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Military Operating Concepts Development

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Foreword

This book “Military Operating Concepts Development” is one of the outcomes of the Defense Research Project, addressed by a team of authors from the Department of Lifelong Learning, Faculty of Economics and Management, University of Defense. The Defense Research Project “OPERKON – Operating Concepts of the Armed Forces of the Czech Republic in Joint Operations” was supported by the Ministry of Defense (MoD) of the Czech Republic. The objective of the project was to develop a methodology of the operating concepts development as documents of a long-term nature impacting the building and development of the Armed Forces of the Czech Republic.

Based on the analysis of the concepts for employment of the armed forces and the approaches to their development applied by selected countries, the authors aimed to provide the readers the book discussing the systemization of military concepts, their purpose, background and project management development.

The book is divided into three chapters. In the first chapter, Operating Concepts, the authors discuss the essence of operating concepts, their typology and structure. The managing inputs and background are very important for the preparation of the operating concepts development. They are primarily given by the national and international political and strategic documents. Furthermore, it is necessary to define the situation and development trends in the security and operational environment. Understanding the relationship between the political strategic document, security and operational environment and operating concepts is crucial for their successful development and use in the process of building and developing the armed forces.

In the second chapter, Operating Concepts and Defense Planning, the authors define the relationship between the operating concepts and the defense planning process. They clarify the operating concept application issues in the process of the armed forces development and the preparation of doctrinal documents as well as relationship between the operating concepts and official departmental acts and directives.
In the third chapter, Development of Operating Concepts, the authors describe the project management behind the development and updating of operating concepts. Nevertheless, the project management needs to be understood both from the actual management of the concept development perspective and from the competence and responsibility of the organizational elements within the Department of Defense. This chapter explains the operational analysis and research principles within the development of operating concepts.

The target group of this book is primarily the management staff and experts who are involved in the concepts development, either related to the use of allocated resources (concepts of forces employment), their internal function (functional concepts) or organization and building of organizational entities (institutional concepts). The development of the operating concepts is a complex process largely based on empiric research. Therefore, this book may not, nor was it the intention of the authors, cover all areas of this complex process. The specific procedures of the concept development must be defined separately for each organizational entity, based on its mission, objectives, personnel structure and internal processes. The objective of this book is to provide a basic overview of the mission and operating concepts development in relation to the management of building, development and the armed forces employment.

From the team of authors,
Ivo PIKNER
Introduction

The primary objective of defense planners is to design and develop military tools that may be applied quickly and efficiently in the entire spectrum of possible scenarios and situations for protection and achieving vital interests, while respecting real economic capabilities. The scenarios assign different tasks for the military tools and thus require different methods of use and capabilities of the armed forces. Simultaneously, planning the design and development of the military tools for future use may not disrupt the present preparation and readiness of these tools. The planning situation descriptions, threat scenarios to vital interests and future methods of military tool applications, with an outlook of 20 or more years, are a necessity, resulting from the high requirements imposed on resources necessary to develop the military tools and to prepare a country for these types of situations. Therefore, it is necessary to be concerned with operating concepts. Using them we may predict, with an acceptable level of probability, for which tasks and how we will use the military tools. This will allow us to better allocate the available resources for developing the military capabilities in the defense planning processes.

![Diagram: Description of the future security environment](Johnson, p. 135)

Decision making about future operating capabilities based on developed operating concepts concerns decision making under uncertainty. The decision making methods under uncertainty are described in literature. If the state is to cope, while planning defense, with the uncertainty and unforeseen situations (shock) in the future, then it is best to follow the
scheme in Figure 1, representing the most general philosophical approach to planning the development and use of military tools.

Johnson (p. 134-138) says that at first it is necessary to describe the security and operational environment, using documents such as national security strategies, national military strategy (defense strategy) and a number of intelligence and expert research studies focusing on this topic. However, it is necessary to select what is relevant considering the topic and contents of the operating concept under preparation.

Then it is necessary to identify the factors of the security situation, future development of which is uncertain and impact of which on the achievement of national vital interests and important is unknown. This identifies uncertain as “unknown” and uncertain as “not certain what the development will be”. The given factors may be described as the so-called labels (vignette), describing the problem, or scenarios, specifying the development options of the given factor. Out of these selected possible problems, there are those that may potentially require the use of military tools.

This analysis serves as a basis for the preparation of a strategy for the future without surprises, i.e. how will the factors develop according to the opinion of the concept’s authors. Subsequently, this strategy is then developed into various activities (partial strategies) addressing the expected options of the factor development (uncertainty). In the third step, borderline situations are identified and various activities dealing with these situations are prepared. They concern security situation factors and their development, which may seem completely unreal but, nevertheless, they may not be ruled out. The fourth and very important step concerns the preparation of a strategy designed to influence the security environment to develop and behave in a manner preventing negative development (risk) options and avoiding the establishment of conditions for borderline situations (shocks).

The scenarios identified above may be simply described in six principal characteristics (Johnson, p. 146-147):

1. Political-military scenario (situation requiring the use of military tools);
2. Enemy forces;
3. Objectives, strategies and tactics of use of the armed forces by the enemy;
4. Force effectiveness (possible criteria of success);
5. Security (operational) environment;
6. Other modeling assumptions for the given scenario.

Upon preparing the operating concept it is always necessary to keep the political perspective in mind. For example, if the political requirement is to conduct an expeditionary campaign, then it is necessary to get ready for an asymmetric opponent who will be in defense. If the political requirement is to defend against an enemy intending to occupy own territory and make the opponent to submit to their interests, then it might be the defender who conducts the asymmetric war, or the defender will have to possess the same or larger capabilities as the potential enemy.

The preparation and application of operating concepts in the process of defense planning is vital since it generates conditions for the efficient use of military tools. The operating concepts directly define how to use the tools to achieve the political goals – the country’s political military ambitions. In this respect, the operating concepts also represent an input for acquisition processes. This role of the operating concepts may be exercised only under the prerequisite of them having a purpose-based architecture and being managed in the long run with the objective in mind. In other words, a simple and flexible system of their preparation and revision needs to be in place.
Chapter 1
OPERATING CONCEPTS

“The first task of strategy is the final assembly (Bereitstellung) of the fighting forces, the first deployment of the army. Here, multifarious political, geographic, and national considerations come into question.”

Helmuth von Moltke, On Strategy (1871, Hughes, p. 49)

Essence of Military Concepts

Military concepts usually describe the methods, techniques and plans to use the military capabilities in order to achieve the set objectives or goals. The scope of this description may vary, from comprehensive to concise, from describing the actions of the military forces in the most general terms and at the highest strategic level to the specification of the action of a specific technological system or use of a specific training methods.

Typology of Military Concepts

In respect to the concept typology it is necessary to emphasize the meaning behind “military concepts” – it is the highest degree of generality including operating as well as developing, institutional and other concepts, from the strategic down to the operating and tactical level. Military concepts are hierarchically organized while the placement of the concept within the hierarchy depends on its degree of generality. There are a number of options allowing classification of military concepts. In terms of hierarchy Schmitt (2002) defines the following four basic degrees of military concepts:

- Institutional concepts, describing the organization and materially technical facilities of a military institution;
- Operating concepts, describing the method of employment of the military forces;
- Functional concepts, describing the activity (performance, behavior) of the individual military functions and sub-functions;
- **Enabling (integrating) concepts**, describing the capabilities required for the activity of the military functions and sub-functions.

There is a subordinate, superior, correlative or substitute relationship between the military concepts. Subordinate concepts are developed when a more detailed and closer standpoint (advice, opinion) is needed than what the higher (superior) concept may provide, see Figure 2.

The concepts discussing a rather specific subject with a narrower (more detailed, more limited) topic may be described as lower level concepts. Such a concept describes in greater detail the subset of problems of the respective area analyzed in the higher level concept using more general terms. The lower level concepts must be compatible with the higher level concepts that they are subordinated to. While the higher level concepts generally manage the development of the lower level concepts, it should be apparent that the influence may also work in the opposite direction. A breakthrough lower level concept may result in the necessity to review the conclusions of the higher level concepts.

Likewise, the operating concepts are hierarchical and if, with respect to the level of war, it is necessary, they may be further classified. From the higher level to the lower level there are strategic concepts, operational concepts and tactical concepts.
### Figure 2 Hierarchy of military concepts
*(authors Galatik, Pikner, Spisak, s. 12)*

A hierarchy also exists within each type of operating concept. For example, a tactical concept describing the performance of a wide range of tactical activities in a broader sense, such as employment of force component, is of a higher level and provides more general authoritative instruction than a tactical concept describing specific types of tactical activities in greater detail, such as the use of a force protection at the tactical level.

### Institutional Concepts

Institutional concepts rank the highest within all military concepts. The institutional concepts provide a description of the higher level features and the functioning of a military institution or institutions. They are based on security and defense policy strategic documents (e.g. Security Strategy,
Defense Strategy). They provide contents (context) and give advice to all other military concepts. Institutional concepts are also frequently made public and are presented (promulgated) as the vision statement covering a specific future time horizon.

**Functional Concepts**

Functional concepts describe the performance (execution, demonstration) of a specialized military area (such as logistics, crisis planning or targeting) in a broader operational context. At present, the majority of armed forces have adopted a number of functional concepts, such as a command and control concept, intelligence preparation of the battlefield, logistics concept, Network Enabled Capability, etc. The concepts stipulated in the Joint Vision 2020 may serve as an example of future functional concepts – dominant maneuver, precision engagement, focused logistics and full dimensional protection.

Functional concepts are linked to the operating concepts, which support them and help the harmonization in a wider context. The functional concepts may be specifically aimed at particular operating concepts or they may support numerous other operating concepts to the same degree.

Functional concepts are subordinate and support the operating concepts. They may be hierarchical, with some degree of description of the entire functional areas in general terms, or describe sub-functions or even individual tasks within these sub-functions using a specific language (terminology).

**Enabling (integrating) Concepts**

Enabling (sometimes also called integrating) concepts describe how the individual (specific) task or procedure should be carried out by applying a particular capability, such as a specific technology, training or educational program, organization or equipment. The concept describing the use of technology for battlefield visualization which may represent an enabling concept for the functional command and control concept may be used as an example. The enabling concepts, as far as the terminology is concerned, are the most specific ones out of all military concepts. The level of the conveyed information should be sufficient for the direct specification of military requirements (for modernization, equipment, armament…).
Operating Concepts

Military concepts describe a wide range of military actions. In the broader sense, they describe what should be done in a respective situation and how it should be done, in terms of a military action. It means how the military forces will be employed. In literature we may find terms “Operational Concept” or “Operating Concept”; both with the same contextual meaning.

An operating concept is, in the broader sense, an expression of an opinion about the method of employment of troops. It is created under the application of military science and military art within a certain set of parameters given by the background and inputs for the development of the respective concept. Most simply put, it describes how the armed forces operate (function). The operating concept represents the basic idea for the conduct of future operations by the armed forces and their units. They are one of the bases for defining necessary capabilities enabling the conduct of operations against an enemy in an expected operational environment. These concepts describe how commanders, applying military science and military art, can use the defined capabilities to achieve the set of military goals (TRADOC, s. 28). The system of operating concepts may not separately address just one functional area or activity in the battlefield, such as sustainability, intelligence, fires or maneuver. In this sense the system of military concepts needs to be comprehensive and interrelated, see Figure 3.

