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## Insight into contemporary operational environment

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## INSIGHT INTO CONTEMPORARY OPERATIONAL ENVIRONMENT

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### ABSTRACT

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The article is focused on the analysis of the contemporary operational environment, which is perceived as part of the wider security environment. The current operational environment is characterized as complex, dynamically changing and unpredictable. A systematic approach to the operational environment defines a set of its determining elements and their functional links. In the operational environment are additionally specified operational areas for individual commanders. Set of operational and mission variables allows the commanders to perform a comprehensive analysis and evaluation of these operational areas.

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Operational environment is a phenomenon that has a key impact not only on the planning and conducting of specific military operations, but also significantly affects military science (theory of military art, theory of building armed forces and other science components). Military art and military science are thus determined by the operational environment.

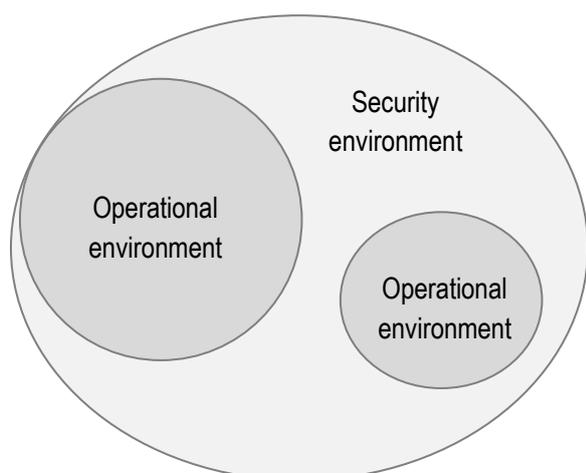
The current operational environment is characterized as complex and dynamically changing. Understanding of its structure, the relationship between its elements and drivers of the conflict is the principal prerequisite for effective military response to crisis resolution. From this aspect, there must also be a focus on related concepts such as the security environment, area of operations and other various operational areas.

### THE RELATIONSHIP BETWEEN OPERATIONAL ENVIRONMENT AND SECURITY ENVIRONMENT

In a simplified way, it is possible to express that the operational environment is a partial element of the security environment. Within the security environment can be defined one or more operational environments (Figure 1). This fact is supported by the ambition and ability of major security actors to operate simultaneously in several operations and missions. An example is the UN, which is currently leading 16 peacekeeping operations<sup>1</sup> in diverse parts of the world, thus in various and greatly different operational areas of global security environment.

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<sup>1</sup>Source:  
<http://www.un.org/en/peacekeeping/operations/current.shtml>.



**Figure 1** Operational environment affiliation to the security environment<sup>2</sup>

Although the term security environment is commonly recognized, it lacks a clear definition. Available descriptions differ particularly in level of complexity. In many cases, »there is still overestimation or underestimation of certain sectors of the security environment, schematic classification of threats as internal and external, respectively, military and non-military«<sup>3</sup>. For example, characteristic, where the security environment is »external environment affecting the state security policy and can be understood as the space outside national borders in which the interests of the state with those of other actors in international relations meets«<sup>4</sup>, is aimed only at external environment dimension. A comparable approach is presented also by the Czech security community, when »the security

environment is understood as an environment that is situated outside the state or the states association. In contrast to an environment that extends inside the fully sovereign states it is more unknown and with reduced possibility of control«<sup>5</sup>.

The security environment is always related to a reference social subject, which may be a single state, group of states in a form of political and economic union (e. g. the European Union), an alliance (e. g. NATO) or other possibly multinational groupings. If we rely on the definition of the security environment as »the environment in which the reference social subject pursues its security interests in interaction with sources (bearers) of the security threats«<sup>6</sup>, we must necessarily accept the internal geographical dimension of the reference subject. The current security crises are evidence of this. For example, the activities of the separatists in the eastern Ukraine, which directly undermine the territorial integrity of the country, one of the main security interests of the state, are relating to the internal security environment of Ukraine. In the case of NATO, in terms of collective defence, a territory of the members' states is the primary security environment.

In order to evaluate the security environment (its reflection and prediction), with respect to the reference subject, shall be accepted its division into:

- internal, with its natural and social factor,

<sup>2</sup> Similar description is introduced in the article KRÁSNÝ, A., SOCHA, O., *Operační prostředí*, „Vojenské rozhledy“, 2007, no. 2, p. 54.

<sup>3</sup> LAML, R., *Prístupy k hodnoteniu bezpečnostného prostredia*, [in:] *Security forum 2013*, Univerzita Mateja Bela, Banská Bystrica, 2013, pp. 183 - 191. ISBN 978-80-557-0496-8.

