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# ORGANIZATIONAL AND TECHNICAL METHOD OF ASSESSING THE COMBAT CAPACITY OF MILITARY UNITS

*An organizational and technical method for assessing the combat capability of military units has been developed. The method is based on a formalized mathematical model and provides for an assessment of the level of combat capability of a unit depending on its potential technical ability to perform its intended tasks, which is determined by the degree of compliance of the main tactical and technical characteristics of weapons samples with modern requirements, operational capabilities of weapons, the degree of manning of the unit with weapons and equipment, technical readiness of the unit and the level of stock of weapons resources, as well as the level of professional and moral and psychological preparation.*

***Keywords:*** *organizational and technical method, combat capability, military unit, technical capability, resource reserve, level of training.*

**Statement of the problem.** In modern conditions, in the event of new military threats to Ukraine's national security, the readiness of the personnel of the Armed Forces of Ukraine, the National Guard of Ukraine and other law enforcement agencies to perform their assigned tasks is crucial. The success of combat missions is determined by the combat capability of units, i.e. the state of troops that allows them to successfully conduct combat operations in any situation and realize their combat capabilities. Combat capability is the main indicator of the combat readiness of a military unit. It characterizes the capability to conduct combat operations in the course of performing assigned tasks and depends on the manning of units with personnel, weapons and military equipment (WME), as well as on combat training, provision of material resources, etc.

In this regard, the development of an organizational and technical method (OTM) for assessing the combat capability of military units in order to plan and implement organizational and technical measures aimed at maintaining and restoring the combat capability of troops is an urgent scientific and practical task in the field of state security.

**Analysis of recent research and publications.** The combat capability of a unit is determined by the degree of readiness of a military unit to perform combat missions. The authors [1] define combat capability as the ability to conduct combat operations and perform combat missions. Accordingly, among the factors that affect the level of combat capability are: the degree of manning, availability and condition of weapons and military equipment, the level of training of personnel and their moral and combat qualities, cohesion of units and headquarters, provision of material resources and other factors.

The authors of the article [2] interpret combat capability as "the determining state of the ability of troops (units) to conduct combat operations and perform combat missions". The level of combat capability depends on the manning of units and formations, the nature and intensity of combat operations, losses and the possibility of their rapid replenishment, the training of personnel, the provision of material resources and other conditions.

Regulations governing the US Air Force define readiness as a set of three different but closely coordinated indicators: logistical readiness, combat capability, and combat readiness of individual units [3].

Work [4] considers combat readiness as the ability of troops to carry out combat operations for a certain period of time, and the state of combat readiness is determined by the level of training and equipment of units, the state of their training, the

degree of logistics, as well as notification and readiness for mobilization.

The article [5] proposes a systematic approach to assessing the readiness of forces and means of power units to perform their assigned tasks. This takes into account the indicators of the probability of trouble-free operation of technical means, as well as the level of professional training and the level of staffing of the unit.

The authors of the article [6] proposed a methodology for determining the level of combat effectiveness of air defense units of the Land Forces depending on the predicted degree of combat capability of a combined arms unit in combat. They noted that the level of effectiveness of combat operations of these units is directly proportional to the level of preservation of the unit's combat capability.

In the process of assessing the combat capability of units, three degrees of combat capability are used in works [7, 8]: combat-ready, limited combat-ready and incapacitated. A unit is considered combat-capable if its combat potential has decreased by no more than 30 %, taking into account its tactical importance, the unit maintains stable management, the necessary stocks of material resources have been created, and the unit is able to perform combat missions in full. A unit whose combat potential has decreased by more than 30 % but less than 60 %, but has not lost control, is considered to be of limited combat capability. A unit whose combat potential has decreased by more than 60 %, or the unit has lost control, or does not have the necessary supplies, is considered incapacitated.