![Figure 3 Joint Concept Family Relationship](author Pikner)
Operating Concept’s Attributes

An operating concept discusses the principles and basic ideas rather than details. It covers more general cases rather than particular situations. It needs to be further developed in subsequent documents. Additionally, it also requires an extensive interpretation in practice.

The NATO Glossary of Terms and Definitions AAP-6 defines the concept as a notion or a statement of an idea, expressing how something might be done or accomplished. The Canadian Experimentation Centre defines a concept as a problem identification and hypothesis how to solve the problem. The method of problem solution may be innovative, evolutional or revolutionary, leading to the development of new military forces, implementation of new technologies, organizational structures or processes.

Each operating concept has its own attributes. Attributes are not individual structural parts being discussed by the concept. They rather represent qualitative characteristics that the concept aims to achieve.

The main feature of an operating concept rests in the fact that they serve their purpose. It means they describe a specific problem addressed in the concept and provide conclusions relevant to the addressed decision making problem of development or employment of military tools. This description should be sufficiently specific to allow its implementation, however, not too narrow as then it would not give enough scope for creativity and invention. The goal of the concept development is not to elaborate an acceptable document but to propose, impartially verify and justify the concept of the employment of military tools. Only after the concept is objectively verified, may it be applied in the defense planning.

The operating concepts are not created just for having them; they are designed to support the thinking how to use the troops in combat. As such they should use comprehensible and terminologically correct language. The operating concepts should be written in a language that emphasizes argumentation.
The development of an operating concept starts with expressing the initial hypothesis that is to be verified and supported with arguments in the course of the process. The concept should be comparable to historical and experimental examples. A newly proposed operating concept does not automatically guarantee its acceptance. It may be accepted with lack of confidence. Therefore, it needs to reflect the depth of the thinking and research. A concept should use a language fully respecting the hypothetical and empirical nature of the statements. A good concept is written in a language allowing as well as evoking critical views.

Operating concepts should be clearly distinguished from other concepts. This may be achieved by describing one operational problem and options for its solution. The main differentiating elements in the concepts include a planning situation definition and scenario description, main hypothesis of the forces employment and the description of the integrated application of the military functions under the given scenario. In this respect a comprehensible description is better than numerous details, distracting the attention from the principal arguments confirming the main hypothesis of the forces employment. A concept may also be differentiated by its explicit comparison to and contrasting from other historical, present or future concepts. Sometimes it may be more comprehensible to describe the new concept in relation to a known one. In this way, it may emphasize its distinctness in terms of the scenario and methods of the forces employment.

Future operating concepts should refer to other concepts addressing the operational problems within the same conceptual scope. These relationships may then express subsidiarity, superiority, correlation, substitution or competition:

- **Subsidiarity** – description of one part of a higher level concept in greater detail;
- **Superiority** – planning situations and scenarios are elaborated in one or more lower level concepts;
- **Correlation** – in general, at the same level as other concepts, elaborating a different scenario of a planning situation, employment of different type of forces or operational function;
- **Substitution** – following another concept or replacing this concept;

- **Competition** – offering an alternative approach to a solution than another concept.

The operating concepts should use correct terminology. Any invented terms, attractive words and definitions or new terms should be avoided. New terms need to be accurately defined when used for the first time and then used correctly and consistently. Simultaneously, concepts should not include unknown or infrequently used abbreviations. In the concepts, unconventionally worded technical phrases and artistic descriptions should also be avoided.

Operating concepts should be brief in order to ensure that the ideas may be fully and correctly absorbed and kept in mind during their implementation. They should only provide as much explanation as necessary to meet the given purpose. Redundant explanations rarely improve better understanding of the problem. Compound language and sentence structure rather deviate the attention from the pivotal idea. A concept should bring new ideas and justify them with arguments. Despite the non-existence of any set rules, in terms of extent a concept is usually elaborated on 20-30 pages. A concept that is significantly longer contains too many details or addresses areas that should be elaborated in subordinate concepts.

An open and meaningful discussion is the principal prerequisite of the concept development process. Operating concepts should promote and stimulate expert discussion. Discussion is a tool used to define, verify and accept concepts. Concepts may stimulate discussion by being purposeful, comprehensible, objective, differentiated, interlinked with other concepts, terminologically correct and concise.

Operating concepts should reflect the opinions and experience derived from military history, even if a “revolutionary” departure from historical examples may be the result. (Galatík, Pikner, etc.)
Concepts are rarely based on abstract theoretical assumptions. Hypotheses about the future are usually defined based on practical experience and lessons learned. History represents the main resource for studying and understanding military affairs. A concept that ignores the warfare lessons learned loses its credibility. Concepts should reflect the understanding of its own evolution as well as of previous concepts. History offers many perspectives of employment of the armed forces, describing factors which may be, at present and in the future, perceived as unique.

Changes occurring in the security and operational environment do not necessarily have to predetermine that the new concept will be revolutionary. New approaches to the armed forces development and employment as a whole may be evolutionary as well as revolutionary. Evolutionary operating concepts are usually the standard. Unjustified requirements placed on the breakthrough revolutionary nature of a concept may damage its credibility. However, it does not mean that new ideas and approaches to a problem solution should not be subjected to investigation, especially at the beginning of the concept development when the objective is to discover new opportunities. Understanding historic context enables to see the changes in the world. An objective assessment of history may help identify newly emerging technological or other epochal progressive changes.

A systemic organization of assumptions about the nature of war and successful conduct of military actions forms the foundation of operating concepts. These assumptions may clearly be expressed in the concept or they may result from it. The assumptions in the concept have to be expressed as a hypothesis, constants or variables and have to be sufficiently supported with arguments. The assumptions expressed in this manner establish the necessary basis for the operating concepts.

The scope of assumptions may be, to a certain degree, unlimited or partially or specifically limited. The less limiting the assumptions are, the wider the subject of the concept. The more limiting the assumptions are, the more specific the title of the concept needs to be. A systemic organization of assumption reflects the following decisive factors:

a. Mission type

Operating concepts may address one type of mission or a whole category of mission types. In other words, there may be different operating concepts
for strategic deterrence, maintaining the peace, stabilization operations, regional unconventional war, etc.

b. Operational environment

Operational environmental conditions influences the conduct of Operations; the operating concepts may be classified by this environment, which results in the development of operating concepts for desert operations, low altitude air operations, military operations in urban areas, landing operations, etc.

c. Types of forces

If the specific type of forces is critical for the conduct of operations, the operating concepts may be classified based on these types. Then there are operating concepts for anti-submarine operations, air raid operations, mechanized troops operations, anti-ballistic missiles defense operations, etc.

d. War level

Should the operating concept be related to a specific level of war and should the specifics of this level represent a decisive feature of the concept, the concepts may be classified as strategic, operational or tactical. However, not always is it suitable to classify the concept according to the level of war, especially if it covers more than one level.

It is necessary to distinguish between the operating concept and concept of operation (CONOPS). CONOPS is used to describe the understanding of the military operation and visualization of a set of tasks and actions, their scope and context. It expresses the activity synchronization among the individual troop elements. It serves as a foundation for preparing the operational plan (OPLAN). CONOPS is prepared for an ongoing operation or operations during the contingency planning, usually within the time horizon up to 7 years. (CJCSI 3010.02B, p. 15) Nevertheless, a similar procedure may be applied in the operating concept development. However, the outcome of this planning is not to be used for OPLAN preparation but for identifying the future forces capabilities in the long term of 15 years or more.

**Number and Structure of Potential Operating Concepts**

Since there are several approaches to the systemization of operating concepts, their potential number is not limited. While the uncontrolled
elaboration and increasing number of existing and future concepts impose a risk, the point is not to purposelessly limit their number. The decision on preparing a new operating concept should take into account the mutual relationships and clear links to the existing system of the operating concepts. Any new concept needs to clearly state its relationship to the existing and comparable operating concepts.

Inputs for the Operating Concepts Development

“An operating concept is a visualization of future operations and describes how the joint force, using military art and science, might employ capabilities necessary to meet future military challenges.” (CJCSI 3010.02C, p. 7)

The development of operating concepts is a focused and uniformly controlled process governed by an internal standard.

Figure 4 Underlying documents framework for the development of the operating concept (author Zuna)
The goal of operating concepts is to direct the process of transformation and development of military tools for their operational readiness with a perspective of future 10 to 20 years. Underlying documents (see Figure 4) for the concept development include national security strategies, national defense strategies, or other strategic documents of a similar character adopted at the level of collective defense organizations (NATO), collective security organizations (UN, EU) and cooperative security organizations (OBSE).

**National Security Strategy**

In general, a strategy may be understood as a systemic organization of objectives, methods to achieve these objectives and the necessary tools for their implementation. A strategy should say what our objectives are, how we are going to achieve them and how we are going to employ the tools we might have available to achieve the objectives. (Ludvík, Moravec, p. 22-31) In terms of the operating concepts development, it is necessary to see the national security strategy (security strategy of a state) as the principal security policy document that sets the principles, objectives, priorities and methods of assuring external and internal security and defense of a state (Zeman, p. 99). It outlines the main directions of the security policy and defines them with a permanent validity, if possible, to allow their elaboration in the operating concepts regardless of the changing national political context.

**National Defense Strategy**

A national defense strategy represents the making of security policy implementation (codified in the national security strategy) and covers its motives, resources and limits. The defense strategy gives practical effect to and narrows the security and defense policy. For the operating concepts development, the national defense strategy represents a set of basic defense principles for the building of armed forces. It is the starting point for the elaboration of follow-up strategies and concepts for defense and an optional impulse to possibly adopt legislative changes. It is a selective strategy of achievement of objectives in the security and defense policy of a country, an option of optimum advocacy of the country’s security interests, and ideological background for planning processes. In order to ensure actual enforcement of the outcome it is thus absolutely necessary, while preparing the operating concepts, to respect the political barriers set by the national security strategy and the national defense strategy.
Relevant International Strategic Documents

The membership of a country in any international organization affects its security and defense policy as well as the ways and methods of employment of its armed forces. Upon developing the operating concepts it is necessary to take into account not only obligatorily respected documents with international legal and political applicability (such as the Charter of the United Nations, Washington Treaty, European Union Treaties, Geneva and Hague Conventions, etc.), but also legally unbinding strategies and concepts (e.g. NATO Strategic Concept, European Security Strategy, EU Internal Security Strategy, etc.), which point out the probable direction of further engagement and priorities of those security and defense organizations, of which the country is a member. Simultaneously, these documents usually provide a collective estimate of future development in the security and operational environment and, at the same time, they identify situations when the joint structures, tools and efforts are to be activated to manage the security crises. These situations should be further elaborated in the form of potential future scenarios as a framework for the operating concepts development.

Security and Operational Environment Assessment

The security and operational environment assessment (Galatík, Pikner, Krčmář, p. 23) represents a very important part of the security and defense policy formation process and development of follow-up the country’s security system concepts (among others this system includes the armed forces). It is the main starting point for rational allocation of the country’s limited resources. It stipulates the threats and risks shaping security interests, assesses its severity and imminence and sets their relative order of importance (priorities). The purpose of the security and operational environment assessment is to identify potential future threats and resulting risks the country (or a coalition of countries as a whole) will face and against which they will have to develop their defense capabilities. The identified future threats and resulting risks form the basic framework for the development of scenarios described in the operating concepts.