<sup>4</sup> *Vojenský terminologický slovník ozbrojených síl Slovenskej republiky*. Generálny štáb OS SR, Bratislava, 2008, p. 7.

<sup>5</sup> ZEMAN, P., et al. *Česká bezpečnostní terminologie*. [in:]. *Perspektivy vývoje bezpečnostní situace, vojenství a obranných systémů do roku 2015 s výhledem do roku 2025*, Ústav strategických studií vojenské akademie v Brně, Brno, 2002, p. 24.

<sup>6</sup> ŽÍDEK, R., CIBÁKOVÁ, S., *Bezpečnosť štátu*, Akadémia ozbrojených síl generála M. R. Štefánika, Liptovský Mikuláš, 2009, p. 39.

- external, that given the geographical area is specified as global, regional and local.<sup>7</sup>

Spatial dimension duality of the security environment is also clear from the definition of the security environment as »part of the social and natural environment in which the conditions of existence and development of social objects, their activities, interests and relationships are determined primarily by security«<sup>8</sup>. In that definition, the spatial aspect (inside or outside of the reference entity) is perceived comprehensively.

In formulating the relationship between operational and security environment can be stated that commanders at all levels are planning and conducting their operations in their specific operational environment. This operational environment does not reflect only an isolated condition of variable factors interactions that occur in a specific operational area. It includes the interrelated impacts of the security environment that directly affect conditions in the operational area. As the operational area of lower commander is a part the higher commander's operational area, the operational environment at all levels is a component of a wider (regional or even global) security environment, which generally affects all military operations.<sup>9</sup>

## OPERATIONAL ENVIRONMENT ANALYSIS

In the current NATO doctrinal stance, an operational environment analysis is a part of a more complex activity referred to as the knowledge development. It is one of four main and interrelated functions, rendering the effective realization of military operations (Figure 2).

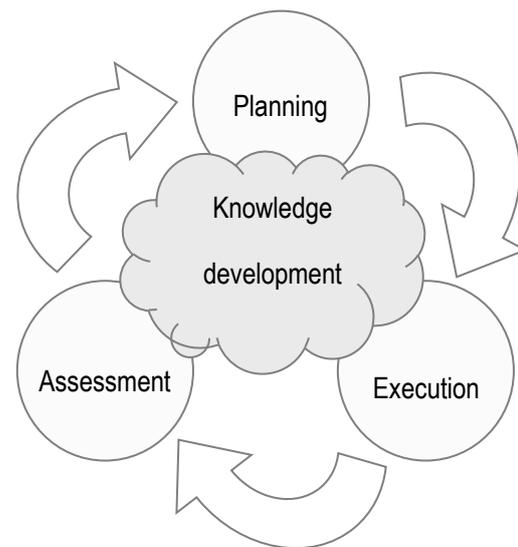


Figure 2 The main functions of an operations process<sup>10</sup>

The knowledge development plays a central role. New findings may at any stage of the operations process necessitate immediate adaptation of other functions. The knowledge development consists of three key steps. They are analysis, collection and provision of the information. The purpose of analysis is to put information into context and then draw conclusions, deductions or implications.<sup>11</sup>

The alliance documents provide relatively austere definition of the operational environment in the form of »a composite of the conditions, circumstances and influences

<sup>7</sup> LIMAŃKI, A., OLAK, A., DRABIK, I., *Redefinicja zakresu przedmiotowego bezpieczeństwa państwa we współczesnych stosunkach międzynarodowych – wielowymiarowość bezpieczeństwa*. [in:] *Národná a medzinárodná bezpečnosť 2012*, Akadémia ozbrojených síl generála M. R. Štefánika, Liptovský Mikuláš, 2012, pp. 317 – 329. ISBN 978-80-8040-4508-5.

<sup>8</sup> HOFREITER, L. *Securitológia*, Akadémia ozbrojených síl generála M. R. Štefánika Liptovský Mikuláš, 2006, p. 57.