The authors of the article [9] propose a formalized mathematical model for assessing the combat capability of military units to perform their assigned tasks, which is a system of analytical dependencies describing the level of combat capability of the unit, its potential technical capability, and the degree of compliance of the main tactical and technical characteristics (TTC) of weapons of various types with modern requirements, operational capabilities and the degree of equipment, technical readiness of the unit and the level of stock of weapons and military equipment, the level of professional and moral and psychological training of the unit's personnel. This implements the principle of a systematic approach to solving the problem of assessing the combat capability of units to perform assigned tasks.

Thus, the analysis of the literature has shown that the considered approaches to assessing combat capability do not fully take into account all its components and require further research. This necessitates the development of a OTM for assessing the combat capability of military units, taking into account all its components.

**The purpose of the article** is to develop an organizational and technical method for assessing the combat capability of military units, which consists in planning and conducting activities aimed at assessing, maintaining and restoring the combat capability of troops.

**Summary of the main material.** This method is based on a formalized mathematical model [9] for assessing the combat capability of military units, which has the following form

$$\left.\begin{aligned} BZ &= F(П_T, P_{PMP});\\ P_T &= G(K_{TD}, K_E);\\ K_{TD} &= W(N_{AV}, N_{AV_i}, K_{TD\,i});\\ K_E &= Q(K_{YK}, K_{TR}, K_{SL});\\ K_{YK} &= L(N_{AV}, N_{UN});\\ K_{TR} &= V(N_{AV}, N_{TR});\\ K_{SL} &= U(N_{is}, R_{is}, N_{AV});\\ P_{PMP} &= H(P_{SP}, P_{PP}, P_{MP}) \end{aligned}\right\}, \qquad (1)$$

where $BZ$ is the level of combat capability of a military unit;

$P_T$ is the potential technical capability of the unit to perform assigned tasks;

$P_{PMP}$ is the level of professional and moral and psychological training of the unit's personnel to perform assigned tasks;

$K_{TD}$ is the generalized coefficient of technical perfection of the unit's weapons and military equipment samples;

$K_{TD_i}$ is the coefficient of technical perfection of the i-th type of WME samples;

$K_E$ is the generalized operational coefficient of the unit's WME samples;

$N_{AV}$ is the the available number of samples of the unit's WME;

$N_{AV_i}$ is the available number of samples of WME of the unit type;

$K_{YK}$ is the coefficient of manning the unit with weapons and military equipment;

$K_{TR}$ is the coefficient of technical readiness of the unit;

$K_{SL}$ is the service life reserve factor of the unit's available WME;

$N_{UN}$ is the number of unit's WME according to the staffing table;

$N_{TR}$ is the number of technically ready samples of the unit's WME from the available samples;

$R_{is}$ is the *s*-th limit of the service life reserve for the available samples of the *i*-th type of WME;

$N_{is}$ is the the number of available samples of the *i*-th type of WME with the *s*-th limit of the service life;

$P_{SP}$ is the probability of staffing the unit with specialists;

$P_{PP}$ is the probability of professional readiness to perform assigned tasks;

$P_{MP}$ is the probability of moral and psychological preparedness to perform assigned tasks.

According to the formalized mathematical model (1), we propose a OTM for assessing the combat readiness of military units. The essence of the combat readiness of units is their combat capability, which is determined by the totality of combat capabilities to perform combat missions in accordance with the assignment. Combat capability depends on the combat training of units, moral, psychological and combat qualities of personnel, the state of weapons and military equipment, provision of material resources and other factors. In general, the level of combat capability of a military unit of the *BZ* can be determined as follows [9, 10]:

$$BZ = P_T \cdot P_{PMP}, \qquad (2)$$

where $P_T$ is the potential technical capability of the military unit;

$P_{PTP}$ is the level of professional and moral and psychological training of personnel.

The potential technical capability of a military unit [9, 11] depends on the technical excellence of the WME samples $K_{TD}$, as well as on the operational performance of these samples $K_E$:

$$P_T = K_{TD} \cdot K_E. \qquad (3)$$

The technical perfection of WME samples [11, 12] is understood as the level of advantages of the technical characteristics of WME samples over the corresponding characteristics of analogs of domestic or foreign production. The characterization of the relative quality of WME samples is based on the comparison of the values of indicators that determine the technical perfection of the evaluated samples with the corresponding values of indicators of the base samples taken as a standard.