Security Environment

The analysis and prediction of security threats is important primarily for the assessment of phenomena and processes taking place in the security environment of the state. This term means the area where the interests
of the country are met and get into conflicts with the interests of other stakeholders (countries, international organizations, multinational corporations, international non-governmental organizations, interest groups, etc.) and run the processes that significantly influence the level of security. Moreover, there are processes and phenomena within the security environment that demonstrate a significant security impact, but can not be coped by the country alone. The most significant and frequent source of threat to a country, however, remain the intentional threats.

**Operational Environment**

The operational environment may be seen as a set of conditions, circumstances and influences that affect the performance and efficiency of the military force and have a direct influence on the decisions about its employment. In terms of physical specifications, it is primarily the area of deployment of the armed forces. In terms of the nature of the environment where the military operations may take place, it concerns any of the options below, which may, however, blend or alternate over time:

**Tolerant environment** – an environment where the host nation, on the territory of which the foreign expeditionary armed forces are deployed, fully supports their activity and this territory is under full control of its own security and police units.

**Uncertain environment** – an environment where the host nation’s forces either cooperate with the expedition forces or not, but the nation’s territory is not under its efficient control.

**Hostile environment** – an operational environment where the enemy forces have the respective territory under their control, are able to efficiently defend it or respond to an ongoing military operation and thwart its plans.

The principal characteristics of the operational environment include:

- opponent (enemy);
- local people and social, political and cultural structure;
- history and traditions;
- condition of the environment;
• infrastructure;
• technological factors;
• information technology situation as well as the natural conditions;
• terrain, climate and other factors. (Galatík, p. 27-28).

In defense planning, the future operational environment has a critical influence on the concepts development defining the employment of forces in future operations. These considerations are the underlying information and decisive element for the building and development of the armed forces in the long-term horizon. The operating concepts thus become one of the critical elements in the building and development of the armed forces in long-term planning (Galatík, Pikner, Krčmář, p. 23).

**Relationship Between Security and Operational Environment**

The term operational environment is closely related to the term of security environment and it forms its part. The security environment consists of countries, international and multinational organizations and other subjects, mutual interaction of which affects the security of the reference subject (country). The operational environment is a qualitative subset of the security environment with various effects on the actions in every point of operation as well as the immediate vicinity. The environments are linked and thus the assessment of the operational environment must include the assessment of the security environment.

The operational environment where the armed forces will be deployed determines the requirements for their building-up, preparation and employment. It affects the conduct of operations at all levels of command and control. (Galatík, Pikner, Spišák, p. 28)

**Foreign Experience**

Approaches to the development and application of operating concepts in militarily more experienced countries may serve as a guidance and inspiration for particular nations. It should be emphasized that it is not possible to merely copy the foreign system. The system must reflect the national political interests and objectives and their specifications for future missions and tasks of military tools.
For example, it is possible to mention the experience of the United States or the United Kingdom. Their approaches to the operating concepts development may be considered as the best elaborated and may thus be a good guidance for countries that are yet uncertain which national approach to the issue of the operating concept development to adopt.

**The U. S. Military Concept System**

In 2003, based on the decision adopted by the U. S. Secretary of Defense, a development plan for a set of concepts for conducting joint operations (Joint Operations Concepts – JOPSC) was put together. The set is based on the strategy policy and includes the following:

- Capstone Concept for Joint Operations – CCJO;
- Joint Operating Concepts – JOCs;
- Joint Functional Concepts – JFCs;
- Joint Integrating Concepts – JICs.

These future operations concepts cover the period for the next 8 to 20 years, see Figure 5.

The concepts represent or formulate an idea – a statement how something may be done. They are written using the method “problem – solution”. Joint operating concepts are the visualization of future operations and describe how the commander, applying military science and military art, can use the military capabilities to achieve the defined effects and objectives in the future:

- the concept, by applying a transformation approach, studies a wide range of capabilities of military tools to discourage, deter or defeat potential opponents;
- encourages thinking that goes beyond the current capabilities, promotes new progressive and inspiring ideas and accepts discrepancy as a part of this process;
- joint operating concepts are not limited nor restricted by the current or planned capabilities.
The responsibility for the creation and development of the Capstone Concept for Joint Operation and its integration with the subordinated concepts rests on J7 – Joint Force Development and Integration Division (JFDID). This division ensures that the set of joint concepts, known as Joint Operations Concepts, is well presented in the policies and planning documents such as Quadrennial Defense Review, Strategic Planning Guidance, Military Strategy, Service Transformation Roadmaps, and Service Concepts. These documents are reviewed every three years.

**Figure 5 Joint Operations Concepts (JOpsC) family**
*(available http://pksoi.army.mil/doctrine_concepts/Concepts.cfm)*
The following section describes two groups of concepts, the Capstone Concept for Joint Operations and a group of Joint Operating Concepts.

**Capstone Concept for Joint Operations**

The Capstone Concept for Joint Operations dominates the set of subordinated joint operating concepts and defines their contents, role and coherence for the development of forces in the future. It analyzes the fact that the future commander of the joint forces will have to adjust and combine a number of basic military activities – deployment, combat, security assistance, humanitarian and reconstruction tasks, etc., all that in compliance with the requirements of each planning situation. The concept is not a guide specifying methods in detail; it does not say how to write a concept and it does not introduce an authoritative doctrine. It starts with describing the set of operating problems, then it provides a possible operating solution and concludes with a search for institutional consequences of adopting this solution.

The purpose of the Capstone Concept is to direct the development and employment of forces by providing a comprehensive description of how the future joint forces will operate. The concepts of particular types of forces and subordinated joint concepts develop these ideas and solutions further. By doing that, they assure a logical and conceptual flow which interprets the strategy policy in recommending how to improve the joint forces. Through experimentation, the concept is tested and offers recommendations for updating doctrines, organizations, training, material, leadership, personnel and facilities.

The Capstone Concept focuses on the strategy aimed at achieving military objectives, while simultaneously benefiting the wider national objectives, via joint actions with other organizations and multinational partners. It predicts potential situations, under which the joint military forces may be used in a coordinated manner together with other instruments of national power, and when the efforts may be best integrated. This concept is useful for other organizations and supranational partners as it enables them to assess the requirements for potential integration.

The CCJO briefly describes the expected future operational environment, where the main military problem for joint forces is represented by the adaptable opponent who will attempt to prevent successful implementation of tasks within the entire spectrum of military operations. The solutions drafted in the concept include a pivotal hypothesis and supporting hypotheses,
specifying how the joint forces should operate in the future and providing the systemic perspective of the operational environment, principal activities of the joint forces commander and key characteristics of the joint forces.

In summary, the pivotal hypothesis describes what the future joint forces will do to manage future challenges. The supporting hypotheses offer greater details in how the joint forces will address the given military problem. The systemic perspective of the environment includes the assessment of complexity generated by the involvement of the human factor in the solution to military problems and the difficulty to develop acceptable solutions. The principal joint activities represent a range of activities performed by the joint forces, regardless of a type of operation.

The CCJO proposes to have these activities performed by the members of other organizations, suggests suitable areas for integration with other instruments of state’s power as well as with international and alliance partners. Under the key characteristics of the future joint forces, they include strengthening of the knowledge and understanding, connectivity, interoperability, adaptability, persistence, accuracy, speed, robustness, agility and lethality. The key characteristics included in the concept help clarify how to develop, organize, train and equip the joint forces. These characteristics have to be reflected in the concepts for all types of forces and in the subordinated joint concepts. Adopting the CCJO generates consequences for future concepts development and employment of joint forces. Future joint forces must gain and maintain the ability of effective cooperation with other actors with different capabilities and within various areas of expertise.

The Capstone Concept is a reference document for the development of future joint forces capability. In general, it describes the organization, structure, armament and equipment of joint forces in the medium to long term and reflects permanent national interests derived from the strategy policy.

The concept assumes conducting the operations individually or in cooperation with international military partners, other governments or non-governmental organizations. It anticipates military operations conducted in compliance with the national strategy including all instruments of state power. It describes the environment – expected military problems in the upcoming eight to twenty years (e.g. the 2012 concept covers the 2020–2032 period). It suggests solutions how to respond to the challenges within the entire spectrum of military operations and describes the key characteristics of future joint forces.
Joint Operating Concepts

Joint Operating Concepts (JOC) describe how the commander of the joint forces will conduct the military operations in the campaign at the operating level. They apply the Capstone Concept for Joint Operation to more specific military problems. These concepts identify challenges, basic capabilities that might be necessary to achieve objectives, and the respective conditions under which the capabilities should be applied. They affect the development of scenarios. Through the JOC the joint forces commander describes how the future joint forces will be used to fulfill specific operations. The JOC identify required operational capabilities necessary to achieve the required effects and objectives and set the operational context for experimentation and development of joint functional and joint integrating concepts.

The principal Joint Operating Concepts include:

- Homeland Defense/Civil Support;
- Deterrence Operations;
- Major Combat Operations;
- Military Support for Stabilization of Security, Transition and Reconstruction Operations;
- Irregular Warfare;

The United Kingdom Military Concept System

According to the approach of the United Kingdom, concepts are a representation or formulation of an idea – statement of how something could be done, which may result in an acceptable procedure (process) or capability.

The concepts give a rational and cautious assessment of how the United Kingdom's armed forces intend to operate in the medium to long term, based on the changes in politics and emerging trends in strategic, security and technological areas. The concepts analyze, systematically evaluate and practically experimentally test the hypotheses in order to draft justified methods of employment of the military forces and identify
the requirements for their capabilities. They have different forms, e.g. a High Level Operational Concept (HLOC) describing the principles and characteristics of the possible future employment of the United Kingdom's armed forces in general terms. An efficient use of military forces is ensured with seven functions (command, inform, operate, prepare, project, protect, sustain) of the Defense Capability Framework (DCF), which provides a common language to describe the capabilities required from the armed forces.

In their initial stages, the concepts usually cover the horizon of 15 to 20 years. Their purpose is not to immediately affect the building and sustainability of capabilities but to establish a framework for gradual experimentation. The concepts give intellectual support for future defense capabilities, including the corresponding systems, equipment, force structure, organization, training, etc. The initial conceptual work is inevitably of a wide scope. The concepts are classified as follows:

Analytical concepts are covering ideas and innovative thoughts in general terms. They have not sufficient and accurate context to satisfy the requirements of the Ministry of Defense. They include the High Level Operational Concept (HLOC), Future Maritime Operating Concept (FMOC), Future Land Operating Concept (FLOC), Future Air and Space Operating Concept (FA&SOC) and Future Electromagnetic Operating Concept (FEMOC). The purpose of these concepts lies in the attempt to encourage discussion, ensure consistence of thoughts and provide a firm foundation for further conceptual development and timely indication of capabilities necessary to be built up. The analytical concepts are subject to further elaboration under which they are intensively tested, analyzed, used in experimentation and evaluated. After this stage is completed, the concepts become applicable, ready to be used by the customer, i.e. the Equipment Capability Customer (ECC), for budgetary programming and the entire operational community. During the concept elaboration, their hierarchy is defined.

The analytical concepts are developed by the Development, Concepts and Doctrine Centre (DCDC) as an initial response to changes in politics, future trends and innovative thinking and as a basis for future development. They are used as a framework, within which Interim and Applied Concepts are subsequently developed. The timeframe for analytical concepts is 15 to 20 years.
Interim Concepts are analytical concepts subjected to further development and assessment before their approval (confirmation) by the Defense Staff. The term “interim” describes the period of development rather than the specific outcome (product). After the interim concept is approved, it becomes an applied concept. The applied concepts are brought to life by officers with responsibility for capability development (Capability Developers) and defense planning (Defense Planners). The time horizon covers 10 to 20 years.

