

TRAINING OF COMMAND STAFF FOR THE USE OF UNITS IN CRISIS SITUATIONS BASED ON THE APPLICATION OF MODERN TECHNOLOGY*

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Crisis situations of the last decades occupy a significant place due to the consequences they create (expressed in losses that amount to hundreds of human lives and enormous amounts of money). Management in such crisis situations is conditioned by a large number of factors that need to be analyzed in detail during the preparation for prospective (expected) future crises. A possible way of reducing the consequences is the preparation of command management staff for such situations. Preparations based on the application of modern technologies (remote and simulation software) significantly result in better training of command structures for response and handling crisis situations. The required quality is achieved through the application of the distance learning platform, where individuals choose the time and place of learning, which creates the conditions for more focused and higher - quality training on simulation software. The Janus simulation software has been used in this paper. It enables training people (through different scenarios) to respond in different situations. An unlimited number of repetitions of different or the same scenarios allow people to train to respond to an unlimited number of different situations.¹

Key Words: *crisis situations, modern technologies, simulation software*

Introduction

Crisis (caused by various factors) create different crisis situations that, as a result, often include numerous human lives, endanger human health and leave major material damaged due to destruction. In order to prevent, eliminate and reduce the conse-

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quences, it is necessary to undertake preventive and other measures, actions and procedures that would significantly influence the reduction of the consequences.

In accordance with the defined missions and tasks, the Serbian Armed Forces have the task to preventively influence and respond to different crisis situations. The answer is the manifestation of power and the performance of various operations. The training of command staff for carrying out operations is of paramount importance. The application of modern technologies (software solutions for distance learning and simulation of different situations) provides possibilities for better, more efficient and less expensive training of command staff.

The paper presents the possibility of applying the "Moodle" platform for distance learning and the JANUS software package for training officers in the decision - making process for engaging units in different operations. These technologies enable the preparation and training of personnel for planning various types of situations, simulating and performing operations without the use of resources and providing a real operating environment.

General on crisis

The term crisis has a wide range of applications and therefore a large number of different interpretations [22]. Interpretations from the medical, economic and social sciences point to a "difficult, comprehensive disorder in social, political and economic life, from which the exit is usually very difficult and usually long-lasting" [41]. Arjen Boin and Paul Hart have given a definition of the crisis as one of the comprehensive definitions of the crisis, which can be applied to various disorder and decision-making needs. They say that it is an "unpleasant event", which represents challenge to decision-makers, tempting them to act in conditions of endangerment, time constraints and unwillingness" [3]. It is important to note that the definition has two important characteristics. It can be applied to all types of disorder, which condition a multidisciplinary approach in understanding the crisis and directing attention to decision-making [36].

It is precisely the fact that there is an unpleasant event that is often perceived as a threat to give the spectrum of application of the term to everyday problems such as climate change, changes in pension funds, threats of mass destruction caused by natural disasters, financial collapse of the market, fears caused by potential warfare, the fear of spreading deadly viruses, the possibility of a sudden terrorist attack, the placing of war danger, the outbreak of armed conflicts, etc. In other words, "crises are a unique combination of weaknesses of the system, internal pathogens and climatic factors, of political and social nature" [41].

United Nations (UN) interpretation of crisis involves an extremely broad spectrum and type of events that can be physical, social and cultural in nature and occur during short or long periods of time. Like disasters that cause them [7,30], the disaster typology includes "different categories of slow or fast, concentrated or diffused, known and unknown, social/cultural/natural/technological/human, liner and complex, local/national/crisis – in short, the variety of typology of crisis situations is broad" [25]. It is important to point out that the transformation of the approach to security began to change at

the end of the 1980s (with the military threats ceasing to be central threats to state security and in addition to the state new subjects and security structures have appeared at the forefront and made the country lose its central primacy). The attention has spread from military to non-war areas (human rights, climate change, political and economic stability) and focus has shifted from the state to individual, society, region, international system and global society [27].

The overall complexity of crises and crisis situations imposes a need to consider the possibility of preventing or appropriately preparing certain forces for a timely task in the event of crises and crisis situations. Considering the need for rapid response, the availability of resources of enviable capabilities, the existence of the clear organization capable of effectively responding to the crisis situation and its successful resolution with minimizing the consequences, a clear focus on the need to engage the capacities of the Ministry of Defense (MoD) and Serbian Armed Forces (SAF) has arisen. In accordance with the aforementioned and performed analyses, the missions and tasks of the Serbian Armed Forces have been defined.