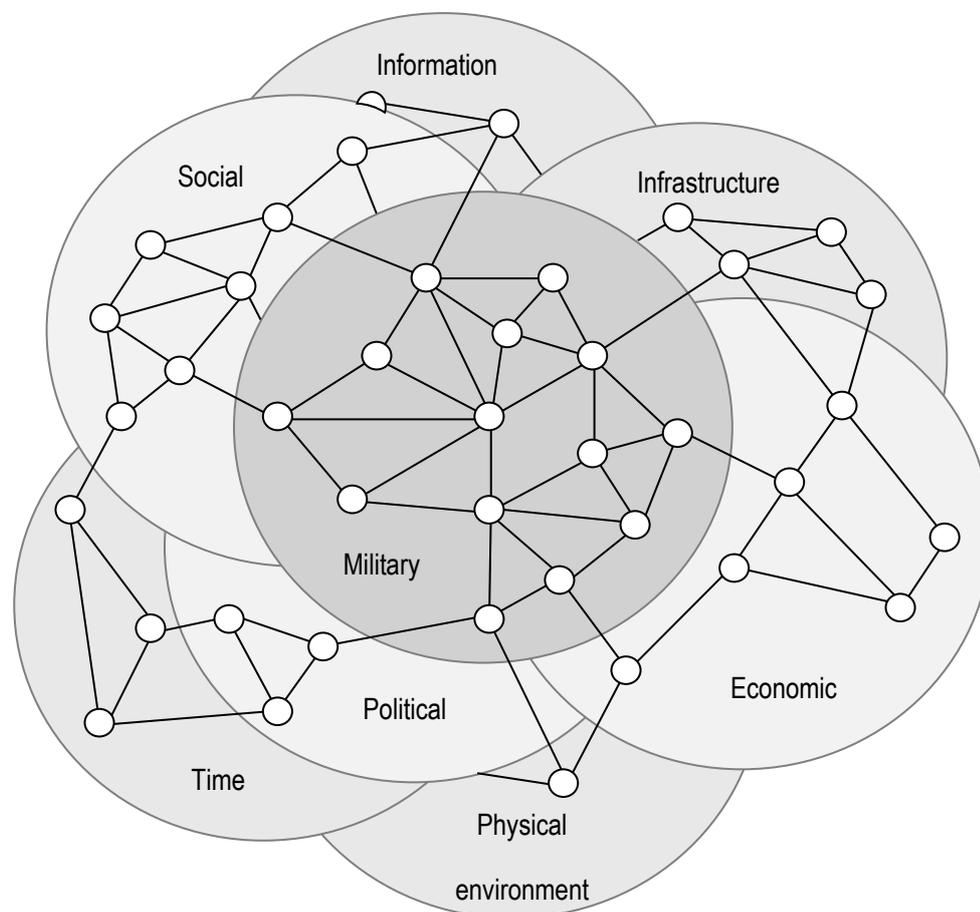
<sup>9</sup> ADRP 3-0. *Unified Land Operations*. Headquarters, Department of the Army, Washington, DC, 2012, p. 1-1.

<sup>10</sup> Source: Bi-Strategic Command, *Bi-SC Input to a New NATO Capstone Concept for the Military Contribution to Countering Hybrid Threats*, NATO Headquarters, Brussels, 2010, p. ix.

<sup>11</sup> *Ibidem*, p. ix.

that affect the employment of capabilities and bear on the decisions of the commander<sup>12</sup>. Despite the short definition, the general perception of the operational environment is considerably more complicated. Operational environment consists of the physical domains of land, air, maritime, space and cyberspace environment. In addition to physical areas it is associated with social systems that may be hostile, neutral or friendly. Basically operational environment is »a system of systems in which different actors interact

within the operational environment in pursuit of their interests<sup>13</sup>. For the purpose of complex analysis and involvement with all relevant areas of an operational environment, commanders and staffs use the operational variables. These represent subsystems of an operational environment. Analysis focuses on the determination of important and critical links in the internal structure of individual subsystems of an operational environment as well as the links between these subsystems.



**Figure 3** Internal and external relations between the operational environment subsystems

<sup>12</sup> AAP-6 NATO Glossary of Terms and Definitions (English and French), NATO Headquarters – NSA, Brussels, 2013, p. 2-O-3. The same definition states JP 1-02 Department of Defense Dictionary of Military and Associated Terms, The Joint Staff, J-7, Directorate for Joint Force Development, Washington DC, 2014, p. 195.

<sup>13</sup> Bi-Strategic Command, Knowledge Development (Pre-Doctrinal Handbook), NATO Headquarters, Brussels, 2010, p. 2.

Overall, the operational variables are segmented into eight categories: political, military, economic, social, information, infrastructure, physical environment, time. To designate them an acronym PMESII-PT is Political subsystem expresses how the responsibilities and authority at all levels of management are divided. It includes formal and informal institutions as well as hidden subjects which have political power. Political subsystem components are represented primarily by the government, various social, religious and tribal groups. The political variables are affected by many internal and external hostile groups as well as neighbouring countries.

Analysis of the military subsystem focuses on military and paramilitary capabilities of the relevant state and non-state actors. The military dimension is also influenced by other security tools such as police, coastal and border guards, private activities within the international arena. Coalition forces must »focus attention on the implementation of information activities as part of the framework of a comprehensive effort using the prevailing positive information«<sup>14</sup>. On the other hand, it is necessary to prevent an adversary from abusing the information resources and negative disinformation.

