CONSIDERATION OF THE COURSES OF ACTION BY THE SIMULATION METHOD IN THE LAND FORCES OF THE POLISH ARMED FORCES

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Abstract: *In the article, the authors' present one of the procedures of consideration of the courses of action applied in the Land Forces of the Polish Armed Forces during operations' planning. As it is shown by the experiences gained at the run trainings, the most effective procedure is simulation. In its course, there is identification of future operations (events) of the enemy and the own forces in accordance with the rule: action – reaction – counter-reaction.*

1. INTRODUCTION

The system of command and control of the Polish Armed Forces consists of three components, namely: the organization of command and control, the military decision-making process, the means of command and control. They should constitute an integral entity assuring, among other things, efficient decision making by the commanders, their implementation in the army and their command in combat. What is extremely important in the military decision-making process is planning, within which this is the commander who makes a decision. It depends on the made decision if the set goals are achieved and with what effect. The commander makes the decision at the time of planning operations, and one of the activities entailed in the process of planning is the consideration of the courses of action, which is often treated perfunctorily, as the trainings prove. The command bodies participating in trainings avoid a very complicated, as they see it, method of simulation. It is largely caused by the fact that the problem issue is described in a very general way in the national doctrinal documents, what is more a limited number of officers are able to participate in the trainings organized at the War Studies University, where simulation while

planning is used as the basic method of pondering on the courses of action. Therefore, the subject article develops the problem of the consideration of the courses of action with the method of simulation presenting the auctorial solutions used inter alia in the didactic process at the aforementioned university.

In the doctrinal document which is biding in the Polish Armed Forces *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*[1] there are three methods of consideration of the courses of action:

– simulation method;
– method of capabilities comparison;
– method of pros and cons.

As the experience gained at trainings shows, the most effective method is simulation. The remaining two can be used when the time for operations' planning is limited.

During simulation there is identification of future activities (events) of the enemy and the own forces in accordance with the rule of action – reaction – counter-reaction. The substance of the procedure is presented in the further part of the article.

2. ROLE AND PLACE OF SIMULATION IN THE MILITARY DECISION MAKING PROCESS

According to the document *Planowanie działań na szczeblu…* the cycle of the military decision-making process takes place in four stages:

– pinpointing;
– planning;
– setting a mission;
– controlling.

A detailed course of the military decision-making process on a tactical level is illustrated in Figure 1. The consideration of the courses of action takes place in the stage of planning during the assessment of situation (Fig.1). It begins after the preparation of courses of action for the own forces and presenting them to the officers of the types of forces (specialists) who should already have the concept of support and safeguarding the courses of action (separately for each variant) the moment they start simulation.

The goal of the consideration of the courses of action is to determine the strengths and weaknesses of the variants of tasks performed in confrontation with

[1] See: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007.

the probable way of the enemy's performance. They are usually identified as the disadvantages and advantages of the courses of action of the own forces. According to the authors, it would be a good solution to assess the risk of completing a mission for each of the elaborated courses of action. However, with such an attitude, it is important to identify threats having influence on the completion of a mission e.g. losses, atmospheric conditions, improvised explosive devices, diversion and reconnaissance groups, national minorities, etc.

The carried-out simulation should result in certain conclusions in the scope of:

– the influence of the terrain and atmospheric conditions on the operation of the own and the enemy forces;
– the probable action of the enemy;
– the change of the capabilities of the own forces in time and space;
– the change of the combat order of the own forces;
– areas of utmost importance;
– core threats;
– the change of decision points.

During simulation it is extremely important to define tasks (mission) for particular elements of combat order and determine time and place of their realization. The effects should be written down in a synchronization table which is an indispensable document used at the stage of control to carry out synchronization as well as while running operations.

On the basis of conclusions drawn from the carried-out simulation the courses of action of the own forces can be accepted without any changes, can be modified or rejected due to the fact that they do not correspond with the specific mission defined by the commander and the criteria set by him.

In case of a limited time for planning operations, the courses of action can be considered with the method of capabilities comparison or the method of pros and cons. Whereas, after the decision is made by the commander, it is advised to carry out a simulation of a chosen course of action. Then, the simulation will aim at[2]:

– checking the chosen course of action;

[2] See: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007.

– modification and removal of errors which were not noticed earlier;
– identification of data for the plan of synchronization of operations, which will be prepared in the further course of the military decision-making process.