The generalized coefficient of technical excellence $K_{TD}$ of all types of weapons and military equipment of a particular military unit is calculated through the coefficients of technical excellence $K_{TD_i}$ of the *i*-th type of weapons and military equipment [13, 14]:

$$K_{TD} = \sum_{i=1}^{k} N_{AV_i} \cdot K_{TD_i} / N_{AV}, \qquad (4)$$

where $N_{AV}$ is the available number of samples of the unit's WME;

$N_{AV_i}$ is the number of available samples of the *i*-th type of WME of the unit;

$k$ is the number of different types of WME samples.

The coefficient of technical excellence of weapons and military equipment samples $K_{TD_i}$ characterizes the degree of compliance of the main technical specifications with modern requirements for the technical equipment of military units. The coefficient of technical perfection of the *i*-th type of WME sample for all *z*-th groups of technical specifications [14] is calculated as follows:

$$K_{TD_i} = \sum_{z=1}^{m} K_{TD_{zi}} \cdot P_{zi}, \qquad (5)$$

where $P_{zi}$ is the weighting factor of a group of all m groups of technical characteristics of the *i*-th type of WME sample, determined by an expert, while $\sum_{z=1}^{m} P_{zi} = 1$;

$K_{TD_{zi}}$ is the coefficient of technical perfection of the technical characteristics group of the *i*-th type of WME sample.

The coefficient of technical sophistication $K_{TD_{zi}}$ of a WME sample is calculated through the coefficients of technical sophistication of the *j*-th technical characteristics of the technical characteristics group of the *i*-th type of weapon sample:

$$K_{TD_{zi}} = \sum_{j=1}^{\rho} K_{TD_{jzi}} M_{jzi}, \qquad (6)$$

where $K_{TD_{jzi}}$ is the coefficient of technical perfection of technical specifications from the *z*-th group of technical specifications of the *i*-th type of WME sample;

$M_{jzi}$ is the weighting factor of the *j*-th technical specification from the *z*-th technical specification group of the *i*-th type WME sample,

which is determined by an expert, whereby $\sum_{j=1}^{\rho} M_{jzi} = 1.$

The coefficient of technical excellence $K_{TD_{jzi}}$ is calculated by comparing the *j*-th characteristic from a particular *z*-th group of technical characteristics of a certain sample with the corresponding characteristic of the sample taken as a reference $E$:

$$K_{TD_{jzi}} = A_{jzi} / A_{jzE}, \quad (7)$$

where $A_{jzi}$ is the numerical value of the *j*-th technical characteristics from the *z*-th group of technical characteristics of the *i*-th type of WME sample;

$A_{jzE}$ is the numerical value of the similar *j*-th technical data from the *z*-th group of technical data of the reference sample of the *i*-th type of equipment.

Taking into account expressions (6) and (7), expression (5) will have the following form:

$$K_{TD_i} = \sum_{z=1}^{m}\left(\sum_{j=1}^{\rho}\frac{A_{jzi}}{A_{jzE}} M_{jzi}\right)\cdot P_{zi}. \quad (8)$$

The value $K_{TD_i}$ depending on the performance of the selected reference weapon sample, may be less than 1 (the weapon sample of the *i*-th type is worse than the reference one in terms of the set of main technical characteristics) or more than 1 (otherwise).

