RANKING OF FACTORS INFLUENCING THE COMPOSITION AND NUMBER OF BATTALION TASK FORCES OF THE NATIONAL GUARD OF UKRAINE FOR PARTICIPATION IN STABILISATION ACTIONS

The factors influencing the composition and number of battalion task forces of the National Guard of Ukraine for participation in stabilization operations were determined using the expert assessment method. Their significance was assessed using the a priori ranking method, and an approach to identifying the most significant factors was proposed.

As a result of the ranking, it was determined that the following factors have a significant impact on the composition and number of battalion task forces of the National Guard of Ukraine for participation in stabilization operations: the content and scope of tasks performed simultaneously (sequentially), the forms and methods of action of the battalion task forces; the ability of the battalion task forces to operate autonomously for a long period, without replenishment of supplies and replacement of personnel; the combat composition, capabilities and...
characteristics of the enemy’s sabotage and reconnaissance forces and illegal armed formations; the number of important objects and communications to be protected and defended; the composition and number of subordinate (interacting) forces and means of other components of the security (defence) forces.

The least influential factors include the following: loss of control over the situation by state and local government bodies, the level of personnel training, the socio-political and criminal situation in the area of task performance, and others.

A detailed understanding of the factors influencing the composition and number of the battalion task forces, as well as the magnitude of each rank, will help commanders (chiefs) and their subordinate command and control bodies more rationally allocate forces and means when forming these organizational units.

Taking into account the most significant factors even before the start of a conflict (crisis) will allow for creating an effective autonomous unit quickly, ready to take action to eliminate it early.

**Keywords:** battalion task force of the National Guard of Ukraine, concordance coefficient, expert assessment method, rank, ranking, stabilization actions, factor

**Statement of the problem.** In response to threats to Ukraine's state sovereignty and territorial integrity caused by Russian armed aggression, the defence forces use various types of military action, which form the basis of the relevant operations. Depending on the situation, these operations are usually complex. They may simultaneously or sequentially combine offensive (counter-offensive), defensive battles, stabilisation and particular actions of troops (forces) with clear dominance of one of these components.

Under the current conditions of armed struggle, characterised by the widespread use of unconventional methods to achieve the goal of confrontation between the parties to the conflict, along with the tasks of offensive (counter-offensive) and defensive actions related to repulsing and deterring armed aggression, stabilisation measures are an effective tool for ensuring national security in crisis areas of the state. They are carried out by a specific composition of forces and means of the components of the security and defence forces of Ukraine in order to stop the activities of sabotage and reconnaissance forces (SRF), criminal organisations (groups), prevent their support from abroad, identify persons involved in collaboration and aiding the aggressor state, normalise the situation, ensure conditions for the reliable functioning of state and local authorities, essential facilities and communications, assist the local population, and maintain the legal regime of martial law. At the same time, among the components of the security and defence forces, the National Guard of Ukraine (NGU) is the one whose functional purpose is most appropriate for stabilisation actions.

The organisation of the activities of the Guard units in this area has previously been carried out on the territory of our country within the Luhansk and Donetsk regions under the legal regime of the anti-terrorist operation (Joint Forces Operation). A set of stabilisation measures was aimed at countering the hybrid war against Ukraine to prevent the armed conflict from moving inside the country. Currently, the situation is stabilised in certain districts of Kharkiv and Kherson regions to establish control over the territory and population affected by the russian occupation and liberated from the enemy.

In both cases, the NGU's forces and means, along with regular military formations, were represented by autonomous temporary organisational units created to perform specific tasks in certain areas of responsibility, particularly battalion tactical groups (BTGs).

In any case, depending on the circumstances in which these elements of the military organisation carry out a set of measures to stabilise the situation, their functional and numerical composition is determined by a significant number of factors that have different effects on the structure of these formations. At the same time, sharp changes in the situation can lead to a change in the significance of the influence of factors. As a rule, there can be many such factors. As a result, the process of creating a BTGr becomes more complicated with their increasing number, especially if the time for this is limited and commanders (chiefs) and their subordinate command and control bodies cannot consider all factors. Therefore, for the convenience of assessing the significance of the factors, it is necessary to outline a list of methods that will maximise decision-making in creating a BTG.