MoD and SAF undertake activities aimed at training commanders for crisis situations caused by immediate war danger, the need to counter internal threats to security, terrorism, separatism and organized crime or emergency situations caused by natural disasters, technical and technological and other disasters.

Ministry of Defense and Serbian Armed Forces in response to crisis situations

In accordance with their missions and tasks, the Serbian Armed Forces, as an integral part of the Ministry of Defense, are used when implementing different types of operations during response (unit engagement) to various crisis situations. Accordingly, operations are defined as "a set of combat and / or non-combat activities, movements and other actions undertaken by a single idea, alone or in cooperation with other defense forces, in order to achieve a general objective of a different nature" [12]. A type of operation is the operation of support to civilian authorities in countering unarmed security threats. It is performed in case of natural disasters, industrial and other accidents and epidemics. For the success of the operations, it is necessary to have "direct cooperation and coordination with the state authorities that run all forces in the affected area and the use of fully-equipped and equipped units of the Serbian Armed Forces" [12]. Crisis situations are an environment where security sector forces can present their value and usability because the crisis management process is an integral part of the overall management and management system and cannot be separated from the general planning process [20].

Operations are planned, prepared and performed with a constant assessment of future performance [21] and, in principle, they have the following stages: preparation, performance, stabilization and disengagement. Planning of operations is carried out during the operational planning process that defines the sequence of steps by stages and steps with "precisely defined and distinct responsibilities at the planning levels" [40]. Planning is "followed by a constant need for making, more or less significant decisions (that the lives of people depend on), which puts commanders of different levels, under constant

pressure" [5]. Harmonizing the efficiency and cost-effectiveness of the use of forces during the operation is becoming an imperative and one of the main indicators of the successful implementation of military operations [39].

In order to reduce the possibility of errors, each decision-maker is trained to work on decision-making in a variety of conditions [31, 13, 4]. For this reason, career education of senior officers is organized, during which contemporary practice is analyzed, compared with experience and historical events. The acquired knowledge is the basis to approach problem solving (decision - making on resource mobilization in achieving set goals) and subsequent check of the decisions made in the simulation center.

With the use of modern technologies (presented through different distance learning platforms or simulation software), the command staff gets acquainted with modern practice and follows the degree of development and application of achievements, adopts new knowledge, prepares and trains by applying the appropriate simulation representation of the reality of newly emerging situations (with a large number of unknown and aggravating circumstances), makes decisions and evaluates them (checking).

Modern technologies

The modern environment has imposed the application of various forms of modern technologies (especially Information and Communications Technology – ICT), which at the same time have a significant impact on education, as "the main driver of the development of the educational process" [6]. These include computer hardware and software, as well as electronic communications tools used to collect, process, store and exchange information, including appropriate services and content [6]. The often mentioned option is e-learning. E-learning can be defined as "the application of ICT in the teaching / learning process in order to improve the teaching process" [14]. Due to the scope of work, attention is focused on e-learning (broader concept – allows learning in situations where the computer does not have the Internet access – not online or only on a local network without the use of the Internet [43]), etc. "Online" learning (narrower term) represents learning organized through the active use of the Internet. The use of these methods of distance learning model is carried out in order to acquire knowledge, skills, attitudes and values of students, with the communication of the actors, to a certain degree, with the help of various media and technologies [6].

As a result, it is very often the case that distance education is identified with the so-called "online" learning. Such a factual situation has been imposed by increasingly complex requirements, directed towards the design and implementation of the e-learning system [24].

It is precisely the availability of a large number of materials that allows a significant number of students to study using particular distance learning (outside the place where the higher education institution is located). We can often meet the term "Distance Education" (e-education), which "represents the system and process of connecting users with distributed educational resources" [35]. In addition, the term "distance learning" (along with Distance Learning, Distance Training, Distance Education, eLearning, Online Education, Blended Learning ...), which represents an approach to open access to education and training, releasing students from time and place constraints, offering flexible learning

opportunities for individual and group learners [8]. It can be described as learning that involves the application of information, computing and communications technologies in multiple locations [44].