The applied concepts describe methods of use of future capabilities within the operational context, addressing an individual (specific) problem. Their time horizon covers 10 years. The most detailed applied concepts are so-called the CONEMPs (Concepts of Employment) and CONUSEs (Concepts of Use), describing a specific use of capabilities in a joint environment across a spectrum of scenarios and conditions. The applied concepts retrospectively affect the policy of setting the framework for future operations. They are controlled by the DCDC.

The following part describes two groups of concepts, the Joint High Level Operational Concept and the Future Land Operating Concept.

**Joint High Level Operational Concept**

The Joint High Level Operational Concept (HLOC) forms a milestone on the road towards the fulfillment of requirements set by the Strategic Defense Review. This document is a long-term vision of armed forces development and their employment in operations. The HLOC gives a long-term vision regarding situations and methods of potential employment of the armed forces in the future. The main sections of the HLOC are further elaborated into the subordinated analytical concepts (sub-concepts), which set the Defense Capability Framework (DCF) and determine the subsequent conceptual development. The HLOC is an analytical concept addressing the future requirements for the combat strength of the armed forces. This concept represents the starting point for the development of joint concepts and concepts of types of forces. At the core of the concept, there are seven (joint) functions (command, inform, operate, prepare, project, protect, sustain) of the Defense Capability Framework. The concept also contains a description of the future environment derived from the nature of the conflict, armed forces, multinational nature of the operations, limitations and new technologies. In major combat operations the HLOC assumes joint action with the US armed forces.
Future Land Operating Concept

The Future Land Operating Concept 2008 (FLOC) stems from the National Security Strategy and Defense Strategic Guidance. It is based on the HLOC and is an input for further concepts. It is built on strategic trends and the British Defense Doctrine. It provides a conceptual basis for the employment of land forces by 2030 in order to develop their capabilities and establish the structure of future forces. The land forces will cooperate in operations together with other instruments of national power and international organizations.

The French Military Concept System

The basic framework for the development of an armed forces concept (High Level Operating Concept) consists of the French White Paper on Defense and National Security. With respect to the Armed Forces Concept, the White Paper is considered a truly fundamental document that defines principal frameworks for the anticipated tasks and activities of the armed forces. The Armed Forces Concept then represents a contribution of the armed forces to the implementation of the White Paper into the military area.

The Armed Forces Concept provides a basis for the lower level concepts, respecting the hierarchy of documents (concepts – doctrines – publications), prepared by the Joint Centre for Concept Development, Doctrine and Experimentation (Le Centre interarmées de concepts, de doctrines et d’expérimentations, CICDE).

Concept Structure

In France, The Concept Development and Experimentation (CD&E) is seen as one instrument for the establishment of future operational capabilities requirements. CICDE is responsible not only for the development, but also for setting up the structure and complying with the hierarchy of the conceptual and doctrinal documents. The keystone concepts are structured into 9 areas, see Figure 6, which include Organization, Intelligence, Operations, Logistics, Planning Process, Communications and Information Systems, Training, Budgeting and Civil-Military Cooperation.
Comparison of the Selected Operating Concepts

To compare the military concepts of the respective countries or just the operating concepts in terms of their content is problematic. The translation of the original documents may often misinterpret the content and thus it is always necessary to translate these documents within a context.

To understand the overall hierarchy and relationships and links between the individual concepts, it is necessary to proceed in a logical flow from the capstone concepts towards the keystone concepts. To that point, the majority of countries establish a hierarchical structure of concepts. Most of the NATO member states approach to the development of military concepts (thus also operating concepts) similarly; however, the result often differs in terms of the form of the concept, but not of the focus. Essentially, these countries apply the same principles and policies, they approach the building-up and development of their armed forces in a systemic and well-planned manner and respect the principles of the capability based planning. In the armed forces of the United Kingdom, France, United States and many others, a the
highest level joint forces concept (such as Capstone or High Level Operating Concept) is in place, which forms the basis for the subordinate concepts.

Recommendations for the Concept Development

The differences may be seen in the French approach, which defines the concept as a document saying “what to do”. On the other hand, the U. S. and UK approaches rather say “how to do it”. This difference was also generally emphasized in the process of Concept Development and Experimentation (CD&E). In France, the CD&E is seen as one of the tools used to design the future operating capabilities while the concepts and doctrines play an indispensable role in this process.

The Czech Republic Armed Forces do not currently have a capstone operating concept, which would address the use of the armed forces for the 2018-2028 period. The individual sections of the Ministry of Defense and the General Staff (or operational levels) prepare the lower level concepts (functional, integrating or enabling). However, a unifying armed forces concept for future operations (2018-2028) is missing; this concept would represent the unifying (capstone) document as well as the document applicable in the process of defense planning for future operating capabilities development. Especially under the defense and security cost cutting initiatives, not only in the Czech Republic, but also in most of NATO and EU member states, the process and systemic approach to the transformation of the armed forces present the only solution. The majority of NATO member states that plan the establishment and development of their armed forces using capability-based planning are currently in the process of developing or updating their operating concepts, including the capstone concepts as well as the functional or integrating ones. Therefore, in the Czech Republic the preparation of the capstone concept for future joint operations of the armed forces represents absolutely vital factor for their continued transformation and fulfillment of their mission.

The foregoing part of this book analyzes the approaches of the military concept development, focusing on the operating concepts of selected countries. In addition, theoretical background, as well as the framework for the preparation of these documents, have been clarified. The main findings and general recommendations arising from the foregoing may be fully applied to the development of the “Operating Concept of the Armed Forces in Future Operations” as general rule. These findings and recommendations include:
• Framework for the development of an operating concept may be seen in the certified Operating or Military Concept Development Procedures, which is to determine the hierarchy, purpose and basic form of these documents;

• The superior operating concept must become an integral part of the strategic documents;

• The superior operating concept must comply with the “capstone concept” requirements and its general nature needs to be respected;

• The superior operating concept must be updated on a regular basis, unless external conditions change to the point requiring the concept to be reviewed.

Possible Structure of Operating Concepts

An operating concept is prepared as a document with a structure corresponding with the subject of the concept, i.e. description of assumptions how the military commander in the future will conduct combat activities in order to perform tasks under the conditions of a given scenario. The concept also describes the capabilities necessary for the armed forces in order to perform the respective combat activities. The first stage of a concept preparation covers unverified ideas and notions that are to be verified through experimentation, war games, testing, simulations, etc. This verification aims at a more specific description of future operational capabilities. Operating concepts, based on the purpose, typ and level on which are developed for may cover the areas of doctrine, organization of forces, education and training, material and equipment, leadership, personnel, facilities and interoperability (DOTMLPFI).

The operating concepts may include the following parts:

1. Introduction (concept's purpose, extent, scope, time period covered, conceptual background, relationship with other concepts, limitations);

2. Executive summary;

3. Future operational environment and military problem the armed forces may be faced with (character of the opponent, own capabilities and capabilities of allies, local population, political and economic conditions, climatic and terrain conditions, infrastructure, technologies, etc.).
4. Identified threats and risks;

5. Basic principles of performance of the armed forces under the conditions of a scenario or scenarios of future operational environment, description of potential conduct of operations;

6. Risks arising from the methods of the forces employment and their elimination;

7. Basic capabilities necessary to achieve the required efficiency of the armed forces;

8. Consequences and impact for the forces development under the respective DOTMLPFI areas:

   • Doctrine – what are the new principles of employment of the forces,
   • Organization – how to modify/optimize the organizational structures with respect to the requirements placed on the performance of tasks in future operations,
   • Training – what are the future requirements for training and education of personnel,
   • Material – what armaments, equipment and other materials are necessary to be purchased or invent in order to perform the tasks, specifications of quality and efficiency,
   • Leadership – how to, under the given conditions of future operations, manage people and requirements put on commanders and staff,
   • Personnel – how to address issues related to the availability and replenishment of human resources necessary to perform the tasks,
   • Facilities – what are the possible requirements for accommodation, roads, level of communication and information systems, availability of local resources, materials and services, etc.,
   • Interoperability – how to ensure the concept satisfies the standardizing requirements for interoperability with allies and partners while performing tasks in multinational operations (NATO or EU),

9. Conclusion, including statement about possible future amendments/revisions of the concept.
The following may be recommended as appendices:

- Appendix A – Bibliography (references);
- Appendix B – List of abbreviations and acronyms.

Other appendices if needed (e.g. a list of capabilities, figures, maps and diagrams).
Chapter 2

OPERATING CONCEPTS AND DEFENSE PLANNING

The operating concepts are multipurpose documents. They are not used merely as one of the starting points to define required future capabilities of the armed forces but they also form the foundation of military doctrines. They also represent a basis for the lower degree operating concepts, or the institutional or functional concepts. They unify the joint efforts and principal directions towards the achievement of future goals and missions of the armed forces. Upon aligning the existing and required capabilities in the defense planning process it is not possible to eliminate all risks. Under restricted availability of resources it is necessary to focus the efforts on the priorities of the development of capabilities addressing the most probable risks and risks with the highest impact. (Bučka, Mačovský, 2012).

This chapter focuses on the position and role of the operating concepts in the defense planning process and their importance for mid-and long-term planning.

Defense Planning Process

The objective of defense planning at the NATO level is to set up a framework, within which defense planning of the individual countries may be harmonized as efficiently as possible in order to ensure the goal satisfies NATO military needs. On the other hand, the objective of defense planning at the national level is to build and maintain the armed forces corresponding to the needs and ambitions of the country to ensure its security, defense and possibly even contribute to maintaining peace and stability in the world. The defense planning is a set of activities, procedures and relations executed by the governmental authorities in order to achieve the goals and tasks of the country's defense. They result in specific measures, procedures and deadlines. While planning the defense it is necessary to respect present political, military, economic and technological circumstances and their prediction into the future. This also concerns the prediction of efficient use of available human, material and financial resources.
The approaches to defense planning have undergone a dynamic development. After the collapse of the bipolar world and the elimination of the extensive conflict threat between the armed forces of the Warsaw Pact and NATO, fundamental changes in planning the armed forces took place in the 1980s and mostly in the 1990s. The principle of planning based on the main threat, represented by a potential global conflict, was abandoned and ways how to respond to new crises under a very wide spectrum of future threats have gradually started being explored.

**Capability based planning** is a process initiated by identifying the entire spectrum of capabilities the military forces need for “universal employment”. The planning is aimed at reasonable, optimal and flexible forces able to face a wide spectrum of generally defined threats.

To implement the capability based defense planning process, it requires respecting the recommendations of the Alliance, schematically shown in Figure 7. Under this process the operating concepts play an important role as they are crucially involved in defining the capabilities that will be asked from the armed forces in the future. The defense planning actions are aimed towards the development of these capabilities.

**The future environment** describes the basic conditions under which the military tools will be employed. They primarily concern trend analyses of the security environment (security threats), technological progress, economic development, demographic issues, development of domestic and foreign policy and other possible influences on the future use of the armed forces.
National intelligence assessment covers the analysis of threats resulting from the future environment. Political assessment represents a wider, interdepartmental assessment of the probability and degree of impact of the threats on the achievement and maintenance of vital interests of a country or the Alliance.

