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SECURITY RESEARCH AND NEW REQUIREMENTS ON EDUCATION AND TRAINING

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Abstract

The contribution speaks about results of research in the area of security research. Research was performed within soldiers of Slovak Armed Forces, participants in missions abroad with accent on missions in Afghanistan. The topic of research was focused on evaluation of environment – terrain and urban terrain, threats from potential enemy and applied attack means. Outside a lot of important information from different fields, the research shows requirements on new system in education and training. The article refers according these results about new possibilities in education on Armed Forces Academy and the same in training on Military training centre of Slovak Armed Forces.. In conclusion shows on new computer and software possibilities to increasing of safety participant of missions.

Key words: operation, mission, research, security, threat, training, hazard, evaluation.

Military - political situation in Afghanistan is still unstable. Oposite of increasing of political activity USA and European partners, military support from USA, NATO and other countries, in this region go badly to create stabil, peaceful environment, rather vice - versa. It confirm commanders missions massages from 2010, where especially in second half of the year comes to violent accumulation of activity and incidents from native militant parties. When we look at incidents schedule in the first and second part of the year we can see increasing of incidents nearly to 100% (tables 1 and 2).

Units of Slovak Armed Forces forced in two provinces - Uruzgan and Kandahar. Period with increased militia activity against the forces of ISAF was particularly marked during MUSHTARAK operations in Helmand province, which is directly adjacent to Kandahar province. The worsening security situation subsequently occurred in the months August - September 2010, what was reaction of the rebel troops to HAMKARI coalition operation in Kandahar province, when the frequency of attacks on ISAF unit was stepped [1].

Tab. 1 Overview of incidents during the rotation of December 2009 – June 2010

Month	Number of incidents	KAF	Tarin Kowt	Deh Rawood
December	5	2	2	1
January	6	6		
February	10	10		
March	3	3		

April	6	4	2	
May	12	8	4	
June	6	6		
Together	48	39	8	1

The most serious threat to members of the SLOVCON ISAF unit was ground attack on the base KAF-executed suicide rebels of 03.08.2010, which was preceded by a series of rocket attacks. The biggest threat to ISAF units represented an IED (improvized

explosive device) fired at a distance, so VBIED (vehicle born explosive device improvized), rocket attacks , IDF (indirect fire) on the bases of coalition troops, and occasional SAF (small arms fire), but these were the exception[2] .

Tab. 2 Overview of incidents during the rotation of May 2010 – December 2010

Month	Number of incidents	KAF	Tarin Kowt	Deh Rawood
May	1		1	
June	18	15	3	
July	17	17		
August	10	7*	3	
September	29	27	2	
October	4	4		
November	4	2	2	
December (to 9.12.2010)	1	1		
Together	84	73	11	0

* KAF Rockets attack útok + ground attack on KAF base

Against this background, at the participants of mission 2010 ISAF was performed a search, which was a continuation of research in the SIMS project and should supplement the information obtained from search of participants ISAF 2009, partly presented at the conference AFASES 2010[3]. From listed reasons was processed list of questions, whose contents was consults with some participants of missions the first of all with some commanders.

Just safety margin of participants regarding antiactivity of enemy was expressed by four grades ,VP - threat with high probability,NP - threat with lower probability,OZ - rarely threat , BO - without threat.

Look like threat means were appreciated: Piloted means , Unmaned means, SHEL - - rockets G -G, artillery grenats, mortar firing,

grenats, firing by light weapons sniper rifle, supported load, ridden load.

The way of respondents threats by the effect of enemy

To the 11 way of threats respondents expressed in whole 308 times. From the whole count 308 threats not at single time were threats by manned aerial vehicles and unmanned aerial vehicles(Figure 1).

In 3 cases expressed about threat with high probability by rocket ground - air, it was 1% from all threats.

In 76 cases, more frequently from all threats were expressed about threat by rocket ground - ground, it is 24,7% from all threats, from that 61 cases ranked like threat with high probability 19,8 %, 12 cases like threat with lower probability 3,9 %, in 3 cases ranked threat like rare threat 1 %.



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In 23 cases respondents expressed about threats by artillery grenades and it is 7,5 % from all threats. From that 18 ranked threat with high probability 5,8 %, 3 like threat with lower probability 1 % and 2 cases (0,6 %) like rare threat.

In 30 cases respondents expressed to the threats about mortar fire, it is 9,7 % from all threats. From these 24 cases were raked like high threat 7,8 % and 5 cases like lower threat 1,6 % and 1 case (0,3 %) like rare threat.