The mentioned electronic contents are also called educational materials in some papers [8, 9, 10, 34, 35]. As such, they are the most important element of distance education, since they represent the main source of new knowledge and skills. In addition, they have another role presented as flow controllers, since each participant is led through the training process and directed to the desired goal. Therefore, their role is very complex, and the impact on the quality and outcome of distance education is crucial [10].

The aforementioned information technologies make it possible to apply the Distance Learning System (DLS) using the Internet and Intranet to interact with content users, lecturers and other users. The distance learning system enables the complete management of courses on the Internet, as well as interactivity, two-way communication and data exchange. Developers use PHP, MySQL and Java Script for development. On this occasion, it is important to point out that Serbia is not in a big backlog compared to the countries that have previously started implementing the distance learning system. This can be proved by the establishment of the "Academic Network of Serbia – AMRES", which is primarily the scientific, research and educational computer network that provides modern information and communications services and connection to the Internet for its members. In the early 1990s, AMRES was created by connecting several major faculties to become the most modern computer network in Serbia with more than 150 connected research and educational institutions. The academic networks of Serbia today have over 200,000 active users [16]. In 2007, AMRES launched a project for the introduction of e-education in many faculties. It was decided to apply the open – source distance learning platform for distance learning Moodle. A large number of educational institutions have embarked on this project in order to increase the quality of their own teaching and successful study.

In order to improve study, different Learning Management Systems (LMS) are used in this way. The systems' basic task is to enable a professor to easily design, organize and present the course. The interfaces used both by teachers and students have to be simple, intuitive and user-oriented. Learning Management Systems are Virtual Learning Environment (VLE), commonly referred to as Learning Management System (LMS), Learning Support System, or Learning Platform (LP)... [2]. Simultaneously, modern technology allows the use of different types of simulation software to check individual decisions, modalities of the use of resources (units), or exercise individuals in the execution of complex actions (without the possibility of injuring a person or damaging the means used in the exercise).

Distance Learning Platform – Moodle

Distance Learning Platform Moodle (creator Martin Dougiamas) is an open-source Course Management System (CMS) or a software package whose platform is based on the free code supported by MAC and Windows OS [23]. Moodle is used by universities, schools and individual instructors to improve the courses using Web technologies. More than 18,000 educational organizations around the world use Moodle to enable on-line courses and replace traditional face-to-face courses [9].

The name Moodle has two meanings. The first is the acronym of the Modular Object-Oriented Dynamic Learning Environment. The second meaning is related to the word moodle, which in Australian slang means "overtaking some idea in the head, until it is viewed from different aspects".

The need to use this platform at different levels of education (from undergraduate academic studies and through various levels of career development) has imposed the need for more complete understanding of the platform's characteristics. The features of this software package are: high availability (possibility of serving a large number of users), scalability (the ability to increase the number of users without falling in performance), easy programming environment (the user adjusts very quickly to software capabilities), interoperability – the ability to connect without modification with most operating systems (Unix, Linux, Windows, Mac OS) or all operating systems that support PHP and databases. Data is in the database that can be set up on MySQL, PostgreSQL, Oracle, Microsoft SQL Server) [23].

In addition to the aforementioned features, it is necessary to emphasize certain advantages in practice, which indicate the following characteristics [46]: extremely simple procedure for the use by all participants; work on the Intranet and Internet variants; creating, linking and distributing courses and tests; defining the conditions for conducting training by the user; the high level of interactivity between the application and the user; tracking the ordering of the course users; accessing modules from any networked location in accordance with the access hierarchy; independence from server platforms and software tools (Open Source Technologies); the use without special requirements for the configuration of workstations and servers; the use of different Browser applications; the connection to the existing databases, the existing or new information systems, the input of the existing learning materials or the materials of independent authors.

Simulation software

Simulation software is often connected and replaced by the term simulation (latent simulatio – converting, blurring, displaying a real state differently than it actually is, as well as a method that determines the behavior of systems, models and the like, under changed conditions) [42]. According to Shenon, simulation is "the process of designing a real system model and conducting an experiment with that model to understand the behavior of a system or evaluate different strategies (within the limits of the given criteria or a set of criteria)" [37].

