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COMMUNICATING DEFENSE AND SECURITY IN ROMANIA DURING THE UKRAINIAN CRISIS (NOVEMBER 2013 - SEPTEMBER 2014)

Viorel MIHAILA

Visiting Professor, University of Bucharest, Romania

This paper analyzes the main themes and patterns used by Romanian communication programs on defense and security during the Ukrainian crises, from November 2013 until the ceasefire of September 5th. Acknowledging the change made in the Romanian leadership's understanding of the security concept during the last 25 years of country's transition from communism to democracy, the study found out that the narrative used by the Romanian institutions might lead to a new understanding on whose job is to protect the country in case of a military aggression. Currently. the bearer of this responsibility appears to be, for Romanians, the North Atlantic Treaty Organization (NATO), the European Union (EU) and the Romanians themselves, in this order. For the timeframe analyzed, for what is spoken and written in the media by the politicians and, afterwards, re-represented by the general public (developed by opinion pools) it seems that for the military dimension, the security responsibility was somehow outsourced.

Key words: *NATO, strategic communication, Ukrainian conflict, defense and security.*

1. WHAT IS THERE TO BE COMMUNICATED AS DEFENSE AND SECURITY ISSUES?

Judging it by its true meaning, communicating defense and security was not very transparent in former communist countries since the institutional inertia and the mind-set of the people involved in the process of communicating to the *"general public"* blocked the rapid adaptation of a transparent communication environment for defense matters. The communication policy on defense and security was, for many years, mainly passive, sometimes reactive and seldom active. After 1990, the understanding of the security concept has changed, and consequently, the narratives used were changed. We have today strong "security brands"- like NATO and even EU, and such organizational membership will construct a different perceptual map of threats to the national security. During an international crisis, with visible military dimensions, it is possible to experience, in Romania, a different wording when authorities were addressing the threats. The discourse then might be in line with the new concepts, but the public understanding of the threat, combined with the new membership status in different international security organizations may change the population's expectations map.

The concept of security has been both widened and deepened: firstly within the academic arena, and subsequently, in the security strategies developed by countries. After 1990, at the end of the Cold War, there were many studies promoting the need to refocus the research on security and to go beyond the military security of the state, and include, for instance, economic, ecological and domestic aspects of security [1].

Within the new conceptual framework of "societal security" [2]

developed by Buzan and Wæver [3], the understanding of the dynamics between the state and the individual was restated. Now, when talking about the state security (focused on sovereignty as the core value) we have to take into account also the idea of "securitization" [4]. Labeling something as a "security issue" will encourage officials and social actors to add to its context a sense of urgency, of high importance and this will call for the use of special measures, usually outside of the "normal" political process to deal with this new urgent and important problem society is facing. By acting like this, at the communications strategies level this will result in a militarized-type and confrontational mind-set, changing the whole issue as an "us versus them". To regain the primacy of a normal democratic approach to tackle this issue, we have to "desecuritize" the problem, which means removing it from the security agenda.

The changes made in understanding security modified also the narratives used by the national authorities in communicating security related themes, although, there are still many countries where the security subject remains very closely linked to the state and to the practice of ensuring military security. Understanding narratives as "network of expectations" and *"a method of memory storage, a method of framing and organizing experience"* [5] we will follow the discourse on security during crisis to develop the main themes promoted by the authorities and disseminated by the media.

2. THE EVOLUTION OF NATIONAL SECURITY DEFINITION IN ROMANIA'S NATIONAL SECURITY STRATEGIES AFTER 1990

Following the change in the international security architecture and the new statuses of Romania as NATO and EU member-state, the understanding of the security needs, at the level of Romanian leadership, has been modified. The successive security doctrines and strategies were redefining the threats facing Romania, and, subsequently, directed the changes in the organizational design, financial resources and manpower assigned to the defense and security sectors. From 1994 onward, after the adoption of The Integrated Concept regarding Romania's National Security, for Romania the *"national security does not necessarily refer only to national defense, but to political, social and economic security as well – with multiple instruments to pursue and achieve it, out of which the military is just one"* [6]. Still, the state continues to be the main referee for national security. With the 1999 National Security Strategy, the national security concept was enlarged and, apart from the pure military approach, encompassed the economy and democratic values, based on the changed paradigm of "self-sufficiency" in the defense policy on collective defense and security. The 2001 National Security Strategy of Romania was the first official document of its kind to acknowledge that a large-scale, conventional and traditional conflict is no longer a potential threat to Romania's national security, and, for the upcoming years, Romania announced it would not foresee any direct military threat.

In 2006, The National Security Strategy acknowledging the Romanian new statuses as both NATO member (April 2004) and EU member (January 2007) does not focus much on domestic vulnerabilities but on asymmetrical, unconventional, non-military threats and risks to national security (unpredictable and transnational). Initiatives like The Greater Black Sea Area (stated in the successive 2001 and 2006 Romanian National Strategies) seeking to export security beyond the Eastern borders of NATO and the EU, the energy security

(with Russia identified as a potential disturbing factor) and cyber security (with the rapidly evolving counter capabilities of the Computer Emergency Response Team - RO) are leading to new dimensions of the concept and inherently requires of Romanian decision-makers to work closely with their NATO and EU partners.

The last security strategy kept as the main reference point the state, but, at the same time, with a special mention for the individual. It acknowledges the need to balance the priorities given to the state and the individual in order to contribute to the efficiency of the economic field, and generate wealth and education for the Romanian citizens, as very important domains to be used as pillars of security and security building actions [7].

During the last 25 years, the Romanian security strategies evolved to an emphasis on the individual, instead of solely on the state, with a special focus on community and guiding principles like democracy, market economy, freedom, human rights and national interests.

3. NATO - A "SECURITY BRAND"

NATO, created in 1949 to "safeguard the freedom and security of its members through political and military means" [8], evolved into a very strong International Organization which covers now a population (totaling all member states) of 906,002,051people [9]. In 2011 the "deployable" (better said "active") military forces of NATO were about 3,370,000 personnel, with 4,300,000 reserve personnel, which led to a total of 7,885,000 military personnel theoretically serving under NATO flag if needed [10]. Security related initiatives and programs developed by NATO or with the support of the organization directly engaged an impressive number of 41 different countries [11] with a population of 951,586,195[12] people. To sum up, within different arrangements - functional, international, project-based or bounding international arrangements - NATO is dealing with the peace and security related issues of 1,857,588,246 people from 69 countries (out of which 28 are NATO countries). So, one third of the UN countries, inhabited by a little more than 25% of the whole population, out of the 193 United Nations member states (as of 10 July 2014) with a total number of almost 7,185,845,110 people [13] have their lives somehow related to NATO actions as a steering force for security arrangements and a peace promoter from the standpoint of a political-military organization.

NATO will benefit even more, and hence will be perceived as a strong security organization, due to the new approaches of the business world towards signaling and promoting the security dimension in place and nation branding projects. Used mostly in the business environment, branding is seen as a valuable tool employed in increasing profits and consolidating long-lasting relationships with the customers. Defined as *"the promise, the big idea, and the expectations that reside in each customer's mind about a product, service or company"* [14], or as *"a set of associations linked to a name, mark or symbol associated with a product or service"*[15], brands transcended the commercial arena into national branding initiatives, region and – locations focused branding projects, developing strong associations with important dimensions of day to day life of the ordinary citizen, in terms of safety and personal/ societal security needs. There is a growing field of evidence (both in the academia and in the political communication world) supporting the idea of branding security, and using the security dimension to brand regions and countries [16] [17] [18] Although there is no formal

institutional approach to guide and nurture a powerful NATO brand as a standalone project, based on the procedures in place in the branding industry, scholars and practitioners alike [19] [20] [21] [22] [23] [24] are talking about sustained actions aimed to promote and enhance a strong NATO security brand.

Security has become an important dimension in promoting places and nations, *"the marker of security has become a scarce commodity"* (Van Ham, 2008: 191) [19], and now there is a tight competition for a place in the mind of the global audience as a "secure" destination/ country to be visited, to invest/study or do businesses in. Moreover, it seems equally important today to be associated with a recognized security provider, such as NATO and EU, which offer credibility, prestige and a good positioning platform.

Until now, in the absence of an "official" branding campaign, it is acceptable to presume that NATO brand was not built as a pure branding project, but as a result of a myriad of communications endeavors during the last 65 years. To date, as far as NATO is concerned it seems that Public Diplomacy and strategic communications were in charge with "calibrating" the Alliance's image. Moreover, in NATO the strategic communications domain has been re-focused, based on the requirements generated by the needs that the organization itself is now facing in complementing and de-conflicting the civilian/political communication strategy and the military/operational one [25].

4. COMMUNICATING THE UKRAINIAN CRISIS

Russia's involvement in Eastern Ukraine and its annexation of Crimea have pushed NATO to re-design and communicate, both internally and externally, generating a renewed sense of solidarity. The 2014 NATO Summit in Wales supported the efforts to portray a coherent and strong Alliance based on a common narrative, although there are, at national level, a lot of themes to be internalized and communicated to the respective publics. For politicians, prisoners of "election calendar-type logic", it was difficult to explain to their publics why defense matters, and, moreover, why they have to spend even more from now on defense.

During the Ukrainian crisis, while Eastern European countries strongly support, as a NATO long-term strategy toward Russia, the idea of containment (with NATO deploying permanent forces in the area), Western Europeans are supporting a strategy based on isolation doubled by sanctions and deterrence. For Spain, Portugal, Italy or Greece what happened in Ukraine has little relevance comparing to events happening across the Mediterranean, the Middle East and North Africa. In the first part of the crisis, NATO countries failed to agree on a common understanding on what is a real threat to its members, or at least to agree on a unified message.

The surprisingly direct and sharp wording of NATO's top positions (Secretary General Rasmussen and General Philip Breedlove) against Russia's actions, the quick deployment of ships and fighter jets to the Baltics, Poland and Romania, with new military exercises being planned and announced for the region, together with president Obama's proposal of a European Reassurance Initiative made before the 2014 NATO Summit (an initiative consisting in a $1 billion package for training and improving the capabilities of Poland, the Baltic states, and Romania) were pretty strong signals sent to the public within the Eastern part of the Alliance.

For Romania for instance, the understanding of those actions and speeches was that the Alliance will, if needed, activate its raison d'être

as a collective military organization committed to Article 5, and will protect the country and the Eastern area. That is not merely outsourcing the security, but involving the national political elite in shaping the threat understanding for the population. In this respect, the actions to be taken were blurred by the primacy given to NATO and, surprisingly, EU speeches and actions. The narrative of the Romanian political actors followed the NATO and EU in understanding the threat posed to Romania by the Russian action in Ukraine, rather than developing the narrative within the national frame of understanding this issue.

While facing the crisis, the Romanian institutions acting in the defense and security arena focused their communications programs on the economic, political, energetic and even societal security (using the Copenhagen School terminology and meanings) implications of the conflict for Romania, almost eliding to approach the military one. For all those institutions, the public communication policy was passive. Monitoring the press releases and press conferences of the Romanian Presidency, Romanian Government, Romanian Prime Minister, Romanian Ministry of National Defense, Committee for Defense Public Order, and National Security from both the Senate and Chamber of Deputies of the Romanian Parliament during the November 2013 - September 2014 time frame, we found out that the volume of the messages disseminated by these institutions on this particular topic, was varying from small to none. The themes communicated were related mainly to the need to secure the economic dimension of the national security, with few mentions on the energy security issue. A few days before the NATO Summit in Wales, during the Summit and a few days after, the military dimension of the threat to the Romanian national security was mentioned by the authorities, namely by the Romanian Presidency. But this did not change the whole narrative used by the authorities, and replicated by the media. The context was the Summit with all the positions backed by the NATO political leaders addressing, from the Alliances' perspective, the Ukrainian crisis. All those institutions were following, scrupulously, the themes and messages disseminated by both NATO and EU, more often than not without integrating them into a national context.

Re-conceptualizing security during the last two decades led to a change in the narrative used by the Romanian authorities. Even if the crisis seemed to escalate towards a military confrontation, the influences on the Romanian security were worded mainly in economic terms, without almost any relevant mention of the military dimension.

The Chief of the Romanian Intelligence Service was the first one to mention, and after that, continued stressing for the Romanian general public the military dimension of the security in this context, by pointing out the need to have permanent NATO bases in Romania as a means of dissuading Russia and of reassuring Romanians on the Alliance's commitment towards maintaining peace and democracy throughout the region, or the absence of an imminent military threat against Romania [25].

Using a commercial online media monitoring platform for Romanian online media (almost 300 media sources) the results showed that, with a total of 17.145 mentions (73,38 mentions/day in the 309 days period covered by the analysis), the Ukrainian crisis was portrayed powerfully enough in the Romanian media, but not only within the framework provided by the authorities. It was definitely an increasing interest in what was happening in Ukraine. In the absence

of the "official" version of the story on the military dimension of the crises, the vacuum was mainly filled by media professionals and military retired professionals. Media disseminated agencies' news on NATO's and EU's position regarding the conflict, covering both military and political-military dimensions.

NATO, as a security provider was also very present during that period in the Romanian online media (2.209 mentions in the monitored timeframe), and it appears as being used as a marker in shaping the perception of the threat at the level of the general public. Using Transatlantic Trends Survey data (2004-2012) we have noticed that the level of confidence in NATO, as an organization "essential to the country's security" was constantly above 60% for the Romanians.

In an INSCOP[26] opinion poll from May 2014, 60.2% of the respondents declared that, should there be a military conflict in the region, Romania will be protected by NATO, while in June 2014, the IRES[27] poll revealed that 66% of the respondents were convinced that NATO itself could provide all the necessary means to protect Romania if needed.

For the Romanians, EU is also perceived as a security provider if not by military means, than through its normative and economic power. According to Euro barometer reports, between 2007 - 2014, the percentage of the Romanians associating the EU with peace is constantly high.

The narratives developed by politicians to communicate defense and security in Romania are, in general terms, underpinned by a fear of a confrontational mind-set logic. The ambivalence of the Russian Federation image in the Romanian media (based on an exploratory study of the author) as both a powerful economic and cultural power, but also an aggressive military power seems to follow the logic of "manufacturing the enemy's images". Navigating through the structure of expectations constructed by the politicians and the media during the last two decades regarding the defense area, which are embedded in and connected to larger networks of expectations, using the cultural bricolage we see now a possible explanation of the Romanian way to communicate the Ukrainian conflict. The security brands of NATO and, surprisingly, EU took primacy in defining the understanding of the military security dimension of the Ukrainian crisis for the Romanians, somehow leading to outsourcing the security responsibility to those organizations.

NOTES AND REFERENCES

[1] Haftendorn, H. (1991). The Security Puzzle: Theory-Building and Discipline-Building in International Security. International Studies Quarterly, Vol.35, No.l pp.3-17.

[2] Focused on identity, understood as the ability of a society to maintain its language, culture, religion, national identity.

[3] Buzan, B., Wæver, O., & de Wilde, J. (1998). Security: A New Framework for Analysis, Boulder, Lynne Rienner.

[4] Wæver, O. (1995). Securitization and Desecuritization, in Ronnie Lipschutz (ed.), On Security, New York: Columbia University Press, pp.46-86.

[5] Balkin, J., M. (1989). Cultural Software. A theory of Ideology, Yale University Press.

[6] Soare, S. (2008). Romania's National Security Strategy - a Critical Approach of Transformational Politics. Monitor Strategic, Nr. 1-2, pp. 53-66.

[7] See also The Romanian Energy Strategy 2007-2020, Hotărârea nr. 271/2013 pentru aprobarea Strategiei de securitate cibernetică a României şi a Planului de acţiune la nivel naţional privind implementarea Sistemului naţional de securitate cibernetică, Publicat în Monitorul Oficial, Partea I nr. 296 din 23.05.2013, http://www.cert-ro.eu/files/doc/DeSecuritateCiberneticaARomaniei.pdf.

[8] http://www.nato.int/nato-welcome/index.html.

[9] See NATO countries: http://www.nato.int/nato-welcome/index.html.

[10] Financial and Economic Data Relating to NATO Defence.

[11] See NATO partners, as of August 2014: http://www.nato.int/cps/en/natolive/51288.htm.

[12] Data compiled from Population, latest available census and estimates, 15 August 2014.

[13] Current World Population as of 16 August 2014, The Population and Vital Statistics Report as of 15 August 2014.

[14] Wheeler, A. (2006). Designing Brand Identity: A Complete Guide to Creating, Building, and Maintaining Strong Brands, (2nd edition), New Jersey: Wiley.

[15] Castellion, G. (2007). [Review of the book Kellogg on Branding. The Marketing Faculty of the Kellogg School of Management by Alice M. Tybout and Tim Calkins (eds.)]. Journal of Product Innovation Management 24: 184–186. doi:10.1111/j.1540-5885.2007.00243.x.http://search.ebscohost.com/login.aspx?direct=true&db=add_7&AN=23983949.

[16] Long D., (1999). The Security Discourses of the European Union: A Functional Critique, in Ashworth L., M. and Long D. (eds), New Perspectives on International Functionalism. London: Macmillan, pp.120-137.

[17] van Ham, P., (2002). Simulating European Security: Kosovo and the Balkanization - Integration Nexus, in van Ham, P., and Medvedev S., (eds), Mapping European Security After Kosovo, Manchester: Manchester University Press, pp. 32-48.

[18] Melissen, J., (ed), (2005). The new public diplomacy: soft power in international relations, New York: Palgrave MacMillan.

[19] van Ham, P., (2005). Branding European power. Place Branding, vol. 1, 2, 122-126; van Ham, P. (2006). The Power of War: Why Europe Needs It, Clingendael Diplomacy Papers No. 19, The Hague: Netherlands Institute of International Relations "Clingendael"; van Ham, P., (2008). "Security branding": The role of security in marketing the city, region or state. Place Branding and Public Diplomacy 4, 191 – 195. doi: 10.1057/pb.2008.11, 2008; van Ham, P., (2008). Place Branding within a Security Paradigm - Concepts and Cases. Place Branding and Public Diplomacy 4 (3) (August): 240–251. doi:10.1057/pb.2008.14.

[20] Sevin, E., (2013). #askwenato: Analyzing NATO's Place in the New Social Media Ecology, ISA San Francisco.

[21] Laity, M., (2013). Perception Becomes Reality. The Afghan Strategic Communication Challenge. in Politique étrangère, vol. 78, n 4, available at http://www.ifri.org/downloads/pe42013laityenweb.pdf.

[22] Wolff, A., T. (2014) Crafting a NATO Brand: Bolstering Internal Support for the Alliance through Image Management, Contemporary Security Policy,35:1, 73-95, DOI: 10.1080/13523260.2014.88570.

[23] Seib, P., (2014). Public Diplomacy and Hard Power: The Challenges Facing NATO, The Fletcher Forum of World Affairs, vol.38:1.

[24] The new NATO StratCom Center Of Excelence from Riga, established in January 2014, with clear guidance and policies NATO Strategic Communications Policy, NATO Military Concept for Strategic Communications; ACO Strategic Communications Directive 95-2; the latest commissioned report was "Russian Information Campaign against Ukraine: from Vilnius Summit till the Crimea Referendum", NATO Military Policy on Psychological Operations, NATO Military Public Affairs Policy, NATO MILITARY POLICY on INFORMATION OPERATIONS MC 0422/4.

[25] Maior, G. (2014). Adevărul Live: Actuala clasă politică se reproduce prea mult pentru sine. Pune partidul înaintea statului, http://adevarul.ro/news/eveniment/adevarul-live-ora-1100-george-maior-vorbeste-despre-conflictul-ucraina-amenintarile-adresa-romaniei-1_53d5fcb60d133766a8cd083d/index.html; Maior, G. (2014). Evz.ro, Nu vom fi amenințați teritorial de instabilitatea din zonă, dar vom fi afectați economic, http://www.evz.ro/maior-nu-vom-fi-amenintati-teritorial-de-instabilitatea-din-zona-dar-vom-fi-afectati-economic.html.

[26] http://www.agerpres.ro/social/2014/05/22/inscop-peste-60-dintre-romani-considera-ca-tara-e-protejata-de-calitatea-de-membru-nato-10-37-27.

[27] http://www.evz.ro/sondaj-ires-66-cred-ca-nato-poate-asigura-integral-securitatea-romaniei.html.

[28] Tybout, A., M. and Calkins, T. (eds.). (2005). Kellogg on Branding. The Marketing Faculty of the Kellogg School of Management, New Jersey: Wiley.

[29] Wæver, O., Buzan, B., Kelstrup, M., & Lemaitre, P. (1993). Identity, Migration and the New Security Order in Europe. London: Pinter.

[30] ACO DIRECTIVE (AD) 95-3. Social Media, Retrieved from http://www.aco.nato.int/resources/13/aco_95_3[1].pdf.

[31] Conceptia Integrata privind Securitatea Nationala a Romaniei (Integrated Concept regarding Romania's National Security), 1994.

[32] Romania's National Security Strategy. Guaranteeing democracy and fundamental freedom, long term and sustained economic and social development, accession to NATO and integration in the European Union (In Romanian: Strategia de securitate națională a României. Garantarea democrației şi a libertăţilor fundamentale, dezvoltare economică şi socială susținută şi durabilă, aderare la NATO şi integrare în Uniunea Europeană) available at http://lege5.ro/Gratuit/gi4tambs/hotararea-nr-36-2001-privind-adoptarea-strategiei-de-securitate-nationala-a-romaniei.