The political directive for defense planning is a document that initiates a new cycle of defense planning. It defines the principal frameworks of the defense planning, such as objectives,
preparation time, time horizon for capabilities planning and achievement of the desired status, responsibilities, relations to the previous cycle, etc. The directive may also define defense priorities.

The planning situations and scenarios are the means of priority specification. They concern predicted planning situations that may require the employment of the armed forces.

An operating concept may be prepared for one scenario or several scenarios of critical situations, when the armed forces are to be employed. The operating concepts are structured. For each scenario described in the operating concept there is a plan of operation saying how the forces may be used under the given scenario. Scenarios are not a prediction of the future but a method of minimization of threats by solutions being searched for these scenarios, answering questions of how to prevent them, eliminate them or how to limit their consequences. The scenarios are based on the security and operational environment description, given in strategic documents or papers. The disadvantage is that the general nature of threats is abstracted in these documents and thus, based on this abstraction, it is not possible to precisely define the necessary future capabilities of the armed forces. The strategic documents do not contain information about a specific military task, enemy and other actors operating in the given operational environment. These planning assumptions must be made in the form of a scenario or scenarios. They may include vignettes describing the status and development of the selected factors of the operational situation or a lines of operations within the scenarios.

The minimum capability requirements placed on the capabilities of the forces represent a list of capabilities that are necessary at the strategic, operational and tactical level for efficient fulfillment of the tasks under planning situations and scenarios of threat demonstration. Further, they may be classified as for the joint forces and for various types of forces and troops.

The capabilities are generally classified into groups in order to ensure manageability of the process of their build-up and maintenance. In addition, this classification usually expresses the responsibility for the areas of capability
development and assurance of the resource framework. Under the defense planning process, there is a partial process of comparing the current, planned and minimum required capabilities of the forces. This partial process compares the qualitative aspect of the capabilities and results in an overview documenting gaps and surpluses in the future capabilities, compared to the present status. Simultaneously, the discrepancy in the capabilities is identified in order to eliminate duplicities and to identify missing capabilities, or to eliminate negative mutual effects of the capabilities.

The option of development of the forces means the definition of priorities in the capabilities development of the forces and a proposal of the direction of development, modernizing programs and focus of the requirements for the research. This activity also usually includes the calculation of the required resource framework.

Balance of investments covers the allocation of the necessary investments over the cycle of the defense planning, including the investments of the previously started and ongoing cycle. If the resources represent a limitation it is necessary to go back and newly set (modify) the capabilities. The settlement of investments results in an achievable plan of capabilities development, covering the programs of modernization of the armed forces, research, development, acquisitions, etc. The outcome usually concerns a set of documents under a joint title.

The defense priorities are defined by the government over the time horizon of midterm planning. They are based on a long-term focus of defense policy. Subsequently, in the defense planning process they are compared with the resource restrictions and possibly modified. The targeted capabilities of the forces represent the critical capabilities of the armed forces which, after having been achieved, will ensure the fulfillment of the government’s requirements. The objectives are fulfilled through the implementation of adopted measures under the mid- and short-term action plans.

The above given scheme and descriptions of the node points in the defense planning process demonstrate that the operating concepts are out of the main line of the defense planning, likewise, the prognosis of the future security and operational environment. Nevertheless, the information, conditions
and requirements for the capabilities of the armed forces resulting from
the operating concepts represent fundamental inputs for the actual process.
Without structured operating concepts that take into account the assumed
development of the security and operational environment it is not possible
to responsibly set any future minimum requirements for the capabilities
of the armed forces, name and describe them correctly and determine the
responsible entity and performance indicators.

The operating concept itself usually does not answer the question of what
armaments, weapons and organization the armed forces will have to have
in the future – these are usually not specified or are specified only generally.
With respect to the capabilities the operating concept has to be interpreted
by experienced commanders and staffs or doctrinal centers. Already at
this stage it is possible and desirable to use modeling and simulations to
verify the impacts of the assumed changes in the capabilities of the armed
forces on the fulfillment of appropriately selected military action scenarios
within the boundaries given by the operating concepts. By doing this it
allows to prevent wasting of resources for purchasing armament, weapons
and organizational structures that have no future and will not generate the
required and expected effect from the very beginning.

If the concept is prepared for the strategic level, such as “the concept of
the armed forces employment”; then the first step entails the definition of
the capabilities for achieving the political objectives at the strategic level.
Subsequently, the capabilities at the operational and tactical level need to
be defined, with more detailed capabilities representing the starting points
for the specification of armament, equipment, organization of forces, etc.

Scenario based capability planning provides a logical basis for the defense
planning process. The operating concepts allow the military organizations not
to only identify the future security challenges and appropriately get prepared to
address them, but also focus on the existing challenges as efficiently as possible.
This is not even in sharp conflict with the capability based planning since the
requested “product” of the defense planning process concerns the capabilities
of the armed forces to be used to face threats and risks in the future.

**Utilization of Operating Concepts in Defense Planning**

The utilization of outcomes from the operating concepts in the process of
build-up and development of the armed forces is done through the defense
planning. The planning documents represent a means ensuring an efficient
utilization of the available resources within the set time frameworks in order to achieve the required capabilities. The requirements placed on the minimal capabilities of the armed forces, based on the operating concepts, form an integral part of the process of modernization or acquisition of the armed forces. The operating concepts themselves form a part of the national doctrinal system development process.

Operating Concepts and Modernization Process of the Armed Forces

The actual build-up and development of the armed forces must be rested on scientific prognoses of the operational environment development, requirements placed on the capabilities of the armed forces as well as on the efficient system of defense planning.

The scheme in Figure 8 shows a possible general procedures of introducing modern armaments and technology into the armed forces, based on the requirements arising from the operating concepts. It may entail the introduction of brand new technologies that are currently only in the stage of research and laboratory tests, or it may entail a mere modernization of existing technologies.
Based on the prognoses in the “Modernization Plan Outlook for the Next 20-25 years” the requirements for the implementation of modernization plans are continuously included in the prepared planning and conceptual documents. The outlook of modernization plans is in a direct correlation with the operating concepts of various levels and their resulting minimum requirements placed on the capabilities of the forces. The outlook is used as a starting point for the planning document development, especially of a mid-and long-term plan. The relationship between the modernization plan outlook, long-term and midterm plans and commencement of the program of armament is clearly shown in Figure 8. The absence of any of the steps and documents necessary for the efficient processes of modernization and acquisition causes distortions and damages, not only financial and material, but also moral.
The planning documents set the commencement and termination dates of the respective stages of the modernization plan, competences and responsibilities of the entrusted components and financial resources for the purchase of new armament and technology, including contribution to research, development, manufacturing and testing.

It always needs to be considered that the build-up of the modern armed forces has to follow certain principles. One of them is momentum. If the reflection of the external environment lags behind the development of the environment affecting the country’s defense, the armed forces implement the modernization plans according to the past and conditions that have been overcome. The capabilities generated through this process do not correspond with the current and future needs. And it is the operating concepts that may describe the future. Therefore, it is necessary, at present, to predict the future and design concepts about the future needs while respecting the development of the security environment and future technologies.

Operating Concepts and Doctrines

The operating concepts play an important role within the doctrinal system. If the operating concept addresses the assumed future security threats and risks, development in the operational environment, including the nature of the potential enemy, then it also forms the basic features of the future doctrine. Gradually the concept is transformed into a doctrine, firstly only roughly but as the forecasted horizon approaches, the doctrines get more specific and they eventually reach the status when they are fully applied in daily activities of the troops. The future concept and the future doctrine resulting from it is based on the prognosis of the operational environment, accompanied with the planned capabilities of the armed forces. The future doctrine thus works with the expected future set of forces that will be employed in the operations. On the contrary, the current doctrine responds to the current operational environment and utilizes the current set of forces to conduct operations.

Operating Concepts and their Relationship to the Departmental Legal and Normative Documents

The operating concept itself is not a legal or normative document for the processes of build-up and sustainment of the operational capabilities, or the build-up and development of the armed forces. The operating concepts
form a comprehensive and structured set of underlying documents enabling decision-making by top DoD officers about the target operational capabilities. In order to ensure that the axioms and considerations included in the operating concept become valid, they must be implemented into the standard legal and normative documents, which are as follows:

- National defense strategies (concepts affect these capstone documents retrospectively);
- Strategies of build-up and development of the armed forces (reflected in the specific measures under the DOTMLPFI areas);
- Plans for acquisitions of armaments and equipment, including the plans for their life cycle;
- Midterm and annual plan of the DoD activities;
- Departmental normative acts regulating the standards and processes in the armed forces;
- Doctrinal publications.

The description how the armed forces will be used over the next 10-25 years becomes the input for elaborating the strategy for the build-up and development of the armed forces. Nevertheless, the operating concept must simultaneously respect the political specification of the aim and purpose of employment of the military tools to ensure the security interests of the country.

The operating concepts represent an input for the strategies of build-up and development of the armed forces in the long run. Before the conclusions of the approved operating concept may be reflected in the plans of acquisition of armaments and equipment, they have to be experimentally verified. It is necessary to verify what material, which operating procedures, what kind of organization of the troops, etc. may best ensure the identified capabilities of the forces. For example, the proportion of fire power, requirements for deployment and possible maneuver of a certain armament system will differ between the technology produced by different manufacturers. Also, the requirements for material functioning in combat will be different. Thus, there is a large set of criteria to be applied when assessing the armament and equipment. This process is relatively lengthy and thus it is necessary to assume the period of 5-8 years when the armament and equipment will be commissioned for the use in combat.
The operating concepts do not directly affect the midterm and annual planning. The midterm planning covers the horizon of 0-5 years. It is a period of time not covered by the operating concept. Midterm and annual planning of the Department’s activities primarily addresses the use of the existing military forces under ongoing operations. Midterm and annual planning of the Department’s activities affects the development of the operating concepts by the fact that the plan of the development and update of the concepts represent one of the planned areas. Furthermore, the midterm and annual plans should address the activities related to the experimental verification of the conclusions of the operating concepts and to the preparation of the acquisition process in order to commission the required capabilities under all the DOTMLPFI areas into the armed forces over a time span of 8 years.

The operating concepts represent an input for the preparation of internal normative acts and doctrinal publications related to the operational use of troops. Whether it concerns operating, institutional, functional or enabling concepts their conclusions must be understood, implemented, practiced and trained in a uniform manner. This is enabled by the internal normative acts and doctrinal publications as they are of a mandating and explaining nature. These documents govern standards and procedures such as permanent operating procedures, duties and responsibilities of the commanders and soldiers, principles and methods of use of armaments and equipment, etc. The preparation of the normative acts and doctrinal publications is a controlled process. For example, the preparation of a new doctrinal publication takes about 2 years. The approval process of the departmental normative act takes at least 6 months. With this respect it is necessary to ensure that the requirements raised in the conclusions of the operating concepts are included in the preparation plan of the normative acts and doctrinal publications as soon as possible.
Chapter 3

DEVELOPMENT OF OPERATING CONCEPTS

“A concept is a proposed solution that encompasses an overreaching and firm idea of how a problem can be solved, with the aim of fulfilling a capability requirement in a given context of the addressed problem.” (JCDEC, p. 20)

The principles of operating concepts development do not significantly differ from the generally applicable principles of project planning and management in other scientific disciplines or areas of social development. The operating concept development is a complex process, based on the dialectic harmony of their purpose, context and principles of development, systemic structure and content structure.