In 12 cases respondents ranked threats by grenades, and it is 3,9 % from all threats. From that 11 cases were ranked like high threat 3,6 % and 1 case like lower threat 0,3%.

In 62 cases were ranked threat by fire with light weapons, it is 20,1 % from all threats.

From that 50 cases, 16,2% were ranked like high threat, 11 cases, 3,6 % like lower threat and 1 case (0,3 %) like rare threat.

In 30 cases respondents ranked threat by sniper rifles, it is 9,7 % from all threats. In 20 cases, 6,5 % were ranked this threat like high and 10 cases, 3,2 % like lower threat.

In 42 cases were threats by carried explosive, it is 13,6 % from all threats. 39 cases were ranked like high treat, it is 12,7 % , 2 cases like lower threat 0,6% and 1 case (0,3 %) like rare threat.

In 30 cases were threats by ridden explosives, it is 9,7 % from all threats. 29 cases were ranked like threat with high probabilities, it is 9,4 % and 1 case (0,3 %) was raked like rare threat.

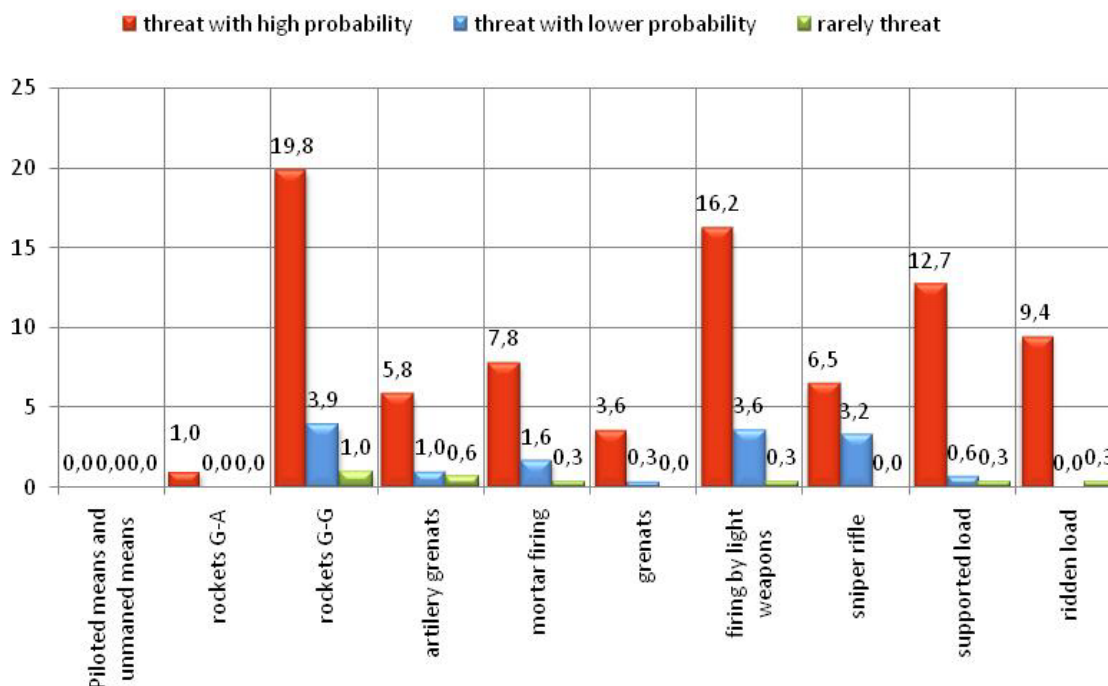


Fig. 1 The way of respondents threats by the means of enemy.

Very interesting is ranking of enemy effect, where were ranked 6 way of enemy activity on respondents (Figure 2).

From whole count 308 ranking were value effect numerous groups over 10 persons in 14 cases 4,5% from whole count, from that 11

cases, 3,6 % like high threat and 3 cases, 1,0 % like lower threat.

To the treat by groups up to 10 people expressed respondents in 78 cases, it is 25,3 % from whole count, in 60 cases, 19,5 % this threat were ranked like high, in 15 cases, 4,9 % were threat ranked like lower, and in 3 cases, 1,0 % this threat were ranked like rare.

To the threat by the individuals expressed respondents in 104 cases, it is 33,8 % from whole count of threats in 87 cases, 28,2 % were this threat ranked like high, in 13 cases, 4,2 % like low threat, and in 4 cases, 1,3 % like rare threat.