[33] Table 2: Population, latest available census and estimates, latest available data, Last Updated: 15 August 2014, http://unstats.un.org/unsd/demographic/products/vitstats/serATab2.pdf.

[34] The National Security Strategy of Romania (2007), http://www.presidency.ro/static/ordine/SSNR/SSNR.pdf.

[35] The National Defense Strategy (2008), http://www.mapn.ro/despre_mapn/informatii_generale/documente/strategia_nationala_de_aparare.pdf.

[36] The National Defense Strategy (2010), http://www.presidency.ro/static/ordine/SNAp/SNAp.pdf.

[37] The Population and Vital Statistics Report, Table 2: Population, latest available census and estimates, latest available data, Last Updated: 15 August 2014), produced by the United Nations Population Division, http://unstats.un.org/unsd/demographic/products/vitstats/serATab2.pdf.

CURRENT DEMOGRAPHIC TRENDS AND THEIR GEOPOLITICAL AND STRATEGIC REPERCUSSIONS

Ionel STOICA

LTC. Eng. PhD, Ministry of National Defense, Bucharest, Romania

Major worldwide demographic trends impact significantly each aspect of people's lives. The impact will be favorable for some states and completely unfavorable for others since they will depend not only on the magnitude of these tendencies, but also on the aggregated result of the inherent shifts and developments at political, economic, social and military level Global demographic trends will represent a genuine challenge for the powerful states to maintain the existing global political and economic equilibrium and they will also constitute a genuine shocking force for international security and stability. At the same time, they will represent one of the variables underpinning states' strategies, and domestic and foreign policies and influencing political and military alliances in the future. It is likely that they will lead to the reassessment of the bases of international relations. This paper analyzes the presumed consequences of future demographic shifts on the economic, political, military field and proposes some possible solutions to efficiently manage the issue.

Key words: *demography, populations, ageing, urbanization, migration, security, stability, conflict.*

1. MAIN TRENDS IN THE DYNAMICS OF GLOBAL POPULATION

From a historical perspective, demographic dynamics, as well as scientific and technical innovation have been an important catalyst for events with planetary impact. Since the establishment of modern states, population, and implicitly its dynamics, has always been associated with state power - economic, political or military. The theorists of the international relations have underlined this aspect in numerous works (Hans Morgenthau's and Martin Wight's works are convincing in this respect).

Researches in the field of demographics reveal the following major trends in global population dynamics that can lead to significant challenges for the international security and stability in the next four to five decades:

- divergent demographic dynamics between developed and developing states. At global level, there is continuing increase of the population in developing countries (especially in those poor and quite poor), while the population in the developed countries stagnates and ages. According to some United Nations.(U.N) estimations, 90% percent of the demographic increase in the following four decades will be registered in the poor and quite poor countries;

- demographic aging in the developed countries. The population ages everywhere on the Globe, but the rhythm and the intensity of this process are quite different from one country to another. The process is more accelerated in rich countries, by contrast with developing countries;

- concentration of some young populations in the so-called „arc of instability" (which spreads from the

South Africa to South Asia, including The Middle East). Compared with developed countries, the countries from Africa, South-East, Latin America and the Middle East will have very young populations. Currently, 90% of the global population under 15 years lives in those countries;

- intensification of international migration. In the context of globalization the dynamics of international migration has registered significant shifts, with a major impact upon states and societies affected. The consequences of international migration will overlap with those generated by these developments. International migration will play a central role on national governments' agenda, representing a major challenge due to divergent interests which will put a fingerprint upon the future decisions in this area;

- accelerating the urbanization process, especially in the poor countries. The urbanization process registers an unprecedented rhythm in human history. While in 1950, less than 30% from the global population lived in the urban areas, currently, more than half of the global population lives in urban areas [1]. Most of global population growth will occur in the urban area, while the population in the rural areas will decline. According to some estimates, by 2050 more than 70% from the global population will be urbanized [2]. The majority of the urban population will live in the poor countries.

There is a strong link between the demographic trends and the development of a country, although this link is sometimes insufficiently explained in theoretical works. Some authors [.....] have identified empirical links between the demographic variables and other macroeconomic variables, such as: labor productivity, the dynamics of the GDP, the level of population's savings, the scientific and technological innovation, the investments, the capital flows and the economic potential.

2. CONSEQUENCES ON DEVELOPED STATES

We anticipate at least several consequences for the developed states and these are presented in the subchapters below.

2.1. The economic field

Under the circumstances of a foreseeable demographic decline, the diminishing of the labor force basin becomes evident. This, in turn, leads to the increasing costs needed to maintain the current living standard in those countries. It is also presumable that the costs associated with health assurance will increase, because the demographic aging implies a longer period of time for services designated to health assurance. The increasing segment of the ageing population has already fueled the debate regarding the social security reform programs in the developed countries [3].On the other hand, the basic services will become more costly due to an increasingly smaller number of young people gaining access to full-time jobs.

The ageing population and the demographic decline are also associated with a diminishing of the social and economic dynamism [4]. The ageing population leads to a diminishing in working labor mobility and capacity to adapt to new technological development. Moreover, innovation and entrepreneurship will register a setback. The ageing societies are more conservative and therefore more unlikely to assume risks associated with investments in financial assets.

The demographic decline and the ageing population will also lead to a diminished number of tax payers

and, in the long term, to a reduced Gross Domestic Product (GDP) in developed countries, compared to those in developing countries. This will lead to partially reduced economic power) on behalf of developed countries, simultaneously with a translation of the economic power from the developed countries to some of the emergent economies that have large populations and a constant high economic growth pace. A consequence of such developments will be the reduction of the current influence of developed countries at global level (an exception is the USA, whose population and GDP will increase as a share in the world's population and global GDP).

As a consequence of the demographic decline, the consumption associated to domestic needs will also diminish [4]. This, in turn, will affect the economic growth in those countries. The demographic ageing will lead to a change in the current structure of consumption in these countries: the consumption associated to medical care and spending spare time will increase, while that associated to the acquisition of industrial goods is likely to decline.

At the same time, the ageing population has an impact on capital flows dynamics, materialized in inflows and outflows of pensions' funds. According to life cycle theory, the age of a household influences its investing behavior [5]. As the share of the young population in the total labor force will diminish, the volume of the capital inflows in the pensions' funds will also diminish, and that will influence developments on financial markets.

The structure of the population by age groups has an impact on the current account deficit (this deficit is determined as the disequilibrium between savings and investments) at the level of a national economy. The diminishing rate in savings, as a result of the diminishing segment of young population, is equal to the disequilibrium of the current account of a country. In an increasingly globalised world, the differences between national demographic dynamics can reverse or emphasize the current differences between the current accounts of the states.

All these consequences will affect economic performance and, implicitly, the living standard in those countries.

2.2. The military field

Demographic dynamics will influence the types of missions to be fulfilled in the future, as well as the future operational framework. That will determine the necessity of continuous adaptation of the training process, of weapons and structures of the military force to new types of missions [6]. Apart from adaptation to a new operational framework, the development of new military capabilities (new systems of weapons, but also new means of monitoring the operational framework) and non-military ones (for instance, learning new foreign languages, almost unknown in the developed countries) will become a necessity.

The training for traditional military operations should be maintained as the inter-states conflicts remains plausible, in the context of economic developments and disputes over resources. Moreover, this kind of training should be joined with training for missions of a non-traditional nature, for instance, the preparation for new type of military operations (such as contra-insurgency, especially in the urban areas, humanitarian missions, missions for stability, etc.), whose frequency is likely to increase.

In such a fluid and volatile global framework, building political and military alliances with some of the developing states which share

almost similar or corresponding sets of values, (states that for instance, show willingness to send troops to operations theatres, in exchange for some benefits delivered by the rich states, such as financial aid or licenses for the new technologies), should become a priority for the developed countries. It becomes more and more evident that the developing countries are to play an essential role in international stability and security in the following decades.

Current demographic dynamics and global trends generate new tasks and priorities for the security structures of the developed states [7]. These structures are required to adapt to the changes in the global strategic framework. At least the following requirements will become priorities for these organizations:

- orientation of the information collection process towards new security risks. This task involves increased financial and human effort, as the old risks and threats to security perpetuate and interfere with the new ones. Apart from this additional effort, a better and prompt understanding of the regional, national and even sub-national dynamics is required. This is a fundamental prerequisite for a successful adaptation to the transformation of the strategic framework. Concerning that, the necessity of developing a recurrent internal process of strategic analysis aiming at the continuous reprioritization of information collection requirements becomes evident;

- development of capabilities needed for acquiring knowledge of and understanding the characteristics (including the cultural ones) of the operational frameworks where future conflicts are to unfold;

- redefining security threats and conflict indicators, especially those related to strategic warning;

- paying increasing attention to the planning process of the military operations in urban areas. On short term, the most important endeavor is related to troops training. On long term, new capabilities such as unmanned aerial vehicles, will play a very important role in the increasing adaptation capabilities of troops to the new conditions in urban areas;

- undertaking a more in-depth analysis concerning the interconnections and interdependences between demographic dynamics and related processes (at global, regional and national scale), as well as their likelihood of generating conflicts. Intelligence services could be required to elaborate analytical products on quite diverse issues that may be far different from current ones (for instance, the effects of foreign non-military aid, such as development funds, over the domestic stability of beneficiary states, strategic consequences of climate changes at global scale, etc.);

- last, but not the least, the integration of the intelligence effort into foreign policy goals and priorities will become a stringent necessity.

2.3. The political field

Imposition on behalf of developed states of a political pattern to be followed by the whole world will face increasing resistance from developing states. Consequently, developed states will have to assure the support of at least some of the emerging economies (China, India, Brazil, Russian Federation, Mexico, Turkey, Iran, South Africa, and Egypt) in order to maintain the current global political equilibrium. The extending spectrum of countries that take part into the political and economic decisions having impact at planetary scale, from the Group

of 8 (G8) and the Group of 20 (G20), is an indicator regarding the necessity of extending cooperation with at least some of the developing countries whose large economies have a steady growth pace in the global governance.

2.4. The social field

Current demographic trends will lead to changes in social dynamics, as a consequence of the interplay of more specific future aspects.

One major change in this respect concerns people's social behavior. An ageing population is associated with a conservative behavior, which opposes risks, including those raised by military intervention outside national territory. For instance, in the case of European countries, missions related to protecting the South borders of the continent from illegal immigrants coming from Asia and Africa will become a priority. Consequently, the humanitarian missions or the peace enforcement operations to which European countries have regularly participated in the last two decades will likely diminish their prevalence. At the same time, families with fewer children, as is the case of the majority of families in developed countries, will be less likely willing to assume the risk of sending their children to fight in foreign lands. Electoral constraints could force the political leaderships in those countries to increase the level of funds allocated to public needs and to reduce those designated to military interventions abroad.

Another change with major social impact is related to the ethnic composition of the population in the aforementioned countries. International migration, more than any other demographic phenomenon, can lead to changes in the structure and composition of states' population. People migration involves shifts in identities, ideas, cultures and interests. Ideological interactions and clashes can lead to conflicts or social tensions.

Demographic ageing raises a dilemma for European countries: they either accept the process with its negative consequences mentioned above, or they accept an unprecedented level of migration coming from countries with quite different religious and cultural backgrounds from that of Europe. The first option would mean a gradual but certain diminishing of the economic and political power of those countries, a perspective difficult to be accepted by European leaders and population at the same time. The alternative instead, the acceptance of an increasing number of immigrants in order to keep economic competitiveness high and to maintain pension systems and social care services functioning, could modify the current ethnic map of these states and, implicitly, of the political framework on the continent - another unacceptable perspective for European leaders and populations. The effects of this can already be noticed by ascension to power, during the recent years, of the right-extreme parties (traditionally anti-immigration), in some of the European countries. Current experience reveals that the integration of these immigrants in Western societies develops with difficulty. As these immigrants gain social and political rights in their resident countries, their desire for a free expression of their spirituality will increase, as it is the case with the current tensions between the autochthons and the Maghreb immigrants in some of the West-European countries. Consequently, sporadic episodes could develop into acute problems. At the same time, migration and the increasing percentage of minority ethnic groups

will have a negative impact on social cohesion. In an increasing globalised world, cultural sensitivities are and will continue to be important.

Substantial changes in the existing ratio between the segment of middle aged population (40-59 years) and that represented by the ageing population could generate social tensions between these age groups, in connection with prioritizing the allocation of the available resources. Inherently, the materialization of this hypothesis could also affect social cohesion in developed countries.

3. CONSEQUENCES FOR DEVELOPING COUNTRIES

Most probably, some of these countries will take advantage of the future global demographic context, while others will face new vulnerabilities and risks. But an overall estimation, generally true for all of these countries, is practically impossible, because of their quite diverse historical, social, political, economic and demographic specific contexts, as well as their large number. Nevertheless, we can anticipate some overall developments.

3.1. The economic field

Most of the developing countries face shortages of arable land and fresh water. The increasing deficit of natural resources essential for survival will affect the capacity of the economies based on agriculture to absorb the available domestic labor force [8]. This will lead to an increase in the number of population living in the urban areas and, at the same time, to a process of pauperization of this population, as the constraints in these areas will increase. The result is a process of extension of the existing ghettos, which represent potential basins for recruiting future insurgents, in the current urban centers.

The intensification of international competition over attracting skilled labor force is foreseeable. This trend has expanded in the recent years, as it is the case for example of with the competition among the universities from the developed countries). That is an important drawback for development in the affected countries.

Demographic growth can be an advantage or a burden for these countries. The result depends on the intelligence with which the political leadership of these countries will know to link the demographic factor with other strength points that they have or can create, on their ability to sail through the waters of the economic and political globalization, as well as on their capacity to negotiate at international level (with powerful international institutions). The political decisions of a state, no matter how intelligent and smart, will not have full success unless they take into consideration the actions and decisions of other states. States have to learn from the mistakes of other states. The states that will know how to stimulate the increase of domestic savings' rates, those that will invest smartly in education and in human health programs will have success. The investment in education has to be joined by measures that will lead to keeping the educated people in the domestic labor market; otherwise, the investment in education made by these countries will become a subsidy that will only be to the benefit of the receiving labor market.

Under the circumstances created by globalization, the regional economic cooperation represents a need for these countries in their quest to diminish the discrepancies between them and the developed countries.

The significant growth of future labor force in countries with slow rhythm of economic growth, the large segment of the young population

with endeavors higher than the possibilities available in these countries, the big differences between the fertility rates of different ethnic groups living inside, the international migration and the increasing degree of urbanization will have a direct and significant impact upon the economic and social developments inside these communities.

An overview upon the current situation in these countries reveals that only a small part of them (among which, India, China, Brazil and South Africa) has been successful so far. The majority of the countries from this category will continue to face new vulnerabilities and risks.

The global demographic division [9] will have direct consequences on the availability of resources for development, upon the choice of the economic and social patterns which the states will follow, as well as upon international security and stability. The last two depend less on the number of global population and more on the distribution of this population - an aspect not very well understood or recognized at a large scale [4].

3.2. The social field

The rapid urbanization of these countries will have destabilizing effects upon the societies that do not have strong public institutions. The administrative capacity of these states is far from being able to solve the increasing number of problems that a rapid urbanization involves. Urbanization will raise important issues for the management of the big cities in these countries; the concentration of large quantities of water, food, building materials and energy in these areas and their distribution over small areas raise important issues linked to personal hygiene and pollution. The improper hygiene conditions and poverty will turn the population of these countries into victims of HIV or other infectious illness with a high mortality rate.

Poverty and economic inequalities will generate and fuel frustration feelings, alienation and marginalization. Urbanization is associated with the increasing degree of poverty and anarchic violence. The massive migration from the rural towards urban areas can become a vector for some profound social crises on long term [10].

The more well-organized political activity in the large cities can represent a push for social unrest, especially for the young population, which becomes frustrated by the increasing social and economic inequalities and lack of opportunities. Thus, the probability of some social tensions or even civil conflicts is higher in these areas.

Urbanized areas are those where extremism flourishes easier as a result of: large spread and more facile access to instant communications means, poverty- which is more profound in urban areas than in rural areas, concentration of potential targets and opportunities of recruiting, as well as increased effectiveness of propaganda means and indoctrination methods.

3.3. The political field

In terms of policies and politics, developing states will face an increasing pressure on behalf of domestic population for social and political reforms, as well as for the participation of a more representative segment of the population to the decision-making process inside the state.

The North-South demographic division can lead to changes in existing prejudices and perceptions of the states regarding international security, in particular, and international relations, in general; in other words, it leads to changes in the principles underlying states definition of adversaries and choice of allies. If materialized, such a perspective

will induce a domino effect in the international system: the effect will be that of an increasing number of states that will change their own perception over the potential adversaries (that will transform this perspective from a concern of initially a small number of states into a self-fulfilling prophecy, to use the expression belonging to Alexander Wendt).

The big demographic discrepancies between rich and poor states will put into question the legitimacy of the existing global governance exercised by rich states. The legitimacy has represented, for the rich Western states, an important source of power in international relations and its diminishing will create important tensions in international relations.

3.4. The military field

In terms of their defense, these countries will continue to rely on numerous, but poorly equipped armies and, therefore, ineffective compared to those of the developed countries. Nevertheless, the states with large and dynamic economies will also be able to build up elite armies, even if not at the same standards as those in the developed countries.

4. POSSIBLE SOLUTIONS FOR MANAGING THE CHALLENGES

Preventing the negative impact that the current demographic trends could have upon international security and stability is in the hands of the Western states that have the required means to adjust the situation. However, in order to implement that intelligence, creativity and political will are required.

Developed states have several directions for action at hand:

- increasing investments in education, innovation and technology, as a measure of increasing labor productivity. The last one has a greater impact upon economic growth than changes in population number;
- a greater integration of developing and developed countries so that they too become complementary in terms of balanced distribution on age groups. Wealthy states should give a more substantial aid to the poor ones. Most definitely, women education should represent an important component of this aid, but in order to gain the desired result, this aid should be carefully directed, so that it targets preponderantly the development needs of the poor countries and not only the numeric reduction of the population of these countries. In many of these countries, the increasing number of their population is regarded in terms of classical political and military power (according to that view, a state with a large population exercises a greater influence at regional and international level). From this perspective, developed countries "efforts directed towards reducing the population number of poor countries would be regarded as a neo-colonial intervention aiming at weakening the political power of poor states;
- a better management of international migration. Labor migration, including that of the unskilled, should be encouraged and supported by allocating larger budgets, by a greater involvement of all countries in this process and through obeying the economic and social rights of migrants as well. Developed states will be forced to reassess their current positions towards international migration from within poor states, and that not only from economic considerations (aiming at assuring their own economic growth), but also because these migratory flows can reduce the potential for conflict in other areas of the Globe, thus contributing to maintaining global political stability.

At the same time, rich countries should prove altruism and encourage the return of the skilled and high-skilled immigrants in their countries of origin. This measure would be advantageous for all the parts involved in the process, as it would contribute to the economic development in all these countries, but also to the promotion of ideas and life-style specific to developed states. That , in fact, would translate into an adjustment of the existing discrepancies between developed and developing countries. It is worth noting that social and cultural convergence is more difficult to achieve than the economic one. In fact, the first is a prerequisite for the second and not a consequence of that.

5. CONCLUSIONS

The demographic transformations initiated in the last decades will have strategic, political, economic and social consequences that will represent genuine challenges for the powerful states to maintain the existing global political and economic equilibrium. It is likely that they will lead to the reassessment of the new bases of international relations. Global demographic trends will constitute a genuine shock force for international security and stability and, at the same time, will represent one of the variables on which states will base their strategies and domestic and foreign policies and will choose political and military alliances in the future.

Current demographic trends will determine the economic and military advanced states to shift towards new alliance networks and will contribute to the redefinition of foreign policy priorities for a large part of the influent governments at international level.

Due to the fact that the regeneration rate and respectively the discovering of the new strategic resources will increase in a slower rhythm than that of the global population, the existing resources deficit will increase - an aspect which will affect the developing states with fast increasing population first. Under these circumstances, it is expected that poorer states face increasing difficulties in their attempts to cope with competition for resources, which will be intensified by their domestic demographic dynamics.

On long term, the hypothesis according to which the national demographic profile represents a factor of critical importance for states “power and security , including their capacity to create or get technological advantages, remains true.

Demographic trends reveal themselves at a slow pace and for that reason decision-making factors are tempted to consider that their management is not urgent. Such an approach would be wrong, as the cumulative effect of these trends will prove to be insurmountable on long term. Demographic dynamics is important, but political decisions and political leadership are also important. If these are improperly managed, the reputation of Western countries, and implicitly, their soft power, will be affected. Such a perspective will have a major impact on international stability.

NOTES AND REFERENCES

[1] Cohen E. Joel, Beyond Population: Everyone Counts in Development, Center for Global Development, Working Paper 220. Washington, D.C.

[2] Population Reference Bureau, http://www.prb.org/Educators/TeachersGuides/HumanPopulation/Urbanization.aspx.

[3] Eberstadt Nicholas (2010), The Demographic Future. What Population Growth - and Decline - Means for the Global Economy, Foreign Affairs, November/December 2010.

[4] Goldstone A. Jack (2010), The New Population Bomb, The Four Megatrends That Will Change the World, Foreign Affairs, January/February 2010.

[5] Modigliani F., Brumberg R. (1954), Utility analysis and the consumption function: an interpretation of cross–section data.