The syntagm "modeling and simulation" means a set of activities that construct a model of the real system, after which the dynamics of such a model are simulated on a computer. Each model represents a simplified image of reality, which does not include all aspects (elements and relations) of the real system. In addition to the static structure, each model has its own dynamic aspect, which can be determined analytically, numerically or by an experiment. The experimental determination of the behavior of the model is called simulation. If the experiment with the model is done using a computer, then it is computer simulation, and the model itself, which is then given in the form of a program

for a computer, is called simulation [32, 45]. Computerized high-resolution simulation represents an information-logical environment that challenges and encourages commanders and members of the tactical unit command [29].

The study of the physiognomy of crisis situations in which different operations are carried out, with all the complexity of phenomena and manifestations (during the state of emergency) imposes a need for more complete examination of the problem. The nature of the resulting situations with the complexity of conditions and the danger of resources (especially human and material resources) prevent the delivery of research (experiment) in real conditions, which imposes the need for the application of appropriate simulation as the key element for achieving progress in engineering and science" [1].

The application of simulation during the training of units for assigned tasks has been accompanied by a significant number of indicators that were written by Janković R. and Nikolic N. [19]. The existence of a large number of different types of simulation and computer models [15] enables their classification according to different criteria and in many ways. [28] The possible division can be done according to purpose; vision and gender; human involvement; treatment of coincidence; use of technology and others [29].

Problems about verifying certain assumptions or decisions are also recognized in other countries of the world. Therefore, they work on the improvement of the developed systems such as the following software: BBC, CBS, TACSIM, WARSIM 2000, SPECTRUM, EINSTEIN [5], JANUS, JTS (Joint Tactical Simulation), ABS Battlefield Simulation, HORUS (HLA Operative Relay Using Sockets), while some countries work to develop simulation packages of similar characteristics to their needs: Netherlands, United Kingdom, South Africa, Sweden and even Chile [18].

Simulation software JANUS

JANUS [26] is the constructive simulation software designed to train command structures and in particular a command team in which realistic suppositions (combat or non-combat) are created and it gives a complete picture of an operation of a different level (tactical or aggregated tactical). The resolution of the model goes to individual means (tools, weapons, vehicles or other means) and the maximum number of resources is 400 and 1200 units in the defined space. It was created in the 1970s, and so far it has been modified in several versions. Currently, the JANUS (T) version is used for training in combat operations and providing assistance during natural disasters. The important characteristics of the software are six-sidedness, independence, openness (closeness depending on needs), interactivity, unpredictability, field-combat simulation characterized by precise color graphics, real-time processing and processing based on scientific and empirical results [17].

JANUS system provides the possibility of repeating the entire "operation" or certain segments, the execution of time jumping and skipping certain segments. The ability to automatically record all activities (actions, movements, communications between all participants in the operation) and re-display allows for a better and more complete analysis of participants' activities in the simulation (Figure 1).

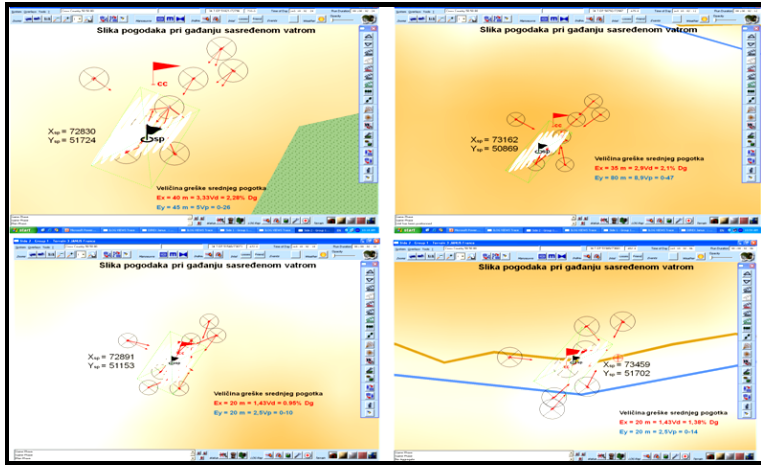


Figure 1 – Automatically recording different results of a firearm model [33]

The characteristics of the computer system enable the reliable determination of quantitative indicators that support decision-making (Table 1).