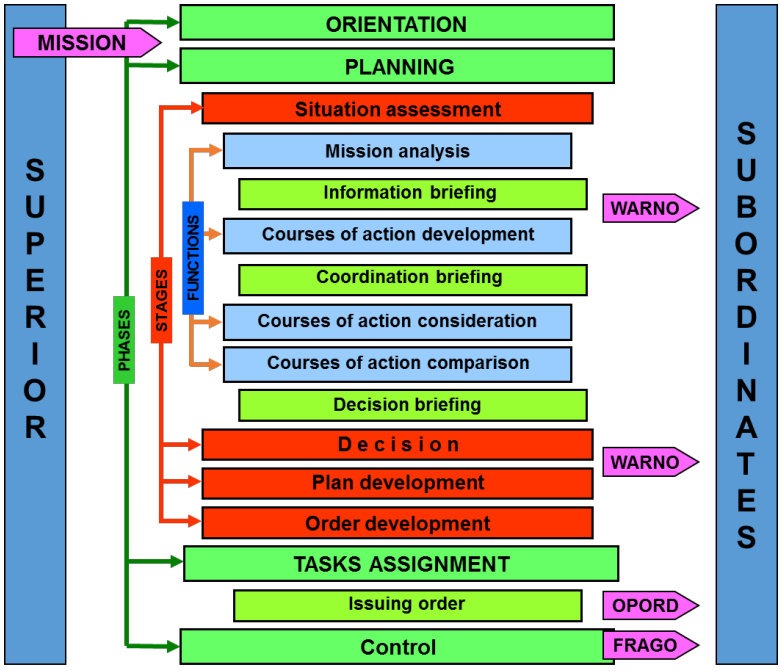

Figure 1. Layout of the military decision-making process.
Source: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007, p. 68.

3. PREPARATION OF SIMULATION

Prior to a simulation, the courses of the own forces' operations are prepared, and even earlier of the enemy. Each of the prepared own forces' course of action determines combat order and provides an initial division of forces. It is also vital to determine the capabilities and the relation of forces in particular stages of combat. This, in turn, allows for the calculation of the pace of an offensive of the own forces or of the enemy. Such a preparation of a

course of action allows having certainty that the adopted solution will enable the performance of the partial tasks within the time anticipated by the superior. Moreover, it gives the possibility to determine the needs in terms of completing the capabilities of own forces (armored, mechanized, and infantry) by the supporting units (artillery, anti-aircraft defense, military engineering, etc.)

Each of the courses of action should include a sketch (Fig. 2) as well as a note in writing (legend) with the following information:

- aim of an operation;
- way of completing a mission – divided into stages;
- major effort;
- combat order;
- initial division of forces;
- arrangement of command posts.

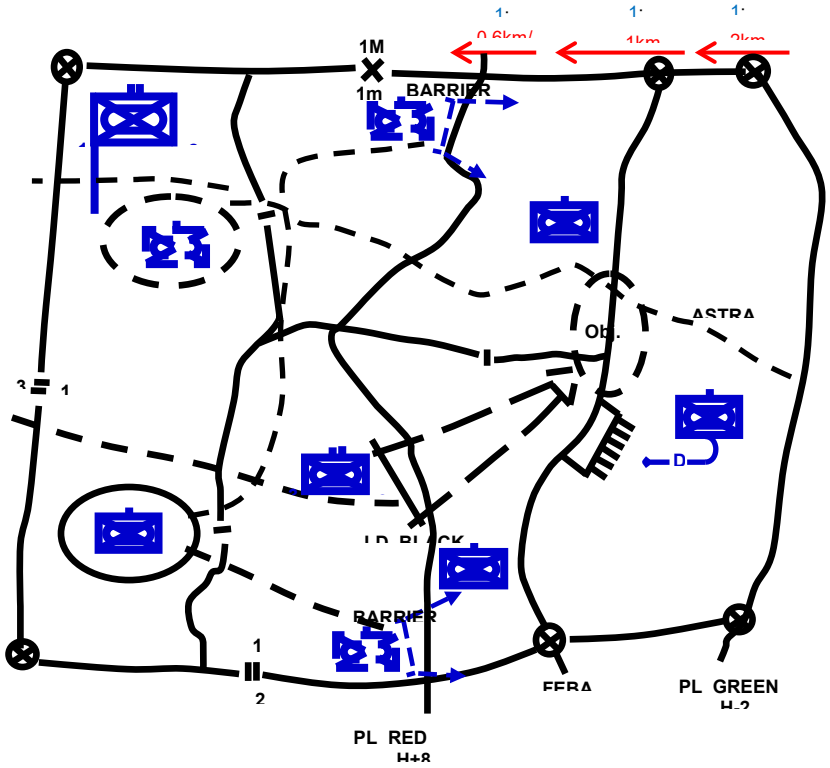

Figure 2. Courses of action of a mechanized battalion in defense.
(Source: Own elaboration)

Each course of action lined with the concept of their support constitutes the basis for the consideration of the courses of action by the method of simulation.