[6] Goldstone A. Jack (2008), Demography and security: Security implications of global population changes, 2007-2050.

[7] Howe Neil, Strauss Rebecca, Nakashima Keisuke (2008), The graying of the great powers. Demography and Geopolitics in the 21st Century, Center for strategic and international studies, 2008.

[8] Ohlsson Leif (2000), Livelihood conflicts: Linking poverty and environment as causes of conflict, Stockholm: SIDA Environmental Policy Unit.

[9] This term reffers to the sharing of world between states with young population, in rapid increasing and states with ageing population, being in a process of modest demographic increase or in demographic stagnation. Fundamentally, this concept is not a new one, the demographic division following, as it can be easy noticed, the lines of the old division specified to the Cold War, which the author tends to replace in the international discourse: The First World (states with advanced economies), the Second World (states with developing economies) and the Third World (the poor states, with precare economies, the majority former colonies).

[10] Goldstone A. Jack (2006), Flash points and tipping points: Security Implications of Global Population Changes, 2005-2025, Paper prepared for the Mackinder Forum, Minster Lovell, UK, March 14-15, 2006. 1.

PSYCHOLOGICAL PROBLEMS AND STRESS FACED BY SOLDIERS WHO OPERATE IN ASYMMETRIC WARFARE ENVIRONMENTS: EXPERIENCES IN THE FIELD

Giuseppe CAFORIO

GEN (ret.), Vice-president of the Italian Interuniversity Centre of Historical and Military Studies, outside consultant of the governmental Italian Centre of Strategic and Military Studies, Italy

This article deals with the problems of anxiety, stress and psychological discomfort that can affect soldiers sent on asymmetric warfare operations. It is based on secondary analysis of the data of two important field researches whose results have recently (2013) been published. Although the two researches adopted different methodologies, the testimonies are fully comparable and show that soldiers from different countries and cultures display common or similar reactions when they are placed in the stress conditions that the asymmetric environment involves. The approach of the paper is drawn up in such a way as to make the reader a participating observer of the reality of such missions. It is therefore centred on the personal testimonies of the soldiers interviewed in the two researches, testimonies reported just as they are, in their simplicity and, often, drama, with comments by the author kept to a minimum in order to give readers ample opportunity to evaluate and interpret the reported texts on their own. The research data, drawn from the declarations of those directly concerned, reveal the existence of a problem of psychological distress resulting from deployment in asymmetric warfare situations that is in part different in the causes of the problems resulting from deployment in traditional combat and affects percentages of participating soldiers that are not high but definitely significant. The highest incidence appears to be constituted by problems relating to reintegration into normal social and working life upon returning from the mission. This is followed in percentage terms by anxiety situations relating to life far from the family, due in large part to a sense of powerlessness for the scant possibility of managing family situations that may have cropped up or already existed beforehand.

Key words: *PSTD, asymmetric warfare, psychological distress, family, hardships, threat.*

1. INTRODUCTION

This article deals with the problems of anxiety, stress (1) and psychological discomfort that can affect soldiers sent on asymmetric warfare operations (2).

It is based on secondary analysis of the data of two important field researches whose results have recently (2013) been published. The first, published in the book *Soldiers Without Frontiers: The View from the Ground. Experiences of Asymmetric Warfare* (3), collects and analyzes the data obtained from 542 in-depth semi-structured interviews with soldiers who had taken part in asymmetric warfare missions. The second, published in the book Junior Leadership in Afghanistan (4), contains a series of detailed memoirs

written by Dutch platoon leaders who participated in missions in Afghanistan in the period 2006-2010.

In both cases it is a matter of personal testimonies: in the first referring to a number of theatres (5), in the second limited to only one (Afghanistan) but certainly the most significant as an example of asymmetric conflict. Although the two researches adopted different methodologies, the testimonies are fully comparable and show that soldiers from different countries and cultures display common or similar reactions when they are placed in the stress conditions that the asymmetric environment involves.

The approach that follows is drawn up in such a way as to make the reader a participating observer of the reality of such missions. It is therefore centred on the personal testimonies of the soldiers interviewed in the two researches, testimonies reported just as they are, in their simplicity and, often, drama, with comments by the author kept to a minimum in order to give readers ample opportunity to evaluate and interpret the reported texts on their own.

2. THE LIVING CONDITIONS OF THE SOLDIERS SENT ON MISSIONS

The soldiers of the 10 countries examined in this study all came from contexts characterized by advanced democracy, effective governance, privileged economic conditions and temperate climatic situations.

In most cases, the countries to which they were sent on mission did not share any of these characteristics.

Indeed, the interviewees' responses show significant distress over the impact of the environmental reality of these countries and their stays in them.

These soldiers had to contend with three environments while on mission: the natural environment, the human environment, and the operational environment.

The natural environment presented itself in most of the cases as desertic, arid, often quite compartmented, with large seasonal and daily temperature swings, frequently at extremely high levels.

This is clearly present in many of the answers given by the interviewees (6), such as:

SAC09: *The first thing I had to deal with when I arrived at Sudan was the weather, because it was extremely hot and the language, the culture. Since Sudan is a different country from SA, I was not sure what to expect.*

KRA01: *I had a feeling of desolation due to hot weather over 50 degree C. and sandstorm. I was worried about life over the next sixth months since all the roads leading to the unit were located in desert.*

Dutch Lieut. Geert: *I first flew to Minhad, where I participated in the acclimatization programme. The climate was inconceivable here: it was uncannily warm and enormously humid at the same time: The temperature would sometimes mount to 63 degrees Celsius, while the humidity was 97%. I thought I was losing my mind....*

Dutch Lieut. Geerten: *The camp was one great sandy plain with a few concrete strips. There were some Bingham tents scattered here and there….used as sleeping accommodation for approximately 250 men each…..there was no airco, so that the heat inside would reach rather high temperatures.*

ITC25: *I arrived in Iraq in summer and my first impact was that on climate (we were lodged in tents). Under an operational point of view we met a desert scenario, totally news for us.*

Moreover, the climate and environment conditions are (unfavourably) compared with those of the soldiers' home countries:

SIC03: *When arriving to Afghanistan for the first time he thought he arrived at the end of the world. Everything was very dirty. Afghanistan is one big garbage place.*

Landscape is completely different that at home. Nothing at home can be compared to Afghanistan.

KRA10: *Weather and environment were so different from Korea and thus, the first impression was mostly related to the climate in the Middle East I had never experienced before. It was very surprising to know that people could afford to live in such an environment and I also thought Korea is a good place to live.*

SIC09: *Afghanistan is definitely a completely different environment, no vegetation, only desert and sand. The change of environment surely has effect on a person. First, you have to get used to different weather conditions, to high temperature differences between day and night. Adapting to new environment takes at least 1 month. Way of life in Afghanistan is completely different.*

The personal hardships that these environmental conditions entail are repeatedly and openly stated by the interviewees:

KRA05: *It appeared to me strange because of sand wind and empty desert, and living quarters built by container boxes and weather made me very uncomfortable.*

Dutch Lieut. Marcel: *The working conditions had been heavy, especially during the summer period because of the enormous heat. When you have to work in such conditions, when it is really hot and you move out with all your gear, your body is taxed heavily.*

BGC04: *I got into a new world. Complete obscurity. Everything was new for you and you did first steps as a toddler.*

But what probably strikes the human sensibility of the soldiers on mission even more is the human environment that surrounds them in these countries with which they are forced to come to grips. The conditions are often primitive, miserable, and of material and at times moral degradation, characteristics of the backwardness of these countries and further aggravated by grave conflict or post-conflict situations that seem in terrible contrast with the relative well-being and serenity of the soldiers' home countries.

This condition of distress that is no longer only physical, is extensively testified to by the interviewees.

ITC95: *I was shocked passing from our civilisation to the backward one of the countries where we were carrying on our missions. There I have seen strong poverty and people suffering it.*

SAB15: *I was very shocked of the way the place looked and the people. My first thoughts were "how do people live like this?"*

TURA03: *Smell and vision of misery and chaos surrounded me when the doors of the plane are opened. I thought that these 6 months were going to be hard for me. I wished that I wouldn't have been there. In the first days I thought there was no order and rule in this country. And God had forgotten this geography. I can say that I was really in a bad mood.*

DKC02: *Overwhelming – far removed from anything I had ever seen before. I had never been out of Europe before. The smells, people who "tumble" around you. Afghans are very different in terms of hygiene and mentality.*

SPA02: *Regarding his first mission (Enduring Freedom, led by US), after the harsh impact of climate conditions, he was shocked by the economic inequality of the local society, with a narrow rich class and a broad poor class.*

PHIB05: *Sometimes when you are faced with extreme poverty you really pity the people who need so much in life.*

PHIB03: *The communities that we go to are really poor/depressed. These are the people that really need help and assistance.*

Dutch Lieut. Rob: *There is actually a thing that really bothered me and that was the way in which young boys were abused as sex objects. These situations I found personally very hard, the way the local men treated these children. It was a phenomenon of which everyone could see that it had permeated the Afghan culture to the very core... I saw an ANP officer*

negotiate with a father of a small boy, who an hour later would be delivered again to daddy.

SPC18: *In Sarajevo I was much shocked by the damage of the city and the hatred that yielded to such a cruel war.*

ITC55: *When I arrived in Sarajevo the consequences of the war were evident: my first impression was of an exhausted country.*

Right from the first impact with the mission theatre the operational environment in which the soldiers have to carry out their mission presents itself in all its severity and drama.

ITC17: *In Iraq the level of threat was higher and we had to experience a plurality of assets, putting at stake our professionalism; besides, the area of responsibility was wider, we met the social problems by the division of populations in different tribes, clans, religious sects, etc.*

SIC44: *After his airplane landed, he noticed hard injured German soldiers who were transported by the helicopters to the hospital. He also noticed the all NATO flags were always on half-mast. The first impression was, the real war is going on.*

ITA04: *In Iraq I had to relieve my colleagues fallen in Nassirya: therefore it was a strong impression under an emotional point of view.*

DKC14: *The soldiers we had to replace looked very tired, which says something about how tough a mission this was.*

Dutch Lieut. Erik: *My predecessor had just lost Corporal Ronald Groen in an IED* [Improvised Explosive Device] *strike. On our arrival at Camp Holland we made a tour of the camp and we saw the Fenneck [armoured vehicle used by the Dutch army] with which the corporal had hit the IED. We could see the consequences of such a strike and it made my drivers realize that their position in the vehicle offered little protection. This was a very confronting moment, not only for my men, but also for me...*

ITC27: *Both in Iraq and in Afghanistan you live in a narrow room, where you have to live together with persons from other countries. In both two countries you perceive a feeling of threat: our base was often hit by rockets and when you are flying with your helicopter often insurgents shoot you (We had four helicopters holed).*

ITB01: *The Persian Gulf is a very particular environment: you can perceive a feeling of danger in all the ships that navigate there.*

Drama is then further and heavily confirmed in the course of the mission through episodes and situations experienced by the interviewees:

ITC95: *Unfortunately some mourning events happened, particularly in our job as artificers. Usually you don't think of danger: you think it when something happens and thus you must have the strength to start working again.*

ITC91: *Once I had the task to protect with my platoon two gun artificers who had to defuse an IED that had exploded and killed them both. I had to manage the recovering and evacuation operations.*

BGC15: *Yes I had been subject to enemy fire. Almost daily mortar fire. On 20.7.2006, the 107 mm missile crashed directly into the wall of the business office on the outskirts of Baghdad, which was half-destroyed from the inside.*

DKC01: *In Iraq, we were under rocket fire for 85 days, where we fell down on our stomach. You could almost set your watch by the shelling. It was probably the heat that made them shot at certain times.*

ITC22: *I was involved in a big fire conflict on June 11, 2009 and appreciated how my mates reacted to the fire. I was in command of an armoured craft ("Lince"): my machine gunner was wounded on his arm, but he remained at his combat place. The craft behind me was heavy hit (two casualties) and a pickup of the Afghan soldiers was blown up by an IED: I talked with them few minutes before and was particularly hit by their death.*

PHC10: *Since I have joined operations under fire many times, hardships and fear in the presence of the enemy are my initial feelings. I have learned that in every encounter as long as you are in service: protect yourself first, do something that will protect the civilians so that the image of the military will not be ruined and never do something that will imperil the civilians.*

ITC02: *I was involved in fire conflicts. It was a very strong experience: it happened particularly during our patrolling (fire with guns, RPG, etc.).*

SAB6: *It was the first time in my life that I was ever in a real attack by such heavy artillery. I felt very scared, thought about my family. Thought that if this day was going to be my last that experience made me think positive about life.*

Dutch Lieut. Dennis: *After walking a short distance I found an Afghan lying in a ditch with a smoking machinegun, a PKM, at his side. He had been hit in the head, just outside the eyes-nose-mouth triangle. A large part of his skull was damaged, but he was still alive. I saw he was in great pain....*

BGC26: *Yes. I have got into improvised explosive devices We were patrols near "Afak". We noticed that we were being shot at with a video camera from the roof. Quickly warrant squad was returned. We alerted local police, breakaway the region. Luckily it was not installed properly. The cable was broken and it saved us from the explosion.*

DKC21:*We had only walked for about a half hour and could still see the camp when we hit the first IED. It exploded in loose soil, between me and the guy behind me. We were both bowled over and it took a few seconds where I just lay on the ground and thought "what – just happened?" Fortunately none of us were seriously injured.*

PHA11: *When I was assigned in Mindanao, the combat operations were brutal. In Cotabato, in one instance, my fellow soldier was killed after he fetched water.*

Dutch Lieut. Barry: *After the attack on the bazaar the men of my platoon and I saw the dead bodies of the children. Together we cleared the market after the attack. It was utter devastation and the place was extremely filthy. I first formed a security cordon and then selected the emotionally most stable men of the platoon to clear away the mess.*

Dutch Lieut. Gerwin: *It was Monday 31 March. In the surroundings of Mirabad a Fenneck of the ISTAR platoon had hit an IED, causing three seriously wounded. One of them would eventually lose both legs.*

An outlook on the situation of the environment in which the soldiers find themselves living and operating that is clearly in itself capable of causing the physical and psychological distress in them is also part of the study's focus. In particular the soldiers' fears concern not only their loss of life but of being maimed as well. The insidious danger of IEDs (the number one cause of casualties in Afghanistan, for example (7)) is particularly feared for the most frequent physical injury, the loss of legs. This consequence is suffered most often by the drivers of armoured vehicles due to their particular position in the vehicle (see the testimonies of Lieutenants Erik and Gerwin above). In addition, IEDs also pose big problems for the clearance and removal work: in this regard see the testimonies above of IITC91 and ITC95. Also the sight of the outcomes of the fighting appears to be perturbing and apt to produce feelings of horror in the soldiers, so that Lieut. Barry states he had to charge "the emotionally most stable men of the platoon" with removing the bodies of the dead.

3. THE PSYCHOLOGICAL CONSEQUENCES

The psychological stress situations already amply documented in the American literature for U.S. military personnel and to a large extent grouped under the term "post-traumatic stress disorder" thus emerge also for

the soldiers of the countries examined here (see, for example, Adler, A. B., Carol A. Dolan, 2006; Ward, W. 1997; Richardson, J. D., J. A. Naifeh, J. D. Elhai, 2007; Andrews, B., C. R. Brewin, R. Philpott, L. Stewart, 2007) (8).

In particular, as Alessia Zanetti (Zanetti, 2014, p. 13) observes:

"... in the 1980s the American Psychiatric Association, with DSM III (Diagnostic and Statistical Manual of Mental Disorders) defined a new diagnostic category: the syndrome of PTSD (post-traumatic stress disorder) was formulated. The wars of the twentieth century were an important incubation place of this category; already in the Russo-Japanese conflict of 1904, exploding grenades caused paralysis in soldiers and emotional blockage, defined as "shellshock'. The coming of the world wars and the theories of Freud's followers confirmed the direction taken by the studies. Psychoanalysts like Sándor Ferenczi, Karl Abraham, Ernest Simmel, Abram Kardiner and Otto Fenichel elaborated various definitions and therapies in this regard."

Our research, however, extended beyond simple post-traumatic stress disorder to include three different aspects of psychological distress resulting from mission participation: the stress due to the operations themselves – operations which for many entailed involvement in firefights for the first time; distress due to long periods away from the family; and difficulties of reintegration into everyday life back home upon returning from the mission.

Participation by these countries' soldiers in peace-making operations in various theatres (see note 5) led to the involvement of their armed forces in missions that are now known as asymmetric warfare – to which they were not previously oriented – with all the implications in terms of risk, difficulty and sacrifice that participation in this form of warfare entails. This new use, which has become generalized in the last ten years or so, has affected the armed forces of countries with little or no previous experience in combat operations. By choice (9), the countries examined in this study are small and medium powers engaged until recently only in what have been termed MOOTW (10). Their armed forces therefore found themselves for the first time on these missions facing combat actions in the particular environment of asymmetric warfare, an environment much more difficult and challenging than "conventional" combat operations.

3.1. Emotional stress during and resulting from operations

The risk of attack by insurgents blended in with the civilian population, of ambushes in which many soldiers of the surveyed countries had their "baptism of fire", the danger of IEDs, the launching of rockets and mortar rounds against camps, the losses suffered, the sight of the dead and wounded, experiencing the loss of fellow soldiers and friends constitute a series of factors and events that are undoubtedly apt to produce situations of great anxiety and stress in those who undergo them. Here are some experiences:

SIC01: *On the day of their arrival one NCO of the Afghanistan National Army had shot and killed several of his soldiers, and also one American soldier. Consequently, strict restrictions regarding entering the base were taken. First day was very shocking, later situation calmed down, until 1 month after the arrival when missile attacks on a base were on an everyday basis.*

SIC46: *The most stressful situations were when Italians and Spanish had victims at the same roads where also Slovenians were patrolling.*

ITC32: *In Kosovo my first impression was the face of war: destroyed houses, everywhere signs of shots. In Afghanistan the impact was different: just gone down from the airplane, they distributed us*

ammunitions, the travel was in escorted armoured crafts. You can perceive tension in the drivers.

Dutch Lieut. Peter: *The action was mentally very taxing. A number of men had looked almost straight into the eyes of the opponent they killed. At the same time, one of their buddies was badly injured.*

Dutch Lieut. Geerteb: *Evidence of the shrapnel of the detonated grenades that had struck the police post were clearly visible. The scene was searched for live as well as detonated munitions. It was a messy business. It was sweltering hot and the men's body parts were baking in the sun, which produced a sickening stench. Not only had the search for possible other explosive devices to be done near and under the men's body, but also inside it, which left a deep impression on most of my men.*

Dutch Lieut. Stellan: *These were difficult assignments and, not surprising, my men indicated afterwards that these assignments caused them anxious moments.*

DKC21: *Stress while I was there. I worked with it by formalizing all conversation about things. Being a chief (major) of a company you reduce stress: e.g. when a unit has been in battle – they debrief. When we have so many with stress it is because we have big problems: 5 killed, 70 wounded in Afghanistan team 9. 7-8 psychologists down here....*

Dutch Lieut. Erik: At a certain moment that night a fire *fight started. As I was listening to the radio I heard a live message from the C team's commander saying that there were two men from his unit that showed "no vital signs', ergo they are dead. This message had a huge impact on everybody. Nobody knew what had happened exactly. The impact was even more acutely felt because it meant that the insurgents were capable of attacking us in the dark.*

SIC47: He saw how one suicide bomber wit*h the motorbike attacked ANA soldiers who were coming home. He still remembers the date of this attack, which happened 400 m away. He was full of adrenalin, very upset. This was for the first time, he filled the weapon.*

Dutch Lieut. Erik: *One of my sergeants later told me that the experience [of assisting a wounded man] kept him awake at night. He had seen that half of the wounded man's leg lay besides his body, which caused him excruciating pains. My sergeant then moved the leg to a more comfortable position. Although my sergeant and his men felt good about what they had done to help their colleague, the images of that night were branded on their retinas.*

PHIC14: *There was fear of the unknown. I have heard stories previously of seniors and fellow soldiers who died in the area where you posted. In fact, I replaced an officer (a senior military academy graduate) who was killed. We are all human after all, not immortals.*

Dutch Lieut. Gerwin: ...In an IED strike in the surroundings *of Khorma two men had been killed and two seriously wounded. He told us who had been killed. I knew Dennis van Uhm quite well. We had spent an evening in Amsterdam shortly before the mission, together with the company leadership, and these thoughts flashed through my mind. One of my men went completely out of his mind when he heard the name of the second casualty. He and Mark Schouwink had been the closest friends ever since they were children.*

PHIB10: *The killing is one of the things that I really need to adjust to. I value life but you have to make a choice either you be shot or to shoot the enemy.*

Added to the typical emotions of war, of finding oneself threatened by enemy fire, are the particular frustrations typical of asymmetric warfare, summed up in the following example:

Dutch Lieut. Erik: *Counter-insurgency is often frustrating. You are fighting spectres. People are walking about in civilian clothes and have hidden their arms underneath. You are only allowed to react when*

you are fired upon, but not in all cases. Or you are not allowed to react with all the means at your disposal: you have to be careful not to hurt any innocent civilian.

The states of mind created by experiences like those listed above were described as follows:

DKA03: *Mentally tough to eat breakfast at 07 o'clock with colleagues, at 10 o'clock to pick them out of a fight – died at 24 o'clock, to say goodbye to them where they lie in a "coffin" – how quickly life can disappear, and the pain the survivors now face. Hard – day after day having to be mentally ready to die in a few seconds – and the pain it will give your children and family.*

BGC15: *What were your feelings prevailing during the mission?*

Sense of risk and frequent fatigue. Lack of regular information on loved ones in Bulgaria. Lack of torture fears.