The advantage of the system is expressed in the precise determination of the capabilities of the resources and personnel in tasks in accordance with the type of operation, as well as the subsequent determination of the possibilities due to the need for adequate grouping of forces for the expected hazards, in order to ensure the conditions for successful performance of the set goals.

Table 1 – A comparative overview of the results obtained by simulation [33]

Broj simulacije	Vrsta minobacača	Priprema pištolja	Vrsta vatre	SREDNJA VEROVATNA GREŠKA						
				po daljini			po pravcu			
				m	Vd	% Dg	m	Vp	0-00	
S-1	82 mm M69	skraćena	sasređena	90	5,3	4,3	70	6,4	0-31	
			za širinu cilja	90	5,3	4,3	70	6,4	0-31	
sasređena			110	6,5	7,14	60	7,5	0-39		
za širinu cilja			120	7,1	7,79	70	8,75	0-45		
S-3		potpuna	sasređena	20	1,43	1,38	20	2,5	0-14	
			za širinu cilja	20	1,43	1,38	20	2,5	0-14	
S-4	120 mm M75	skraćena	sasređena	40	3,33	2,28	45	5	0-26	
za širinu cilja			40	3,33	2,28	100	11	0-57		
S-5			skraćena	sasređena	35	2,9	2,1	80	8,9	0-47
				za širinu cilja	35	2,9	2,1	80	8,9	0-47
S-6		potpuna	sasređena	20	1,43	0,95	20	2,5	0-10	
			za širinu cilja	20	1,43	0,95	25	3,12	0-12	

Different data (calculated, processed and prepared by the decision maker) are necessary factors for realistic consideration of the capabilities of forces that the decision-maker can base his decision on, engaging the available forces that are important for the calculation of the capabilities of forces. Results – the data obtained from the calculation are in function of the decision made.

Training of the command staff for use of units in crisis situations assembled by the application of modern technology

Training of the command staff to use a unit in operations is a very complex and demanding process. This process is complex due to the fact that situations and their characteristics cannot be realistically presented and repeated. There is a wish to have high-quality training in order to protect the trusted resources, which creates the danger of the influence of subjectivity during the evaluation of the adopted solutions.

The way to overcome the presented problems is to use the tools that modern technology offers. The combination of training methods (which precedes learning), while innovating the capacity of modern technologies (simulation work or simulation), suggests the existence of realistic opportunities for achieving success at the end of training. The application of these tools and capacity allows the time necessary for the career development of participants and listeners to be organized in an optimal way. It is possible to create conditions that guarantee full commitment to the assigned tasks defined as the focus of preparation of future participants for the content that will be conducted during their training. For this part, the Moodle platform for distance learning is optimal.

The application of the above - mentioned characteristics of the platform creates the opportunities for assigning tasks (general and specific), organizing forums (course participants), downloading documents (files), implementing evaluation process, instant messaging, activating calendar of course activities, presenting online news and announcements (at school level or within a group), setting quizzes for organizing certain types of competition and recording pages of documents in pdf format. In case of need, course - platform managers in cooperation with software developers have the authority to add and extend the functionality of Moodle software.

During the organization and conduct of distance learning, in addition to the above - mentioned characteristics, the following indicators of this kind of training of the participants have also been noted: the course attendance is not conditioned by the place of teaching, the participants are selected by the course participants, the course attendants do not have the cost of attending the course (do not travel outside the place of employment), the institution that organizes the development is exempt from a part of the costs (food, accommodation, energy), the quick availability of tutorials, the teacher has the opportunity to receive current information about the engagement of students during the course and remote access to the arrangement of the course, the participants have the opportunity to self-organize learning time, application and overview of necessary multi-

