

Medvid Mykhailo

Doctor of Economics,

National Academy of the National Guard of Ukraine, Kharkiv, Ukraine,

3 The Defenders of Ukraine Sq., Kharkiv, 61001, Ukraine

medvidmm@ukr.net

Zvieriev Mykola

Kyiv City Business Center of

the Kyiv City State Administration, Kyiv, Ukraine,

10 Khreschatyk Str., Kyiv, 01001, Ukraine

zmvglobal@gmail.com

POSSIBILITIES TO PROVIDE DEVELOPMENT OF SOCIAL BENEFITS OF MILITARY AND NUCLEAR SECURITY

Abstract: Problems of providing physical protection to nuclear material and facilities undoubtedly concern military sphere nowadays. Even considering possible transnational effects of destroying nuclear facilities, the problems of physical protection of nuclear material and facilities must become a subject of international military cooperation. Based upon the provided investigations, the article further develops the concept of military security (& nuclear security), the main aspects of which are augmented by the points that the military & nuclear security at international level is a combined benefit that characterizes the participation of the state in the collective security systems through the influence on the process of formulating and developing the state human resources for employing them in daily and combat activities thus providing the preservation of the state human resources due to the elimination of the state participation in possible military conflicts and reducing spending on this process. Comparative analysis of capabilities in providing the development of social benefits of the military security of Ukraine and its neighboring states according to the general output per capita and percentage of the government spending on forming the social benefits of the military security has been made.

Keywords: social benefits, combined benefits, military security, nuclear security.

JEL Classification: H56.

Introduction. International society has been solving problem of nuclear security for more than half of a century. The importance of this problem is testified, for example, by raising such organization as IAEA (International Atomic Energy Agency) and approving the UN Convention on the Physical Protection of Nuclear Material in 1979. The problems of physical protection of nuclear material and facilities became more actualized when quantity and

intensity of military conflicts were increased and the phenomenon of international terrorism was raised on the ground of globalization process. As it is known, the International Convention on combating nuclear terrorism was approved in 2005 and the UN Convention on the Physical Protection of Nuclear Material was amended in 2016. The last one has developed the mechanism of liability in nuclear sphere. Hereby, problems of nuclear security, particularly nuclear material and facilities security are among the today's pressing issues.

Nuclear facilities security was of keen attention in the former Soviet Union. Particularly, nuclear power plants were protected by military formations. Just the same is performed in today's Ukraine - protection of nuclear power plants is provided by the National Guard units of Ukraine that are organized the same as military formations.

If to examine the system of protection of nuclear facilities in peacetime in the past years, we may come to conclusion that the security units were 'military' mostly by their origin than by their tactics which practically used 'police' methods aimed at detecting and detaining single suspects trying rather to escape after an attempted theft than to attack an objective.

If to take into consideration the regime of Soviet society, such organization of security looks quite logical because at those times it was impossible for any organized armed group to attack a nuclear facility within the territory of the state in peacetime.

During the period of March 2014 the Autonomous Republic of Crimea and the city of Sevastopol were occupied by the Russian Federation thus the forcible illegal seizure of Crimea and the city of Sevastopol was performed to make these territories a part of the Russian Federation.

After seizure of Crimea by the Russian Federation in April 2014 a military conflict in the east of Ukraine was initiated. In spite of the numerous facts that prove the participation of the Armed Forces of the Russian Federation in this conflict and their involvement in combat operations, officially Russia doesn't admit its invasion of the Ukrainian territory, thus on the part of Ukraine this war is considered as undeclared. De jure we have a continued antiterrorist operation in the east of the country.

For Ukraine the most important are the practical decisions as for bringing back the occupied Ukrainian territories and neutralizing the military conflict. To resolve this problem, it's necessary to respond to the question 'Why did it happen?' and to define further ways of military security development. To do this, we investigated the influence of global problems on formulating requirements to the system of military security; capabilities of the state as for providing military security, determined the dependence of providing the military security of the states upon their participations in the systems of collective security.