SIC23: *Work on check point is always stressful, you never know when a suicide bomber will strike and if you have intelligence. In this way stress is even higher.*

Dutch Lieut. Maarten: *During the fight I also felt anger and aggression. There was a lot of adrenaline racing through my body and once the unit was in a good position, the anger pushed me to go on with the fight. How dare they fire at us! Perhaps it was not realistic to think that, but the realization that others wanted to kill me and my colleagues, while we were doing our job with good intentions, really made me angry.*

DKC07: *Yes, I have had respectively psychological and stress symptoms, during many of my missions. Mostly, I worked with these symptoms myself by "promising myself that I would not come home with scars on my soul". Whether this has succeeded 100% I will not comment on but leave that to others. I have in the SHARP missions always written my experiences in diaries which I have felt has been a great help.*

Anonymous (page 345, Groen 2013): *I had a section commander who would always be the first to do everything. No assignment was too much for him, until he was personally involved in an IED strike. In his view, he was driving precisely in the tracks of the preceding vehicle, but unfortunately that was not the case. Fortunately, he was driving in a Bushmaster and there was hardly any damage. After this strike his behaviour changed. He had had it....*

SIC39: *The most dangerous situation was when his base-camp was under insurgent rocket fire. Because these arms were more or less improvised, precision was bad, this was the first case he was exposed to direct threat. He was surprised how he was reacting because he had almost 20 years of military experiences but real threat situation is something completely different.*

SIC40: *The feelings? He saw the threat as a matter of destiny. If you had luck, you would survive, otherwise not.*

DKA04: *You go in a high gear during the operations, and it can be difficult to calm down afterwards.*

Dutch Lieut. Bart: *I noticed a certain enthusiasm in everyone that had been in the firefight. This enthusiasm arose from the fact that everybody had been really shot at and nobody was wounded. This enthusiastic posture is probably part of the infantryman's psyche.*

SIC34: *No combat operations, but we were prepared if something happened. Sometimes it's kind of the dream that doesn't come true – you are being trained for a hard job, but at the end of the day you don't get what you wanted. On the other hand when you think that you may die, it's good that we weren't engaged in difficult situation, we survived, etc.*

Anonymous (page 342, Groen 2013): *The gunner of an armoured vehicle is reasonably well able to see the effects of his weapon in details. In the evaluation one gunner was constantly talking about a camel. It turned out that during a firefight he had accidentally hit a camel.*

In the same action he had neutralized a Taliban fighter. He had seen that he had hit the man, but he had also seen the camel suffer with pain. He finally released the animal from his sufferings, but the entire incident made a deep impression on him. I am sure that shooting the camel had more impact on him than killing the Taliban fighter: the camel had in fact nothing to do with the incident, but had become involved anyway. It led to mental problems for the gunner.

As can be seen from the testimonies reported above, a number of feelings and sensations are caused by the experiences in the field, ranging from simple fear, which does not fail to make its appearance even among those with the longest military experience, as SIC39 observes ("real threat situation is something completely different"), to resigning oneself to one's fate in a kind of reassuring fatalism (see SIC40 above), to the adrenalin rush caused by active response to a risk situation (DKA04), lived positively when it had not involved losses (Lieut. Bart), to a change in outlook when danger had struck closely (Anonymous, page 345; Groen 2013), to hesitant regret when the firefight does not materialize (SIC34), to "mental problems" for having made an animal suffer and having to kill it, etc.

To control the anxiety and stress caused by combat situations the interviewed soldiers resort to various expedients: distractions like physical activity, reading, keeping a diary, and watching films and videos; seeing psychologists attached to the units, where there are any; seeing military chaplains, for believers; talking to their direct commanding officers; group debriefings, where they are held; seeking refuge and reworking the trauma within the small group to which they belong (11).

But let us look at a few examples of the various strategies used by the interviewees:

BGC03: *Did you do something to keep your mental condition of the normal level, if yes – what?*

In the second half of the six-month *mission I was able to use the gym almost daily. I was falling asleep reading recreational books, for example, downloaded from the Internet jokes – in Bulgarian.*

DKC15: *Yes, had some anger problems. I ran and exercised and it helped. It disappeared about 5 months after homecoming.*

TURA08: *To prevent any psychological problem, almost every day, I went to gym for at least one hour. This makes you feel good and discharged. Barbecue parties with friends and Turkish colleagues and having internet access and DVDs were also very useful.*

BGA17: *Contacts with colleagues and neighbours in my spare time; fitness or running daily or at least twice a week; books. It is desirable that contingents be provided with books or newspapers and magazines from Bulgaria.*

BGA18: *The main tool for me personally was the sport; enjoyable reading that carried me elsewhere, as well.*

SLO10: *You have to find your own stress coping strategies. Sports are one of them. You can lose your mind if you think about the danger of missile attacks every day.*

SAC5: *I experienced stress on the fourth month and then I made an appointment with the social worker and it helped.*

BGC17: *Sports activities and contacts with officers from the German and Italian contingents.*

BGC10: *Daily contact with my family; regular visits to the gym; spontaneous visits to the U.S. market and shop; meetings, banquets with colleagues.*

BGC07: *I spoke with a psychologist of the contingent.*

PHI10: *Although we have Post-traumatic stress disorder debriefing, it is not done on a regular basis.*

PHI13: *Our unit had stress management lectures in order to help us cope with the changes in our life.*

SAC07: *Talk to the authorities like psychologists, chaplains and commanders.*

TURC03: *Being a soldier is stressful. Doing this job in Kabul is much more stressful. Risk, climate, foods, rules were all stress sources for me. But I came over it by thinking of the end of the process. It was just 6 months and after it I was going to start a 2 years master degree education in Land Force Academy. So dreaming about good things always works for me to get over my stress.*

Recourse to the "primary group", however (see Stouffer, 1949), appears to be the most important and meaningful support tool for the individual when faced with anxiety and stress situations during (and sometimes also after) the mission. Indeed, ever since the research of Stouffer's Research Branch it had been known that it was the primary group that induced individuals to remain in combat situations without seeking ways to escape. A situation identified by the Research Branch as an extreme stress condition is when nearly all the individual's needs are denied gratification, the threats regard the essential aspects of the person (life, physical integrity), radical conflicts are created in values (moral codes – codes of conduct), and anxiety, pain, fear and uncertainty prevail. In the framework of the group the above deprivations are not seen by the individual as absolute, but relative to the levels of gratification and the aspirations of the reference group. In the combat situation, for the individual deprived of everything, the psychological and affective gratifications offered by the primary group thus become essential, irreplaceable, unique (see also Caforio, 1987).

In confirming the ample, generalized recourse to the primary group to rework the moments of stress, the data of our research also confirm the similarity of the traumatic effects of asymmetric warfare operations and of those already identified which are characteristic of conventional combat operations.

Testimonies to this recourse are numerous and are seen in all contingents.

SPAC12: *I had stress seldom. I sorted it out thanks to my companions, who were fundamental in that kind of situations.*

SAA01: *As mentioned above, these situations brought about a lot of stress but as soldiers we overcame them by talking about it and socializing with other arms of service.*

TURA29: *Yes. Sharing with close friends was a good therapy for me.*

SLO40: *Every indicator of stress was discussed in the group, where great confidence existed.*

ITC31: *Yes, I had some moments of stress and fear: speaking with colleagues helped me.*

ITC91: *The casualties we suffered in Afghanistan certainly caused stress, but the mourning was elaborated inside the group, without consequences.*

SIC38: *Personally he had not confronted with stress problems, but stress is a matter of individual person and reaction. Considering the Slovene contingent, they tried to get over the stress with "family" meetings, where every Slovene participant could express one's own troubles. They had stress problems, no doubt, but were trying to keep discipline and moral on high level.*

KRC56: *Of course, I had a stress problem, but I received plenty of psychological support from team members whom I trusted and relied upon.*

DKB02: *Yes a little, but I've talked a lot with colleagues and friends about it and got through it fine.*

SLO01: *They used intense communication with each other as a stress coping strategy.*

ITC55: *Missions produce stress: very important is the help of your small group.*

DKC14: *Yes, I am only now becoming fresher and not so tired every day. Talked with the platoon leader and colleagues here at home and others who have been in ISAF.*

SLO33: *I didn't need any help from a doctor. The support usually came from the contingent, because we were really a good team.*

PHI10: *To be able to handle the after operations psychological trauma, you need to talk about it. You should not keep it to yourself which may be the reason why the Marines love to drink because these drinking allow them to share their experiences openly.*

ITC96: *We had some difficult moments when mourning incidents happened, but the mate group helps you.*

TURA16: *I had some problems during the mission change phase, but my experiences and close friendship with my colleagues helped me in overcoming these problems.*

SAC51: *The mission can be stressful because of lack of support from the supported force. I had a good working relationship with my team, so it was easy to deal with such stress.*

SPAB30: *The anxiety level raised much when the day after we had a flight in which action was expected. Materializing especially at bedtime when reviewing time and time again the plans I had to perform the following day. I sorted it out with sports and by talking with mates.*

A particular institutionalization of recourse to the primary group is the practice of debriefing, used by various armies, where right after a mission on the ground the organic unit, normally at the platoon level (12), meets to examine and elaborate the experiences, even dramatic ones, underwent in action. See, for example:

Dutch Lieut. Peter: *The ferocity of the contact and related events yielded enough material for a number of conversations. For the first time I applied the concept of debriefing as I was wont to do after every subsequent contact... In accordance with the concept, immediately after the operation I took everybody out of their vehicle and into the tent for a hot debrief... After a first assessment of reactions a hot debrief served to enable the platoon to let off steam.*

Moving to a quantitative analysis, we can say that, for the soldiers interviewed in the Soldiers Without Frontiers research (13), the data are as follows. In the overall sample three soldiers out of ten declare that they experienced moments of anxiety and stress during the operations. In particular, out of 542 interviewees, 273 (51%) stated that they had not had problems, 118 (22%) did not answer the question, 94 (17%) reported "normal stress that could be handled", and 55 (10%) high stress.

An interpretation of these data cannot go without noting the high percentage of failures to respond (22%). It would not be stretching the truth to point out that this high percentage may in large part be due to a natural reluctance on the part of soldiers, especially if career military, to admit to having had moments of fear or anxiety during operations. The percentage of those who had moments of operational stress can therefore be considered to be higher than the 27% reported overall.

The principal stress factors during operations were the uncertainty of the situation, "a permanent threat, one didn't know from where," actual exposure to attacks, ambushes and, with a higher degree of anxiety, the wounding or death of comrades-in-arms. Worries expressed by responses such as the one given by an Italian soldier: "Yes, I found myself facing stress situations: wounded fellow soldiers, involvement in firefights, rockets against our base, etc." Or by a Korean helicopter pilot: "I felt strong stress each time I flew and thought this time might be the last day of my life because there was a high possibility of being hit by missiles at any time during flight." Or by a Bulgarian soldier who states: *"Naturally, these fears were focused on self-preservation and survival in this neuralgic life risking environment."*

But also other anxiety factors are created in operations of this type, such as concern about being able to perform one's task, as expressed by a Korean soldier: *"In many cases anxiety prevailed about my ability to successfully carry out the task that had been assigned to me."* Or the difficulty of regaining one's mental

equilibrium after a combat action (a Danish soldier): *"You go in a high gear during the operations, and it can be difficult to calm down afterwards."*

3.2. Psychological distress due to long separation from the family

This type of problem chiefly regarded soldiers who had left a family of their own (spouse and children) back home. As it is well known, the family is a *"greedy institution"* and places itself in a dual, controversial relationship of competition/cooperation with the military, which is also deemed greedy (see in this regard, among others, M. Wechsler Segal (1986), or also, for the concept of "greedy institution", Lewis Coser (1974)).

The importance of the problem for the soldiers' morale is evidenced by various interviews, such as the ones below.

Dutch Lieut. Stellan: *There was the effect of the relationship I had during my second mission. I was no longer single: I knew from the talks I had during my first mission with my 2iC and the section commanders who had relationships that their home front was on their minds. I think it is logical that somebody with children experiences the situation differently where the sense of responsibility is concerned.*

ITC55: *Family problems: My girl friend left me…..I recovered my links with my old family.*

DKC16: *Both / and ...Not while I was away. Was divorced shortly after AFGH. Was "alone" in relation to Iraq!*

ITC58: *Yes, I had problems with my wife, which culminated in a separation three years ago. I am realising that have devoted too few time to my family.*

TURA11: *Yes I had problems. One of them was my son's school success worsened.*

ITC64: *Yes, particularly after the 2007 mission because my long absence, I found a difficult situation in my family. My daughter missed one year of schooling.*

SPB30: *Yes, I have had problems especially with my wife and my sons. I have learnt the unpleasant experience of your own son not recognizing you and weeping after not seeing you for four months. My eldest son has had adaptation problems in the school during my absences. He became more violent and sad. In terms of couple, we suffered a distance with each mission, solved by great efforts from us.*

SAA1: *Yes, especially if we are married, the time spent away from them can get to a person and on some missions there was not much communication. This made the separation unbearable and many of us tended to get frustrated with other members in deployment.*

TURA21: *My dad was so sick and that stressed me much. Besides I had my grandpa passed away. Due to the medical problems of my family, I was subjected to psychological problems and had pills.*

SAC43: *It was a problem, because my son had an injury that he was even operated for on his leg in my absence. It was not easy for me to cope in the deployment. My cousin also passed away.*

TURA25: *My daughter was born during the mission and I couldn't spend a long time with my daughter. I couldn't support my wife during the most difficult stages of the birth period.*

DKC18: *YES, I have three children. After returning, it has been difficult to find my place in the family again. They learn to cope without father / husband so there is not much "space" when you come home.*

SPC18: *I had some. I disconnected from home problems. One tends to think the domestic problems are null compared with the mission reality, but that view is not shared by the partner, which may lead to an argument. To be far from home can't be good, especially being so far and for so long. Internet has been a great help to get closer to our families. Access to internet for everybody in our bases must be always guaranteed.*

ITC72: *No problem: we got a strong support from our parents, both mine and those of my wife. If you need, the military institution created some support team.*

SPC06: *I've had problems with my family. I didn't divorce, but I had problems. Right now I am Lieutenant, but if I am going to be promoted nobody likes to be married with a person that spends ten years far from home. There are people with seven or eight years abroad if we sum their missions up. It depends on your resilience, too.*

In confirmation, many of those who state that they did not have problems due to separation from the family give credit to the spouse who stayed at home or, in some cases, to parents and in-laws. For example:

TURA33: *Since my wife had a job, her father and mother had to live with her to take care of my daughter.*

SI18: *My wife had to simultaneously take care of two small children and hold down a job. She was helped by her family.*

As can be seen, there are essentially four types of distress resulting from forced separation from the family: the breakup or crisis of the relationship between the couple; hardships for the children, which often take concrete form in declining performance at school; absence on the occasion of important events for the family (death of relatives, births, etc.); and difficulty of reintegration in the family after a period of absence (this will be looked at more closely in the next section).

Although the period of absence is basically not very long (six months on average), one must consider that, in most cases, these absences are repeated at short intervals. As the Spanish soldier quoted above (SPC06) says, "There are people with seven or eight years abroad if we sum their missions up."

From many responses given by the interviewees, the possibility of convenient, frequent use of the Internet, especially the Skype telephony service for voice and video communications, is fundamental for alleviating problems caused by separation from the family.

To complete the discussion here as well with a quantitative analysis (made with the reservations outlined earlier), we can say that out of the whole sample of countries in the Soldiers Without Frontiers research, 45% of the interviewees report not having had any particular problems due to separation from the family, 16% say they had a few problems but not particularly serious ones, 22% had rather serious problems, and 17% fail to respond. Still staying with statistical data, it is found that those who participated in a greater number of missions had fewer problems of a family nature: 64% of those who went on more than six missions declare that they did not have any problems due to separation from the family, nearly 20 percentage points more than the sample average.

These data confirm that separation entails real psychological distress for individuals, distress that for 22% appears to be fairly serious and whose consequences mainly affect relationships between couples and their children.

As said earlier, this distress decreases as the number of missions increases. Two explanations can be given for this fact, not necessarily in conflict: the first is that habituation to separation gives rise to compensating instruments and/or behaviours. The second is that those who accept to go on missions more frequently either do not have a family or succeed in coping better with the temporary separations they entail.

3.3. Readaptation to life back home after missions

There is an abundant literature on the difficulty of readapting (14) to everyday and family life for veterans of asymmetric warfare missions, just as was the case in the past for veterans of conventional conflicts,

but it is especially abundant for the major powers, which already have significant experience in out-of-area military operations, both conventional and asymmetric. Often it is precisely these difficulties that constitute a symptom of the post-traumatic stress disorder that is sometimes later clinically diagnosed. This is so well known that some armies (the Dutch one, for example) have instituted a "decompression" period, that is, a short stay in a suitable locality outside the country for units that have completed their mission before returning to the homeland.

For the soldiers of the small and medium powers examined in this study the testimonies collected are of the following type:

Dutch Lieut. Barry: *Having returned to my work ... after a time I noticed that I suddenly was not doing too well physically. I did not feel well and got a number of short batches of illness: a fever for a maximum of two days, diarrhoea, throwing up. All over my body I discovered these small spots, a kind of psoriasis. Something is wrong, I thought. I saw a doctor and had a good check up, taking some blood... At one moment my doctor said. "Perhaps it is your head, instead of somewhere else."... She was right....*

DKC21: *Difficult. To all who ask, I reply that it is easy to go to war, but hard to get home again. Unfortunately I have not really been able to return to a normal life. It is now 6 months since I came home and I am just beginning my graduate study and now feel that my life is moving again.*

Dutch Lieut. Gerwin: *I think that everyone going away on his first mission, returns a different person... Everybody expresses this in his own way: one person gets more aggressive and the other a bit more reserved.*

ITC33: *When I came back I remained for a couple of months rather impulsive: I was irritated by the luxury, by the superficiality. I have seen what it means to live and to combat for surviving, have seen dead and wounded people, it was really hard.*

DKC20: *On the one hand, it has been easier than I thought; on the other hand, I feel an insecurity and isolation. I'm irritated by the press and media, I am disgusted by people's constant interest in money and consumption. The ideals I worked for at times seem distant in our society. It is as if there is a civilian and a military code of honor and ideal.*

SPAC03: *I had some problems with readapting to normal life, because you come back home with a different mentality. It is quite complicated to readapt to normal life. But my family has fully supported me. For instance, once back home I went with my family for shopping. My son wanted me to buy him a tracksuit. Its price was 30 €, which is quite cheap, but I told him it was too expensive. Then, my wife reminded me I was in Spain, not in Afghanistan.*

SAC13: *Slightly difficult in the beginning being back home. The disasters in the mission area stays in the sub-conscious mind and yes, I don't think that one can forget easily the heartache and pain of their lives.*

ITC92: *Gradually you adapt yourself again: there are experiences that you cannot share with people who didn't live them.*

ITC81: *Some difficulties in the first period after the mission (you cannot share your experience): life rhythms are different.*

ITC29: *In the first days after the mission you look around in a very attentive way, you control the road, etc. At the end you become calm again.*

SAB06: *It was difficult to adapt, because in the mission area I would get up at all parts of the night, because of all the shooting going on and now you back home, it is peaceful, but you get up and look around to see if it is safe.*

Anonymous (page 381, Groen 2013): *Soon I noticed that my rational and emotional feelings were conflicting. The first time I went out on the town in Amsterdam with friends of mine I noticed that I was still checking out the security. I could not let go of what I had done all these*

months in Afghanistan. I kept on the look-out for certain signals.

DKC16: *I've been under fire in Somalia... But otherwise it's probably AFGH that have made the greatest impression on me in connection with IED's but simultaneously also demanded more of me. In AFGH I was under U.S. command + part of C-IED / branch in Kabul. Each day was a challenge because I was also team leader of a QRT / C-IED. The short version is that when the phone rang / sms'ed you never knew what was waiting in the city. It could be something that was found / or after something had blown! We had some so-called "cover-on", i.e. "stuff" put out to lure us out. Often in the aftermath of an IED in the area, it was the probably the worst + that the spectators themselves were often the bombers themselves – anyhow that was our belief. All this has resulted in that I still today, some 3 years after react to the sound of an sms.*

SIC20: *After mission you need some time to accommodate to the regular reality of life in your family and working surrounding. You have to cool down your readiness to act at any given time; your reaction must become less instrumental.*

SAC46: *When you come back home, you feel like a stranger to your own family and you always find that a lot of things have changed, including your own spouse, so I feel that it is a very big sacrifice to make.*

Dutch Lieut. Erik: *My little daughter really had to get used to my presence. During my leave my wife was working and I was alone at home with my daughter. I very much wanted to do things for her, but all she wanted was her mummy... I took more than six months before things were back to normal again.*

ITC26:*Afewproblemsupongetting back, as with others. Readapting to the family environment isn't easy (nor is it easy on the family).*

SAC28: *I took a month to join my family the way they know me, I wanted to be alone and agree, they asked me questions like "why are you like this'. I told them nothing is wrong with me, then I adapt until they told me now I am no longer the same, I am good again.*

DKC02: *How did your re-adaptation go to normal life after the mission?*

Strange. You are "high' up and running with a heavy workload at 90-100 hours a week and then you go home to nothing. But I was prepared that it took a half year to get home. I had a feeling of emptiness that I had to accept, perhaps a depression. I probably was anxious until Christmas.