The next step after the preparation of courses of action is the definition of decision points. Particular decision points should be defined during the elaboration on the courses of action of the own forces, where the planning unit determines which partial tasks will be realized by the own forces.

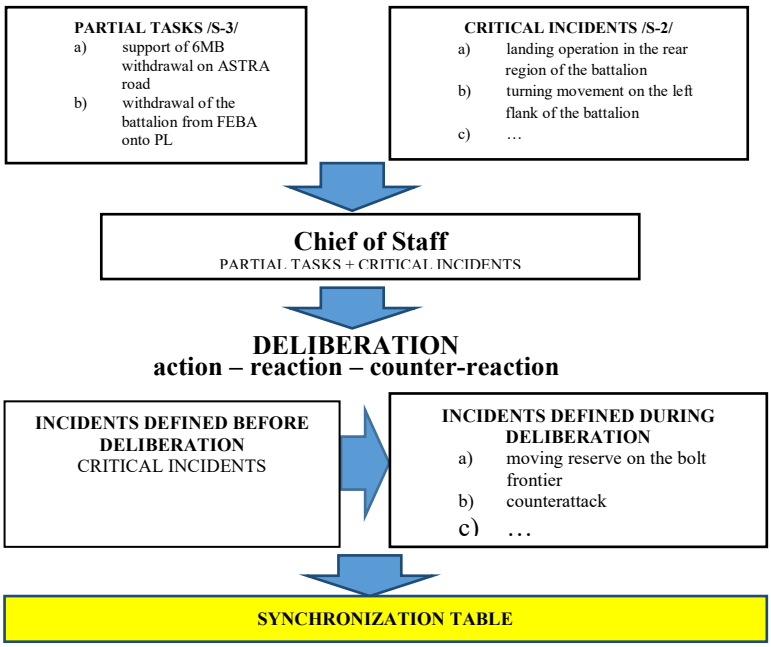

Figure 3. Way of defining decision points.
(Source: Own elaboration)

Moreover, the reconnaissance unit in the framework of IPB (pl. IPPW)[3] determines a probable way of the enemy's operation, where critical incidents having influence on the operations of the own forces should be defined. The defined partial tasks and critical incidents are subject to the analysis of the chief of staff who chooses the most important ones i.e. having the biggest influence on the way of the own forces conduct (Figure 3). He does it either independently or jointly with the officers of planning and reconnaissance units. It must be remembered that a decision point - is a point identified in time and place within which and in relation to a real situation the commander must make decision concerning further course of action. While a critical point – is a key point (position) in time and place – important for the success of operations.

The incidents defined by the chief of staff provide the direction for the process of consideration of the courses of action and they constitute the basis for determining another incident – already in the course of consideration. The decision points (incidents) defined prior to the consideration and in its process are written down in a synchronization table.

The chief of staff is responsible for the preparation and the conduct of simulation. The activities which must be performed for the sake of simulation entail:

– preparing a terrain model, a map or a sketch;
– preparing symbols (tactical signs) to present the situation on the terrain model, the map or the sketch;
– presenting the situation on the terrain model, the map or the sketch in accordance with the elaborated courses of action: demarking lines, points and coordinative lines, etc.;
– in case of simulation with the use of IT programs it is necessary to key the data into the system: combat order of the enemy and of the own forces, the possessed capabilities, the number of the possessed combat measures and material resources, other;
– preparing the record of (capabilities) forces and measures of the enemy and the own forces;
– preparing tools for calculation: calculation sheets e.g. Excel, tactical norms, other according to the needs;

[3] IPPW – Informacyjne Przygotowanie Pola Walki/ IPB Intelligence Preparation of the Battlefield.

– preparing a table of drawbacks and benefits (Table 1), a synchronization table (Table 2), and a risk assessment table (Table 3).