The preparation and reviews of operating concepts represent a complex process for their authors:

- Authors of operating concepts often do not get the comprehensive understanding of the problem until they find a possible solution;
- Only with difficulties may the authors detect the point in time when the concept development should be stopped as it has reached a deadlock, or the problem has ceased to be relevant;
- Ideas and visions in the concept proposals are never correct or wrong, they may only be better or worse;
- A concept will never offer a final number of possible solutions and a final number of acceptable alternatives.

Operating Concept Project Management

As mentioned above, the operating concept development is subject to project management theory. Operating concept project management covers the management system and processes of the operating concept development and operating concept processing project management. Specific operating concept projects should be complemented or accompanied with experimental verification of conclusions and recommendations given in the concepts.
Operating Concept Development Process

The operating concept development itself represents a well-thought-out cyclical and gradual process, with the aim to optimize the efforts of evaluation, writing and review of the operating concepts. It consists in mutual overlapping of the individual three-year-period activities, based on the structured and logical concept development procedure. The process should prevent the occurrence of conflicts in the preparation efforts, enable implementation of results obtained through the evaluation of the individual concepts and, simultaneously, allow the participation of various stakeholders in their development.

The actual rhythm of the development may be affected by various important factors or events, such as changes in national governments, new strategic concepts, continuous process of defense planning, scenario development, changes in strategic visions and policies, or outcomes of the negotiations between the DoD agencies that participate in the concept development or have a significant influence on the process.

Operating Concept Development Management

The operating concept development proposals and their experimental verification should be managed centrally, at the level with appropriate decision-making power and accountability for the defense planning process. On a regular basis this responsible authority should initiate and approve a concept development and review plan for a certain period of time. The operating concept development and review plan should respond to and correspond with the defense planning process. Concept development management includes the following steps:

- Collection of requirements for the operating concept development and review;
- Preparation of the operating concept development plan;
- Assignment of responsibilities to units and individuals for the operating concept development and review, or placement of the requirement to include the development of a specific operating concept to defense and security research projects;
- Operating concept project monitoring;
- Approval of developed and reviewed operating concepts.
The inclusion of the operating concept development or review into a plan may arise from the standard defense sector action plans for the respective period. In addition to a common method of including the requirements and proposals into the concept development and review plan, an urgent request may be placed resulting from a fundamental change in the security situation, development of new technologies or, for instance, due to changes in the resource framework. An extraordinary inclusion of the concept development or review project into the plan may slow down other projects already included in the plan.

Since the operating concept development plan is the managing document, its preamble should stipulate the strategic objective and operational assumptions in relation to future operational capabilities. The strategic objective should cover the scope of possible scenarios (military ambitions) under which the armed forces may be employed, including the types of forces and their size.

Additionally, the operating concept development plan should include a list of all operating concepts, indicating their title, type, purpose, author, officer with the corresponding decision-making power responsible for its administration, preparation date, review date and other necessary information. Operating concept review dates should be linked to the strategic document development, such as national strategies, political and planning policies, deadlines mandatory under the defense planning process, etc.

**Operating Concept Development Project**

The first step of the project is to define the military problem and analyze the instructions given by the user of the respective concept. Upon understanding the military problem and expectations of the user it is possible to choose the concept development procedure – a project plan. Every operating concept project is, however, specific and thus the processing methods and their implementation have to be well-thought-out. The concept development is not a project with a clearly defined problem and foreseen solutions. Therefore, the concept development does not undergo a clearly defined, structured and sequenced process. It concerns a research and experimental process based on hypotheses, contradictory hypotheses, investigation of which generates ideas (concepts) that need to be verified. In the first stages these hypotheses and contradictory hypotheses are investigated through studies, meetings, etc. In the subsequent stages the results are discussed in workshops or tested through war games, simulations, etc. The operating concept development project is divided into several stages. During these stages the operating concept is gradually elaborated with its objectiveness supported by arguments.
Every operating concept project covers five principal development stages: Assignment Clarification, Analysis, Evaluation, Experimental Verification and Document Preparation. The procedure is managed by the Concept Development Plan, as in Figure 9.

It should be noted that the studies are not processed for themselves but they are initiated upon a client’s request. Clients, with respect to the operating concepts of employment of the armed forces, are top officers of the DoD with the respective decision making powers and responsibilities for the development and preparedness of the armed forces, as well as those who will be subjected to the resulting concept. The client’s request is satisfied by the author of the operating concept. The authors may concern a group of analysts of a specific institution in the client’s subordinated organizational structure, or from an organization not subordinated to the client. The analyst or group of analysts is not the only ones who prepare the operating concept. To address a number of issues experts from the entire structure of the armed forces and often from other organizations not subject to the DoD are invited. Foreign experts and foreign partner organizations are asked to join in the consultation process. Additionally, the departmental organizational structure engages a group of officers who may influence the proposed solutions in the concept, or may have to use them. The use of chemical troops may serve as an example. Chemical troops support combat troops and thus the manner of this support is logically affected by the manner in which these troops conduct combat. On the other hand, the concept of use of radiation and chemical surveying will be based on the concept of employment of the chemical troops.
Figure 9 Stages and contents of the concept development project
(author Zuna)
Whereas in the development of a general study the system of individuals with the decision making power and responsibility, experts and other subjects, who may influence or use the results of the study, is not known, the studies of operating concepts have this group of people and their hierarchical structure defined by the organizational structure of the MoD and the armed forces structure. Within this hierarchical structure, there is a full spectrum of levels of responsible officers who make the decisions regarding the method of employment of the armed forces as a whole or just their components. The organizational structure of the MoD predetermines where the experts for the respective areas are recruited from, together with the officers who influence or use the solutions proposed in the concepts.

The analyst or team of analysts preparing an operating concept has to know the hierarchical structure of the customers, elements with the appropriate expert knowledge, foreign expert institutes as well as elements that may influence or use the proposed solutions. In the process of concept development the analyst needs to manage the role of moderator and auditor of opinions and attitudes of the clients, experts and other individuals engaged, resulting from the level of responsibility, powers, influence on decision making and often particular interests of the individual organizational elements in the MoD structure.

Therefore, every project must be managed by a team consisting of experts in the concept development, analysts and top professionals in the area addressed. In addition to this team of authors it is also the customer or group of customers – officers with the respective responsibilities and decision making powers – who are involved in the concept development.

The assignment clarification stage entails the analysis of the purpose, content and scope of the developed concept. In other words, it needs to be clarified whether it concerns the revision of a valid concept, its update or a development of a brand new concept. Furthermore, it includes the clarification whether the concept addresses a completely new problem or whether it is to address an existing problem in a different manner. It should be clarified what the underlying documents for concept development are and what the conceptual prerequisites defined by the client are and, additionally, it is necessary to analyze the hierarchical structure of engaged responsible officers and associated operating concepts.

The main task for the assignment clarification stage is to get familiar with the context of the respective operating concept and ensure a uniform
understanding of the problem within the team of authors. The team of authors performs the following three tasks:

a. Understanding the assignment, conceptual prerequisites and the context of the developed concept;

b. Understanding the hierarchical structure of the officers with the adequate responsibility and decision making power and identification of experts or expert institutions for the given area;

c. Proposal of the concept development and concept development project plan preparation.

The main task for the officers with the decision making power is to provide the team of authors with the assignment and conceptual prerequisites.

This stage requires intensive discussion between the team of authors, client and other officers with the decision making power who may influence the concept development or who may be influenced by the concept conclusions.

The outcome of this stage entails a detailed operating concept development plan, answering the questions WHY, HOW, WHAT, WHO and WHEN:

- WHY is the concept being developed?
- HOW the concept is going to be developed from the project timeline view and from the view of applied scientific methodologies?
- WHAT is the assignment or what should the concept address?
- WHO will be engaged in the concept development, their roles and responsibilities?
- WHEN should the concept be finished and what is the time schedule to be followed by the team of authors?

The operating concept development plan is a formal document that is approved by the officer with the respective responsibility and decision making power. The plan governs the concept development procedure and supervises and coordinates the individual development tasks. Simultaneously, the plan documents the assignment, conceptual prerequisites and adopted decisions.
The team of authors is expected to capture, record and correctly interpret the knowledge and understanding of the client with respect to the operating concept under development. A mutually uniform understanding of a problem addressed in the respective operating concept between the client and team of authors represents the key prerequisite for successful development of an operating concept. The results may be captured and presented as cognitive maps and based on their analysis and convergence it is possible to model a mutually uniform systemic understanding of problems addressed in the operating concept.

In this stage, it is very important to analyze the aspects of uncertainty that will have to be addressed. It is necessary to get prepared for the uncertainty in terms of “I do not know or I am not sure how it will evolve”. While addressing the problems under the operating concept development some factors of uncertainty may be controlled, some may be predicted and some will have to be accepted as beyond control or unpredictable.

The operating concept development plan should not merely list the schedule of activities and deadlines for task completion. Nor should it concern the directive saying why, how, what, who and when. The operating concept development plan should document the assignment as well as the conceptual prerequisites, aspects of uncertainty, analysis of organizational entities and individuals engaged in the development, interpretation of mutual understanding of the operating concept problems between the client, team of authors and the other officers with the decision making power, aspects of uncertainty and other issues.

The analytical stage consists of the analysis and detailed elaboration of the conceptual prerequisites, as well as the systemic analysis of the security and operational environment, the analysis of new technological development studies and others. This stage also includes the collection of information and its sorting and structuring into models representing a systemic design of scenarios of armed forces employment. The objective of this stage is to achieve a deeper understanding and unification of opinions about potential situations and methods of armed forces employment among the team of authors and experts about the issues addressed in the operating concept.

Based on the investigation of problems to be addressed in the operating concept, conceptual prerequisites, aspects of uncertainty, organizational
entities and individuals engaged in the development of the respective concept, the analytical stage begins, covering the following main tasks:

a. Analysis of correlation and causal relationships between the underlying documents relating to the respective operating concept;

b. Analysis of applicable superior, subordinate and associated operating concepts;

c. Selection of the corresponding method for information and data analysis;

d. Model scenario and vignette development;

e. Identification of resources, collection and sorting out of information;

f. Generating of solution models.

The main outcome of this stage concerns the understanding of the problems addressed in the operating concept. This stage requires intensive interaction with the client and the other decisionmakers in order to specify the task. As soon as a mutual agreement between these stakeholders is reached, the team of authors may begin selecting a suitable method for developing and modeling scenarios, and determining the content and scope of information necessary to design and assess the solutions. At the same time, the content and scope of information necessary to assess the aspects of uncertainty need to be defined. Technically, the analytical stage is complete when the scenario model development methods have been designed, the relevant information of the necessary content and scope has been collected and sorted out and the basic models of scenarios and employment of the forces have been generated.

The assessment stage focuses on the elaboration and comparison of options of the armed forces employment, and the estimate or prediction of the causal relationship towards the security and operational environment.

Based on the previous stage outcomes the team of authors addresses the following tasks:

a. Assessing the scenario models and impact of the aspects of uncertainty within;

b. Generating options of the forces employment and their assessment;
c. Assessing the causal relationships towards the security and operational environments and towards the respective applicable operating concepts;

d. Development of operating concept options.