Given the above, identifying a set of factors, ranking them, and selecting the most important ones is one of the main tasks that should be solved when developing a methodological apparatus for justifying the composition and size of the NGU BTG for participation in stabilisation actions.
Analysis of recent research and publications. Many scientific studies have been devoted to determining and assessing the significance of factors that influence the final result [1-7].

Researchers V. O. Yevseev and V. V. Pashchenko, using the method of expert evaluation, identified factors that affect the degree of security of essential state facilities [1]. To determine the magnitude of the impact of each of these factors, they conducted an a priori ranking.

In the work of V. Y. Panchenko, O. S. Onoprienko, V. L. Fedorenko, using the expert method, they identified groups of factors that affect the performance of tasks by the National Guard of Ukraine in the event of a state of emergency due to a man-made or natural situation related to the destruction of a hydraulic structure [2]. An expert assessment of the quantitative indicators that formalised the factors was carried out, and each rank of influence was assigned.

Scientists O. Shmakov, Y. Babkov, and V. Polyakov used the expert method to determine the list of factors that affect the composition of the National Guard of Ukraine to perform assigned tasks in cases of crises at the state border and their escalation to an interstate armed conflict (armed aggression against Ukraine) [3]. The factors were grouped by the stages of emergence and development of the crisis - aggravation of the situation at the state border, armed conflict at the state border and full-scale armed aggression against Ukraine, and ranked.

In publication [4], Adamchuk M. M., Babkov Y. P., Kolyanda V. V., and Kucherina S. E., using the expert evaluation method, identified the factors influencing the functional composition and size of the National Guard of Ukraine. The National Guard is created to perform tasks to ensure public safety in areas of social, natural, and man-made emergencies. Their significance is assessed based on the a priori ranking method. An approach to identifying the most significant factors is proposed.

Of interest is the work of researchers R. I. Tymoshenko, O. M. Zahorka, V. O. Kolesnikov [5], in which the results of ranking the factors influencing the composition of a group of troops created to repel aggression are obtained by the method of expert evaluation. The identified factors were divided into groups: military-political, strategic (operational-strategic), military-technical (logistical), etc.

In a scientific article, Y. B. Ivashkov and V. V. Zalozh identified factors that affect the functioning of Ukraine's State Border Guard Service in a particular period, analysed, systematised and ranked them [6].

Researchers S. Pavlenko, O. Alboschii, L. Tovma, A. Frolov, and E. Shevchenko [7] identified the factors influencing the organisation of food supply for maintaining the legal regime of the state of emergency, assessed their significance using the a priori ranking method, and proposed an approach to identifying the most significant factors.

However, the analysis of the above sources suggests that today, the issue of identifying and outlining the most significant factors affecting the composition and size of the NGU BTGr created to participate in stabilisation actions still needs to be addressed beyond the attention of scholars. In addition, the factors presented in scientific papers cannot be fully taken into account when forming a BTG, as they do not reflect all the conditions and circumstances under which the situation on the territory of the state (in a particular region, in the de-occupied territory) is stabilised, as well as the specifics of this activity. Therefore, it is essential to study a set of factors and determine their impact on the functional and numerical composition of temporary organisational units, which will ensure the successful implementation of stabilisation tasks.

The purpose of the article is to identify, rank and highlight the most significant factors affecting the composition and number of battalion tactical groups of the National Guard of Ukraine for participation in stabilisation actions.

Presentation of the main material. A clear understanding of the factors influencing the composition and size of the NGU battalion tactical groups for participation in stabilisation operations and the weight of each of them will help commanders (chiefs) and subordinate staff to create an effective military organisational structure of the required functional and numerical composition capable of performing the full range of measures to stabilise the situation in crisis areas.

The concept of ‘factor’ is understood as a condition, circumstance, cause, driving force, or variable which, by assumption, affects the composition and size of the NGU BTGr and the result and effectiveness of performing tasks during participation in stabilisation actions.