Analysis of the literature data and problem statement. Theory of globalization is an independent branch of knowledge about the most general problems of current and future development of the human civilization connected with vital interests of all countries, present threats for mankind and may be solved by joint efforts of the world states. Effects of the globalization may be of both positive and negative character, but there is no alternative to it. That's why achievements of global problems as well as capabilities and advantages that appear in the process of globalization are of great interest.

Globalization is a world-involving process which covers all our activities. It is an increase of influence of external economic, social and cultural factors engaging all the member countries of the process, formation of single international markets without any national barriers and the development of uniform legal conditions applicable for all countries. The definition mentioned before can be considered as one of the shortest. It includes not only economic but also other spheres of the impact of globalization (Mikalauskiene, Štreimikiene & Mulagalejeva, 2016). Globalization is one of the mechanisms enabling integration of a separate territorial subdivision into the system of world economic relations (Mamedov, Movchan, Ishchenko-Padukova, Grabowska, 2016).

Global problems are usually divided into three spheres of action. The first one includes problems that appear in the sphere of interaction of natural forces and society. The second sphere contains problems of social relations, such as: relations between the states with different economic models, overcoming of economic backwardness of a lot of countries of the world, local, regional and international crises, etc. The third sphere covers the development of a human being, providing his/her future. Having analyzed spheres of action of global problems, we suppose that the second sphere in its nature can be considered as an effect of the first one, i.e. the problem of interstate conflicts is derived from the problem to meet social needs of one or another country under conditions of limited resources.

As Sytnyk H.P. defines, in spite of the fact that power vector in the fighting for realization of national interests is moving in the direction of political, economic and informational opposition, the world has not become more predictable with the end of the cold war, but on the contrary it has become more conflict and aggressive with vivid tendencies to employ power methods in regulating conflict situations. Thus, in the period of 1945-1990s there were 300 wars (seven in a year), and for the last 10 years of XX century there were about 150 wars and serious armed conflicts, averagely 15 a year (Sytnyk, 2011).

An increasing number of wars, serious armed conflicts and development of terrorism make Pechenyuk I. and Schevchenko M. single out the problem of military globalization among the global problems of social relations. From their point of view, this problem determines connection between general

problem and the most important scientific and practical tasks of investigating the tendency of current armed fighting, complicating the content dimensions of wars, new challenges and threats to the military security of the state that are connected with terrorist organizations activities. These very tasks are considered the most responsible. But the delay in changing the traditional approaches in providing military security of the state leads to conservation of our falling behind in military-political sphere as compared to economically developed leading countries of the world. This state would negatively affect the effectiveness of the military security system of Ukraine (Pechenyuk & Shevchenko, 2004).

Theory of the national security is a metascience that combines applied aspects of social, military, humanitarian, technological, psychological, biological, and other sciences in order to investigate the essence, content, methods, forms and means of providing personal security and social communities at different levels (Danil'yan, Dz'oban' & Panov, 2002). In theoretical investigations the national security is considered a diverse one, thus military security remaining its impressive component (Anan'yin & Puchkov, 2011; Lipkan, 2008).

Military security of the state is a scientific category, a part of the national security that determines the state of protectiveness of national interests, sovereignty, and territorial integrity of the country from infringing upon its integrity by means of military power. The opposition to the aggravation of problems of wars, armed conflicts and terrorism means the shaping itself of the effective organization system and functioning of the state administration by military formations and law enforcement agencies, participation of the state in collective security systems, particularly, participation of military and law enforcement personnel in peace operations as well. Military formations are considered the main elements of the military security system.

No doubt, the above given description affects formulating the requirements to the state that belongs (or wishes to belong) to the collective security system, to the tasks of the military formations as well as to the professional skills of a military.

Requirements to the professional skills of a military are the following: comprehensive training to perform anti-terrorist tasks; language proficiency level enough to perform daily and combat tasks in peace operations; as well as cultural awareness training to prevent conflicts among the military personnel of different countries in performing daily and combat tasks.

