

REQUIRED KNOWLEDGE NECESSARY FOR SECURE AND SAFE REMOVAL EXPLOSIVE REMNANTS OF WAR

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Abstract: Republic of Serbia, because of its geopolitical position, it was the scene of numerous conflicts, which consequences have been resulted by a large number of explosive remnants of war. The development of the industry and the geospatial location imposed the need for a defence industry and a large number of ammunition storage facilities. The consequences of accident situations in production facilities and depots have been shown with large number of unexploded ordnance in contaminated areas. The imposed danger conditioned the necessity of a systematic approach to the removal of found residual explosive devices. The legal framework in force needs to be constantly innovated. The existing capacities for mine action operations need to be modernized and developed in accordance with identified and anticipated needs. The main authority of mine action operations is the Serbian Mine Action Centre which coordinates and controls the demining works and compliance with safety measures. Taking into account the modern trends in the development of capabilities in mine action, the paper presents the approach of defining the necessary knowledge that each element in mine action should adopt in order to achieve certain capabilities, with an emphasis on EOD-1 and EOD-2 operators. Capability development needs to be designed through staff training in several segments: for engagement in demining tasks; for engagement in tasks of organizing work in preparation and demining; for engagement in implementation of quality control of conducted works. The paper presents an approach to defining a model of staff training for demining purposes level EOD-1 and EOD-2.

Key words: mine action, demining, training, organization, quality control

1. INTRODUCTION

The geopolitical space of the Republic of Serbia has always been interesting for various conquerors, everyone wanted to control the crossroads between east and west, north and south, this space has always been a kind of border between civilization which resulted with a large

number of conflicts. The consequences of the conflict can be viewed in two ways, the first - during the conflict and the second - after the conflict. The consequences were expressed in human losses and material damage. Subsequent consequences are expressed through the consequences caused by residual contamination, mine contamination, air bombs, as well as other ammunition of all calibers.

The large number of unexploded ordnance (UXO)¹ and explosive remnants of war (ERW)², which causes threats to the security of all segments of society, in this way it directly affects social and economic development. There are many examples where ERW have either slowed down work or cost lives, both of the civilian population as well as the people who carried out works of removal ERW.

The dangers by ERW caused existence of institution that will deal with this issue, which will cooperate with other relevant institution in the country and abroad on the project clearance of ERW and returning land and premises to usable condition.

2. POSSIBILITIES OF THE REPUBLIC OF SERBIA IN MINE ACTION

At the level of the Republic of Serbia, was established the "Mine Action Centre of the Republic of Serbia", whose main task is the coordination and control of mine action on the territory of the entire Republic of Serbia. The work of the center is regulated by law, one of the tasks of the center is cooperation with other structures in the country and abroad for the comprehensive improvement of mine action. In addition to the organization of scientific and professional gatherings, training for the needs of mine action and improvement of capacities, one of the basic directions of the development of the center is to improve mine action at the state level. On the basis of the achieved cooperation, the center is recognized as a perspective factor in mine action in the region.

The legal framework for mine action activities in the RS is covered by the "Decree on protection of unexploded ordnance („RS Official Gazette”, No. 70/13). Mine action is a system, which, based on the experience gained in the world, evolves and improves over time, in accordance with international standards. International Mine Action Standards (IMAS - International Mine Action Standards) are successfully implemented in the work and training of the staff who are engaged in this work.

The Republic of Serbia is recognized as a part of the region that is interesting for investments by domestic and foreign investors, which imposes the need for appropriate infrastructure. The construction of the mentioned infrastructure requires ensuring safety during the implementation of the works as one of the crucial requirements. One of the important documents for the construction of new facilities is the confirmation of the achieved safety of the works at the given location, i.e. that there are no residual explosives or other means that threaten safety at the site. The authority that issues the certificate is the Mine Action Centre of the RS, which is responsible for the organization and control of demining works, in whose domain is also the control of the implementation of safety measures during the implementation of demining works.