Infrastructure is represented by material and technical facilities required for the society functioning. Analysis should focus on the urban areas, the density and character of the buildings, transport links, and other energy facilities.

The physical environment includes landscape, the overall climatic conditions and specific weather. The analysis examines their impact on the deployment of military capabilities in the area of operations.

Time dispositions determine the planning and execution of military activities. Perception of the importance of time may vary

security services, and others.

Economic conditions may cause that states are in unstable situation. Large economic disparities in the region may cause an increase in tensions between the countries. Dependence on external energy and material resources may have a negative and devastating impact on economy. Energy policy is becoming an important tool for enforcing own security interests in the international arena.

Social subsystem is specified by cultural, religious and ethnic composition of the population. It reflects the beliefs, values, habits and behaviour of social groups. Social impacts need to be analysed in terms of demographic structure of the local population, ethnic and religious diversity, and level of education, human rights, and other criminal activities.

Information subsystem guarantees the transparency of all operational with different actors, given their cultural traditions and values.

An analysis at the tactical level applies tactical i.e. mission variables, which use information from the analysis of operational variables, but they are utilized only to that part of operational environment, where is localized an area of operations. The analysis examines the impact of mission variables on the task accomplishment. Mission variables are labelled in English acronym METT-TC and consist of the following categories: mission, enemy, terrain and weather, troops and support available, time available and civil consideration.

For a commander and his staff, the mission represents a determining tactical variable. A mission is »a clear, concise statement of the task of the command and its purpose«<sup>15</sup>. Mission is formulated in the form of who, what, when, where and why has to

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<sup>14</sup> SVD 30-44 *Vedenie operácií proti povstaniu (COIN)*, Generálny štáb OS SR, Bratislava, 2011, p. 28.

<sup>15</sup> AAP-6 *NATO Glossary of Terms and Definitions (English and French)*, NATO Headquarters – NSA, Brussels, 2013, p. 2-M-8.

execute.<sup>16</sup>

The second tactical variable specifies the enemy, its organization, objectives, probable course of action, equipment, its strengths and weaknesses. Currently, when the mission is often aimed at the stability tactical tasks execution, thus not offensive or defensive actions, an enemy must be seen from a broader perspective. For example, when intervening forces execute tasks of peace support, their impartiality is a determining requirement. Therefore, it is appropriate to consider this tactical variables rather as an adversary. An adversary activity, regard to their variability and implementation across all dimensions of an operational environment (for example, in cyberspace), are called as hybrid threats. Hybrid threats are presented by adversaries (including state actors, rough states, non-state actors or terrorist organizations) who have the ability of adaptive and simultaneous exercise of conventional and unconventional means to achieve their goals.<sup>17</sup>

Analogously to the physical environment that is an operational variable, but in a narrower and more specific scope, variables terrain and weather analyses their impact on the military operations execution.

Aspects of the terrain affect the possibility of observation and fields of fire, avenues of approach, key and decisive terrain, obstacles, cover and concealment. The military aspects of weather include visibility (darkness, fog, mist, etc.), wind, precipitation (rain, snow), clouds, temperature

and humidity.<sup>18</sup>

Troops and support available variable analyses number and type of other friendly units which can provide combat support or combat service.

A commander assesses comprehensively the time required for planning, preparation and execution of the operation. Timeline disposition may lead to revision of previous decisions.

Civilian considerations encompass all civilian aspects that could affect the operation. This applies to assessing the impact of civilian institutions and civilian authorities and opinion and reactions of the local population. Examples may be the migration of refugees, requirements for humanitarian assistance or specific restrictions given by the rules of engagement.<sup>19</sup>

When analysing the operational environment, it is necessary to accept the value and habits of other actors in the conflict. In implementing comprehensive approach to crisis management, this fact is particularly acute. Consistent understanding of the operational environment, labelled as the common operational picture, is a prerequisite for the proper setting the targets and the end state of operation.

## **GEOGRAPHIC AREAS OF THE OPERATIONAL ENVIRONMENT**

Planning, management and execution of military operations, provides hierarchical organizational structure. Its levels are specified as military-strategic, operational and tactical. Within the operational environment, with respect to the delegated responsibility in performing tasks, geographic location and the nature of the conflict, the permanent and

<sup>16</sup> This procedure is referred to as the rule "5W". A superior commander does not prescribe the way of the mission execution. In the context of the mission command this competence is left to the relevant commander at the tactical level.