Taking into account expression (8), the relation (4) for the technical excellence $K_{TD}$ coefficient will take the following form:

$$K_{TD} = \sum_{i=1}^{k}(N_{AV_i}\sum_{z=1}^{m}\left(\sum_{j=1}^{n}\frac{A_{jzi}}{A_{jzE}}\cdot M_{jzi}\right)P_{zi}) / N_{AV}. \quad (9)$$

The generalized service life $K_E$ of all samples of the unit's weapons and equipment characterizes mainly the degree of their physical aging and can be calculated according to the expression

$$K_E = K_{YK}\cdot K_{TR}\cdot K_{SL}. \quad (10)$$

The staffing of the WME unit $K_{YK}$ is characterized by the staffing ratio, which is determined by the ratio of the available number to the staffed number $N_{UN}$ of WME samples:

$$K_{YK} = N_{AV} / N_{UN}. \quad (11)$$

The technical readiness of a military unit is determined by the technical readiness coefficient, which depends on the technical condition of the WME and the ratio of the number $N_{TR}$ of technically ready to the available number $N_{AV}$ of WME samples of the unit:

$$K_{TR} = N_{TR} / N_{AV} = \sum_{i=1}^{k} N_{TR_i} / N_{AV}, \quad (12)$$

where $K_{TR}$ is the coefficient of technical readiness of a military unit;

$N_{TR}$ is the number of technically ready models of the unit's weapons and military equipment;

$N_{TR_i}$ is the number of technically ready samples of the *i*-th type of weapons and military equipment.

Taking into account that the moment of use of WME for performing assigned tasks is random, the number of technically ready samples of WME of the *i*-th type at any time is determined by the formula

$$N_{TR_i} = N_{AV_i}\cdot K_{G_i}, \quad (13)$$

where $K_{G_i}$ is the readiness factor of the *i*-th type of WME sample.

The availability factor of a sample of the *i*-th type of weapons and military equipment [15] is characterized by the probability that the sample will be operational at an arbitrary time. The availability factor of a sample of the *i*-th type of WME is calculated as follows:

$$K_{G_i} = \frac{T_{0i}}{T_{0i} + T_{bi}}, \quad (14)$$

where $T_{0_i}$ is the average time between failures based on the results of operation of the *i*-th type of WME sample;

$T_{b_i}$ is the average recovery time based on the results of operation of the *i*-th type of WME sample.

Taking into account (13) and (14), the relation (12) has the following form:

$$K_{TR} = \left(\sum_{i-1}^{k} N_{AV_i}\cdot\frac{T_{0i}}{T_{0i} + T_{b_i}}\right) / N_{AV}. \quad (15)$$

The service life of a unit's WME samples is determined by the service life reserve factor of WME samples of all types that are equipped with this unit [5, 14, 16]. It characterizes mainly the degree of physical wear (aging) of the unit's WME samples and is calculated in accordance with the expression

$$K_{SL} = \sum_{i=1}^{k}\sum_{s=1}^{6} N_{is}R_{is} / N_{AV}. \qquad (16)$$

The service life factor $R_{is}$ is selected depending on the service life of the *i*-th type of WME item as follows: for items that have 100% service life (new WME items), $R_{is1} = 1$; for items that have 99.9–75.0 % of the initial service life of the new item (or item after medium or major overhaul), $R_{is2} = 0{,}875$; for items that have 74.9–50.0 % of the initial service life of the new item (or item after medium or major overhaul), $R_{is3} = 0{,}625$; for samples that have a resource of 49.9–25.0 % of the initial resource of a new sample (or a sample after medium or major repair), $R_{is4} = 0{,}375$; for samples that have a resource of 24.9–0.1 % of the initial resource of a new sample (or a sample after medium or major repair), $R_{is5} = 0{,}125$; for samples that have a resource of 0 % (samples have used up their established resource, therefore they are subject to write-off), $R_{is6} = 0$.