¹ UXO (unexploded ordnance explosive ordnance that has been primed, fused, armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason), <https://www.mineactionstandards.org>

² ERW - UXO and AXO (explosive ordnance that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. Abandoned explosive ordnance may or may not have been primed, fused, armed or otherwise prepared for use) <https://www.mineactionstandards.org>

The current expansion of construction activity increases the number of requests for issuing the necessary certificates on the clearance of ERW and UXO in certain locations. Due to the volume of work, the existing capacities should be strengthened so that they can successfully respond to the expressed needs.

3. ONE SEGMENT OF CAPACITY DEVELOPMENT FOR MINE ACTION

Strengthening the mine action capacity in the Republic of Serbia is reflected in the development and improvement of the demining center's capabilities, primarily in personnel and infrastructure development. Necessary personnel resources the focus should be on training personnel to work according to IMAS. In this way, protection against unexploded ordnance would be greatly improved.

One of the possible ways to achieve these ideas are:

- To provide trained and certified personnel for demining and destruction of unexploded ordnance. Through the implementation of the plan to strengthen the center's capacity, the training of training instructors for training of staff, who will be engaged in the classes that will be implemented in due course;
- Development of a plan for faster demining of locations contaminated with unexploded ordnance. In this way, would be improved the safety of people and property, conditions would be created for faster and safer implementation of infrastructure projects, which are a prerequisite for future investments in the Republic of Serbia.

In accordance with the aforementioned, the Republic of Serbia continued to record results in the implementation of obligations from the Stabilization and Association Agreement (SAA).

Cooperation with domestic and foreign institutions, from the beginning is the implementation of the project „Improving the capabilities of the Republic of Serbia in the field of demining and destruction of unexploded ordnance“.

The subject project included providing training for instructors and equipping them with modern equipment, in accordance with international standards, which together realize Ministry of defence Republic of Serbia and Mine Action Centre of Republic of Serbia. This project certified a number of instructors who can successfully implement training at the level EOD-1 and EOD-2. With this model of working and achieved cooperation with Army of Serbia, Mine Action Centre can successfully train and keep skills on high level for the realization work, at the mentioned level. A further direction of the Center's development during capacity building would be to provide training for instructors for the next levels of mine action (<http://www.czrs.gov.rs>). The mentioned development of training, conditions the improvement of the infrastructure and training base, which would be in the service of quality and safety in training. The European Union has an active participation in the implementation of the standards through the financing of the mentioned capacity building project, as well as organizations of cooperation with relevant actors in mine action.

Considering that a part of improving the capabilities of the Republic of Serbia has already been realized, the next goal is the purposeful use of acquired knowledge through the organization of training. One of the possible directions of development skills, needs to be conceived through staff training in different segments, such as:

- To engage in demining tasks;
- To engage in the tasks of work organization in the preparation and implementation of demining;
- To engage in quality control in demining.

Training plans and programs for levels EOD-1 and EOD-2 are currently being prepared, which would include training of new staff and keep skills of already trained staff. The plans are designed in accordance with the necessary and planned scope of knowledge that is needed for the successful implementation of demining works.

When accepting candidates, it is necessary to establish how much prior knowledge they come with. Based on the candidate's level of training, it is necessary to plan the level and extent of realization of the topics, and adjust the duration of the course to the specific situation. During the implementation of both mentioned courses, all participants must partially renew the acquired knowledge or acquire new ones in accordance with the level for which they are being trained. At the beginning of the training, the participants should be introduced to the teaching tools they will use when carrying out demining works (which the center owns and which are used in the world). They should acquire knowledge about the teaching tools that will be used for destruction, familiarize them with explosives, initiating explosives, the effects of the explosion and safety measures at work. During the implementation of the mentioned contents, the participants should acquire knowledge about explosives and initiating explosives that are used in the Republic of Serbia and in the world. When the whole is finished, an exercise is practically realized that will consolidate the acquired knowledge. Emphasis in training should be on compliance with the prescribed safety measures when working with explosives, as well as other forms of manipulation with explosives. In the second segment, already acquired knowledge should be harmonized with the IMAS. As part of that, candidates should be taught to recognize markings according to NATO and other standards, for the sake of safe and correct identification of found UXO and EOR. In the next segment, the necessary knowledge to be acquired depending on the level of the course is about mines, the largest number of UXO and EOR are various types of mines (antivehicle and antipersonnel). Treat mines from the most represented countries, especially focus on mines that are used or have been used in conflicts in the surrounding territories. The next in terms of representation is the grouping of artillery, tank and mortar missiles, depending on the level of the course to familiarize candidates with the characteristics and methods of identification. Air bombs and other missiles that are fired from the air should also be processed, how to recognize them and what amounts of explosives are involved. And in these cases, special emphasis should be given to the means that were most often used on the territory of the Republic of Serbia and the surrounding countries. Improvised mines and booby trap mines should be processed to the required extent. As one of the indispensable segments, the transport of explosives needed for destruction, for storage or transportation to the place of destruction, should be processed. A very important segment of training is medical training, every participant must know what to do in the event of an accident at the fields, every moment is precious. With this approach to the implementation of the training, a successfully completed and completed process, preconditions are created to reduce possible unfortunate events to the smallest possible extent.