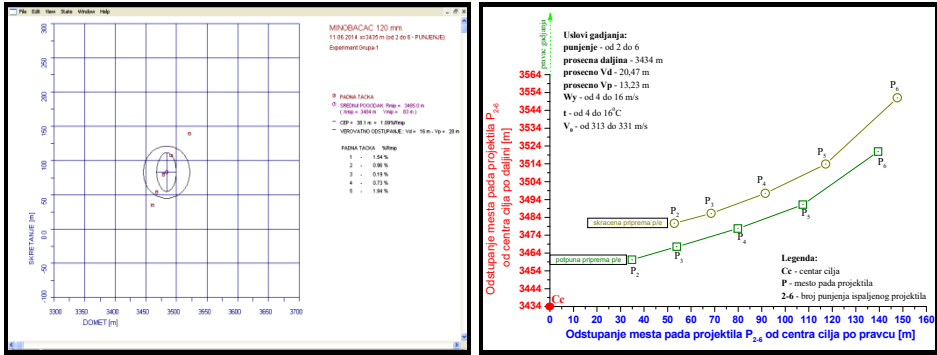
media materials in accordance with the available time, the possibility of unlimited listening to lectures and review of the presented material, the current availability of results (tests, colloquia), fast availability of terms and vocabulary. The characteristics of the platform are presented as an advantage for the students and at the same time offer significant opportunities for the teachers. The advantages are expressed through the possibility of preparing appropriate materials that will be available to future students from any place in Serbia and the world. The prepared material, distributed in the presented way, can be studied in accordance with the available personal time in an unlimited number of times and can prepare for the elimination test. Testing can be organized within a defined time period provided by the subject teacher. If the participant did not proceed to the examination or did not successfully learn it in the foreseen periods the student continues with the study of the submitted material until the next test term. The students who have moved to the next level may in consultation with the subject teacher proceed to study the next material and prepare for the next test.

The aforementioned characteristics and advantages of the platform with a responsible approach create opportunities for processing a part of the theoretical content of the subject outside the Military Academy, which makes the time spent at the Military Academy relieved of theoretical contents. At the same time, additional time is created during the course at the Military Academy, which can be directed to better solve a wide range of complex problematic tasks and processing of materials that require professional guidance of teachers through teaching.

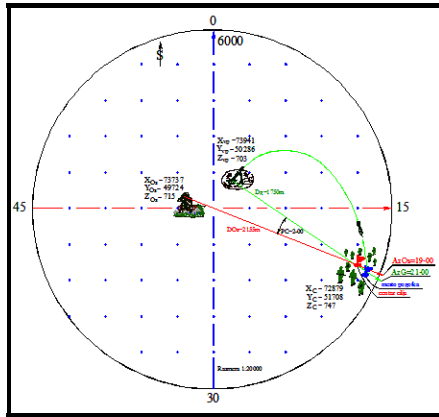
The first step in the preparation of command staff has been designed in the personal preparation of the students (distance learning), which created the conditions for conduct of training through simulation software during the course at the Military Academy.

The next step in the training of command staff is the elaboration of the scenario for exercising. In the development of scenario it is possible to engage a large number of experts from different fields (defense, police, health care, governments) to give the scenario a realistic picture of the facts on the ground. The scenario can be made by modeling problems based on experiential indicators and results obtained by numerical simulation of various programs or experiments (Figure 2). This conceptualized scenario allows for the creation of different problem situations that participants have to perceive, analyze and prepare adequate solutions.

For initial levels, scenario is encapsulated with smaller and simpler problems in order to get familiar with the work system and the potential provided by the simulation software. With the subsequent exercises the scenarios introduce "more complex" conditions and problems. Problem situations that the student has to solve (the problem occurs at night, in conditions of adverse weather conditions (precipitation, low temperatures), sudden occurrence of a flood wave, earthquake of certain strength, sudden appearance of refugees in the zone of operation, infiltration of terrorists acting for the needs of enemies, the appearance of civilians who cooperate with the enemy forces, the impact of hostile aviation, the aggravation of the situation due to reversible and irreversible losses caused by psychological problems, etc.) are based on experiences and generated problems that can be expected in accordance with the following developments.



a) Results of numerical simulation in FORTRAN b) Results of numerical simulation in ORIGIN 5.0 Server



c) Results obtained by experiment-shooting on the firing range

Figure 2 – Modeling the problem for the production of scenarios using the results obtained in different ways [33]

Command staff is prepared to review the situation in time and complete the picture of events in order to make a high-quality decision. Decisions made at a given moment should not be ambiguous, on the contrary, they have to be clear and practically feasible. They do not have to appeal to the majority, but they are necessary for maintaining peace, stability and success in rescuing people and material goods [37]. Commander with his assistants and headquarters should plan the engagement of forces and resources bearing in mind predictions for future events, while respecting the principle of the necessary reserve.