Threat by snipers were ranked in 20 cases, it is 6,5 % from whole count. In 13 cases, 4,2% were this treat ranked like high, in 7 cases, 2,3% were this treat ranked like low.

Treat by suicide bombers were ranked by 72 cases, it is 23,4 % from whole count of treats, from that 68 cases, 22,1 % were ranked like high treat 2 cases, 0,6% like low treat and 2 cases (0,6 %) were treat ranked like rare.

Treat by random attacker were expressed by respondent in 20 cases, it is 6,5 % from whole count of threats, from this 16 cases, 5,2% were ranked like high treat and 4 cases, 1,3% like low threat.

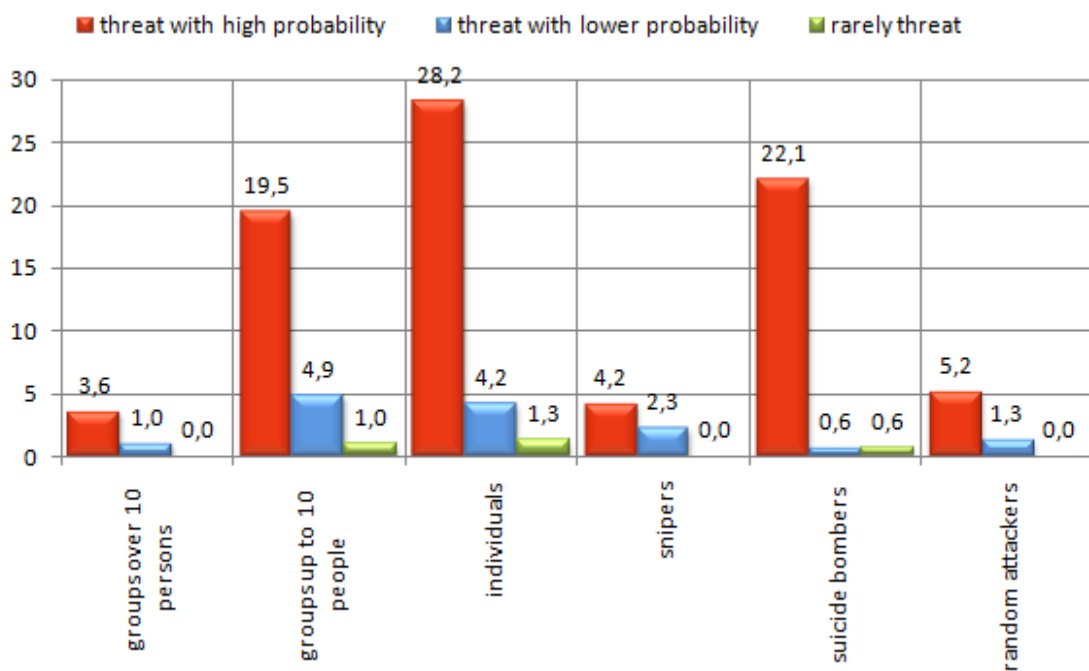


Fig.2 The way of respondents' threats by the effect of enemy.

From the whole threat respondents like the main threat possible use rocket ground-ground (more than 24,7%) even though they met only twice, from the way of possible consequence at them evokes feelings higher dangerous. Till the big distance follow threat use light weapons (20,1%) and use explosive with continuity with activity of suicide bombers (23,4%). It is possible to predict, that the way of the treat we can accept with 100% certainty. It is possibility interchange of threat;

let us say right inestimable using tools of attack (interchange rocket ground-ground by artillery grenades). In some cases can be valuation or revaluation using of attack tools, for example propagation of messages (mass psychology). For rocket were marked not only regular weapons system, but local produced instruments, which in the way of traffic on the target fulfill vision about flying rocket. From the ranking follow that, the enemy effect were first of all by individuals and by the small groups (till 10 persons). To the



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individuals (104 expressions) add effect by the random attacker (20) is this gap higher. Small groups arise in ranking in 78 cases, on the third place with 72 cases is threat by suicide bombers.

All these information we can use in knowledge database and threats database in SIMS tool. Concrete in identification of hazard and in assessment of hazard.