SPB02: *It takes an effort to readapt once back home. Few months in children's life is a lot. There are new habitudes, decisions your wife has taken in your absence one must deal with, and sometimes you disagree with them. It's not a hard time but it's a little bit stressful. It takes a pair of weeks to resume normal life.*

SAC29: *It is very difficult to adjust your life after mission; young children don't even recognize you as a father. When you get home, people have been living without you, so you have to be patient and get back to that routine.*

SAC54: *When I arrived back my Major was very supportive. I fell back into my military routine and slowly got used to "having the freedom" to go to the shops or wherever I wanted to go without having to report to anyone. Some of the other guys had issues. They found their wives/partners demanding – they just wanted to be left alone – felt under pressure.*

DKC04: *It's been hard to get myself back home. I've just been admitted to a psychiatric hospital. I saw that something was really wrong. Could barely drive to work, but was about to run into the ditch. At the request of my boss, I called the Defense Academy's contact psychologists, and then I was hospitalized. The first step was really difficult but I have received encouragement and support. I talk a lot with my ex-wife, we're really*

good friends. To her I will not have to explain all the things we're talking about. She knew a lot and got into the rest. My boss also rings regularly.

DKC07: *Not always easy. I have often felt a great restlessness and when the first reunion was over felt an emptiness and frustration due to trivialities in domestic relationships. At some point in time after returning some calm returns to your life and you begin to find your place.*

SPC08: *Yes, it is difficult to readapt to normal life. You have to adapt yourself to the people surrounding you. You have to adapt to what they've done. In your absence people go on with their lives. When you come back you tend to think time has not passed, but that's not the truth.*

But one also hears about the joy of returning to normal life in one's country after months of deprivations and risks. Testimonies of this kind are not numerous, but they exist and are of this tenor:

Dutch Lieut. Stellan: *I noticed myself that I was very happy with all the things we have in the Netherlands. After the mission nothing would bother me. When I walked outside in the rain: no problem. When I was in a traffic jam: so what! Everything was fine. Not that I did not care anymore, but I put everything into the perspective of what I had seen and gone through in those four months.*

From a quantitative standpoint a majority (40%) of the sample (again for the countries of the Soldiers Without Frontiers research) declare that they did not have problems upon returning from the missions or that they got over them in a few days, with 22% of the interviewees saying they had problems readapting. Here, too, we find a notable number of lacking responses (36%), to which the same comments made in the analysis of the operational stress data apply.

The general concept expressed by the interviewees on readaptation in the homeland is that the asymmetric warfare experience is something that changes your life, modifies your way of seeing things and the world, and leaves an indelible trace in the individual's personality. Expressions like those seen above – *"it is easy to go to war, but hard to get home again*" and *"you come back home with a different mentality"* or *"you return a different person"* – exemplify a common condition, just as annoyance with many attitudes found in our hedonistic consumer societies is shared, annoyance expressed in feelings of *"emptiness and frustration due to trivialities in domestic relationships" and "I am disgusted by people's constant interest in money and consumption. The ideals I worked for at times seem distant in our society."*

Up to here there is nothing particularly pathological, but aspects of reactivity that are hard to erase and that interfere with the serenity of the individual veteran and those who surround him are also noted. Expressions like *"You have to cool down your readiness to act at any given time"* and *"that I still today, some 3 years after react to the sound of an sms"* appear very significant in this regard. Indeed, the habits acquired living in risk situations, of always being on the alert to protect oneself and one's comrades, are not lost quickly, and more than one returning soldier has to put time and effort into being able to relax and avoid reacting instinctively to every external stimulus.

In many, then, compared with the intensely emotional activity of life on operations, garrison life causes a sense of emptiness, of not being understood. This *"feeling of emptiness"* leads to self-isolation or to seeking refuge in the relationship with other veterans who, having shared the same experience, are the only ones who can understand it. "When you come back home, you feel like a stranger," says one, and another writes, *"There are experiences, that you cannot share with people who didn't live them."*

And finally, readaptation to one's family is often problematical: the veteran is led to think that time has stood still and that everything is like he left it, but that is not how it is. Time has passed, habits have changed, the spouse who stayed at home has unilaterally exercised the organizational and parental action, children have grown and at times, if they are very young, have trouble recognizing the returning father, who has difficulty settling back into his place in the family, with which he is unable to share his experience. And this remains one of the major problems of the veteran towards the human environment that surrounds him back home: no one can share his experience, understand his moods and the change in him. Some of the expressions reported above evidence these states of mind: "In your absence people go on with their lives." And another: "It is difficult readapting to the family environment." A third: "It is very difficult to adjust your life after mission, young children don't even recognize you as a father. When you get home, people have been living without you, so you have to be patient and get back to that routine."

4. CONCLUSIONS

The research data, drawn from the declarations of those directly concerned, reveal the existence of a problem of psychological distress resulting from deployment in asymmetric warfare situations that is in part different in the causes of the problems resulting from deployment in traditional combat and affects percentages of participating soldiers that are not high but definitely significant. In these percentages one must also consider the high rate of failures to respond (as much as 36%), a phenomenon that can be interpreted as a natural reticence of the part of the soldier to talk about his fears or problems (15).

The highest incidence appears to be constituted by problems relating to reintegration into normal social and working life upon returning from the mission. This is followed in percentage terms by anxiety situations relating to life far from the family, due in large part to a sense of powerlessness for the scant possibility of managing family situations that may have cropped up or already existed beforehand. It is significant to note, however, that these anxiety-inducing situations are created during the mission, where they combine with stress factors concerning the mission itself and intensify them. These stress factors concerning the mission appear to affect only three soldiers out of ten, but for two of the three these anxiety-producing situations are fairly controllable. The primary group confirms itself to be the individual's most important support tool for reworking and managing anxieties and fears, often in addition to the individual strategies that every soldier adopts to cope with moments of anxiety. Institutional support, the psychologist, is not refused, but his/her availability in the field still appears to be quite limited.

Overall, it is interesting to note that the soldier of the small and medium powers examined here reacts quite well, on balance, to multiple stress factors like a natural environment that is often difficult, a human environment that is treacherous and unsafe, constant exposure to threats to life and limb, the inconvenience of logistical arrangements which are often approximate, the constraint of rules of engagement aimed more at safeguarding civilian populations than the serviceman himself, the necessity of coordinating operationally with soldiers of other nations with cultural backgrounds that are often very different, media distortions (16), the linguistic differences of the context in which one operates, distance from the family, the constant sight of environmental and human degradation, widespread phenomena of deep-rooted corruption, witnessing social injustices, racism, social

exclusion, and religious fanaticism in the assisted populations... and this rather thrown-together list could probably continue for soldiers normally without any experience of combat or of missions abroad.

The fact that most are able to handle all these anxiety-inducing factors quite well is a positive datum on the whole, but the existence of these factors and their impact on some soldiers' mental stability is an aspect of missions in asymmetric warfare environments that deserves to be carefully considered.

NOTES

(1) Stress is considered here an adaptation syndrome to stressors. It may be physiological but it can also have pathological aspects, including chronic ones, which fall within the field of psychosomatics. The ability to bring adaptive actions to bear implies both the possibility of actions aimed at modifying the environment as a function of the subject's needs and the possibility of undertaking a modification of subjective characteristics in order to achieve better adaptation to the surrounding environment. Hans Selye (see bibliographical references: Selye, 1956) defined as "General Adaptation Syndrome" the response the body implements when it is subjected to the prolonged effects of various types of stressors, such as physical stimuli (like fatigue), mental stimuli (work commitment), and social or environmental stimuli (obligations or demands of the social environment). On the particular topic of stress in asymmetric warfare operations, see also the chapter "Psychological Stress" by Claus Kold and Henning Sørensen in Caforio (ed.) 2013.

(2) Asymmetric warfare is defined as that form of conflict in which a structurally weaker side adopts unconventional forms of struggle in order to be able to compete with the stronger side in the confrontation (hence asymmetry). According to the classic definition by Mary Kaldor (Kaldor, 1999), these forms are used by "paramilitary groups organized around a charismatic leader, warlords who control particular areas, terrorist cells, fanatic volunteers like the Mujahadeen, organized criminal groups, ... as well as mercenaries...." The tools used are terrorism, insurgency, intimidation of populations, all the actions that political or religious fanaticism and the absence of the moral rules of civilized societies may allow.

(3) The book contains the results of a field research conducted by means of semi-structured interviews on a sample of 542 soldiers of all ranks from nine different countries that had participated in asymmetric warfare operations (see bibliographical references). The countries concerned were Bulgaria, Denmark, Italy, the Philippines, Slovenia, South Africa, South Korea, Spain and Turkey. The thematic scheme of the research is as follows: experiences of asymmetric war missions; interaction with other role actors; satisfaction and motivation; psychological stress.

(4) The book reports the written testimonies of 19 Dutch lieutenants collected by the author, Jos Groen (see bibliographical references), conducted according to a single scheme. The thematic scheme of the research is as follows: individual background; the take over; execution of the mission; the mission (looking back); considerations; most important advice; reconstruction or combat mission?

(5) The examined theatres were Afghanistan, the Arabian Sea, the Balkans, Burundi, Chad, the Comoros, Congo, Darfur, Eritrea, Ethiopia, Georgia, Iraq, Lebanon, Lesotho, Mauritania, Mozambique, Namibia, the Philippines, Somalia and Sudan.

(6) The responses given by the interviewees are distinguished by an abbreviation for the research published in Soldiers Without Frontiers and by the phrase "Dutch Lieut. + first name" for the Dutch research. The abbreviation for the Soldiers Without Frontiers research identifies the home country in its first letters, followed by the armed force – A for Air Force, B for Navy, C for Army – and the interview number. Thus the abbreviation "ITC04", for example, identifies interview No. 4 of a soldier in the Italian Army.

(7) The consequences of the impact of an IED on an armoured vehicle are described in the report of a Dutch lieutenant whose platoon went through this experience. Dutch Lieut. Marcel writes: "The General Military Nurse and Combat Life Saver started to work on the wounded. Miraculously, the gunner was not harmed at all, and the driver was lightly wounded.

The other three men were a totally different story. The section commander, Lucas, had been badly wounded in the explosion. The lower body of both Marksmen had absorbed the force of the explosion. Private Dennis' lower body part looked like a child's and the upper part like that of a fully-grown man. It did not fit together at all. His legs had been completely pressed together and his thighs were more than twice their normal thickness: He had several internal and external arterial bleedings. Private Rick was still conscious, with several wounds to his legs and a big head wound. The men were wearing ear and eye protection, long sleeves and gloves. On the pallet, which had been placed on top of the floor plate, there had been fragmentation blankets. In spite of all these protective measures both men were covered in splinter wounds from the pallet, up to their eyes... Before blowing off steam, I quickly went to the opsroom with my 2iC to hear the latest about our casualties. Rick was badly wounded, but he was going to make it. Section commander Lucas was badly wounded, but his condition was also stable. This was not the case with Dennis, who was far from stable. He was in deep coma in Kandahar hospital and both his legs had been amputated in the meantime."

(8) The field research carried out by J. D. Richardson, J. A. Naifeh and J. D. Elhai, published in the Canadian Journal of Psychiatry, 2007, Vol. 52, No. 8, is particularly interesting. The work is based on interviews with 1016 male veterans (age < 65 years) who served in the Canadian Forces from 1990 to 1999 and participated in PSOs. The authors found that rates of probable PTSD (PCL-M score > 50) among veterans were 10.92% for veterans deployed once and 14.84% for those deployed more than once. The rates of probable clinical depression (CES-D score > 16) were 30.35% for veterans deployed once and 32.62% for those deployed more than once. They found that, in multivariate analyses, probable PTSD rates and PTSD severity were associated with younger age, single marital status, and deployment frequency. PTSD is defined by the Associazione Italiana di Psicologia Cognitiva e Scuola di Psicoterapia Cognitiva (http://www.apc.it/disturbi-psicologici/disturbo-da-stress-post-traumatico) as a disturbance that is manifested as a consequence of an extreme traumatic factor in which the person experienced, witnessed or had to deal with events that involved death, threat of death, serious injuries, or a threat to the physical safety of oneself or others, such as, for example, personal aggressions, disasters, wars and combat, kidnappings, torture, accidents, and grave illnesses. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (2000), categorized PTSD as an anxiety disorder with the essential feature of direct experience of exposure to an extreme traumatic stressor followed by characteristic symptoms. This direct experience involves threat of death or injury to self or others combined with a response of intense fear or helplessness.

(9) The choice was motivated by the fact that, while an abundant literature already exists on the operations carried out by the major powers (US, UK, Russia, France), for what regards the smaller countries the literature is much more modest and field researches are almost non-existent.

(10) The expression Military Operations Other Than War (MOOTW) was widely used at the turn of the millennium (end of the twentieth century and start of the twenty-first century) to describe all interventions in peace operations that went beyond simple peacekeeping but did not yet include combat actions. See Caforio 2001 in this regard. For the adaptation of militaries to the new scenarios that have gradually presented themselves, see Maria Luisa Maniscalco (2010).

(11) The group is defined as a numerically small set of people, linked by a feeling of belonging, who interact with each other, which determines the psychological and systemic emergency. See Stouffer 1949 and Caforio 1987.

(12) As Stouffer (see Stouffer 1949) observed as well, the military must (and normally does) strive to make the smallest organic unit, in general the platoon, constitute a primary group.

(13) From the Dutch research it is not possible to draw reliable quantitative data due to its particular structure. However, the incidence of the examined testimonies suggests data not very dissimilar from those obtained for the soldiers of the other countries examined in this study.

(14) See, in the bibliographical references, Tina Pranger and others (2009), Amanda D. Chesnek (2011), and Nathalie Duclos (2012).

(15) This rate of lacking responses is unmatched by the other questions in the questionnaire, where in general it does not exceed 8%.

(16) The importance of the media-communication aspect in asymmetric warfare is emphasized by various authors: see Eco 2012, Caforio 2010.

REFERENCES

[1] Andrews, B., C. R. Brewin, R. Philpott, L. Stewart, "Delayed-Onset Posttraumatic Stress Disorder: A Systematic Review of the Evidence." Am. J. Psychiatry, 2007; 164:1319-1326.

[2] Adler A. B., Carol A. Dolan, "Military Hardiness as a Buffer of Psychological Health on Return from Deployment." Military Medicine, 2006, 171, 2:93.

[3] Caforio, Giuseppe (1987), Sociologia e forze armate: Sviluppo storico della sociologia della istituzione militare. Lucca: Maria Pacini Fazzi Editore.

[4] Caforio, Giuseppe (2001, ed.), The Flexible Officer. Gaeta: Artistic and Publishing Company.

[5] Caforio, Giuseppe (2010), "The Information Society and the Changing Face of War." In Janusz Mucha and Katarzyna Leszczynska (eds.), Society, Culture and Technology at the Dawn of the 21st Century. Newcastle upon Tyne: Cambridge Scholars Publishing, pp. 129-142.

[6] Caforio, Giuseppe (2013, ed.), Soldiers Without Frontiers: The View from the Ground. Experiences of Asymmetric Warfare. Acireale: Bonanno Editore.

[7] Chesnek, Amanda D. (2011), Posttraumatic Stress Disorder and Returning U.S. Veterans: A Comprehensive Review of the Literature and its Implications. Southern Illinois University Carbondale.

[8] Coser, Lewis (1974), Greedy Institutions: Patterns of Undivided Commitments. New York, The Free Press.

[9] Duclos, Nathalie (2012), War Veterans in Postwar Situations: Chechnya, Serbia, Turkey, Peru, and Côte d'Ivoire (Google eBook). Palgrave Macmillan, 19/06/2012.

[10] Eco, Umberto (2012), "Terrorismo e media: la comunicazione del terrore." In Informazioni della Difesa, No. 2/2012, pp. 36-43.

[11] Groen, Jos (2013), Junior Leadership in Afghanistan (2006-2010): Testimonies of a Mission. Haren, J.M.H. Groen MSoc5c.

[12] Kaldor, Mary (1999), New and Old Wars. Cambridge: Polity Press.

[13] Maniscalco, M. L. (2010), La pace in rivolta. Milan: Franco Angeli.

[14] Pranger, Tina, and others (2009), Shaken World: Coping with Transition to Civilian Life. CFP MFC, Official Publication of the College of Family Physicians of Canada, Nov. 2009.

[15] Richardson, J. D., J. A. Naifeh, J. D. Elhai, "Posttraumatic Stress Disorder and Associated Risk Factors in Canadian Peacekeeping Veterans With Health-Related Disabilities." Canadian Journal of Psychiatry, Aug. 2007; 52(8): 510-8.

[16] Selye, Hans (1956), The Stress of Life. New York: McGraw-Hill. xvi 324 pp.

[17] Stouffer, Samuel Andrew and others (1949), Studies in Social Psychology in World War II: The American Soldier. Princeton: Princeton University Press.

[18] Ward, W., "Psychiatric Morbidity in Australian Veterans of the United Nations Peacekeeping Force in Somalia." Australian and New Zealand Journal of Psychiatry, 1997, 31, pp. 184-193

[19] Wechsler Segal, M. (1986), "The Military and the Family as Greedy Institutions." In Armed Forces & Society, 1986, Fall.

[20] Zaretti, Alessia (2014), "Military for what? Considerazioni a partire dal volume Soldiers without frontiers. The view from the ground." In Democrazia e Sicurezza, year IV, No. 1, 2014, publication date: 13 March 2014.

ASPECTS OF SOCIAL RESPONSIBILITY OF THE ARMED FORCES ACADEMY OF GEN. M.R.ŠTEFÁNIK, LIPTOVSKÝ MIKULÁŠ, SLOVAKIA

Soňa JIRÁSKOVÁ

Armed Forces Academy of General M. R. Štefánik,
Liptovský Mikuláš, Slovakia

The article deals with the issue of socially responsible behaviour in organizations, while the main emphasis is on the social responsibility of universities. The first part of the article briefly describes the concept of social responsibility and the second part presents a case study on the current state of activities related to socially responsible behaviour within the Armed Forces Academy of gen. M. R. Štefánik in Liptovský Mikuláš. CSR activities which were implemented at the Armed Forces Academy of gen. M. R. Štefánik can be an example of good practice for other universities in Slovakia and abroad.

Key words: *university social responsibility, armed forces academy, sustainable growth and development, organization performance, social environment.*

1. INTRODUCTION

The main aim of universities is to provide public services, especially higher education and research. Since colleges can be considered the top centres of education and creative activities we can say that when following their specific missions, universities contribute to the enhancement of an overall welfare of society and citizens' quality of life.

Besides the basic tasks, however, universities should play an active role in the social discussion on ethical questions and also significantly contribute to the achievement of *"Sustainable Development of Society"*. The issues of sustaining progress in all areas of human society activities regarding the next generations have come into the limelight lately. People want to live in a better world that is safer, cleaner, sustainable and fairer at the same time.

The concept of Corporate Social Responsibility (CSR) modified for universities as "University Social Responsibility" (USR), is part of the activities related to the basic requirements of sustainable growth and development Profit or non-profit organizations all over the world are aware of the need of responsible social behavior because social responsibility has become one of the most important factors of their evaluation. The performance of an organization in relation to the social environment has become a critical part of the evaluation of the total performance. In the competitive environment of universities this applies also for the behavior of public universities including military academies.

2. DEFINING ORGANIZATIONAL SOCIAL RESPONSIBILITY

The concept of organizational social responsibility has been developing in practice for a while. However, in theory there still is not a unified definition of it. Typically, all activities developed in accordance with the mentioned concept are based on willingness and not a standardized framework. The legislation does not require implementation of CSR activities.

H.R. Bowen is considered the "father"of the idea of social

responsibility. In 1953 he published a book titled *Social Responsibilities of the Businessman*, where he states that the *"businessman's commitments include decisions to perform such activities which are required according to the aims and values of the society."*[1]

The social responsibility of companies could be defined as [2]: *"continuous commitment of companies to behave ethically, contribute to the economic growth, advocate the enhancement of the employees' and their families' life quality, as well as the quality of life of community at local level and of society as a whole"*.

The European Committee defines CSR as follows: *"Corporate Social Responsibility refers to voluntary integration of social and ecological views into the every-day corporal operations and relations with their stakeholders"*.

The aim of a company applying CSR is not just profit maximization, but also contributing to the sustainable development of the whole society according to the 3-P principle: *"people (social activities), profit (economical activity) and planet (environmental activity)"* [3].

It is necessary to state that the idea of social responsibility does not relate only to the profit-oriented companies. More and more often the term also encompasses business ethics, corporate governance, corporate social investment, corporate social performance, socially responsible behavior of organizations [4]. From an institutional point of view subjects respecting the CSR principles can be divided into the following groups [1]: organizations owned by global corporations; organizations owned by individuals (small and medium enterprises); organizations owned by state; public administration organizations.

According to the requirements of the practice the CSR principles can (and in case of universities should) be applied in all types of organizations.

Based on the concept of corporate social responsibility it is possible to develop a concept of social responsibility of universities, respecting the particularities of this type of subjects. According to Tetřevová [1] USR then represents "the responsibility of universities to advocate and apply a set of CSR rules and values when performing their own key activities, such as education, research, public involvement and institutional management". We can say that it is a kind of an amendment to the statutory responsibility, a situation in which university managers and employees behave in a specific way to meet their own objectives as well as the objectives of the university and they contribute to meeting the needs and objectives of all stakeholders.