The influence of the media and public information is also included in the scenario. The seventh power should use its strength to calm the situation and tensions of the population. When it occurs, the commander has to "bring security and confidence to the authorities and his abilities" [37].

The scenario provides a wide range of engagement of the available resources of the SAF units on various tasks such as airborne and land survey, evacuation of the popula-

tion by air and land (river) through the use of various means (helicopters, boats, amphibious conveyors, motor vehicles, engineering machines), reception and care of vulnerable persons; reinforcement of embankment, transport of embankment materials, setting up crossing points (engineering machinery), biological decontamination, veterinary supervision, removing material from communications generated by the landslide and interrupting traffic, establishing new road routes to cut-off areas of municipalities, medical care and preventive protection of the population (by establishing light field hospitals), realistically setting up the available forces in accordance with the decision, response to the enemy's action, making various types of obstacles, overcoming different natural and artificial obstacles, organization and establishment of decontamination cells and stations of veterinary control. In addition to the aforementioned software, during exercising it enables a real representation of the enemy's action in a realistic manner, which reduces the possibility of subjective assumption of the enemy's actions (as when exercising tactile tasks on the map). It is precisely the fact that the forces of the enemy or changes in the environment (caused by the influence of a flood wave, the influx of refugees into the operation zone, the earthquake, the psychological impact on the human being caused by the propaganda effect) impose the need for continuous monitoring and analysis of the different results that the simulation software can display. Data can be expressed as the number of the engaged people, the number of people who were "thrown out of the machine" due to mental trauma, the number of people who have returned and irreversibly injured and diseased ones, the number of engaged combat and technical means, the degree of correctness of the assets involved (at the same time, it is possible to see the cause of the failure - a walkway or a motor or a firebox), the amount of ammunition consumed by species, the amount of material to be transferred, the number of persons transported, the delay in the execution of a certain movement conditioned by the quality of communication (poor communication or terrain coverage, if it is moving beyond communication,; time of navigation if the movement is carried out in a river flow, the delay in landing due to difficult or improper landing, the degree of influence of the flood wave on the execution of the set tasks, the surface area affected by the flood, the number of objects to be evacuated, etc.

The work of command staff and subordinates when performing tasks has to be organized and followed by a telecommunications system. It is precisely the transfer of commands and reports to be recorded and monitored the timeliness and regularity of issuing orders reporting on the situation and the level of orders executed. Analyses allow examination work of the commander and the commands, as well as subordinates, during the conduct of the defined assignments.

Conclusion

Engagement of the available resources of the Serbian Armed Forces for various tasks in crisis situations is conditioned by the quality and top-level capability of command structures. Previous experience on these tasks indicates that the implementation of such complex tasks has come very seriously and professionally. The experience gained in previous engagement poses as an imperative the obligation to improve the training and capability of the command

staff to respond in such and more complicated situations. The reason for this is the fact that the command staff has to constantly prepare for more complex and dangerous situations based on the experience acquired and its implementation in order to improve the future work. Simulation software is implemented to create complex and uncertain situations and offer a possible solution in order to accomplish the set request. The situations thus created indicate that the command staff should constantly think about possible solutions.

The advantage of simulation software is presented through the possibility of creating crisis situations without the possibility of damage, losses and other disasters on the ground. Moreover, regardless of resource savings, it is necessary to indicate the fact that it is possible to do countless repetitions and the next scenario will not be the same as the previous one. This allows for a variety of situations and makes it impossible to enjoy the view that everything is known and that there is no surprise. Such an approach requires the students to improve their care and attention in solving the defined assignments.

One of the possible ways to evaluate the quality of the simulation software or model that training is conducted through is the observation of the participants. It is often said that the situation created in the simulation model is unrealistic or demanding and that it is ahead of its time. These situations are important for the reason that the command staff has to be prepared for some new situations that have not been represented in the previous practice. The following questions related to the situations that are mismatched in their entirety arise: Is it realistic to expect that an enemy or natural disaster will always act in the same way or use the same composition and strength? Is it realistic to expect certain changes?

All the above-mentioned is the starting point for the work on the application of modern technologies in order to train the command staff for decision-making in simulation models for the sake of better and cheaper preparation for the following crisis situations.

The importance of the paper is reflected in the obligation of the teaching staff to constantly engage on improving the educational process and training the command staff for decision-making in various crisis situations.

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