However, searching for effective ways to prevent aggravation of global problems determined the formulation of new requirements to the military security system. To meet these requirements, it's advisable to increase the term of a military service, and as a result - to change the system of recruiting personnel for military formations and special-purpose law enforcement units from conscript-based to contract-based.

From the point of view of Sytnyk G.P. methodology of classical paradigm of the theory of national security, concept of military security including, is in the idea that 'national security is an integral characteristic of the human's security, society security and state security, and its optimal level depends on compliance in the process of state administration of some optimal combination of variables in a triangle: 'national interests' - 'threats as for their realization' - 'capabilities of the state'(Sytnyk, 2011).

If the above mentioned elements of the theory of the national security - 'national interests' and 'threats as for their realization'- are exactly defined in regulatory acts, in order to define 'capabilities of the state', analysis of corresponding regulatory acts and scientific works should be made.

In the military security concept the above mentioned 'capabilities of the state' are named the military potential. 'Military potential means capabilities of the state to maintain and develop the armed forces, to increase their efficiency, to augment with trained personnel, to equip with modern weapons and combat vehicles, with necessary supplies in both peacetime and in time of war, thus to provide the aims of the war to be achieved. Military potential is not a constant dimension. Its condition is characterized by various factors, primarily, such as: strength of the personnel and its moral and psychological state, educational, military and military technical, field, naval, and air training; the quantity and quality of weapons and combat vehicles; the level of materiel supply; the level of development of the military doctrine and military theory, its conformity to the requirements of military practice; level of preparedness of command personnel; level of combat readiness of the armed forces; availability of mobilized reserves and mobilization capabilities of the state' (Kyrychenko, 2008).

Using the concept 'military potential', I.O.Kyrychenko defined the criteria of evaluating the level of state advantages in military conflict that permit the qualitative evaluation of the correlation of forces, ground the necessary level of unacceptable losses of opposing sides in the process of determining the level of defensive sufficiency of the country (Kyrychenko, 2008).

Having defined the essence of the changeable parts of the military security triangle: 'national interests' - 'threats as for their realization' - 'capabilities of the state', we should agree with V. A. Lipkan who states that 'economic structures play a much greater role in providing military security. Economy is the basis of the power of the country. The state of economy directly affects the military potential that displays the capabilities of the country in maintaining and developing its armed forces, in increasing their combat efficiency, in augmenting them with trained personnel, in equipping them with modern weapons, military technique and all supply items. A very important role in providing military security of the state, particularly internal, is played by law enforcement agencies that should develop the drafts of effec-

tive regulatory acts and apply for steady accomplishment of the acts adopted (Lipkan, 2008).

From the theory of social benefits it's known that we consider social benefits everything that is aimed at meeting the needs of the state and society, i.e. the benefits that meet the needs of all members of the society in equal quantities.

After combining this theory with the theory of national security, we come to conclusion that national (military) security is a social benefit.

Pure social benefits are characterized by indivisibility, non-exclusion (i.e. nobody in the society can be excluded from sharing these benefits), and non-competitiveness (i.e. nobody can prevent from sharing these benefits by those who did not pay for them). Market is not capable of providing all citizens with social benefits that's why it is the state itself that becomes their main producer or customer, determines their optimal quantity and minimizes the spending on their production.

Provision with social benefits is often carried out by the state or other collective organs that pull off payment or make invest kind contributions from those sharing these benefits. One of the general forms of payment pulling off from the individuals in order to finance social benefits is taxes.

As for the well-known economist Martin Wolf, social benefits are the structural elements of civilization. Besides security, he considers science, clear environment, trust, fair government and freedom of speech as social benefits. He says that the more globalized is the social benefit, the more difficult is to provide its adequate proposition. 'The empires - Rome or China - enjoyed economies of scale in providing security. When Rome collapsed, security was privatized by local gangsters, at huge social cost: this we now call feudalism'. 'Ours is an ever more global civilization that demands the provision of a wide range of public goods. The states on which humanity depends to provide these goods, from security to management of climate, are unpopular, overstretched and at odds. We need to think about how to manage such a world. It is going to take extraordinary creativity' (Wolf, 2012).