Table 1. Drawbacks and benefits table.
(Source: Own elaboration)

	Variant No. 1	Variant No. 2	Variant No. 3
Drawbacks			
Benefits			

Table 2. Operations' synchronization table.
(Source: Own elaboration)

SIGNAL/TIME	COMBAT ORDER ELEMENT/DETACHMENT, SUB-SUBUNIT	MISSION	NOTES
STAGE I (H-…)			
Decision point No. 1: withdrawal of forces from a front position			
The enemy:			
Reconnaissance:			
STAGE II (H+…)			
Decision point No. 2: withdrawal from FEBA onto PL BLUE			
The enemy:			
Reconnaissance:			
STAGE III (H+…)			
Decision point No. 3: counterattack from LD BLACK			
The enemy:			
Reconnaissance:			

A synchronization table is a document where conclusions from the simulation are written down. It entails decision points defined before a simulation and those defined during a simulation, the activities of the enemy in relation to those decision points, tasks for the own elements of combat order as well as signals e.g. to open fire, use of reserve, troops withdrawal, etc. The prepared synchronization table is completed with more details after the commanders make decisions.

Table 3. Risk assessment table.
(Source: Own elaboration)

Identified risks (Risk factors)	Initial risk estimating		Risk level	Initial risk assessment	Determining risk reaction		Estimating risk after the application of risk reaction measures		Risk level	Final risk assessment
	Defining probability	Defining effects			Active activities (measures)	Passive activities (measures)	Defining probability	Defining effects		

The results of the process of risk assessment obtained during simulation are presented in a table (Table 3) which is a tool supporting a decision-making process by the commander.

4. SIMULATION COURSE

Simulation is carried out by the chief of staff. Moreover, there are officers from the command body who perform operations simulation of the enemy forces and of the own ones. A simulation can be carried out with the technique of stages, directions or objects, which are described in a doctrinal document *Planowanie działań na szczeblu…*[4]. It can also be conducted in the order of decision points and critical points (Fig. 4) defined prior to the consideration.

[4] See: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007.

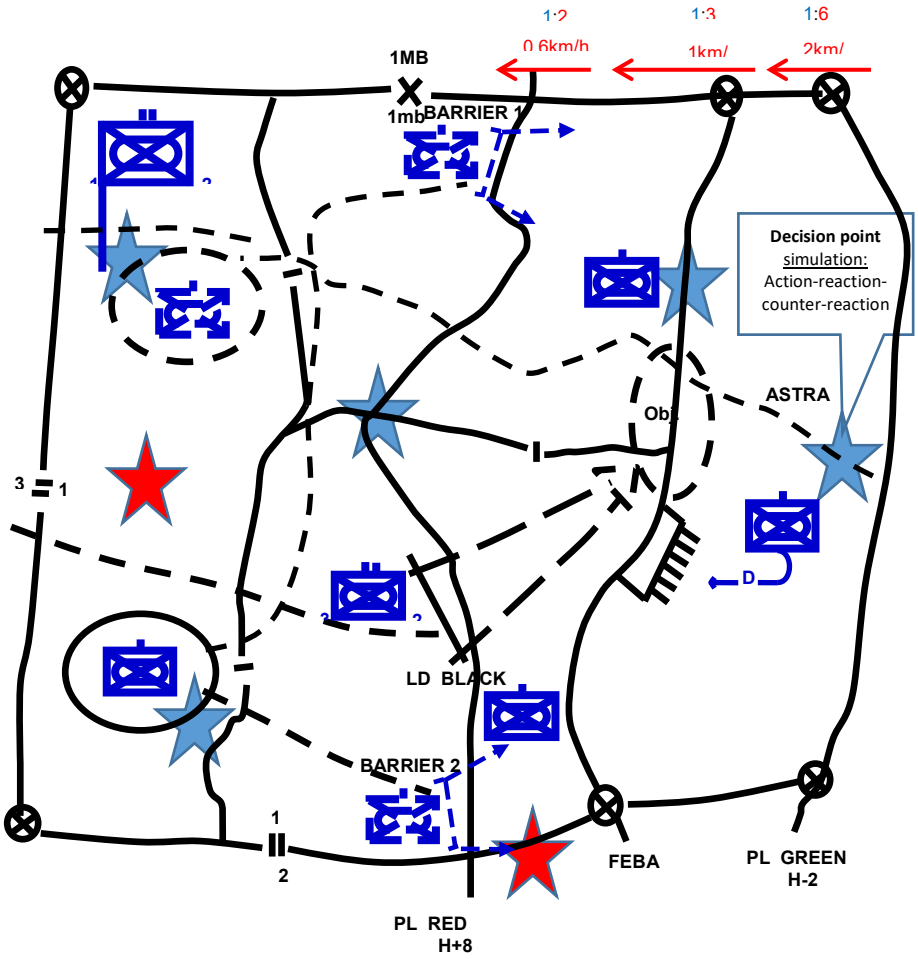

Figure. 4. Courses of own forces action with the elements necessary for simulation.
(Source: Own elaboration)

During simulation, different possibilities of performing partial tasks are taken into consideration, the same pertains to the probable events stemming from the operations of the enemy (landing operation, turning movement, etc.). The deliberation on different reactions of the own forces to the operations of the enemy allows to define next decision points, and at the same time to determine further partial tasks as well as signals for the elements of combat order.