Depending on the level of training that the participants undergo, knowledge must be acquired or expanded on the method of survey and data collection. An important segment of the training is to train participants in the proper organization of the fields, the way of organization and formation of sectors in the fields. That, based on their level of training, each demining participant knows exactly his place and role in the work process. After successfully mastering the mentioned contents, the participants are trained to work independently on demining tasks. With proper and comprehensive training, the possibility of emergency situation is reduced to a minimum, which increases the safety of all participants in demining operations. In addition to the basic training, conditioning of already trained EOD-1 and EOD-2 operators can be realized. The scope of the required knowledge is aligned with the degree for which the trainees are being trained.

Also, by strengthening personnel and infrastructural resources, new directions of international cooperation are opened, in the exchange of acquired experiences or training of demining operators. In cooperations with Geneva international center for humanitarian demining (GICHD), successfully implementing training in quality management in the area of mine action (<http://www.czrs.gov.rs>). Given this perspective of development and possibilities, Mine action centre in the further coming time will have the tasks of clearance floating way in the river Danube. Considering the specifics of the realization of the mentioned task, the experiences that will be gathered can be very useful for improving the training, improving capacities and improving international cooperation.

4. CONCLUSION

The obvious consequences of the conflict in the country indicate the need to develop and improve the capacity for mine action. The holders of developing is the Mine Action Centre of Republic of Serbia, as a responsible institution, recognized the need to integrate all available capacities of the defense system in the service of mine action with the aim of creating the necessary conditions for economic growth. Capacity development is reflected in the training of staff to engage in tasks: demining, work organization in the preparation and implementation of demining; quality control in demining.

The set goals are realized in cooperation with relevant authorities in the country, institutions in the world and partner countries. All these factors require that the training is carried out with the highest quality, because only well-trained demining participants do not pose a danger to themselves and others. As a segment of the paper were defined the basic knowledge of the direct participants in demining, without which they should not be engaged. All participants must know the working tools, whether it is various detectors, protective equipment or explosives and initiating explosives. They must know well the ordnance they will find in a given situation (mines, explosives, grenades, aerial bombs and other projectiles fired from various ordnance), they must recognize those same ordnance based on the markings found on UXO or ERW. Particular emphasis should be given to the ordnance used in conflicts on the territory of the Republic of Serbia in neighboring countries. It is necessary to know the organization of data collection, the organization of work sites by sector and to know your place and role in the complete demining work. Since all this work is risky and prone to accidents due to various reasons, a very important segment is to know well the manner of the aid and the place of each participant during the medical evacuation. It should be borne in mind that only well-trained personnel during demining do not pose a threat to the safety and security of other participants. In the demining, there is no right to make a mistake, so knowledge should always be refreshed and supplemented, based on one's own and others' experience, and should be passed on, as a prerequisite for the safest and most secure work possible. In the Republic of Serbia, this is the basic task of the Mine Action Centre as an entity that coordinates the work of all other elements of mine action and takes care of implementation of safety measures during their work.

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