<sup>17</sup> Bi-Strategic Command, *Bi-SC Input to a New NATO Capstone Concept for the Military Contribution to Countering Hybrid Threats*, NATO Headquarters, Brussels, 2010, p. 2.

<sup>18</sup> ADRP 5-0 *The operations process*, Headquarters, Department of the Army, Washington, DC, 2012, p. 1-9.

<sup>19</sup> SPILÝ, P., HNČIAR, M., *Vojenská taktika*, Akadémia ozbrojených síl generála M. R. Štefánika, Liptovský Mikuláš, 2013, p. 50. ISBN 978-80-8040-471-0.

temporary operational areas are defined. These areas, which differ mainly in parameters such as size and duration, are assigned to each military level. Interconnected system of operational areas is a prerequisite for effective coordination of tactical activities during joint operations<sup>20</sup>.

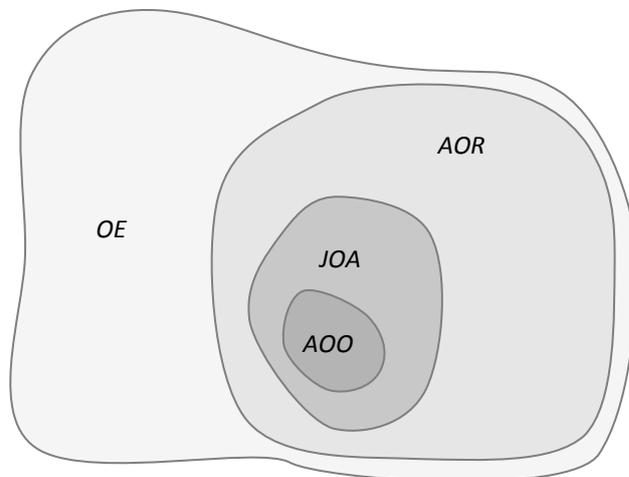
Joint operations are directed at the military-strategic level. Strategic commander<sup>21</sup> has assigned a permanent area of responsibility. This area of the NATO strategic commander for operations consists of all NATO members' states territory. The NATO strategic commander is also responsible for NATO operations beyond Alliance territory, that is, the area of responsibility is temporarily increased. The situation is different in the U.S. where the strategic commander has assigned one of the six geographic areas of

responsibility, which are set by the U.S. President. These areas cover the entire globe. At the operational level the NATO strategic commander defines joint operational area as temporary and contingency or mission specific. In terms of NATO this area is associated with combined joint task force operations.<sup>22</sup>

A tactical commander has assigned an area of operations, which is »defined by the joint force commander within a joint operations area for the conduct of specific military activities«<sup>23</sup>.

The geometry of the operational environment is schematically illustrated in Figure 4.

**OE** – operational environment,  
**AOR** – area of responsibility,  
**JOA** – joint operational area,  
**AOO** – area of operations



**Figure 4** The geometry of the operational environment (variant)

<sup>20</sup> Joint operations are executed by several types of forces (such as land, air and sea). Combined joint operations are performed by several kinds of the alliance's or coalition's forces.

<sup>21</sup> The strategic commander of NATO's Allied operations is the Supreme Allied Commander, Europe (SECEUR). In the U.S. is a position of a strategic commander performing by the Combatant Commander (CCDR).

<sup>22</sup> AAP-6 *NATO Glossary of Terms and Definitions (English and French)*, NATO Headquarters – NSA, Brussels, 2013, p. 2-J-1.

<sup>23</sup> *Ibidem*, p. 2-A-18.

The main aim of dividing the operating environment into respective operational areas is the setting of clear responsibilities for planning and execution of operations. Commanders at each level are eligible for command and control of all military activities in their operational areas.

## CONCLUSION

Operational environment is a multidimensional system. Understanding its structure and internal and external links determines the success of the operation. The current operational environment is complex and dynamically changing. Predict its development in a wider time frame is very difficult if not unrealistic. An example is the hectic development of the security situation in Ukraine, which could unfortunately result in large-scale conflict. On the contrary, security strategy of the Alliance as well as of the most of NATO countries claim that in the medium term there is no probability of an open armed conflict on their own territory. Reality is always unpredictable and often precedes theory and assumptions based on judgment.

Operational environment is understood as part of wider security environment. For effective analysis of various factors of the operational environment a set of the operational and mission variables are used. This system theoretically guarantees that the evaluation process will be complex. Defined operational environment is spatially further hierarchically divided into different operational areas. Commanders, at all military levels, are responsible for comprehensive preparation and execution of operations in these areas. Therefore they must have a necessary level of knowledge of the causes and drivers of the conflict.

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