To assess the scenario models and the role of uncertainty within these models, and to generate options of the forces employment for their subsequent assessment, various applied scientific methods of operational analysis and operational research may be used.

Assessing the scenario models and options of the forces employment is a key step towards the operating concept development. It is not the mission of the team of authors to select the option of the forces employment for the given scenario. It is the client or officers with the respective responsibility and decision making power who are to select the solution. The role of the team of authors is to generate scenario models, propose solutions and their assessment, both with respect to the uncertainty and risks, and the causal relationships towards the security and operational environment as well as towards other related operating concepts.

The assessment of uncertainty, threats and risks plays a crucial role in selecting the methods of the forces employment under the given scenario and under the given conditions. The risk assessment is directly reflected by the requirements placed on the force capabilities, along with the strategies of the building and development of the armed forces. Threats and risks may be completely eliminated or the probability of their occurrence or degree of their impact may be reduced. The importance of threat and risk is the product of probability of occurrence and degree of impact on the task (mission) completion. While preparing the operating concepts it is necessary to assess three levels of risks: strategic, operational and tactical.

Strategic risks cover the state's ability to achieve its priority goals in terms of security and defense. The strategic risks for the armed forces may be determined by the ability to conduct a certain military operation under a given scenario and allocate sufficient resources for this operation.

Operational risks cover the ability to fulfill the military strategy or objectives of military operation with a given range of resources. In other words, it is the ability of the armed forces to conduct operations in accordance with the crisis and contingency operational plans and achieve the set political objectives.
Tactical risks mean the ability to complete a tactical combat task, such as seizing and holding a base, conducting maneuvers with forces, block enemy maneuvers, etc.

From a global perspective the risks may be classified under two groups. The first group is associated with a militarily stronger enemy and the second group with conflicts such as irregular warfare, counter insurgency or stabilization operations. The second group of risks affects the ability of military forces to achieve the set of political objectives within the given scope and under given conditions of these types of operations. In other words, which military forces are needed to gain superiority and defeat the rebels, or gain stability within the area of the responsibility? For example, what proportion of forces will be needed considering the size of local population?

The options of the armed forces employment presented to the decisionmaker must be supported by objective reasoning which may be obtained by applying the relevant operational analysis methods. The decisionmaker adopts the decision about the solutions and sets their priorities. These solutions for the individual scenarios are verified through experimentation in the following stage.

The experimental verification stage is aimed at verifying the feasibility and sustainability of the suggested methods of the armed forces employment. The experiment should confirm that the respective method of employment of the armed forces will bring an achievement of the planned goals and, at the same time, it should confirm the causal relationships towards the security and operational environment. If the nature of the operating concept does not enable the experimental verification to be performed, then it is validated through a formal comment and approval procedure.

There is a number of models and methods of operating concept experimental verification. These may concern any type of military exercise, including computer assisted exercises, or a mental experiment under the participation of experts in the corresponding areas of the forces employment, etc. The choice of the operating concept experimental verification method is based on the type of operating concept and the team of authors’ capabilities.

An experiment consists of three phases (Alberts, Hayes, p. 61-125): pre-experiment, conduct of the experiment and post-experiment.

The pre-experiment phase entails the assessment of the existing knowledge and opinions of the team of authors with respect to the concerned area.
This is actually obtained as the output from the previous operating concept development process stages. During the pre-experiment phase the model of the experiment is determined and a detailed experimentation plan is prepared. The experimentation plan covers the objectives, experiment scenario description, dependent, measured and checked variables, observed data and method of their collection, members of the experimentation team and a detailed plan of the experimentation.

The conduct of the experiment phase includes the surroundings preparation, pretest and execution of the experimentation plan.

The post-experiment phase includes the data analysis, interpretation of gathered data and information, modeling and simulation to validate gathered data, revision of the products and comparison against expectations – to confirm the correctness of the armed forces employment for the given scenario. This phase also entails the archiving of all data and experimentation materials for future use.

The document elaboration stage includes the processing of final conclusions into a structured document. In addition to the processing of the actual document this stage also entails the elaboration of conclusion interpretation methods, suggestions where, by who and how to use the conclusions from the concept and method of their communication to the client and other engaged officers with the respective responsibility and decision making power.

In all five stages of the operating concept development the team of the authors and the group decisionmakers have specific tasks associated with the milestones of the entire development process. If at a given milestone of the development process a conflict between the team of authors or the group of officers with the decision making power occurs, it is necessary to go back into the process to the previous milestone, or cease the concept development altogether.

**Competence and Responsibility in Managing of the Operating Concepts Development**

The competence and responsibility in managing the development of the operating concepts are both individual and collective. The individual competence and responsibility is assigned to officers with the responsibility and decision making power for specific functional areas of management and conceptual development. The collective competence and responsibility are
assigned to the armed forces, service branches and troops. The individual competence and responsibility are implemented within the organizational structure under the supervision of a particular person. To ensure collective competence and responsibility it is necessary to establish specific elements of operating concept development management and coordination. These may include the Committee for Management and Coordination of Operating Concept Development, working groups for operating concept development or special-purpose groups established to harmonize the sets of concepts. A certain competence and responsibility is also assigned to the officers managing the service branches in the MoD structure.

The Secretary of Defense formally manages the operating concept development and approves the Capstone Operating Concept. By its approval the Secretary agrees with the method of the armed forces employment to achieve the political goals specified in the National Security Strategy, National Defense Strategy and other strategic documents. General instructions by the Secretary of Defense for the operating concept development are included in the Secretary Strategic Planning Directive.

The Assistant Secretaries of Defense participate in the sessions of the Committee for Management and Coordination of Operating Concept Development.

The Chief of Staff issues recommendations related to the system and processes of concept development within the MoD. He approves the operating concept development plan and operating concept of the armed forces, service branches and troops. He submits the Capstone Operating Concept to the Secretary of Defense for approval.

The Committee for Management and Coordination of Operating Concept Development manages the overall process of concept development by preparing and submitting the operating concept development plan, monitoring and assessing the concept development projects, assigning tasks to the individual elements in the structure of forces related to the development and presenting the respective operating concepts for approval by the Chief of Staff. The Committee acts as a representative and cooperates with other elements of the MoD with respect to the implementation of the operating concept conclusions into the controlling and planning documents of the MoD.

A person with the responsibility and decision making power for development and preparation of forces chairs the Committee for Management and
Coordination of Operating Concept Development and, in terms of administration, supports the Committee’s activities. He provides resources for the activities carried out by the project teams (teams of authors) and should there be a disagreement between the individuals representing the types of forces and types of troops, he makes the final decision.

The concept development project team managers manage the development, write, assess and review the operating concepts in cooperation with those responsible for the types of forces and types of troops. They participate in the sessions of the Committee for Management and Coordination of Operating Concept Development and present reports capturing the team’s activities. They present the results to the person with the overall responsibility and decision making power. They participate in the meetings of these individuals with the persons or groups responsible for acquisition and budgetary for the building and sustainment of operational capabilities.

**Fundamentals of Operational Analysis in the Operating Concept Development**

At the core of the operating concept development there is a seemingly incomprehensible process of argumentative reasoning of thoughts, hypotheses and solutions related to the employment of troops in order to achieve the political objectives. Methods of analysis (definition of the problem’s scope and its decomposition into parts) and synthesis (development of solution models) are used to establish a system of arguments supporting or disproving the thoughts, hypotheses and solutions covered in the operating concepts. The problem of analytical development of arguments in the operating concept development lies in utilization of empiric methods, results of which are obtained based on experiments and experience.

The analysis of the operating concept development is aimed at establishing knowledge about the given problem related to the potential use of troops for the given planning situation expressing the political objectives, military ambitions, etc. The function of the analytical-synthetic methods of analysis is to produce arguments necessary to develop the outputs from the individual operating concept development process stages. The objective of the analysis and argument development management is to subsequently link the known facts with the required solution – methods of the armed forces employment.
The process starts with defining the expected effect achieved by using the troops and continues towards the search for sequence of causes and consequences resulting from the given effect. It generates a list of identified causes and consequences (axioms and postulates) which confirm or disprove the hypothesis of employment of the forces.

The process of synthesis proceeds from the identified causes and consequences towards proposing the option of employment of the forces. The individual causes and consequences are linked into a tree structure resulting in the identification of the tasks performed by the forces.

The conclusive facts and evidence needed for reasoning are generated from the areas describing security environment, operational environment and combat area. Specific military models are utilized to describe these environments, such as PMESSII, METT-TC or ASCOPE, or a general model, such as PESTLEM, POFFEO, etc. may be used as well.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Intelligence analysis</th>
<th>Operational planning</th>
<th>Officer with decision making power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis focus</td>
<td>Understand and explain the situation and factors of influence (IBP, CPOE)</td>
<td>Understand alternative actions (operations) and their anticipated consequences</td>
<td>Understand the task (mission) and aggregate implications of policy and execution of operations</td>
</tr>
<tr>
<td>Analysis process</td>
<td>Examine and assess evidence</td>
<td>Examine and assess situation hypotheses</td>
<td>Judge large-scale implications of COAs on mission objectives</td>
</tr>
<tr>
<td>Synthesis process</td>
<td>Create hypothesis (model, situation)</td>
<td>Create COAs</td>
<td>Create strategy and decisions for the given mission</td>
</tr>
</tbody>
</table>

Figure 10 Engagement and roles of the elements in the analytical process of the operating concept development
(Waltz, p. 166)
As a standard there are several MoD elements taking part in the operating concept development process, such as intelligence, force planning, operational planning, strategy and policy, building and development of forces, etc. The person with the decision making power and responsibility who selects the solutions and the next steps in the concept development is involved in the individual stages and steps of the operating concept development process. Figure 10 shows an example of engagement and roles of the MoD elements in the analytical process of the operating concept development. A similar table should be included in the operating concept development plan.

Reasoning in the Operating Concept Development Process

Reasoning in the operating concept development process is based on generating deductions, judgments and hypotheses. The reason lies in the fact that, unlike in mathematical disciplines, it is not possible to use scientific evidence. This type of reasoning is called inference and consists in deducing connections and judgments. The main types of inference include deduction, induction and abduction (Giarratano, Riley).

Reasoning Development by Deduction

Deductive generating of ideas, hypotheses and judgments in the operating concept development entails the wording of new, logically consistent conclusions and beliefs by applying logical rules and principles of military art and military science. Arguments deduced in this manner may belong to a number of logical-hypothetical-categorical conclusions, such as the Clausewitzian postulate on the “concentration of forces” in an area. By applying this principle, it is possible to deduce conclusions related to the use of the enemy’s forces and own forces for the given scenario: If the enemy concentrates the forces in an area, to achieve the XZ goal, they will concentrate on WHAT, WHEN, WHERE and WHY”. Deduction requires preparing a list of principles, rules and facts consensually accepted by the team of authors. Another example of deductive reasoning concerns the logical-hypothetical conclusion: “If an enemy possesses operational-tactical guided medium-range missiles and capabilities for research and development of weapons of mass destruction, then these weapon systems represent a threat for RSOM (Reception, Staging and Onward Movement) of our own forces within the operational area”.