We consider that military security at the national level is a social benefit, and at the international level - combined. Under conditions of aggravation of social problems the need to provide qualitative military security is increasing. Based upon the theory of 'club' benefits having been developed by James Buchanan (Buchanan, 1968), an outstanding American economist, Nobel Prize-holder, the activities of collective security are financed by 'member' contributions fixed in volume. This spending is needed to meet the state opportunities with the 'club' standards and to maintain them at particular level. This 'club' is interested in involving new 'members' till profits of any other 'club member' would be larger his spending. If our country does not belong to the 'club', in order to provide military security 'the capabilities of the state' should be more powerful and the spending should be larger.

Materials of research, an experimental part. L. Borosova, J. Drutarovska consider 'the impact of globalization leads to the emergence of new threats and risks that significantly affect the security environment globally' (Borosova, Drutarovska, 2016).

Based upon the results of provided macroeconomic survey of long-term perspectives of financing the defense spending in Ukraine O.I. Chernyak and G.O. Kharlamova came to the following conclusions (Chernyak & Kharlamova, 2013):

a) financing of defense spending will further sufficiently fall behind in meeting needs in this sphere; NATO membership might have increased the security level and reduced spending at the expense of specializations to some extent, but this also demands essential increasing of defense budget;

b) correlation between defense spending and economic development causes the necessity to stick to threshold dimensions of national defense spending in two aspects: purely defense (3%) and economic; upper threshold of defense spending that negatively affects the national economy makes 6%; that's why permissible degree of military-economic tension for the state in peacetime can't exceed 4-5% of Gross Domestic Product (GDP) judging by the experience of the developed countries.

Dynamics of spending on shaping the 'military security' social benefit up to events of 2014 is given in Figures 1 and 2.

GDP is the main indicator of economic development and the most comprehensive indicator of overall output of goods and services production for a certain period of time. However, GDP per capita is considered the most accurate characteristic that defines the level of economic development as well as economy increase. GDP can be counted by three methods: productive method (method of added values), by incomes and by costs. The formula that is based upon the costs approach to determine GDP looks like this:

$$GDP \text{ by costs} = C + I + G + NE, \quad (1)$$

where: C - consumer spending; I - private gross investment; G - government spending; NE - net exports.

Spending on shaping the 'military security' social benefit is a part of government spending.

In spite of the fact there are a lot of components and indicators of military-economic security (Abramova, 2015), we consider that two indicators equally characterize the capabilities of providing development of the 'military security' social benefit: GDP per capita and percentage of government spending on shaping the 'military security' social benefit.

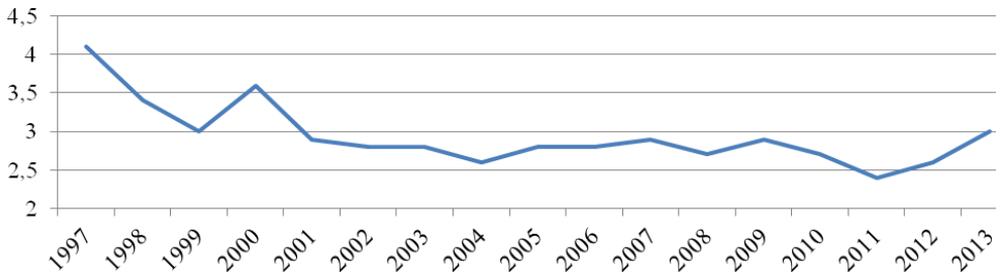


Figure 1. Dynamics of ‘military security’ social benefit spending to GDP ratio in Ukraine in 1997-2013

Source: Made by the authors of the article using Stockholm International Peace Research Institute data, 2017