The article's factors are determined using the expert evaluation method presented in the publication [4], which is based on the receipt and processing of data obtained from a survey of experts in a particular field.
A group of experts was involved in the procedure for assessing a set of factors, including officers of the NGU territorial departments (Head of the Headquarters Use Planning Section, Head of the Operations Division of the Headquarters Use Planning Section, Head of the Operations Planning and Security Service of the Operations Division of the Headquarters Use Planning Section), academic staff of the Kyiv Institute of the NGU and the National Academy of the NGU, who had sufficient theoretical knowledge and practical experience in organising activities in the field of stabilisation of the region. The approach proposed in [8] was used to determine the professional level of experts in assessing the quantitative values of indicators.

During the preliminary study of the process of creating the NGU’s BTGr, experts analysed publications [9, 10, 11] on the use of troops in stabilisation operations to determine the list of factors.

Based on the results of the study, a group of factors influencing the composition and size of the NGU’s BTGr for participation in stabilisation actions was identified. They are as follows.

1. The size and physical and geographical features of the territory where stabilisation activities are carried out and tasks are performed.
2. The combat composition, capabilities and characteristics of the enemy's airborne forces and illegal armed groups (IAGs).
3. The content and scope of simultaneously (sequentially) performed tasks, forms and methods of actions of the BTGr.
4. The socio-political and crime situation in the area of the task.
5. Number of important objects and communications to be protected and defended.
6. The level of training of the personnel.
7. The ability of the BTG to operate autonomously for a long period of time, without replenishment and replacement of personnel.
8. Availability and condition of infrastructure in the area (sector) of responsibility.
9. Duration of stabilisation actions.
10. Loss of control over the situation by state and local authorities.
11. Expected losses of forces and means in the course of performing the tasks.
12. The level of resource provision of the BTGr.
13. The ability of the BTG to make extensive use of modern technological capabilities in the course of stabilisation operations.
14. Introduction of a legal regime of emergency or martial law in the area of the task.
15. The degree of urbanisation of the area of operations.
16. Established restrictions (prohibitions) on the scale and types of weapons used, methods of fire damage to the enemy and actions of troops.
17. Military and political situation around the country.
18. Composition and number of subordinate (interacting) forces and means of other components of the security (defence) forces.
19. Signs of increasing probability of a similar situation in the territories adjacent to the area of performance of tasks (in other regions of the state).
20. Ethnic and religious composition of the local population and its attitude to the troops and IAGs.

Using the approach proposed by the researchers [4], the next stage of the study is to rank the factors to assess their significance. The determination of the significance of the factors was carried out using the a priori ranking method (ARM), which is described in articles [4; 7; 12]. The essence of this method is to rank the factors in descending order of their contribution to the result. The contribution of a factor is assessed by the value of the rank assigned to a particular factor when ranking all factors, considering their expected impact on the optimisation parameter [4]. This method is widely used in various industries: military, financial, energy, transport, and logistics, etc.

The following sequence ranks the factors influencing the composition and size of the NGU's BTGs for participation in stabilisation operations:

1. The experts were provided with a questionnaire (see Table 1), which lists the factors that influence the composition and size of the NGU's BTGs for participation in stabilisation operations.

<table>
<thead>
<tr>
<th>№</th>
<th>Factors</th>
<th>Expert number</th>
<th>Evaluation ranks $\theta_{arm}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The size and physical and geographical features of the territory where stabilization activities and tasks are carried out</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Combat composition, capabilities and characteristics of the enemy's ARS and IAGs</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Content and scope of tasks performed simultaneously (sequentially), forms and methods of actions of the BTGr</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>$k$</td>
<td>Ethnic and religious composition of the local population and its attitude to the troops and IAGs</td>
<td>$k$</td>
<td></td>
</tr>
</tbody>
</table>

Source: developed by the authors

2. Next, the experts individually assessed the proposed factors using ranks, arranging them in order of decreasing the degree of their impact on the object of study, which is the target function.