Although the concept of social responsibility is based on willingness, since 2011 the STN ISO 26000 Guidance on social responsibility has been used in Slovak Republic. It was launched according to the international standardization ISO 26000. This standardization provides guidance on compliance with the principles of social responsibility; it includes the main areas and issues related to social responsibility and also the ways to implement social responsibility within an organization. The standardization can be applied in all types of organization regardless of their size and location, including non-governmental organizations, as well as profit organizations, because every organization influences society and environment. The standardization is designed to help organizations that are willing to achieve mutual trust among the stakeholders by improving, following and implementing social responsibility. This standardization provides guidelines for integration of socially responsible behavior within an existing organizational strategy, systems, practice and processes and it determines the results and improvements when implementing it.

According to STN ISO 26000, social responsibility is related to seven key areas: administration and management of the organization; human rights; personnel management; environment; correct behavior of the organization; consumer affairs; involvement in the community and community development However, authors dealing with social responsibility define its key areas more or less differently as presented in the table below.

Table no. 1. Areas of social responsibility
Source: author's own selection

Carroll [5]	economic, legal, ethical, philanthropic
Petříková [2]	economic, social, ecological
Paulová [6]	economic, social (internal and external), environmental
Pavlík, Bělčík, Kunz [3]	economic, social, environmental
Tetřevová [1]	economical, social, environmental, ethical, philanthropic
McElhaney [7]	company, community, sector, world
Steinerová, Makovski [8]	market, working environment, local community, environment

An important activity of organizations implementing socially responsible behavior is communication (internal and external) on implementing individual principles of socially responsible behavior in practice. They inform the outside world as well as the internal environment of the organization about their activities in form of various reports and news, while their goal is to improve the awareness of the public regarding the fulfilment of social obligations and enhancing the image of the organization.

The benefits resulting from the implementation of socially responsible behavior within public organizations can be divided into moral and economic. Non-financial effects are for example: improvement of public services, enhancing credibility and reputation of the organization, enhancing the transparency of decisions taken, preserving natural resources, enhancing human capital, enhancing organizational structure, etc.

Among the economic benefits we can include better access to sources (public organizations can gain additional extra-budgetary funds from various donors, sponsors, EU sources, etc. due to enhanced credibility), reducing the expenses by accepting principles of good ecological practice, enhancing the employees' performance by boosting their motivation, confidence and competence.

3. ARMED FORCES ACADEMY OF GEN. M. R. STEFÁNIK'S ACTIVITIES REGARDING SOCIALLY RESPONSIBLE BEHAVIOR. CASE STUDY

The Armed Forces Academy of GEN. Milan Rastislav Štefánik in Liptovský Mikuláš is a state school of higher education founded and run under by Act No. 455/2004 Coll. It is a military school of higher education educating providing academic input especially to professionals of the Armed Forces of Slovak Republic. The academy independently and freely performs educational, scientific, research, development and other creative activities which are in line with its main objective and the laws of Slovak Republic. It is an institution under the subordination of the Slovak Ministry of Defence and hence financed by the state budget. To provide for all activities it conducts it also uses financial sources from the so-called "business activities" (like … organizing training courses, seminars and conferences) and from the projects granted by the European Union.

The main mission of the academy is to educate, and train students within the higher education system and for lifelong learning, to develop their character, knowledge, creativity and boost their motivation to serve their country. The declared values of the academy are: Sapientia (wisdom), Bonum (the highest good), and Patria (homeland).

Although the socially responsible behavior within the Armed

Forces Academy has not yet been institutionally regulated by an internal standard, activities are not conceptually evaluated and the academy does not publish reports on its own social responsibility, the activities performed in the field are really quite vast. Due to the limited content of this article the author presents just a few selected activities by aggregating the key areas of the concept to be found in specialized literature.

The **economic area** is concerned with: transparency when using financial sources, use of electronic auctions for the procurement of goods and services; protection of intellectual property, correct relations with suppliers (i.e. timely reimbursement of invoices).

In the **environmental area** the main issues are: requiring low energy intensity devices and equipment in public procurement, active waste sorting, taking care of the campus, reducing energy consumption within buildings by reconstructions, reducing natural gas consumption, participation in maintenance works at the military cemetery "Háj Nicovô".

Social responsibility in terms of **human rights** refers to: equal treatment and non-discrimination within the staff hiring process, transparency of admission procedures.

In the social area, the concept covers the following: the opportunity to work flexible hours, paid leave of employees is increased by one week beyond the law, employer contributions to supplement retirement savings, employer allows the use of sports facilities free of charge to employees, their families and pensioners, employer provides severance package and retirement benefits beyond the statutory conditions, employer organizes meetings with pensioners, employer provides a financial contribution for children summer camps, employer supports lifelong learning, employees are awarded commemorative certificate and honours, employer organizes different sport and social events for employees.

Philanthropy, the last area, employees collect clothes, toys, books for children´s homes, Catholic and Lutheran charitable organizations.

4. CONCLUSIONS

Modern society universities represent institutions from which we expect socially responsible behavior. The good news is that the activities of the Armed Forces Academy that fall under the socially responsible behavior are quite far-reaching and we expect them to reach even further in future. A suitable way of presenting them is the compilation and publication of The Report on Social Responsibility of AFA, which could inspire other universities in Slovakia or abroad. This procedure would also enhance the image of the military educational institution in front of its internal and external stakeholders.

REFERENCES

[1] Tetřevová, L., Modifikace konceptu společenské odpovědnosti firem v kontextu spoločenské odpovědnosti univerzit. In Acata academica karviniensia, Vol. 16, No. 2, 2013 ISSN 1212-415X.

[2] Petříková, R., Společenská odpovědnost, ekologická ohleduplnost a trvale udržitelný rozvoj. In Kvalita, Vol. 15, No. 4, 2007. ISSN 1335-9231.

[3] Pavlík, M., Bělčík, M. et al., Společenská odpovědnost organizace, CSR v praxi a jak s ním dál. 1stEdition. Praha, Grada Publishing, 2010. 169s. ISBN 978-80-247-3157-5.

[4] Greško, J., Základné pojmy spoločenskej zodpovednosti firmy [online]. Available on the internet: < http://www.ekologika.sk/spolocenska-zodpovednost-firmy.html>, last accessed 2014.03.09.

[5] Carroll, A. B., Corporate Social Responsibility – Evolution of a Definitional Construct. In Business and Society, Vol.38, No3, 1999. ISSN 0007-6503

[6] Paulová, I., Komplexné manažérstvo kvality. 1stEdition. Bratislava, Iura Edition, 2013.p. 160 s. ISBN 978-80-8078-574-1.

[7] McElhaney, K.A., Dobrý biznis. Strategická príručka ako zladiť program spoločenskej zodpovednosti so značkou firmy. 1stEdition. Bratislava, Eastone Group, 2011. 200 s. ISBN 978-80-8109-193-3.

[8] Steinerová, M., Makovski, D., Koncept CSR v praxi, průvodce odpovědným podnikáním [online]. Available on the internet: <http://www.spolecenskaodpovednostfirem.cz/wp-content/uploads/2013/09/Koncept%20CSR%20v%20praxi.pdf>, last accessed 2014.03.24.

DO PEACEKEEPERS' SOFT SKILLS MATTER? THE CASE OF EUFOR OPERATION ALTHEA

Ünsal SIĞRI*, Giuseppe CAFORIO, Ufuk BAŞAR*****

*Başkent University, Ankara, Turkey, ** Italian Interuniversity Centre of Historical and Military Studies, Milano, Italy, ***Cumhuriyet University, Sivas, Turkey

This study aims to determine the role of the soft skills of adaptation, relations with locals, relations with other peacekeepers, stress management and cultural awareness, in accomplishing peacekeeping operations. In accordance with the research method of this study, a survey was conducted in the context of EUFOR Operation Althea, in Bosnia and Herzegovina. The data were collected by means of structured face-to-face interviews, with voluntary participation of thirty-two peacekeepers. The collected data were analyzed according to content analysis method and interpreted. Findings indicate significant roles of each of the above-mentioned soft skills.

Key words: *Peacekeeping, Peacekeeper, Soft Skills, European Union Force (EUFOR), Operation Althea, Bosnia and Herzegovina.*

1. INTRODUCTION

The scope of international interventions began to change in correspondence with the end of Cold War. In this milieu emerging new internal conflicts of states and malfunctioning state orders cause disruption and instability in the international system. Therefore, international interventions are still necessary to appease the rising tensions in conflicting areas [1]. The most salient purposes of international military intervention to another country are humanitarian necessities, areal security considerations and strategic evaluations [2].

Nowadays, due to several contextual factors of peacekeeping operations, such as multi dimensionality, flexibility and cultural diversity, peacekeepers encounter communicational and adaptational problems [3]. These problems may be overcome by peacekeepers who are good at some specific soft skills. Therefore, this study aims to determine the extent to which peacekeepers possess the soft skills of adaptation, relations with locals, relations with other peacekeepers, stress management and cultural awareness, in order to overcome communicational and adaptational problems and accomplish peacekeeping operations. EUFOR Operation Althea is one of salient examples ofnew era peacekeeping operations. That is why we chose to conduct our research in Bosnia and Herzegovina.

The question this study addresses is to what extent the soft skills of adaptation, relations with locals and other military personnel of coalition, stress management and cultural awareness have a role in accomplishing peacekeeping operations. During this research, between July and October 2012, data were collected by means of face-to-face structured interviews with voluntary participation of thirty-two officers, who were from nine participating countries including; Austria, Bosnia and Herzegovina, Czech Republic, Hungary, Macedonia, Netherlands, Romania, Spain and Turkey. The research topic

is examined from general to specific. Hence, initially a general description of peacekeeping operations and EUFOR Mission were given. Then, characteristics of soft skills and their relations with peacekeeping operations were explained. Following data analysis and interpretation, findings were discussed.

2. PEACEKEEPING OPERATIONS

Subsumed by international interventions, peacekeeping operations are generally undertaken in post-conflict situations, usually by forging a coalition, which embodies military facts from various countries, where efforts head towards sustaining conditions of a peace agreement or a ceasefire. Conducting missions with non-use of combat force was one of the major principles of peacekeeping operations. The primary objectives of peacekeeping forces are patrolling in conflict prone areas, by this means overseeing the area of responsibility to keep ceasefires and peace agreements alive [4]. Hence the ultimate objective of a peace support operation (PSO) can be sited as establishing a just and stable peace. In this respect, it is possible to define peacekeeping operations as operations which are undertaken by multinational coalitions, with or without warring sides' approval, conducted neutrally, in accordance with international legislation in order to keep on predetermined peace process or ceasefire and prevent, moderate and terminate the hostilities between or within states [5].

Throughout history peacekeeping operations evolved three generations. The first generation of peacekeeping operations was limited to separation of conflicting parties with lightly armed and neuter peacekeepers, who observe and monitor the peace process. With the end of Cold War a new kind of peacekeeping generation evolved, which was multidimensional in comparison to the first generation. That is, in addition to the monitoring mission, the new dimensions of finding solutions to conflicts and removing the reasons for the presence of peacekeepers were added. In the course of time, as peacekeepers were exposed to violence and attacks in cases like Somalia, Former Yugoslavia, Liberia and Haiti, the old doctrine of non use of weapons by peacekeepers became indefensible. In this way, with regard to Chapter VII of UN charter, the third generation of peacekeeping operations emerged, and consisted of robust military forces [6].

3. EUFOR OPERATION ALTHEA

Following Bosnia's declaration of independence from Yugoslavia in March 1992, an ethnic war began between Bosnia's Croats, Serbs and Bosniaks and continued brutally until 1995. The war ended with NATO's military intervention, which was followed by the Dayton peace process. A new constitution for Bosnia was created in Dayton, by which two new ethnic entities were emerged within one state, causing instability in the country. These entities are the Serb Republic and the Bosniak-Croat Federation, tied to the weak central government of Bosnia and Herzegovina. In this way, beginning with the robust Implementation Force (IFOR) of 60.000 troops, which was subsequently replaced by the Stabilization Force (SFOR) of 30.000 troops, NATO had operated in Bosnia since 1995. However at NATO's Istanbul Summit in June 2004 the replacement of SFOR in Bosnia by a EU force by the end of same year was announced [7]. With regard to Istanbul announcement and resolution 1575 of the UN Security Council, European Union Force (EUFOR) Operation Althea was launched on 2 December 2004. At the beginning, the operation comprised three components. The first component was three Multi National Task Forces of 1.600 to 1.800 troops each, comprising Task Force Northwest in Banja Luka,

Task Force North in Tuzla and Task Force Southeast in Mostar under command of the headquarters in Sarajevo, which was subsequently downsized to a Multinational Manoeuvre Battalion in 2007. The second component of EUFOR Althea was the Integrated Police Unit, whose duty was crowd and riot control, investigation and assistance against organized crime, border security and weapon collection. The third component of EUFOR Althea consisted of 44 Liaison and Observation Teams, which were later on downsized to 29 teams, and performed their duties as the eyes and the ears of the entire operation. In 2010 a new component, the Mobile Training Teams, was added to the structure of EUFOR Althea, whose duty was to provide training and capacity building support for the newly founded Armed Forces of Bosnia and Herzegovina [8]. In this context the main tasks of EUFOR personnel can be summarized as disarmament of warring parties and civilians, sustainment of deterrence, provision of safe and secure environment, provision of support to local administrations, local military and local police units, suppression of all kinds of illegal activities [9].

4. DESCRIPTION OF SOFT SKILLS

Soft skills are a mixture of social skills and interpersonal skills, which are strongly related with emotional intelligence. They are the courteous way of presenting, interacting, negotiating, problem solving and managing, which are essential at every level of an organization, including most prominently peacekeeping forces [10]. Self-awareness, self-regulation, motivation, stress management, empathy and social interaction skills are prominent soft skills generally speaking [11]. In today's fast changing and reshaping world, with rapid improvement in communication technology, and as a consequence of a shift from an industrial society to information society [12], many field missions and headquarters' work emphasize integrity, communication and flexibility [13]. However the problem is the undervalued importance of soft skills. In the last few years all of the surveys, which were conducted in order to find out how important soft skills are, revealed that the collected results remain consistent. The soft skills are inevitably in demand [14].

5. PEACEKEEPING OPERATIONS AND SOFT SKILLS

In a typical peacekeeping operation there are several tasks, which must be performed properly, such as relief activities, disarmament of armed groups, reintegration of warring sides, conducting fair elections, implementing justice and reconciliations [15]. Peacekeeping operations incorporate multidimensional, troublesome and blended missions, which need physical stamina, as well as mental dexterity. Therefore, accomplishments of these tasks necessitate possession of soft skills [16]. When military personnel are trained solely for combat missions and assigned to peacekeeping operations, they may encounter problems due to the lack of soft skills [17]. Additionally, personnel, who lack adaptation skills and are not enough motivated for the mission, would show unwillingness and after a while question their role as peacekeepers [18]. Therefore, peacekeepers should be equipped with necessary soft skills in accordance with their tasks. Some of these skills are having patience, the confidence to delegate authority, ability to engage with people outside the military, cultural awareness, interpersonal skills, communication skills and stress management [19].

If implementations of peacekeeping operations are planned to be perennial, soft skills play an important roles because forced implementations are prone to be short lived [20]. Successful

peacekeeping operations are products of typical team works. That's why peacekeepers' ability to build relations with locals and allies positively has crucial importance. Especially, in a team communicating clearly, listening and comprehending each other effectively have strong effects on the success of the mission [21]. Moreover, in correspondence with the environment of peacekeeping operations rapid adaptation skills, cultural awareness skills, negotiation skills and stress management skills of peacekeepers play an important role in the accomplishment of peacekeeping missions [22].

These evaluations clarify the importance of soft skills as part of multinational and multidimensional recent peacekeeping operations. In accordance with these necessities, in this study, the soft skills of adaptation, relations with locals and other military personnel of coalition, stress management and cultural awareness were analyzed in terms of their roles in accomplishing peacekeeping operations.

6. METHOD

6.1. PARTICIPANTS

The participants to this survey comprised thirty two officers, who performed their duty at EUFOR headquarters at that time, between July and October 2012, and were from nine participating countries including; Austria, Bosnia and Herzegovina, Czech Republic, Hungary, Macedonia, The Netherlands, Romania, Spain and Turkey. All of the participants took park in our survey voluntarily. The sample carries unified characteristics. The age profile of the sample is between 26 and 48, all participants are male, 25 of them are from the Army, 5 of them are from the Air Force and 2 of them are from the Navy, their ranks vary from Captain to Lt. Colonel. Participants' tenure of military service ranges from 6 to 28 years, with an average of 17.2 years. The majority of the respondents (86%) had previous experience in peacekeeping operations, while a small group (24%) of the respondents had a history within the same EUFOR mission previously. In terms of educational level, the sample includes a relatively high number of people who have completed their graduate studies (%68), while all the others have their bachelors.

6.2. MATERIALS

Structured face-to-face interviews [23] were used as data collection technique. The interview structure comprises two sections. The first consists questions directed toward the demographic characteristics of participants such as nationality, rank, number of years in military service, age, force, educational qualifications, previous participations in peace operations, attended trainings prior to operation and duration of training. The second section consists of questions directed toward the peacekeeping mission, emphasizing first impressions, relations with locals, relations with other peacekeepers, motivations to attend the peacekeeping mission, stress and cultural differences.

6.3. PROCEDURE

The question this study addresses is to what extent the soft skills of adaptation, relations with locals and other military personnel of coalition, stress management and cultural awareness have a role in accomplishing peacekeeping operations. To that end the case study method [24] was used as qualitative research methodology. Therefore, the EUFOR Operation Althea was determined as case of our research and a survey was conducted in Sarajevo, Bosnia and Herzegovina between July and October 2012. The data were collected by means of structured interviews by the head of training and capacity building division of the mission at that time, who is also a co-writer of this study. Before the survey all permissions needed were taken from EUFOR staff. Prior to commencement of

interviews a brief explanation about the general purpose of the study was provided by the interviewer to the interviewees. The participation to the study was voluntary and all responses were kept anonymously. The interviewees answered predefined interview questions. The interviewer took notes below every question according to interviewees' answers. The interviews were designed and conducted in English, considering the high level of English competence of the EUFOR personnel. EUFOR is clearly focused on creating self-sufficient multinational units within headquarters for ensuring a comprehensive approach and to create a collective mind against the complicated issues and situations. So, this blended structure of the organization is believed to reinforce the reliability and validity of the research.

7. DATA ANALYSIS & INTERPRETATION

The data analysis was conducted according to content analysis method [25]. To that end, the analysis process followed three steps: collating all the data for each skill, developing themes among collated data for each skill and interpreting data by deriving meaning from themes.

7.1. COLLATING ALL THE DATA FOR EACH SKILL

The purpose of this step was to organize messy data and compare answers of participants for each question. By this means, the researchers generated threads of information sets for each skill and prepared the raw data for developing themes among them. To that end, initially all answers of the participants were read carefully and collated within the scope of each question, by designating numbers for each answer. The collated answers were examined in terms of possible relations, similarities, interactions and ties among them. By this means threads of answer sets were generated. These threads formed the basis for deriving themes for each skill, which later on will help to explain the role of soft skills.

7.2. DEVELOPING THEMES AMONG COLLATED DATA

The purpose of this step was deriving themes for each skill among data threads. To that end, each thread was read and examined a couple of times in terms of importance and relevance with studied skills. Subsequently, specific themes were derived among threads due to their number of repetitions and relevance with the topic. While deriving themes, answers were looked for to the question: How do these data explain the roles of the peacekeepers' soft skills in peacekeeping operations? Derived themes for each category of soft skills are presented in **Table 1** below.

Table no. 1. Themes for Each Soft Skill

Soft Skills (Categories)	Themes in Terms of Roles of Soft Skills
Adaptation	Enables and eases communication
	Enables accommodation to multinational environment
	Enables working with new military concept
	Enables being part of EUFOR troops
	Enables self improvement
	Enables contributions to operation
	Enables teamwork
	Enables cooperation among peacekeepers
	Enables learning new things
	Enables overcoming communication obstacles
Building relations with local military personnel	Enables provision of needed assistance
	Enables solutions to problems
	Enables and eases promotion of peace, stability and security
	Enables joint activities
	Causes mutual respect and politeness
	Enables execution around common goals

Soft Skills (Categories)	Themes in Terms of Roles of Soft Skills
Building relations with local military personnel	Enables cooperation and coordination
	Enables creation of ties for friendships
	Enables confidence
Building relations with military personnel of EUFOR	Enables patience
	Enables tolerance for inexperience
	Enables friendships
	Enables socializing among peacekeepers
	Enables mutual respect among peacekeepers
	Enables collaboration and coordination
	Enables teamwork
	Enables courtesy
	Enables gathering around common goals
	Enables trust and confidence
	Enables dealing with multinational context
Stress management	Enables dealing with inexperience
	Enables dealing with different ways of doing work
	Enables dealing with multinational context
	Enables and eases building communication
	Enables and eases public speaking
	Enables accommodation to new environment
	Enables dealing with work overloads
Cultural awareness	Enables comprehension of different ways of doing job
	Enables overcoming religion specific differences
	Enables cognition of different type of behaviors
	Enables and eases building communication
	Enables and eases collaboration
	Enables realization of attitudes and body languages

8. INTERPRETATION

Participants' opinions indicate that soft skills matter significantly in the process of executing peacekeeping operations. Namely, peacekeepers' adaptation skills enable overcoming many obstacles. The statements of peacekeepers indicate that they encounter several problems, when they settle and begin their duties. They cannot communicate with other people easily or accommodate new environment initially, because everything around them is different from home, as one of the participants' statement indicates: "Coordination and communication between different departments within HQ EUFOR was bad and the different levels of knowledge and skills of the people coming to the mission were obvious, resulting in situations where some personnel was very experienced, knowledgeable and competent, and others could not even speak the official language of the ALTHEA mission, much less make any other contribution to the mission. However, in time things have gotten better.' Their adaptation skills play an important role here by enabling comprehension of circumstances around them and developing stable relations with people. Besides that, adaptation skills clear away the drawbacks experienced when working with new military concepts and being part of EUFOR troops by enabling peacekeepers' contributions, teamwork and cooperation. Moreover, adaptation skills induce peacekeepers to learn new things and sustain self-improvement.