Taking into account (11), (15), and (16), the ratio (10) for the calculation takes the following form:

$$K_E = \frac{\left(\sum_{i=1}^{k} N_{AV_i} \cdot \frac{T_{0_i}}{T_{0_i} + T_{b_i}}\right) \cdot \left(\sum_{i=1}^{k}\sum_{s=1}^{6} N_{is}R_{is}\right)}{N_{UN} \cdot N_{AV}}. \qquad (17)$$

Substituting expressions (9) and (17) into expression (3), we obtain the ratio for estimating $P_T$:

$$P_T = \left[\sum_{i=1}^{k}(N_{AV_i}\sum_{z=1}^{m}\left(\sum_{j=1}^{n}\frac{A_{jzi}}{A_{jzE}} \cdot M_{jzi}\right)P_{zi}) / \sum_{i=1}^{k} N_{AV_i}\right] \times$$
$$\times \frac{\left(\sum_{i=1}^{k} N_{AV_i} \cdot \frac{T_{0_i}}{T_{0_i} + T_{b_i}}\right) \cdot \left(\sum_{i=1}^{k}\sum_{s=1}^{6} N_{is}R_{is}\right)}{N_{UN} \cdot N_{AV}}. \qquad (18)$$

The analysis of expression (18) shows that the value of the potential technical capability of military formations and units is determined by the state of the WME samples, which depends on the indicators of technical excellence and operational performance of weapons.

A comparative analysis of the potential technical capabilities of military units is carried out by comparing their potential capabilities. The algorithm for a comparative analysis of the potential technical capabilities of different military units is as follows. First, the generalized coefficient of technical sophistication $K_{TD}$ of military units' WME (9) and the coefficient of manning of military units with WME (11) are assessed.

Next, the coefficient of technical readiness of military units' WME (15), the generalized coefficient of the service life of the available WME of military units (16) and the generalized operational coefficient of all samples of WME of military units (17) are estimated. Thus, the last step is to assess the potential technical capability of military units (18) and compare the potential technical capabilities of military units.

The model for assessing the potential technical capability of military units to perform their assigned tasks (combat operations) is shown in Figure 1.

Modules 1 and 2 are databases on the characteristics of the units' weapons and military equipment and their foreign counterparts, the units' equipment with samples of weapons and their technical condition. Based on this data, the relevant assessments are made in modules 3, 4, 6 and 7.

Module 3 is designed to estimate the coefficients of technical excellence of various types of unit's weapons and equipment samples. The data of module 3 are used for further calculations in module 5.

Module 4 is designed to assess the coefficient of manning of the unit's WME. The data of module 4 are used for further calculations in module 8.

Module 5 is designed to assess the generalized coefficient of technical excellence of the unit's weapons and equipment samples. The data of module 5 are used for further calculations in module 9.

Module 6 is designed to assess the coefficient of technical readiness of a military unit. The data of module 6 are used for further calculations in module 8.

Module 7 is designed to estimate the unit's service life reserve factor. The data from module 7 is used for further calculations in module 8.

Module 8 is designed to estimate the generalized service life coefficient of the unit's WME based on the data from modules 4, 6 and 7. The data from module 8 are used to make calculations in module 9.

Module 9 is designed to assess the potential technical capability of a military unit based on the data from modules 5 and 8.

The proposed model and algorithm make it possible to conduct a comparative analysis of the potential technical capability of military formations and units to perform their intended tasks, taking into account the indicators of technical excellence of weapons and military equipment samples and their operational performance. The purpose of this is to develop a strategy and priorities for re-equipping units with modern equipment to improve the efficiency of performing their intended tasks.