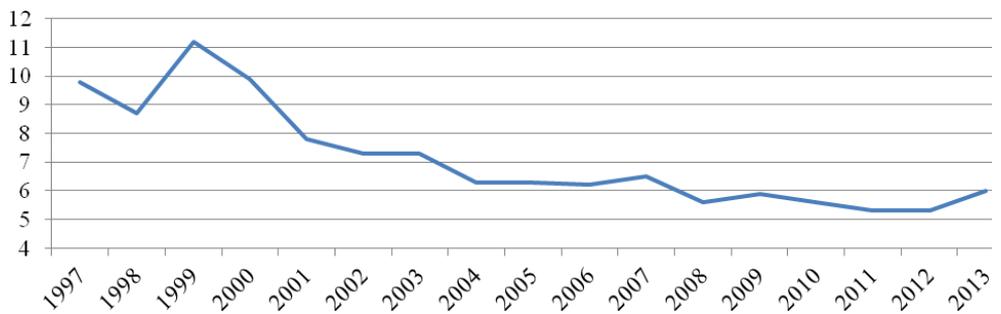


Figure 2. Dynamics of ‘military security’ social benefit spending to government spending ratio in Ukraine in 1997-2013

Source: Made by the authors of the article using Stockholm International Peace Research Institute data, 2017

In survey the method of comparative analysis should be applied based on statistics data of the indicators mentioned above. Method of comparative analysis presents one of the logic means of investigating objects, effects, and events of the surrounding world and permits to define their similarity with related phenomena. Comparative method is often used by scientists in order to study the experience gained on the investigated problem in various countries of the world (Jaworzyl’ska, 2016; Loktieva, 2016).

Fig.3 presents Ukraine and its neighboring countries (along the Black Sea inclusive) with indicators that characterize the capabilities of these countries as for providing their military security- GDP per capita and percentage of government spending on shaping the ‘military security’ social benefit (the latter is counted as average data for the last 10 years (Table 1).

Table 2 demonstrates the rating of the above mentioned countries in two investigated indicators.



Figure 3. Characteristics of capabilities of Ukraine and its neighbor states as for providing their military security

Source: Made by the authors of the article using Stockholm International Peace Research Institute data, 2017

Table 1. Percentage of government spending on shaping the ‘military security’ social benefit in 2006-2015

term country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	average for 2006- 2015
Georgia	22.4	32.2	26.1	15.7	11.8	11.2	10.5	8.8	8.4	8.1	15.5
Russia	11.2	9.8	9.9	10.2	10.1	10.3	10.8	11.1	11.8	13.7	10.9
Turkey	7.5	7.0	6.8	6.9	6.7	6.3	6.2	5.9	6.0	5.7	6.5
Ukraine	6.2	6.5	5.6	6.1	5.6	4.9	4.8	5.0	6.7	8.9	6.0
Bulgaria	6.7	7.0	5.7	5.5	5.1	4.5	4.6	4.5	3.9	3.7	5.1
Poland	4.3	4.6	4.0	4.0	4.0	4.1	4.2	4.2	4.5	5.3	4.3
Romania	5.4	4.3	4.0	3.5	3.3	3.5	3.5	3.8	4.0	4.2	4.0
Belarus	3.6	3.4	3.0	3.0	3.3	3.7	3.3	3.2	3.3	2.8	3.2
Slovak Rep.	4.2	4.1	4.0	3.5	3.0	2.7	2.7	2.4	2.4	2.7	3.2
Hungary	2.4	2.6	2.4	2.2	2.1	2.1	2.1	1.9	1.8	1.7	2.1
Moldova	1.2	1.2	1.5	1.0	0.8	0.8	0.8	0.9	0.9	0.9	1.0

Source: Made by the authors of the article using Stockholm International Peace Research Institute data, 2017

Table 2. Rating of countries in indicators that characterize the capabilities of the states as for providing their military security

Group of countries	country	GDP per capita in 2015 p.*	Average indicators of government spending on shaping the 'military security' social benefit in 2006-2015	NATO membership
I	Georgia	3788	15.5	-
	Russia	9054	10.9	-
II	Slovak Rep.	15991	3.2	+
	Turkey	9437	6.5	+
	Poland	12495	4.3	+
	Hungary	12239	2.1	+
	Romania	8906	4.0	+
	Bulgaria	6831	5.1	+
III	Ukraine	2125	6.0	-
	Belarus	5749	3.2	-
	Moldova	1804	1.0	-