According to participants' statements, building relations with local military personnel helped solving many problems, which were encountered by some peacekeepers such as avoiding any behavior that could be misunderstood as superiority or related to achievements of tasks, preventing religious conflicts and nation specific debates. Moreover, building relations with local military

enables peacekeepers to transmit the assistance that people needed on time, direct every effort around common goals, create friendships and confidence. One of participants' statement emphasizes this issue: "As EUFOR members here we are supporting this country. They should respect and help us and I should respect and take into account their past experience of war too.' In this way peace, stability and security were provided properly. Besides that, as a result of an atmosphere of mutual respect, cooperation and coordination yielded by relationship building, joint activities like training sessions and visits were successfully done.

Relationship building amongst the military personnel of EUFOR plays an important role in the implementation of peacekeeping operations and bears resemblance to building relations with local military personnel. That is, it enables peacekeepers to be patient and show required tolerance when others make mistakes due to inexperience. For all of the participants, it was observed that peacekeepers knew the importance of team spirit as one of participants' statement designates: "Meeting people coming from different cultures and civilizations and, in doing so, learning and understanding that we are all the same: we have same dreams, same goals, same fears, and same concerns. Trying to appreciate those who are different than me'. That's why they act in accordance with interpersonal relations principles within their organization, irrespective of their nationality. Besides that, building relations with military personnel of EUFOR results in creation of friendships, courtesy, mutual respect and confidence among peacekeepers of different countries, which later on causes gathering around common goals and collaboration.

The discourse on the soft skill of stress management here depends on peacekeepers' ability to overcome stressors. Although The EUFOR Operation Althea lacks some specific stressors of any battlefield or counterinsurgency operations, such as involving in firefights, running into improvised explosive devices (IEDs) or being subject to rocket attacks, as one of the participants' experience indicates: "As in any mission or any new experience in life, the beginning is always a bit stressing since you have to get used to a new working and living environment', participants mentioned stressors like inexperience, different ways of doing work, multinational context, building communication, public speaking, accommodation to new environment and work overload. Stress management skills enable peacekeepers to deal with all above-mentioned stressors. Although some participants stated that they did not feel under stress, several of them mentioned the existence of stressors and how they dealt with them with stress management techniques.

In a multinational environment and on a foreign land, the soft skill of cultural awareness admittedly should be crucial for every peacekeeper who interacts either with each other or with local people. Thus, participants' statements indicate that cultural awareness enables dealing with religion specific differences and showing required mutual respect, understanding culture or nation specific behaviors or speeches, realizing attitudes and different body languages. As one of the participants emphasizes: "I saw the different practices of comprehensive approach. I think it is useful for me to learn about it." Cultural awareness enables peacekeepers' comprehension of different styles and hence doing job due to their habits as well. In this way cultural awareness eases collaboration and communication processes among peacekeepers.

9. CONCLUSION

According to our findings, soft skills matter both in military and

civilian contexts, in connection with the evolving concept of international military interventions. Therefore, soft skills have become one of the essential issues to which attention should be paid, in addition to peacekeepers' technical skills, because, peacekeepers act in almost peaceful but stressful environments which are prone to change toward conflicts easily.

In Bosnia and Herzegovina, the international intervention consists of peacekeeping and stabilizing attempts made in the aftermath of serious conflicts, which caused bloodshed between different sects, who live on the same land. The Bosnia and Herzegovina case is recent and the effects of the peacekeeping operation process are available to be observed: if anyone travels through the region, they can observe the traces of conflicts, as well as the outcomes of peacekeeping operations. Authors' military experiences and fluctuations about the EUFOR operation played an important role in deciding to conduct a research about soft skills because it was thought that soft skills may be the cure of some problems, which are still waiting for solutions in Bosnia.

The question this study addresses is to what extent soft skills of adaptation, relations with locals and other military personnel of coalition, stress management and cultural awareness have a role in accomplishing peacekeeping operations. During this research, data were collected by means of face-to-face structured interviews with voluntary participation of thirty-two officers, who were from nine participating countries including; Austria, Bosnia and Herzegovina, Czech Republic, Hungary, Macedonia, Netherlands, Romania, Spain and Turkey. The research topic is examined from general to specific. Hence, initially, a general description of peacekeeping operations and EUFOR Mission were given. Then, the characteristics of soft skills and their relations with peacekeeping operations were explained. Following data analysis and interpretation, findings were discussed.

As distinct from other studies, this study examined the soft skills of adaptation, relations with locals and other military personnel of coalition, stress management and cultural awareness, which were not elaborated before by any other studies in the field. Additionally, face-to-face interviews provided exact data from first hand sources. The findings of the study emphasize the important roles of the above-mentioned soft skills in the execution process of peacekeeping operations. In addition to the findings about the important roles of soft skills, it was determined that the training programs of the participating countries might have been insufficient to meet mission specific needs. The success of peacekeepers in soft skills might have derived from their previous military experiences and long tenure in military service. Aside from that, it was realized that some peacekeepers lack sufficient English language. Hence, they had difficulty when interacting with locals and other colleagues. Therefore, it is only the personnel who were proficient in English who should have been chosen to participate in peacekeeping missions. Moreover, in addition to English, local languages might have been taught to peacekeepers in advance to mission deployment. Participating countries must plan training programs, which provide information about the operation and the culture of the local people.

Despite its remarkable findings, our study has several limitations, one of which is the sample size, which may cause biases while determining the roles of soft skills. The absence of prior studies about our research question is another limitation. If there had been prior studies, we could have compared our findings with theirs. Additionally, the oneness of our sample is another limitation. That is, if we collected data from another sample too, for example

from peacekeepers of Afghanistan, we could compare the findings of both surveys. Lastly, our research was limited to the above-mentioned soft skills. However, the types of soft skills could have comprised other soft skills, as well.

In conclusion, it may be stated that, soft skills have a crucial value in accomplishing peacekeeping operations. In this way our study may shed light on future studies, in terms of researching other soft skills or improving measurement instruments in order to analyze the effects of soft skills on mission specific objectives. In future researches data can be collected from other samples and findings can be compared. On the other hand, armed forces of countries may pay attention to soft skills and improve training programs and doctrines to ensure their troops are equipped with those skills.

REFERENCES

[1] Samuel Chan, "The Evolution of Peace Support Operations and Implications for the Conscript Military", Journal of Singapore Armed Forces, Vol.37, No.1, pp.62-78.

[2] Christopher Dandeker and James Gow, "The future of Peace Support Operations: Strategic Peacekeeping and Success", Armed Forces & Society, Vol.23, No.3, pp.327-348.

[3] Franz Kernic, "The soldier and the task: Austria's experience of preparing peacekeepers", International Peacekeeping, Vol.6, No.3, 1999, pp.113-128.

[4] Andrew Cottey, "Beyond Humanitarian Intervention", Contemporary Politics, Vol.14, No.4, 2008, pp.429-446.

[5] David M. Last, "Peacekeeping Doctrine and Conflict Resolution Techniques", Armed Forces & Society, Vol. 22, No. 2, 1995, pp.187-210.

[6] Winrich Kühne, "Peace Support Operations: How to Make Them Succeed", Internationale Politik und Gesellschaft, Vol.4, 1999, pp.358-367.

[7] Daniel Keohane, "EUFOR Althea (Bosnia and Herzegovina)", in Giovanni Grevi, Damien Helly and Daniel Keohane (eds.), European Security and Defence Policy, The First 10 Years (1999-2009), Paris, France: European Union, 1999, pp.211-220.

[8] Krisztina Juhasz, "The European Union's Crisis Management Activity in Bosnia and Herzegovina", Proceedings from The Balkans Dialogue: Conflict Resolution and EU Accession Politics in The Balkans and Turkey, Budapest, 8-9 February 2013, pp. 66-75.

[9] Manuel Casas Santero, "The European Union's Military Contribution to the Stabilization and Integration Process of Bosnia and Herzegovina in the Family of European Nations", in Nina Leonhard, Giulia Aubry, Manuel Casas Santero and Barbara Jankowski (eds.), Military Co-operation in Multinational Missions: The Case of EUFOR in Bosnia and Herzegovina, Strausberg: Sozialwissenschaftliches Institut der Bundeswehr, 2008, pp.13-19.

[10] M.S. Rao, "Myths and Truths about Soft Skills", T+D Magazine, 2012, pp.48-51.

[11] Joan Marques, "Understanding the Strength of Gentleness: Soft-Skilled Leadership on the Rise", Journal of Business Ethics, Vol.116, 2012, pp.163-171.

[12] Giuseppe Caforio, "The Information Society and the Changing Face of War", in Janusz Mucha and Katarzyna Leszczynska (eds), Society, Culture and Technology at the Dawn of the 21st Century, Newcastle: Cambridge Scholars Publishing, 2010, pp.129-142.

[13] Marcel M. Robles, "Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace", Business Communication Quarterly, Vol.75, No.4, 2012, pp.453-465.

[14] Patricia M. Buhler, "The Growing Importance of Soft Skills in the Workplace", Supervision, Vol.62, No.6, 2001, pp.13-15.

[15] Kühne, (see n.6 above), p.364.
[16] Howard Olsen and John Davis, "Training U.S. Army Officers for Peace Operations Lessons from Bosnia", United States Institute of Peace Special Report, 1999, pp.1-11.
[17] Laura L. Miller, "Do Soldiers Hate Peacekeeping? The Case of Preventive Diplomacy Operations in Macedonia", Armed Forces & Society, Vol.23, No.3, 1997, pp.415-450.
[18] Lyle J. Goldstein, "General John Shalikashvili and the Civil-Military Relations of Peacekeeping", Armed Forces & Society, Vol.26, No.3, 2000, pp.387-412.
[19] Kühne, (see n.6 above), p.366.
[20] Roxanne Hori, "Why Soft Skills Matter", BusinessWeek, 21 February 2014 (at:http://www.businessweek.com/articles/2012-12-05/why-soft-skills-matter)
[21] James K. Wellington, "The Soft Skills of Success", Vital Speeches of the Day, Vol.71, No.20, 2005, pp.628-639.
[22] Michael A. Vane, "New Norms for the 21st Century Soldier", Military Review, 2011, pp.16-24.
[23] Scott W. Vanderstoep and Deirdre D. Johnston, Research Methods for Everyday Life, San Francisco, CA, Jossey Bass, 2009, p.225.
[24] Ibid, p.209.
[25] Ibid, p.224.

MILITARY ETHICAL META-KNOWLEDGE AND INDOOR TEAM BUILDING GAMES. FROM PROMISE TO PRAXIS

Aura CODREANU*, Donald A. MACCUISH**

*Lecturer, Regional Department of Defense Resources Management Studies, Brasov, Romania
**Associate Professor, Air Command and Staff College Maxwell AFB, AL 36114, USA

Contemporary asymmetric warfare raises challenges that can be best described as volatile, uncertain, complex, ambiguous (VUCA). These features translate into a conundrum for both the forces involved in multinational theatres of operations, and for academics, researchers, educators and trainers in charge of finding novel means of approaching the needs of the military human resource both domestically and during deployment periods. One specific requirement of the military when deployed is to act in accordance with their code of values, but to also show consideration for other cultures, attitudes and behaviors. Nonetheless, these requirements may more often than clash. Consequently, this paper is built on the assumption that: asymmetric warfare requires a new set of approaches in terms of military education and training that should involve a change in the learning paradigm of cadets and adult officers so they can measure up to the features of this type of warfare. Therefore, its aim is to propose a possible new framework through which one's own ethical otherness may be discovered and reflected upon in a novel and, we dare say, a challenging manner for the military field and for the didactics of military ethics.

Key words: *ethical meta- knowledge, team building games, asymmetric warfare, military ethics.*

1. INTRODUCTION

Contemporary asymmetric warfare raises challenges that can be best described as volatile, uncertain, complex, ambiguous (VUCA). These features translate into a conundrum for both the forces involved in multinational theatres of operations, and for academics, researchers, educators and trainers in charge of finding novel means of approaching the needs of the military human resource both domestically and during deployment periods.

When in theatres of operation, the military are very likely to discover that the roles they may have expected to fulfill on the missions are not by far what they actually need to undertake. In this respect, Sookermany [1] notably underlines *"Today's complex operations can never be fully covered by manuals and rules of engagement. Our ability to fulfill our tasks depends rather on individuals whose judgment is well developed and mature"*. In addition, issues like having one's own morality challenged because of the impossibility to take action when witnessing human rights breaches, the need to rely on *"…instinct and training and a bit of luck…"* when the situation calls for impromptu decisions that*"… require switching rapidly between different task with different ethical values"*[2], the differences in approaches and perceptions of various cultures, to mention just few, poignantly highlight

that this new type of warfare that is being waged nowadays triggers a new kind of awareness on behalf of the military.

The observations and lessons learned from the theatres of operations are a good indicator for those in charge with designing, delivering and evaluating military education and training courses/programs that new behavioral standards are imposed by the VUCA environment and, hence, wise innovative and knowledgeable techniques need to be swiftly put in place. In this respect, as with any effort towards adaptation, we believe that one of the untapped ingredients of success is meta knowledge and, given the area of our research and interest, military ethical meta-knowledge. However, for this ingredient to be properly dosed in the education and training processes aiming at building upon/instilling/ encouraging discovery or reflection upon the ethical values of oneself or of others the researchers/educators/ trainers need to become fully aware of the untapped knowledge pool of those who have already participated in one or more missions abroad. Secondly, they need to also give credit for the meta-knowledge acquired by the military while on multinational missions. Should these two constraints be overcome, then the quest for new ways of approaching the educational and training endeavor is much closer to finding the right path and achieving the intended outcomes.

Thus, through the marriage of the knowledge and expertise of academic professionals and the meta-knowledge gained by the military the issue of how to better approach ethical education and training from a didactical viewpoint may be partially addressed. However, one more ingredient is required for the recipe to come out right. In this respect, our source of inspiration is civil life and, more specifically, indoor team building games as action learning techniques employed by companies to develop the talent and skills of their employees. What we propose is to build upon the best practices in the field and to replicate these into the military educational and training endeavors. The manner to do that is to focus on the advantages these games may present for those willing/eager to find new means of approaching ethical (meta)-knowledge and teaching. One argument in favor of our proposal relies on the very principle underlying this type of learning, which is *"…that the team already has the knowledge it needs in order to do outstanding work. The purpose of the training is to access and utilize that knowledge so that everyone will benefit from it."* [3]

2. FEATURES OF ASYMMETRIC WARFARE AND THEIR LIKELY IMPACT ON EDUCATIONAL PARADIGMS IN DEFENSE ESTABLISHMENTS

Nowadays almost all defense establishments are confronted with what the literature in the field calls asymmetric threats, namely *"situations in which a weak side, opposing a strong side, uses non-conventional forms of conflict aimed at overcoming the gap between the two sides"* [2]. However, the dimensions used to define the aforementioned concept (by terms like "terrorism", "guerilla warfare", "criminality", "criminal financing", "exploitation of the media", etc.) [2] are as elusive as the concept itself. Hence, when we speak about defense and security, the difficulty in representing the enemy, or in Baudrillard and Guillaume's terms [4]: "the other" as a flesh and blood entity makes it all the more difficult to envisage the means to counter its actions. General concepts may lead to the anonymity of perpetrators and this anonymity becomes a new identity for anyone who does not agree with mainstream customs and practices.

Under such circumstances, what is there left to tackle the spectral threats that can hardly be embodied? As Baudrillard and Guillaume [4] point out, there are two means by which social symptoms (and in our case the symptoms of asymmetric warfare) can be dealt with. One of these is to treat the symptoms, since treating means the ability to forecast consequences. However, that requires of any forecast to be solidly argued given the utilitarian position adopted through such an approach. But it also means the following: symptoms do not always point out the real cause. Hence, even the forecast of treatment effects can be flawed. The other means refers to interpreting the current situation and if the interpretation is believed, it then becomes a myth (and, as we all know from anthropology, myths are embodiments of values). If we are to refer back to the definition of asymmetric means of conflict it becomes obvious that the weaker part is more prone to such an approach and, as a result, feels entitled to conduct such a type of warfare. The rhetorical question concerns though the extent to which a myth leads to the emergence of a "counterpart" myth that justifies actions and counter-actions of the stronger.

Our role here is not to assume which option the representatives of defense establishments choose to act upon when defining current threats under the already mentioned names. Regardless of the option, it is obvious that a fuzzy representation of the opponent/enemy in either case raises a number of challenges and opportunities in identifying the means to counter it adequately. This is best captured by the U.S. Army War College in the now well known VUCA coinage that stands for Volatility, Uncertainty, Complexity, Ambiguity [5]: *" a world order where the threats are both diffuse and uncertain, where conflict is inherent yet unpredictable, and where our capability to defend and promote our national interests may be restricted by materiel and personnel resource constraints…."*.

The very words used to define the environment are self explanatory in terms of the types of actions required. An environment defined under this acronym cannot but be: under the influence of rapid change (the volatility component), averse to pursuing stable long term solutions, of a complexity that makes it difficult to pinpoint every nook and cranny of a given situation and/ or to develop a comprehensive outlook. What is more, as Harry Yarger [5] emphasizes: *"The environment can be interpreted from multiple perspectives with various conclusions that may suggest a variety of equally attractive solutions, some of which will prove to be good and others bad. Certain knowledge is often lacking and intentions may be surmised, but never entirely known."*

Then, what solutions are there? Most likely, they cannot be as elusive as the environment, but they should be enablers for dealing with such a feature. One solution that several authors suggest, even though from different viewpoints, is that of changing and/or enlarging the perspective used when tackling new situations. In this respect, Charles-Edouard Bouée [6], claims that the direction is to enlarge the current definitions we use and, inherently, the mindset developed through education and experience. Thus, concepts like "value" and "competence", of interest for this article, should be more comprehensive but as long as the guiding principles for the behavior of the organization and of the individuals that make it work are flexibility, adaptability, simplicity, tolerance to fuzziness while viewing challenges as opportunities to "juggle

with", ability to keep pace with the changes in the environment, capacity and willingness to do more with less, consensus focused decisions requiring that centralized and decentralized approaches meet half way.

Marina Nucciari [7] in her turn draws attention to the existence of three types of soldiers: the warrior, the peacekeeper and the in-between or flexible one. Thus, if the warrior is defined by features like *"…discipline, fit for action, decisiveness, leadership, obedience, ability to undergo physical stress, patriotism, readiness to make sacrifices, loyalty to the civil power"*, the peacekeeper is characterized by *"…determination, empathy, expertise, ability to easily make friendships, cooperativeness, mental strength, general education, open-mindedness, taking responsibility"*. As for the flexible type of soldier, this one has to cope with a job that *"it is not a soldier's job, but only a soldier can do it"*.

Even though categories are made for us to better tackle the complexity of surrounding world, it becomes obvious for whoever has worked for/ with the military that, all of the above considered, *"too few professional military officers are prepared for this actuality"* , since *"Nothing is ever quite what it seems and all is subject to greater or lesser changes. It is a world of unlimited possibilities and seemingly great promise, tempered by competing interests and often unclear or less than desirable alternatives. … Policy is often stated in lofty and ideal terms with too little regard for political reality and available resources…"* [5].

Hence, what is the way ahead? How can one deal with the ever changing evolving environment both domestically and in multinational contexts? Even though as we are writing reality seems to be steering a different course that may shape/ reshape all the existing assumptions or may simply lead us back to the warrior soldier type, the question is still there. As for the answer … that is hard to glimpse. However, what we do know based on our experience of educators in the military is that the more contact with other cultures, the more likely the need to "reset" some common held assumptions concerning the needs of our target audience, as well as their expectations. As a result, a change in our own approach as trainers and educators to all this is required first and foremost before we actually aim at meeting the increased demands of our target groups, namely cadets, officers moving up the career ladder and, as a result, in need of pursuing education and training programs and/ or officers to be deployed on various multinational missions. And such a change can only occur if one basic principle is remembered: learning is to change behavior. Consequently, even though for basic concept understanding merely passing on information, drilling the use of it or encouraging rote learning may be acceptable, if a change is to take place, then a different way of approaching it is needed. Under such circumstances, what we propose is to focus our efforts on building meta-cognition or metaknowledge in the field of ethics (and not only) if we are to achieve our educational goals as they are reshaped by the current security and defense environment.