A vital role in simulation is played by the officers (specialists) of the types of forces. Their mission is to show real possibilities of support of the own forces' operations. It is done during the consideration of next decision points, where the mentioned specialists respond to the needs (they complete the capabilities) in terms of support of further partial tasks, both those determined before consideration and of those defined in the course of operations' simulation. Such attitude to simulation requires that the officer preparing the course of own forces actions must make proper calculations, e.g. of the pace of the enemy attack, which is presented in Figure 4.

As it has been mentioned, simulation can be realized according to the defined decision points and critical points. The methodology of conduct in the process of the deliberation on each of the points can be the following:

a) commencement of simulation by the chief of staff:
   - reminder of the determined mission of the commander, its mission statement and the criteria;
   - determination which decision points and critical points will be discussed and in what order;

b) indicating decision point No. 1 by the chief of staff:
   - crossroads in square ED /… / - decision point No. 1 – support of the 6th Mechanized Brigade withdrawal from fight on Astra road;

c) simulation of enemy's operations and the own forces with reference to decision point No. 1 – according to the rule action – reaction – counter-reaction:
   - **action:** the officer of reconnaissance unit as well as officers of the types of forces present the way of operations of the enemy and their capabilities;
   - **reaction:** the officer of the planning unit as well as officers of the types of forces present the way of operations of the own forces and their capabilities, determine additional partial tasks for the troops, places of their realization, as well as signals;
   - **counter-reaction:** the officer of a reconnaissance unit as well as the officers of the types of forces present the way of operations of the enemy as well as their own capabilities with reference to the presented scheme of operations of the own forces.

If there is a need for further consideration of the operations of the enemy and the own forces with reference to decision point No. 1, the chief of staff orders to continue the simulation.

d) conclusions from the simulation of operations at decision point No. 1 can concern:

o changing combat order of the own forces;

o additional partial task for troops;

o change of time and place of decision points or setting next (additional) decision points;

o determining the crucial place (terrain) and the way of its use;

o preparing more detailed EDKD[5] (*elements of command and control, and coordination of operations)*;

o determining signals to realize operations (missions) by the own forces;

o assessment of risk concerning mission's fulfilment.

Conclusions from the simulation, in relation to each of the courses of action, should be written down in a table of drawbacks and benefits, synchronization table, as well as the table of risk assessment.

The above procedure is repeated by the command body of the command post with relation to the rest of the decision points and the critical points. Depending on the time available, some of the decision and critical points (those less important for the goal achievement) can be scrapped.

In the course of simulation, the following rules should be observed[6]:

– objectivism; it is advised to avoid bias or being led by 'what the commander wants to achieve', it is also not proper to defend uncritically the courses of action prepared by yourself;

– meticulous note-taking of the identified drawbacks and benefits of each of the courses of action. However, it should be done only after they become obvious (for this purpose the tables of drawbacks and benefits are used);

– constant assessment of the viability and purposefulness of the courses of action, since in a situation when any of the courses of action at any stage does not

[5] EDKD: Elementy Dowodzenia i Koordynacji Działań *(elements of command and control, and coordination of operations).*

[6] *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007, p. 42.

meet one of the mentioned conditions, it should be scrapped;

– avoidance of drawing premature conclusions before they are confirmed in the course of simulation;

– avoidance of comparing one course of action with the other during simulation, since the step will be realized in the course of the next activity – comparison of the courses of action.

5. CONCLUSION

The solutions presented in the article pertaining to the procedure of conduct during simulation of operations do not significantly differ from the procedures adopted in the Land Forces of the Republic of Poland. However, the authors of the subject article believe that they require some changes in terms of defining decision points and critical points, the technique of running simulation (presently there are 3 techniques of: stages, directions, and objects), all done through simulation. Moreover, it is advised to carry out the assessment of risk of each of the courses of action of the own forces if there is enough time for operations' planning. The assessment will be presented in detail in the ensuing article.

All in all, it should be emphasized that the described procedure of running consideration of the courses of action is one of three methods applied in the Land Forces of the Polish Armed Forces. In the situation of limited time for planning operations, the staff can use methods already mentioned at the beginning of the article, i.e. the method of capabilities comparison or the method of pros and cons.

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