Source: Made by the authors of the article using International Monetary Fund (*) and Stockholm International Peace Research Institute (**) data, 2017

If we group the investigated countries, they may be symbolically divided into three groups:

Group I - is characterized by relatively small values of GDP per capita and relatively large values of the government spending percentage on shaping the 'military security' social benefit;

Group II - is characterized by relatively large values of GDP per capita and relatively small values of the government spending percentage on shaping the 'military security' social benefit;

Group III - is characterized by relatively small values of GDP per capita and relatively small values of the government spending percentage on shaping the 'military security' social benefit.

The Table also demonstrates that in Group II there are the characteristics of the countries that belong to the collective security system - the NATO.

Thus, taking into consideration Ukraine and its neighbors it was grounded that providing military security in various countries depends on their participation in collective security systems.

Interpretation of the results and their approbation. Undoubtedly the nature of threats to nuclear facilities has been considerably changed for the last two decades. Today availability or importing of organized armed criminals or terrorists from overseas seem to be quite possible. Judging by the events of recent years, even developed countries are not protected against such threats. In Ukraine such threats have been greatly actualized particularly since 2014.

As Chernobyl demonstrated, nuclear facilities are the sources of extremely high level threats which can cause super high scale and long term transnational effects. Today's terrorists, unlike their last century "colleagues" who, as a rule, had quite limited goals, strive for as possible tremendous and unlimited results of their actions. Transnational terrorist organizations are known to aim at destabilizing the situation in the countries and even area regions. Therefore nuclear facilities should be considered as objects of probable attacks and nowadays legal authorities should be ready to react effectively.

In view of growing possibilities and equipments of current terrorist organizations, they can have not only large well-organized armed formations but modern armament and equipment including reconnaissance means and munitions delivery means as well.

Thus, necessary means of physical protection of nuclear material and facilities are exceeded the limits of conventional "police" tactics now.

Current threats to nuclear facilities need to take into account the possibilities of military forces application with proper armament, techniques, tactics, combat readiness, and capabilities to build-up strength as well while designing perspective security systems.

Thus, problems of providing physical protection to nuclear material and facilities undoubtedly concern military sphere nowadays. Even considering possible transnational effects of destroying nuclear facilities, the problems of physical protection of nuclear material and facilities must become a subject of international military cooperation.

It should be taken into consideration that international military cooperation, as a rule, includes such activities as participation in joint maneuvers, sharing of experience, arms supplies, but not immediate use of army units.

Therefore we must realize that we can count on real partner's military supporting only in case of incorporation of our country in the international collective security systems. Certain advantages in providing physical protection to nuclear material and facilities within collective security system for a country - partner might be considered as follows:

- early detection of potential threats by means of joint reconnaissance efforts;
- participation of allied armed forces in protection of nuclear material and facilities in case of close conflicts areas or instability;
- conducting of joint researches and personnel trainings, technical assistance etc.

Conclusion. Problems of providing physical protection to nuclear material and facilities undoubtedly concern military sphere nowadays. Even considering possible transnational effects of destroying nuclear facilities, the problems of physical protection of nuclear material and facilities must become a subject of international military cooperation. Based upon the provided investigations, the article further develops the concept of military se-

curity (& nuclear security), the main aspects of which are augmented by the points that the military & nuclear security at international level is a combined benefit that characterizes the participation of the state in the collective security systems through the influence on the process of formulating and developing the state human resources for employing them in daily and combat activities thus providing the preservation of the state human resources due to the elimination of the state participation in possible military conflicts and reducing spending on this process. Comparative analysis of capabilities in providing the development of social benefits of the military security of Ukraine and its neighboring states according to the general output per capita and percentage of the government spending on forming the social benefits of the military security has been made.

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