3. The evaluation results are processed as follows:
The ranking diagram makes it possible to identify and neglect the most influential factors with little influence. Suppose the distribution of the degree of influence of the factors is uniform or uneven but gradually decreases (Fig. 2a). In that case, all factors should be taken into account in the process of creating the BTGr. In case of a sharp exponential decrease in the degree of influence of the factors (Fig. 2b), some of them can be disregarded (excluded) at the decision-making stage on creating a temporary military formation.

For this purpose, the experts set a threshold at which all factors with an impact value less than the threshold value are not considered. Alternatively, this threshold will divide the factors into two groups: the main ones that need to be taken into account when making a decision, and additional ones, the consideration of which will increase the validity of the decision.

The results of the ranking of the factors influencing the composition and size of the NGU’s BTGr for participation in stabilisation actions are presented in the
form of an a priori rank diagram (Fig. 3).

To identify the most significant factors, a threshold can be set $PI$ (Fig. 2b) equal to: $PI = (0.5\ldots0.8) \times \max \Delta_i$.

If the results of the ranking by the value of the threshold are $PI= (0.5\ldots0.8)$, then it is advisable to take into account the factors listed in Table 2.

**Table 2**

<table>
<thead>
<tr>
<th>Place</th>
<th>Number of the factor</th>
<th>Name of the factor</th>
<th>Rang value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>The content and scope of tasks that are simultaneously (sequentially) performed, forms and methods of actions of the BTGr</td>
<td>0.095</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>The ability of the BTG to act autonomously for a long period of time, without replenishment and replacement of personnel</td>
<td>0.090</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Combat composition, capabilities and characteristics of the enemy's SRS and IAGs</td>
<td>0.086</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>Number of important objects and communications to be protected and defended</td>
<td>0.081</td>
</tr>
<tr>
<td>5</td>
<td>18</td>
<td>Composition and number of subordinate (interacting) forces and means of other components of the security (defense) forces</td>
<td>0.076</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>Level of provision of resources for the BTGr</td>
<td>0.071</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
<td>Introduction of a legal regime of emergency or martial law in the area of task performance</td>
<td>0.067</td>
</tr>
<tr>
<td>8</td>
<td>11</td>
<td>Expected losses of forces and means in the course of performing tasks</td>
<td>0.062</td>
</tr>
<tr>
<td>9</td>
<td>13</td>
<td>The ability of the BTG to make extensive use of modern technological capabilities in the course of stabilization operations</td>
<td>0.057</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>Availability and condition of infrastructure in the area (sector) of responsibility</td>
<td>0.052</td>
</tr>
</tbody>
</table>
As a result of the ranking, it was found that the composition and size of the NGU's BTGs for participation in stabilisation actions are significantly influenced by the content and scope of simultaneously (sequentially) performed tasks, forms and methods of actions of the BTG; the ability of the BTG to act autonomously for a long period, without replenishment of supplies and replacement of personnel; combat composition, capabilities and characteristics of the enemy's ARS and IAGs; the number of important objects and communications to be protected and defended; composition and number of subordinate (interacting) forces and means of other components of the security (defence) forces. The least influential factors include the following: loss of control over the situation by state and local authorities; level of training of personnel; socio-political and crime situation in the area of performance of tasks, etc.

Conclusions and Prospects for Further Research. Thus, the article uses the method of expert evaluation to identify the factors influencing the composition and number of battalion tactical groups of the National Guard of Ukraine for participation in stabilisation actions. Using the IDA, they are ranked, and the most significant ones are highlighted. A list of the main factors that should be considered when creating temporary elements of the military structure of the Guard and additional factors that will increase the validity of the decision is established.

A detailed awareness and understanding of the factors influencing the composition and number of BTGs, as well as the rank of each, will help commanders (chiefs) and their subordinate management bodies to allocate forces rationally and means at the formation stage of these organisational units.

Taking into account the most important factors even before the conflict (crisis situation) begins will allow creating an effective autonomous unit in a short period of time, ready to act to eliminate it in its early stages.

The results should be used to develop a method for determining the rational composition of a battalion tactical group of the National Guard of Ukraine for participation in stabilisation operations.

References

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