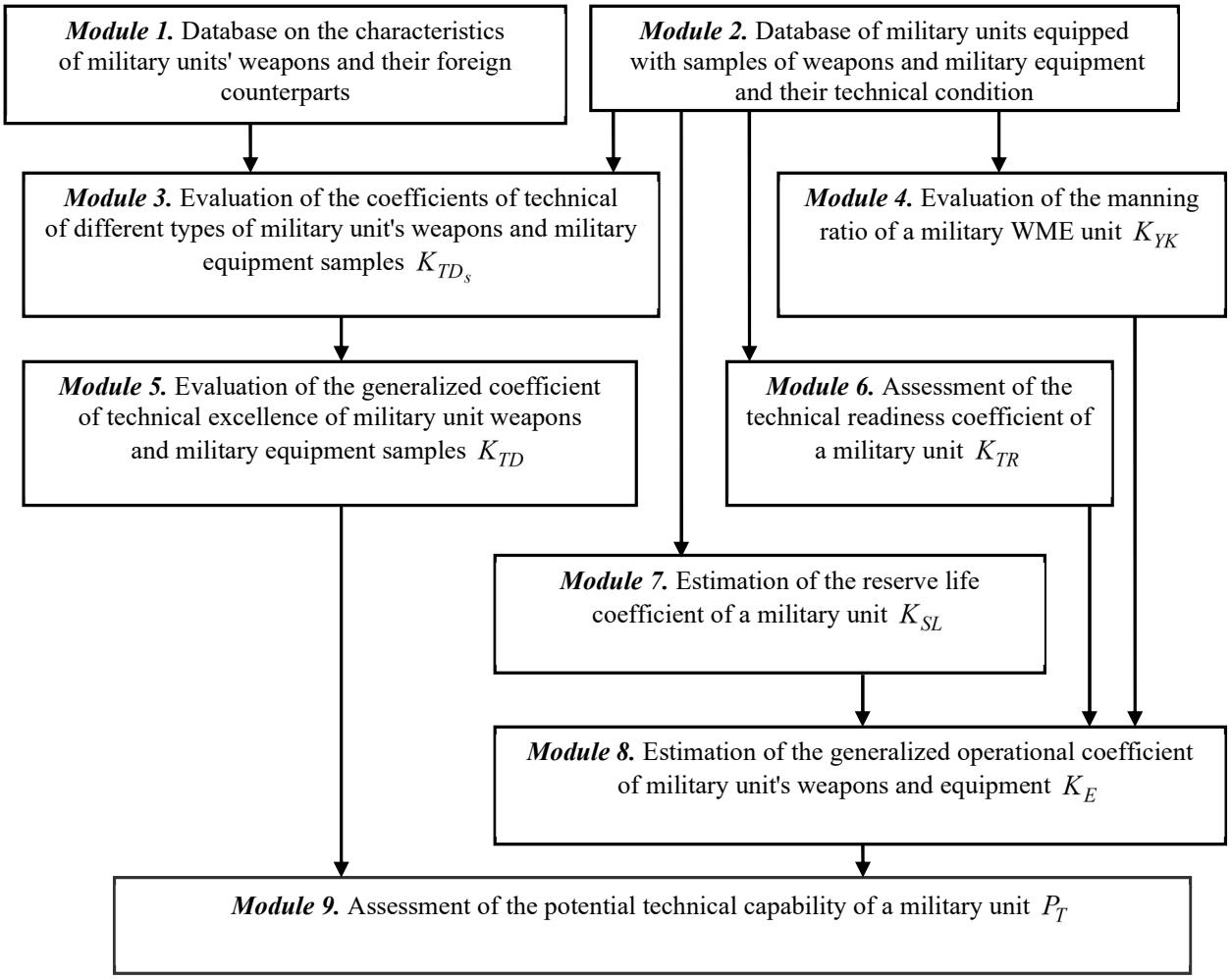


Figure 1 – Model for assessing the potential technical capability of of military units to perform assigned tasks

Combat capability of military units (2) largely depends on the quality of professional training of personnel and the level of moral and psychological preparation for performing assigned tasks. The level of professional and moral-psychological preparation of personnel for the performance of assigned tasks $P_{PMP}$ is determined by the staffing of the unit with specialists $P_{SP}$, professional $P_{PP}$ and moral-psychological preparation $P_{MP}$ for actions in combat conditions:

$$P_{PMM} = P_{SP}P_{PP}P_{MP}. \quad (19)$$

If the staffing table of the unit's personnel provides for the availability $r$ of specialist staff units and there are $w$, then the probability of staffing with specialists is equal:

$$P_{\text{SP}} = \frac{w}{r}. \quad (20)$$

Professional training and combat training is a set of knowledge, skills and abilities, training of personnel to conduct combat operations in different environments and in accordance with their assignment, and the availability of professional experience [17]. The probability of professional readiness to perform assigned tasks $P_{PP}$ is determined by the processes of acquiring knowledge, skills and abilities during training in educational institutions, in retraining and advanced training systems, as well as by professional experience. It can be described by a ratio that takes into account the results of professional selection and the effectiveness of the forms and methods of the training system:

$$P_{PP}(S) = P_q(S) = P_1(S) + \left[P(S) - P_1(S)\right] \cdot B(S) \cdot \left[1 - A(S)\right]^{-1}\left[1 - A^{q-1}(S)\right], \quad (21)$$

where $P_{PP}(S)$ is the probability of professional readiness of personnel to perform a task of type $S$;

$q$ $\left(q=\overline{1,\infty}\right)$ is the number of classes and training sessions that coincide with possible tasks during the performance of the assigned tasks;

$S$ is the type of task performed;

$P(S)$ is the probability of error-free execution of a task of the type $S$;

$P_1(S)$ is the probability of the initial level of preparedness to perform a task of the type $S$;

$A(S)$ and $B(S)$ are the model parameters that take into account the effectiveness of training forms and methods.

Let's assume that for a military unit to successfully complete a task, it is necessary to perform several tasks, in general $z$. Then the probability of professional readiness of the personnel to perform the assigned tasks can be described by the expression

$$P_{PP}=\sum_{i=1}^{z}Q(S_i)\cdot P_{PP}(S_i), \qquad (22)$$

where $Q(S_i)$ is the probability of performing a task of a type $S_i$ in accordance with the assignment;

$P_{PP}(S_i)$ is the probability of professional training of personnel to perform a task of type $S_i$.

Taking into account (21), the ratio (22) will take the following form:

$$P_{PP}=\sum_{i=1}^{z}Q(S_i)\cdot\{P_1(S_i)+[P(S_i)-P_1(S_i)]\cdot \cdot B(S_i)\cdot[1-A(S_i)]^{-1}\times[1-A^{q-1}(S_i)]\}. \qquad (23)$$

The moral and psychological preparedness of personnel includes a set of organizational, educational and socio-psychological measures aimed at maintaining the unit's readiness to perform assigned tasks. The probability of the moral and psychological preparedness of the personnel of a military unit to perform assigned tasks is characterized by its level of moral and psychological state (MPS), i.e. the situational state of spiritual, moral, ideological attitude, military and professional readiness and psychological ability of servicemen to perform assigned tasks. The combat capability and combat readiness of a unit, its ability to perform assigned combat tasks largely depend on the MPS of its personnel.

There are satisfactory, critical and unsatisfactory levels of MPS [18]. The satisfactory level of MPS (MPS coefficient 0.70–0.84 and above) characterizes a sufficient level of motivation of personnel to perform functional duties in combat conditions, understanding of their civic duty, sufficient formation and manifestation of moral qualities (patriotism, loyalty, etc.), volitional qualities (responsibility, endurance, perseverance, determination, etc.). A critical level of MPS (MPS coefficient 0.50–0.69) indicates that the military are not ready to perform their tasks. A high level of anxiety prevails and there is a lack of personal guilt for possible failure. Moral principles and norms in combat and everyday activities are violated. Only a few servicemen have a sense of responsibility for their decisions and performance. Volitional qualities (responsibility, endurance, perseverance, determination, etc.) are not sufficiently developed. The readiness to perform functional duties in combat (extreme) conditions is insufficient, and the professional ability of personnel to perform assigned tasks is low. The unsatisfactory level of MPS (MPS coefficient 0.10–0.49) indicates that servicemen are at the limit of their psychophysical capabilities or in a state of despair. Moral qualities (patriotism, loyalty, kindness, obligation, etc.) are not formed and are not manifested. Military personnel are dominated by negative emotions (grief, contempt, anger, sadness, fear, panic, etc.). Volitional qualities (responsibility, endurance, perseverance, determination, etc.) are not formed. The level of motivational and functional readiness is low. Personnel are not cohesive, do not have confidence in their colleagues, and do not trust their commanders [18].