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Reasoning Development by Induction

Using inductive generating of ideas, hypotheses and judgments in the operating concept development, more general and abstract conclusions are generated. The inductive analysis provides more general conclusions regarding scenarios and employment of troops while it is based on a certain set of specific conclusions (ideas, judgments and hypotheses). With respect to the operating concept development, the reasoning development by induction may also be called “generalization” of the problem covering environment and use of forces. Example: “If the enemy in conflicts A, B and C used improvised explosive devices, they will also use them in conflict D”. The inductive development of reasoning uses analogy, parallels and identification of causes based on knowing the consequences. The principle of inductive analysis in the operating concept development lies in recognizing abstract generalized models, patterns and behavioral manners that explain the problem of conducting armed conflict and conducting combat action under the given scenario or set of scenarios.

Reasoning Development by Abduction

In addition to induction and deduction, abduction is another type of ideas, hypothesis and judgment development. It concerns an analysis producing hypotheses for observed phenomena, usually entailing reduction from several possible explanations. This type of abduction is named selective abduction. Apart from selective abduction, there is also a creative abduction providing possible explanations for identified situations and phenomena in the operational environment. Abduction is a form of deducing from other ideas, hypotheses and judgment and applies both the inductive development of hypotheses and the deductive testing of hypotheses. Abduction represents a logical deduction of the following type: “If situation A may be explained using hypotheses H1, H2, … Hn, then H5 explains situation A the best”. The disadvantage of abduction lies in the fact that it is primarily based on the subjective opinion of the analyst or a group of analysts. A practical example of abduction in the operational planning process concerns the evaluation of the courses of action (COAs) using the evaluation criteria table. The degree to which the respective option achieves or corresponds with the specific criterion is often evaluated subjectively. Even the evaluation criteria are selected subjectively. In this case the logical conclusion says: “If courses of action COA1, COA2 and COA3 may be evaluated using criteria C1, C2, … Cn,
then option COA3 corresponds with the criteria the best” and thus this option will be presented to the commander as the most suitable one. In order to obtain the most possible objective reasoning development by abduction it is necessary to use analytical methods as much as possible and thus limit the influence of the subjective factor on the final conclusion.

**Integrated Reasoning Process**

The processes of analysis, synthesis and abduction form the foundation of the reasoning process supporting the proposed solutions in the operating concepts. They concern the search for arguments supporting and explaining hypotheses for the use of troops under a scenario or set of scenarios. The integration of the reasoning process represents a systemic approach to justification and explanation of a concept of forces employment in the given scenario. This systemic model is shown in Figure 11.

1. In the first step of this integrated reasoning process system the team of authors analyzes all underlying documents and the knowledge available related to the given problem of the forces employment. This analysis generates a set of known models of employment of the forces within similar situations and hypotheses of relevant use of the forces and basic test of their validity;

2. Hypotheses not fitting into any of the known models are reviewed in the second step. The objective of this review is to understand them and propose a new model;

3. The third step entails a search for models that do not correspond with the given hypothesis but their approach corresponds with the newly proposed model;

4. The newly proposed model and references to the models corresponding with the approach are used as a baseline for determining new criteria used to search in the knowledge database;

5. In the fifth step the gathered hypotheses and supporting reasoning are used to explain the new hypothesis or new hypotheses – concept(s) of employment of the forces;

6. The explanation and reasoning behind these new hypotheses are subjected to validation using a list of evaluation criteria, such as principles of military art or other criteria agreed upon by the team of authors;
7. Based on the gained knowledge and experience in the operating concept development as well as in the application of experience gained during operational use of forces, the knowledge and hypotheses of the forces employment are generalized and applied as general axioms and postulates. These generalized conclusions are used to describe new models of the forces employment;

8. New models and generalized conclusions are validated through experiments or under real operational employment of forces and they develop the knowledge base for testing and deductive analysis of future concepts of the forces employment.

The analysis-synthesis model (Figure 12) in the operating concept development must be headed towards a final outcome, i.e. description of the environment and conditions applicable to the planning situation:
- Scenarios, factors of the operational situation expressed by the PMESII, METT-TC, ASCOPE and other models;
- Concept of the forces employment in the CONOPS format;
- SOR – Statement of Requirements described by the DOTMLPFI model.

<table>
<thead>
<tr>
<th>Knowledge (Data)</th>
<th>Argumentation</th>
<th>Abduction</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Planning situations (scenarios)</td>
<td>Organization and structuring of the facts, assumptions and hypotheses</td>
<td>Operational Force development</td>
</tr>
<tr>
<td></td>
<td>Decomposition</td>
<td>Synthesis</td>
<td>Force development</td>
</tr>
<tr>
<td></td>
<td>Testind and refinement of hypotheses</td>
<td>Composition</td>
<td>Doctrines</td>
</tr>
<tr>
<td>DATA</td>
<td>ANALYSIS</td>
<td></td>
<td>Organization</td>
</tr>
</tbody>
</table>

Figure 12 Analysis-synthesis model in the operating concept development (author Zuna)
Conclusion

Within the DoD, similarly as within other departments, many strategic documents are prepared without any clear rules and regulations. The concept development teams follow the custom practice or “best practice” without applying any modern methods to support decision making. The elaborated concepts of the armed forces development and the doctrines are based on the analyses of the current situation, but they do not fully reflect the scientific prognostic perspectives and visions.

One of the most important starting points for authors of concepts (institutional, functional, enabling, etc.) are concepts for future activities of certain systems and subsystems. Within the DoD they are the armed forces operating concepts as the pivotal document with horizon over the next 15 to 20 years. For the strategic management, the operating concepts, as a scientific prognostic material, represent one of the underlying documents and a starting point for preparation of concepts of the armed forces development. Objectively unjustified concepts of the armed forces usually have a very short life cycle and in their essence they result in inefficient use of available resources.

Therefore, it is necessary for the strategic management to have analytical information for their decision making. In the majority countries within the NATO and EU, the concepts of the future employment of the armed forces are those which initiate the transformation of these forces. In the process of defense planning the operating concept should be one of the crucial military documents.

The methodology of the operating concept development should be used as an indispensable tool of the authors of the operating and other types of military concepts; it should unify the efforts of the teams of authors under the development process. The methodology should include the applied methods of the operational analysis and operational research for the development of military concepts and it should determine their contents, structure and form.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
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<tbody>
<tr>
<td>ACH</td>
<td>Analysis of Competing Hypothesis</td>
</tr>
<tr>
<td>AHP</td>
<td>Analytic Hierarchy Process</td>
</tr>
<tr>
<td>ASCOPE</td>
<td>Area, Structures, Capabilities, Organizations, People, Events</td>
</tr>
<tr>
<td>CAX</td>
<td>Computer Assisted Exercise</td>
</tr>
<tr>
<td>CCJO</td>
<td>Capstone Concept for Joint Operations</td>
</tr>
<tr>
<td>CD Plan</td>
<td>Concept Development Plan</td>
</tr>
<tr>
<td>COA</td>
<td>Course of Actions</td>
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<tr>
<td>COCOM</td>
<td>Combatant Commander</td>
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<tr>
<td>CONEMP</td>
<td>Concept of Employment</td>
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<tr>
<td>CONOPS</td>
<td>Concept of Operation</td>
</tr>
<tr>
<td>COBP</td>
<td>Code of Best Practices</td>
</tr>
<tr>
<td>CONUSE</td>
<td>Concept of Use</td>
</tr>
<tr>
<td>CPOE</td>
<td>Complex Preparation of Operational Environment</td>
</tr>
<tr>
<td>DCDC</td>
<td>Development Concepts and Doctrine Centre</td>
</tr>
<tr>
<td>DCF</td>
<td>Defense Capability framework</td>
</tr>
<tr>
<td>DFC</td>
<td>Defense Capability Network</td>
</tr>
<tr>
<td>DOTMLPFI</td>
<td>Doctrines, Organization, Training,</td>
</tr>
<tr>
<td>ECC</td>
<td>Equipment Capability Customer</td>
</tr>
<tr>
<td>FA&amp;SOC</td>
<td>Future Air and Space Operating Concept</td>
</tr>
<tr>
<td>FEMOC</td>
<td>Future Electromagnetic Operating Concept</td>
</tr>
<tr>
<td>FLOC</td>
<td>Future Land Operating Concept</td>
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<tr>
<td>FMOC</td>
<td>Future Maritime Operating Concept</td>
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<tr>
<td>HLOC</td>
<td>High-level Operational Concept</td>
</tr>
<tr>
<td>IPB</td>
<td>Intelligence Preparation of Battlefield</td>
</tr>
<tr>
<td>JDCC</td>
<td>Joint Doctrine and Concepts Centre</td>
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<tr>
<td>JFC</td>
<td>Joint Functional Concept</td>
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<tr>
<td>JIC</td>
<td>Joint Integrating Concept</td>
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<tr>
<td>JOC</td>
<td>Joint Operating Concept</td>
</tr>
<tr>
<td>JFDID</td>
<td>Joint Force Development and Integration division</td>
</tr>
<tr>
<td>JOpsC</td>
<td>Joint Operations Concepts</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>---------</td>
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<tr>
<td>METT-TC</td>
<td>Mission, Enemy, Terrain &amp; Weather, Troops &amp; Support available</td>
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<tr>
<td>MoD</td>
<td>Ministry of Defense</td>
</tr>
<tr>
<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
</tr>
<tr>
<td>OPLAN</td>
<td>Operational Plan</td>
</tr>
<tr>
<td>OSN</td>
<td>Organization of United Nations</td>
</tr>
<tr>
<td>PESTLE(M)</td>
<td>Political, Economic, Social, Technology, Legal, Environmental (and Marketing)</td>
</tr>
<tr>
<td>PMESIL</td>
<td>Political, Military, Economic, Social, Information, Infrastructure</td>
</tr>
<tr>
<td>POFEO</td>
<td>Political-Military Scenarios, Objectives, Strategy and Tactics, Forces, Environment, Others</td>
</tr>
<tr>
<td>RSOM</td>
<td>Reception, Staging, Onward Movement</td>
</tr>
<tr>
<td>SME</td>
<td>Subject Matter Expert</td>
</tr>
<tr>
<td>SAST</td>
<td>Strategic Assumptions Surfacing &amp; Testing</td>
</tr>
<tr>
<td>SODA</td>
<td>Strategic Options Development &amp; Analysis</td>
</tr>
<tr>
<td>SOR</td>
<td>Statement of Requirements</td>
</tr>
<tr>
<td>SSM</td>
<td>Soft Systems Methodology</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths Weaknesses Opportunities Threats</td>
</tr>
</tbody>
</table>
The book “Operating Concepts: Approaches and Procedures” is one of the outcomes of the Defense Research Project, addressed by a team of authors from the Department of Lifelong Learning, Faculty of Economics and Management, University of Defense, under Defense Research Project “OPERKON – Operating Concepts of the Czech Republic Armed Forces in Joint Operations”. The objective of this book is to provide a basic overview of the mission and operating concepts development in relation to the management of building, development and the armed forces employment. Based on the analysis of approaches applied by selected countries, the authors’ aim is to give readers the book discussing the systemization of military concepts, their purpose and background of their project management development.

The book is divided into three chapters. In the first chapter, Operating Concepts, the authors discuss the essence of operating concepts, their typology and structure. In the second chapter, Operating Concepts and Defense Planning, the authors define the relationship between the operating concepts and the defense planning process. In the third chapter, Development of Operating Concepts, the authors describe the project management in terms of development and updating of operating concepts. The target group of this book is primarily the management staff and experts involved in the concepts development, either related to the use of allocated resources (concepts of forces employment), their internal functions (functional concepts) or organizing and building of organizational entities (institutional concepts).
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