Identify Hazard

To identify a hazard, the amount of time available for the task must be determined. This process can either occur as the first step in the process or later. It appears that this task is performed continuously at different steps

within the process [4]. The first main step can thus be considered as analyzing the mission. This typically involves gathering and synthesizing information from a variety of sources, such as the commanders' guidance, the commanders' intent, and other data to obtain a better view of the overall mission, that is, to obtain better situational awareness of the mission. When the goals of the mission have been analyzed, respondents in general followed an METT-TC approach to identify the hazards, that is, Mission, Enemy, Terrain and Weather, Troops and support available, Time available, and Civil considerations(Figure 3)

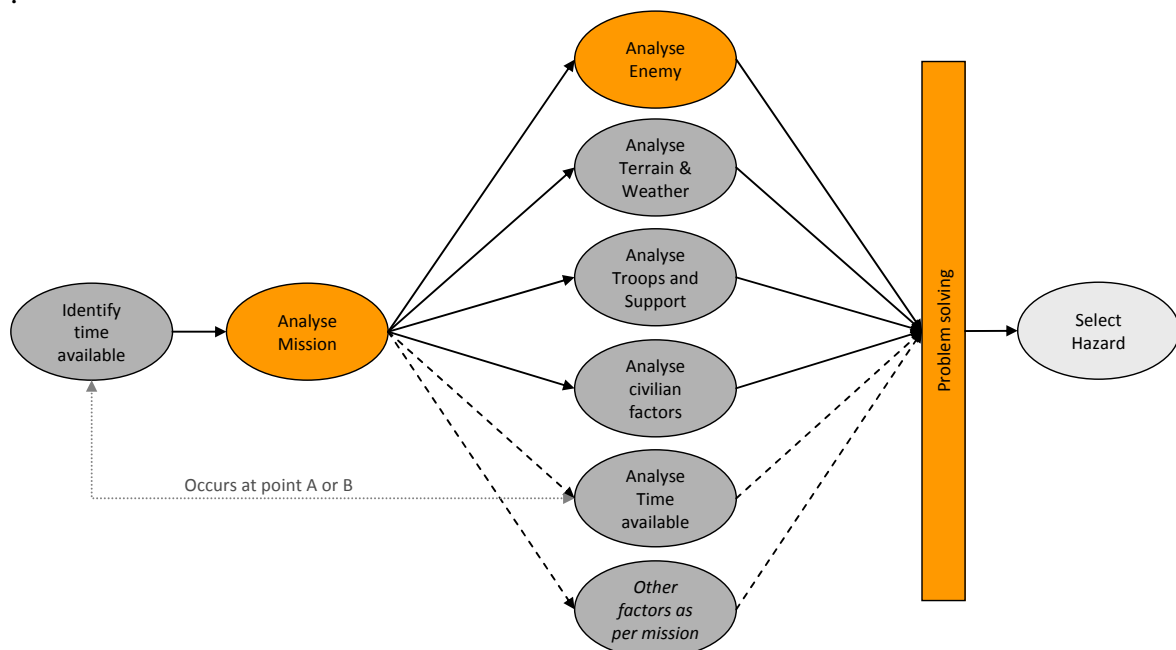


Fig. 3 Task Diagram for Identify Hazard

Assess Hazard

After a hazard has been identified, the 'importance' of this hazard must be assessed. From the responses, a four step process for

assessing hazards emerged as presented in the figure below (Figure 4). The first, the probability of the threat occurring is predicted together with an estimate of the severity of the threat. These two steps can occur in either

order and are equally important. Once the probability and severity of a threat has been predicted, the various threats are prioritized. The process of prioritizing threats occurs iteratively with a gains-versus-loss analysis that is performed for each potential hazard. The gains vs. loss analysis involves

determining for each hazard, how much effort/resources must be directed towards mitigating a potential threat, versus the cost involved in doing nothing. On the basis of this iterative prioritization and gains-loss analysis, specific risks are selected for which a control must be developed.