Thus, the proposed OTM implements the principle of a systematic approach to assessing the combat capability of military units, taking into account the potential technical capability and the level of professional and moral and psychological training of personnel to perform assigned tasks or conduct combat operations.

## Conclusions

1. Combat capability is a crucial element of the combat readiness of military units and the most important condition for the effective performance of assigned tasks. It depends on the combat training of units, moral, psychological and combat qualities of personnel, the state of weapons and military equipment, provision of material resources and other factors.

2. An organizational and technical method for assessing the combat capability of military units has been developed. The method is based on a formalized mathematical model and provides for an

assessment of the level of combat capability of a unit depending on its potential technical ability to perform its intended tasks, which is determined by the degree of compliance of the main tactical and technical characteristics of weapons samples with modern requirements, operational capabilities of weapons, the degree of manning of the unit with weapons and military equipment, technical readiness of the unit and the level of stock of weapons and military equipment, as well as the level of professionalism of the unit. This implements the principle of a systematic approach to solving the problem of assessing the combat capability of military units.

3. An algorithm for a comparative analysis of the potential technical capabilities of military units is proposed in order to develop a strategy and priorities for their re-equipment with modern equipment to improve the efficiency of performing their intended tasks.

Further research should be aimed at improving the effectiveness of the organization of interaction between the systems for ensuring, maintaining and restoring the combat capability of military units.

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## ОРГАНІЗАЦІЙНО-ТЕХНІЧНИЙ МЕТОД ОЦІНЮВАННЯ БОЄЗДАТНОСТІ ВІЙСЬКОВИХ ПІДРОЗДІЛІВ

*У сучасних умовах у разі появи нових воєнних загроз національній безпеці України вирішальне значення має готовність особового складу Збройних Сил України, Національної гвардії України та інших силових структур до виконання завдань за призначенням. Успішність виконання бойових завдань визначається боєздатністю підрозділів, тобто таким станом військ, який дає змогу їм успішно вести бойові дії у будь-яких умовах обстановки і реалізувати свої бойові можливості. Боєздатність є визначальним елементом бойової готовності підрозділів і найважливішою умовою ефективного виконання завдань за призначенням. Вона залежить від бойової виучки підрозділів, морально-психологічних та бойових якостей особового складу, стану озброєння і військової техніки, забезпеченості матеріальними засобами та інших чинників.*

*Розроблено організаційно-технічний метод оцінювання боєздатності військових підрозділів. Метод базується на формалізованій математичній моделі і передбачає оцінювання рівня боєздатності підрозділу залежно від його потенційної технічної спроможності до виконання завдань за призначенням, яка визначається ступенем відповідності основних тактико-технічних*

*характеристик зразків озброєння сучасним вимогам, експлуатаційними можливостями озброєння, ступенем укомплектованості підрозділу озброєнням і військовою технікою, технічною готовністю підрозділу та рівнем запасу ресурсу озброєння і військової техніки, а також рівнем професійної та морально-психологічної підготовки особового складу до ведення бойових дій. Це реалізує принцип системного підходу до вирішення проблеми оцінювання боєздатності військових підрозділів.*

*Запропоновано алгоритм здійснення порівняльного аналізу потенційних технічних можливостей військових підрозділів з метою відпрацювання стратегії та пріоритетів їхнього переоснащення сучасною технікою для підвищення ефективності виконання завдань за безпосереднім призначенням.*

*Подальші дослідження мають бути спрямовані на підвищення ефективності організації взаємодії систем забезпечення, підтримання та відновлення боєздатності військових підрозділів.*

***Ключові слова:*** *організаційно-технічний метод, боєздатність, військовий підрозділ, технічна спроможність, запас ресурсу, рівень підготовки.*

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