facility. This will make it possible to organize the market for this type of services and to harmonize it.

The obtained research results, as well as the analysis of the literature on the subject and current legal regulations, were the basis for recommending directions for improving safety on the shooting ranges, which are the subject of the fourth chapter of the dissertation.

In the current geopolitical and military situation, the interest in learning to shoot and applying for a gun license is growing exponentially. This, in turn, increases the demand for training and shooting courses, which can be held at specialized facilities, such as shooting ranges. However, the small number of shooting ranges in Poland limits training opportunities and certainly does not allow for the full implementation of the existing demand. The implementation of the above needs requires the construction of new shooting facilities that meet the construction and environmental protection requirements, which at the same time will ensure the highest level of safety.

This work consists of four main chapters. The first chapter presents the purpose and subject of the research, i.e. the safety of both users and people staying and residing in the vicinity of sports shooting ranges, and defines the actions that should be taken to increase this safety. Problems and research hypotheses were set. The question was asked how the safety of users of shooting ranges and people in their surroundings is currently shaped and what changes should be made in the field of applicable regulations and construction solutions at sports shooting ranges to improve this safety. The main hypothesis assumed that modern sports shooting ranges do not guarantee the proper level of safety for their users and people staying or residing in their vicinity. The following research methods and techniques were adopted: literature analysis, document analysis, case analysis, surveys for instructors, surveys for shooting range users, surveys for people living in the vicinity of shooting ranges, in-depth interview with selected instructors, in-depth interview with selected shooting range neighbours, synthesis and inference. This chapter made it possible to organize the course of research and carry it out in a proper way from beginning to end.

The second chapter is devoted to the organization and construction of sports shooting ranges. This chapter presents the legal basis for the functioning and organization of sport shooting ranges in Poland, as well as the principles of organizing these shooting ranges. The locations of the shooting ranges covered by the survey in the Pomeranian Voivodeship, their equipment and safety zones at these shooting ranges were presented. During the research, the regulations of the shooting ranges, which are the basis for the safe operation of each sports shooting range, were checked, the weapons and ammunition used there (types and construction), the rules of storing weapons and access to them - taking into account the associated risks.

The third chapter concerns safety conditions at shooting ranges in the light of own research. In the first part, the groups that were surveyed were characterized:

- people participating in classes at the shooting range,
- people living next to the shooting range and staying in their surroundings,
- people working at these shooting ranges.

The results of the surveys were compiled and interpreted.

The opinions of shooting range owners themselves, expressed in in-depth interviews, where they described their observations on running sports shooting ranges, were extremely important for this work.

Thanks to the tools used, the research goal was achieved. It has become possible to list the good and bad sides of open and covered shooting ranges and specify what their specificity is, and what people working at shooting ranges as shooting instructors are most afraid of.


The fourth chapter - perhaps the most important in the presented dissertation - outlines possible directions for improving safety at sports shooting ranges. It was suggested what changes should be introduced in the regulations concerning the use of shooting ranges

and safe opening of new facilities of this type. Differences are also described

in the technical possibilities of ensuring the safety of the use of sports shooting ranges and recommendations for actions affecting the increase in the level of safety at shooting ranges were presented: errors and shortcomings were shown, directions for introducing positive changes were indicated.

At the end there are descriptions of safe shooting ranges built

in Gdynia, as examples giving the modular shooting range "MoST" and the shooting range "Tarcza Gdynia" which was created on the basis of the author's own project and was built on the basis of his many years of shooting experience. Based on the analysis of the functioning of these shooting ranges, which were positively assessed by the control authorities, and the technical applications used in them - positively assessed, the technologies used there, rules of conduct and descriptions of safe use of these facilities were presented and described in points. In the author's opinion, they can serve as model shooting ranges for the creation of unified legal conditions for the construction and operation of sports shooting ranges in Poland.

A handwritten signature in black ink, consisting of two distinct parts. The first part is a large, stylized initial 'B' followed by a few more letters. The second part is a more fluid, cursive signature that appears to be 'Lewin'.