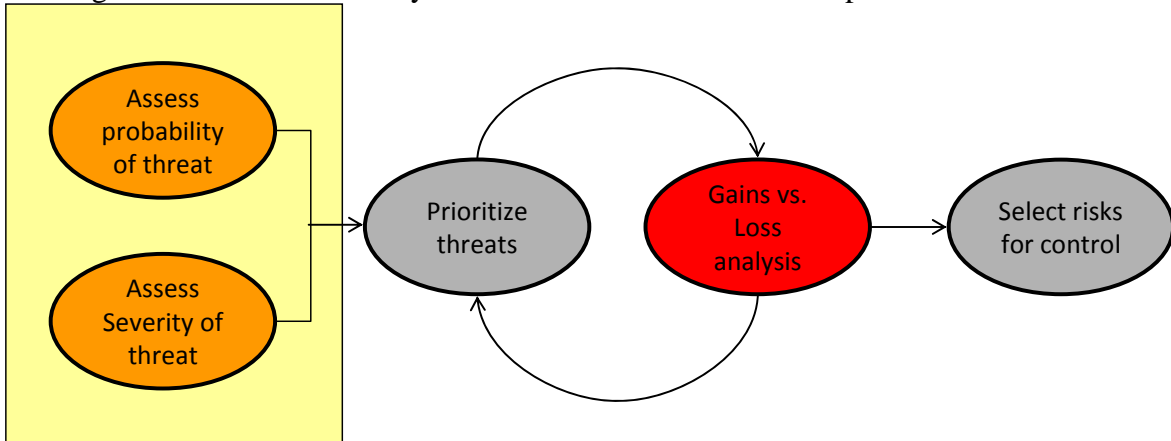


Fig. 4 Task Diagram for Assess Hazard

All these information have to find the place in improvement of preparation and training participation of missions [5].

Training

- The system has to provide two kinds of training: training for the use of SIMS and training and mission planning (Figure 5).
- The system must support training the user for planning at operational and tactical level.
- The system must support training the user for execution mission at operational and tactical level.
- The system must provide guidelines and methods for training associated to

the mission planning for asymmetric threat defense.

- The system has to provide training for creating plans, depending on the user role in the planning process for each level (e. g. logistic, force protection).

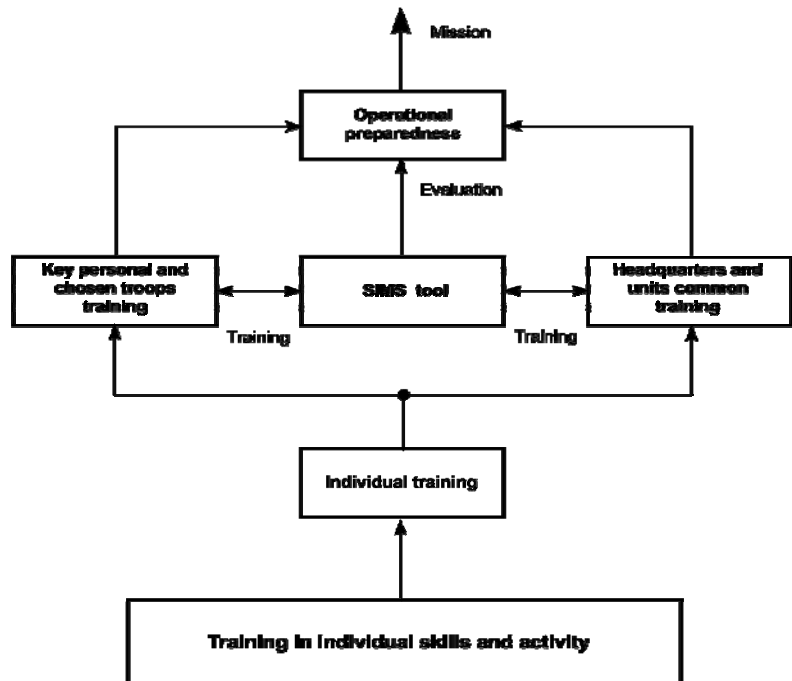


Fig. 5 SIMS in training.



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- The system must provide different modes of training.
 - The system has to provide the exercise mode (possibility to correct and without time limit).
 - The system has to provide the test mode (limited time without correction).
 - The system has to allow conducting individual training courses.
 - The system has to allow conducting training courses in groups.
- The system must provide integration between training methods, tools, etc in order to provide a common training environment.
- The system has to provide hints on every stage of training.
- The system has to provide simulation environment for training.
 - The system should support dynamic changes in the tasks included in the plan.
 - The system should support dynamic changes in the tasks included in the plan in real-time mode.
 - The system should support dynamic changes in the tasks included in the plan in accelerated mode.
 - The system should support interactive simulation.
- The system should provide methods for evaluating the training.

Conclusion

The SIMS project with all parts - research activity, threat and knowledge database, computer tool for planning, execution and training for mission have to have only one basic idea - improvement of mission participant's safety. For recency using information we have to up-to-date change information in knowledge database. From that reason is research in army - participation of mission very important and it has still place in history, present time and to future too.

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