3. META-KNOWLEDGE DEVELOPMENT & THE CONUNDRUM OF ETHICAL META-KNOWLEDGE DEVELOPMENT THROUGH INDOOR TEAM BUILDING GAMES (ITBG)

As already mentioned, flexibility and adaptability are core features of today's world. To develop them at individual level involves a lot of

struggle with one's self and with what is assumed to be true as a result of validation through learning and experience. However, the very term of struggle requires a certain degree of awareness. For this to happen, a meta cognitive process consisting in *"monitoring one's own certainty…"* and also *"monitoring external circumstances causing uncertainty…"* [8] is required. In this respect, it is worth noting that if on behalf of the target audience of the educational and training process all is needed is *"procedural"/"non-conceptual"/"activity based" "self-evaluative heuristics"*[8], on behalf of the educators/trainers a two-fold effort is required: other-directed attention and efforts to build meta cognition, as well as self-oriented understanding.

3.1. Meta-knowledge defined

Hence, the definition that we adopt for meta-knowledge is the one provided for the already traditional concept of meta-cognition: "knowing that one knows" and from here on we are to use the two terms interchangeably.

Concerning the development of meta-knowledge, the literature in the field [8] lists a number of reminders for anyone attempting to build meta-cognitive skills. As far as we are concerned, we will try to link this with the necessity to focus on the abilities required by a flexible cadet/officer that needs to act in asymmetric environments in full awareness and respect for ethical principles.

Meta-cognition consists of integrating a number skills like being able to identify one's own cognitive strengths and weaknesses, learning goals, approach to achieving these goals, monitoring the progress made, controlling one's own performance via evaluation and making the necessary changes so that the aforementioned abilities are improved in future similar situations. In this respect, we believe that team building games are one of the most important means to frame/reframe likely boundary situations that real life may raise unexpectedly and for which the aforementioned skills and competences should already be in place. Thus, team building games are defined as *"…the cooperative process that a group of individuals uses to solve both physical and mental challenges. While using this process and solving the challenges, the group learns how to share ideas, how to praise and encourage one another, how to support one another physically and emotionally, and how to start becoming a team"* [8]. Hence, such means to practice theoretical concepts represent both a way to assess someone from the outside in order to identify the strengths and the weaknesses of an individual as part of a social group, but also a self-assessment and self-awareness development method. This is supported by some of the guiding principles [9] that learning as a process of facilitating future behaviors is based on:

- Learning is not simply passing on information and drilling the use of it or encouraging rote learning of concepts;
- Learning is conditioned by the learner's history (hence understanding/perception/representation of the same concept cuts across the variety of learners' experiences and acquires new meanings when there is a group of learners focusing on similar contexts and sharing their separate experiences and understanding);
- Learning cannot be isolated from a social/emotional context and in this respect it is worth reminding that reasoning and decision making cannot be separated from emotions and feelings

(hence, the need to understand the choices made at a specific point in time in these terms and not only in the terms of the rules/ regulations enforcing a given course of action is mandatory). In relation with this, at the risk of applying circular logic, we remind that one of the key goals of team building game sis to provide *"…individuals and teams physical, social and emotional challenges"*[10].

3.2. Meta cognition & team building games

In relation with all of the above, practice and feeedback play a major role in developing meta-cognition and, hence, in facilitating thorough and comprehensive means of acquiring and applying knowledge in a critical manner. Thus, we dare say that some of the most important signs of meta-cognition are informed educated assumptions and constructive criticism. Concerning this, the literature in the field provides a number of features to describe individuals who are both good *"problem solvers and deep thinkers"* [11] because (and we only selectively mention some of the thirty seven characteristics of this type of person) they understand, create, are flexible, are fair minded, make relevant links, empathize, infer, persevere, communicate clearly, clarify information, manage impulsivity, take responsible risks, show a questioning mind, wonder, are lifelong learners, understand cause and effect, are autonomous, show respect, think interdependently, etc. The very frame provided by team building contributes extensively to the development of such abilities since one of facilitator's roles in such games is to provide *"positive, constructive, and challenging feedback"* in order to *"establish a learning culture and build trust among teams and groups"* [12]. However, for the real goal of team building games to be met (that is to put into practice a number of theoretical approaches to a topic) any facilitator needs to be aware of the stages a team has to go through before individuals start acting as a cohesive group and begin learning

Thus, according to Paul Tizzard [13], the stages of a group's evolution into a team per se determine the types and goals of team building games and they are as follows: **the polite stage** – characterized by awkwardness, extremely polite behavior, reluctance on behalf of some team members to fully participate in the activity (this is a stage in which ice-breakers work best since the goal that needs to prevail is that people get to know one another); **the emotional stage** (or angry stage as the aforementioned author calls it) when people start to assert themselves and their emotions in a passive-aggressive manner and juggle with a number of roles they assume or the group assigns them to play more or less aware; **the understanding stage** when activity intensity and people's involvement reach a plateau and people may just drift or be very comfortable about their newly acquired positions; and finally, **the learning stage** when team members become self-directed, highly motivated, perform at high levels.

Besides the feedback and practice opportunities that are tasks of the facilitator, it is worth reminding the games themselves provide the participants a number of benefits such as [14]: enabling relationships; involving participants at multiple levels: verbal, intellectual, physical, creative; offering a place to exhibit/discuss behaviors that in real life scenarios are difficult to approach; enabling new behaviors and their inherent consequences before transferring them into real life situations.

3.3. Ethical meta-knowledge development through ITBG

Trainers must avoid the trap of assuming that trainees will become proficient in applying/transferring one specific meta-cognitive skill developed in a specific context into a completely different one. Therefore, every time a facilitator resorts to games, the latter must be fully aware of such assumptions underlying the choice of the game, the group size, composition, role assignment, etc., as well as the theories underpinning the choice/development of the game. From our experience, to choose a game for the sake of using it indiscriminately causes confusion all the way through the presentation of the game, its unfolding and wrapping. In such cases learning is not possible and, regardless of how well variables like group size, composition, clarity of instructions on how to play the game, role assignment are in place, the players cannot move beyond the emotional stage.

Related that to the topic of this paper: ethical meta-knowledge, we must emphasize that the games on the market do not meet the expectations we have set through the arguments already provided in the first part. Therefore, what we stronlgy advise are "custom-made" team building games that need to be anchored in a theoretical framework and whose goals should be framed in terms of ethical imperatives and inherent prescriptions [15]:

- **Beneficence/concern for welfare expressed as**
  - *"do no harm (the duty of non-maleficence)"*;
  - *"prevent harm wherever possible (the duty of prudence/ stewardship)"*;
  - *"remedy harm wherever possible (the duty of compassion or charity)"*;
  - *"do good, provide benefit, wherever possible"*.
- **Justice**
  - *"obey the laws and the codes of your profession"*;
  - *"treat all groups alike"* (non-discrimination/equal opportunity);
  - *"act affirmatively to remedy the result of past injustices"*;
  - *"recognize merit"*
- **Respect for persons**
  - *"tell the truth"* (the duties of veracity, informed consent, full disclosure);
  - *"celebrate differences, whether individual or cultural"*.

4. FROM PROMISE TO PRAXIS

With a view to all of the above, the inherent question that we need to address is how the promise can be actually transferred into practice. For this, we strongly recommend a two-fold approach.

First, the place and role of indoor team building games need to be anchored into the ethical concepts covered and integrated/chosen over other means of providing two-way feedback and practice of these. To achieve that, a number of steps should be pursued:

1. Setting the context, namely the theoretical background underlying the reasons for choosing indoor team building games, as well as the level of group cohesion, its size, its members' previous and future relationships.
2. Discussions on topics relevant to the theory to be exemplified through the games.
3. Presenting the challenge (which requires extensive preparation on behalf of the facilitator and adaptation of the game in accordance with group needs and dynamics, as well as assignment of clear-cut roles to team members).
4. Allowing the group to tackle the challenge within a given time frame and based on an observation sheet to be filled out by the facilitator or by observers from within the group who are instructed on how to act and record group members' behavior.
5. Debriefing on the dynamics observed within the group.

6. Drawing conclusions relevant for the application of theory to real life situations, as well as for individual predispositions to act when a specific set of circumstances manifests.

Second, the indoor team building games need to be developed in accordance with a well defined framework. This has to be built around the following dimensions:

1. ASSUMPTION;
2. THEORY UNDERLYING THE ASSUMPTION;
3. THEORY RELEVANCE FOR ETHICAL IMPERATIVES AND INHERENT DUTIES;
4. GAME DESCRIPTION.

In this respect, we provide below an **example** of how this framework can be used in the development of a team building game.

1. ASSUMPTION

If two or more groups develop functionalrelations(i.e.compatibility/ incompatibility of interests), then intra- group cohesion increases

2. THEORY UNDERLYING THE ASSUMPTION

Muzafer Sherif's theory on real conflicts presented in Group Conflict and Cooperation: Their Social Psychology (1966).

Theory short description:

- The relationships developed among groups are of a functional nature and thus they may lead to conflict/cooperation;
- When groups compete over limited resources, inter-group perceptions and categories give rrise to stereotypes and prejudices, while intra-group performance is over estimated. It is only with joint projects that negative framing of the other group can be changed. Thus, inter-group perceptions are highly dependent on intra-group interests and relationships.

Sheriff's hypothesis is the following: when the relationships between two groups are antagonistic, the stereotypes are negative; friendly intra-group relationships lead to positive perceptions and cooperation.

The inherent assumptions on human behavior and that underlie the above hypothesis are:

1. human beings are selfish and try to maximize their own advantages.
2. conflict is generated by the differences in interests.
3. marriage/divorce at interest level between distinct groups (e.g. control over resources) leads to behavioral and psycho-social effects that become overt through stereotypes, prejudices, hostile attitudes and in-group favoritism.

According to Sherriff's theory, inter-group contact is sufficient to solve conflicts.

3. THEORY RELEVANCE FOR ETHICAL IMPERATIVES AND INHERENT DUTIES

Ethical imperative: justice

Duty: "treat all groups alike" (non-discrimination/equal opportunity)

4. GAME DESCRIPTION

Game name: WE &THE OTHERS

Game type: perception, team-building, communication

Summary: Inter-group competition over resources increases a system's internal cohesion and contributes to the development of negative stereotypes and perceptions of system non-members, while joint goals (super ordinate goals) lead to inter-group cooperation

Game goals:

1.Increase intra-group cohesion by facilitating inter-group competition;
2.Facilitate intra-group cooperation by identifying super ordinaate goals;
3. Identify inter-group stereotypes and prejudices;
4. Support a point of view with arguments and counter arguments

Group size: minimum 12- maximum 20

Time (55 minutes):

1. Game introduction - 5 minutes;
2. Game preparation/subgroups: 15 minutes;
3. Stage 1: 10 minutes;
4. Stage 2: 10 minutes;
5. Presentation of observers' charts: 5 minutes;
6. Conclusions and discussions: 10 minutes

Materials:
Photocopies of Appendix 1 for all participants;
3 Photocopies of Appendix 2
Procedure:
1. Form 2 groups made up of minimum 3 members-maximum 6 members each using random criteria;
2. Present the game (see Appendix 1);
3. Assign observers from among participants and distribute Appendix 2. They must be instructed not to show any approval/disapproval for group dynamics during the game. Moreover, they should also play the role of evaluation board for the projects to be submitted by the groups.;
4. Time allocation/subgroup (15 minutes);
5. First stage (10 minutes).;
6. Second stage (10 minutes).;
7. Observers present their findings;
8. Conclusions and discussions
Discussions (guiding questions)
1. How did you perceive the members/representatives of the other teams during the two stages of the game? Why?;
2. What led to inter-group competition?;
3. What factors led to your decision to support your team's/other team's project?;
4. What are your feelings right now towards the other groups?
Appendix 1: Game presentation
You are part of different departments of the same organization. You are at the end of the fiscal year and you discuss budget allocation/ departments for the next fiscal year. You already know that each department is entitled to a fixed amount of money. However, the budget allocated to each department is to decrease by 5% and the overall savings will rise to 100.000 euro. This amount of money is to be allocated to only one department to undertake a priority project that is to impact the future performance of that department. Each department needs to develop a business case that is to be presented to the other departments and to the evaluation board. Once the business case is ready, identify 3 representatives that should negotiate and convince the board about your project's feasibility.
Stage 2: Once the arguments and counter arguments are presented, the teams need to choose only one winning project.
Appendix 2: Observer's Chart
1. What relationships were developed at inter-group level when preparing the business case?
2. What were the remarks made concerning the competitors?
3. What factors contributed to establishing group strategy?
4. What was the verbal and non-verbal behavior within the group and among the groups during the two stages?

5. CONCLUSIONS

Team building games are a means to frame/reframe likely boundary situations, to assess someone from the outside, but also to support self-assessment and further self-awareness. Consequently, the following principles need to be heeded, if meta knowledge is to be built or reinforced through team building games:
- Learning is not simply passing on information and drilling the use of it or encouraging rot learning of concepts;
- Learning is conditioned by the learner's history (hence understanding/perception/ representation of some concept cuts across the variety of learners' experiences and acquires new meanings). In this respect, it is important noting that complex mental processing involves memorization as the basic stage to start from (which means that theoretical anchoring is more than necessary before practicing it and discovering its plethora of meanings associated with meta ethical knowledge).
- Learning cannot be isolated from social/emotional context.
- Reasoning and decision making cannot be separated from emotions and feelings. Therefore, understanding the ethical choices made at a specific

point in time need to be made terms of learning and not only in the terms of the rules/regulations enforcing a given course of action.

- Metacognition is about thorough learning and team building is about facilitating this process.

NOTES AND REFERENCES

[1] Major Anders McD Sookermany's quote of NoAF's Joint Operational Doctrine of 2007 in Gender and military issues- A categorized research bibliography , THE NORWEGIAN DEFENCE UNIVERSITY COLLEGE , ISSN 1891-8751, available at: http://www.nih.no/Documents/1_FI/Sekjson%20for%20milit%C3%A6r%20ferdighetsl%C3%A6re/01%20Gender%20and%20Military_nettdistribusjon.pdf, last retrieved April 2014.

[2] Caforio, G. (ed) (2013) Soldiers without Frontiers: The View from the Ground. Experiences of Asymmetric Warfare , Bonanno Editore, Gruppo Editoriale s.r.l.: Acireale-Roma.

[3] Snow, 1997:7.

[4] Baudrillard, J., MArc Guilaume (2002) Figuri ale aleritatii, Bucuresti:Paralela 45.

[5] Yarger, H.R. (2012) Strategic Theory For The 21st Century: The Little Book On Big Strategy, Booklife.

[6] Bouée, Ch. E. (2013) Light Footprint Management: Leadership In Times Of Change, Bloomsbury Publishing plc, p.46

[7] Nuciari, M. Models and explanations for Military Organization: An Updated Reconsideration in Caforio, G. (2003) Handbook of the Sociology of the Military, Kluwer Academic/Plenum Publishers: New York.

[8] Beran, M.J., Johannes Brandl, Josef Perner, Joëlle Proust (eds.) (2012) Foundations Of Metacognition, OUP:London, p.3.

[9] Based on the neuromyths explained by Dekker, Howard Jones, Jolles, 2012; Geake, 2008; Rodriguez, 2006, Valtin, 2002, Waterhouse, 2006, Weisberg, Keil, Goodstein, Rawson, Gray, 2008 quoted in Tokuhama-Espinosa, T. (2014) Making Classrooms Better: 50 Practical Applications Of Mind, Brain And Education Science, Norton.

10] Midura, D. W., Donald R. Glover (2005) Essentials Of Team Building: Principles And Practices, USA, volume 1, p ix.

[11] Fenrich, P. (2014) Practical Principles of Instructional Design, Media Selection, and Interface Design, Informing Science Press: US, UK, Germany, Japan.

[12] Landale, A., Mica Douglas (2007) The Fast Facilitator 76 Facilitator Activities And Interventions Covering Essential Skills, Group Processes, And Creative Techniques, HRD press, inc.: Amherst, Massachusetts, p. 8.

[13] Tizzard, P. (2006) The Teambuilding Activities Pocketbook, Management Pocketbooks Ltd.

[14] Ragsdale, S., Ann Saylor (2007) Great Group Games. Boredom-Busting, Zero-Prep Team Builders for all Ages, Search Institute Press, p. 16.

[15] Newton, l. (2013) Ethical Decision Making. Introduction to Cases and Concepts, Springer, pp.29-31

[16] Baumeister, R. F., Kathleen D. vohs (2007) Encyclopedia Of Social Psychology, Sage Publications.

[17] Poole, m. S., Andrea b. Hollingshead (2005) Theories Of Small Groups: Interdisciplinary Perspectives, Sage Publications.

[18] Taylor, D.M., Fathali M. Moghaddam (1994) Theories Of Intergroup Relations. Intrenational Social Psychological Perspectives, Praeger Publishers.

[19] Visscher, P. Neculau A. (2001) Dinamica Grupurilor. Texte de bază (Romanian for Group Dynamics:. Basic principles), Polirom: Bucuresti.

[20] Wheelan, s.a. (2005) The Handbook of Group Research and Practice, Sage Publications.

[21] http://www.dictsociologie.netfirms.com/d/termeni/dinamica_grupului.htm, last retrieved January 2014.

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A REPERTOIRE OF INSTRUMENTS EMPLOYED IN PSYCHOLOGICAL COUNSELING

Dorina Maria PASCA

Associate Professor, PhD, psychologist
The University of Medicine and Pharmacy, Targu Mures, Romania

According to Carl Rogers and Albert Ellis [1] [2], a new approach to psychological counseling is needed. Consequently, new and practical means to solve problems that ensue as part of the counseling process are required. From this point of view, this article aims at offering a range of alternatives to approach and involve the client (student) in order to achieve the envisaged results of counseling. As such, it offers a concise repertoire of instruments that can be employed in psychological counseling.

Key words: *psychological counseling, student, psychological instruments, counseling portfolio.*

1. INTRODUCTION

The current activities of any psychological counselor must be based on the latter's ability to both communicate and listen in order to solve any issues may arise during the process. Listening in particular is needed in order to understand the message and thus gain: information, knowledge, mutual understanding and cooperation. In this respect, Stanton N. [3] underlines that a counselor should listen to the client in order to: encourage, obtain complete information, smoothen relationships, solve problems, better understand people. Moreover, according to the aforementioned author, there are ten guideline to follow for better listening and these are listed below.

1. be ready to listen, that is try to think more of what the interlocutor wants to say rather than what you want to say.
2. get involved since any message can be interesting.
3. show interest, that is try to pretend you are in the other person's position.
4. keep an open mind without feeling threatened by the messages that contradict your own beliefs, ideas and values. Thus, do not draw hasty conclusions.
5. follow the main ideas since everything depends on the ability to structure the message, the language used and the speaker's tendency to repeat. Thus, ideas may emerge during the talk, so attention is required.
6. apply critical listening, namely be objective so that to be able to carefully weigh the evidence and the logical structure of the message.
7. listen carefully because attention span is limited and selective. In this respect, try not to have your attention distracted from the speaker.
8. take notes while listening.
9. show support to the speaker by discrete gestures that convey a sense of security to the speaker and also show that the message is received.
10. do not interrupt the speaker since listening is about self control and a good listener never attempts to break the communication flow.

Additionally to the above principles, the counselor needs to also be able to structure the interview with the client by observing five essential steps [4]:

1. Spend a time to establish a rapport with the client. The time spent on developing relations impacts the counseling process in a positive manner.

2. Focus on facts, feelings and the manner of presenting the problem. By losing focus of one of these elements, valuable information can be lost.

3. Establish a clear goal for the conversation with the client. The absence of clear-cut objectives may take the counselor astray.

4. Allow the other person to generate their own ideas before giving advice or making suggestions. If their complaints are first listened, they will be able to solve their problems by their own.

5. Suggest specific control actions so that the new ideas are put into practice and not forgotten.

The way the conversation with the client starts and unfolds requires a set of skills like:

1. the ability to allow the clients to tell their story in their own language and from their own perspective. In this way, facts, feelings and the clients' way of organizing the discourse can provide useful information.

2. the ability to generate an infinite number of answers. Thus, instead of searching for the "best", the "most correct" answer, flexibility should prevail.

3. the ability to influence the interview.

4. the ability to conduct a five step interview.

5. The ability to engage the client in an assertive manner.

Listening remains though the fundamental requirement underpinning the client-counselor relation. In this respect, the latter manages to find positive aspects and solutions in the former's story. While listening to the client's story the counselor can read the notes and review the organizational steps of the interview, look for positive aspects that can contribute to solving the client's problems, etc.

Methodologically, the first stage of the listening session focuses on helping the client to separate facts from feelings and to organize these in a significant pattern. In this respect, the counselor uses open and closed questions, minimal encouragement, paraphrasing, feedback on feelings, summarizing.

The second stage consists in relying on the client's competences and positive search for answers. Therefore, making a list of the client's advantages in this respect, can contribute to solving the latter's problems, according to Ivey [4].

All of the above play an important role in the counselor's capacity to communicate and interrelate with the client/student so as to help him/her. In this respect, exercises, short therapeutic games can be used in the work done by psychologist counselors.

2. EFFICIENT AND INEFFICIENT COMMUNICATION

According to Holdevici [6], efficient communication is characterized by the open expression of client's feelings and the latter's ability to to encourage the partner to do the same. Mor precisely, the former says what s/he thinks and feels and tries to understand what the latter's thoughts and feelings are. Moreover, efficient communication involves listening, while inefficient communication is about refusing to share feelings in an open manner and to listen to the other person's opinion.

More often than not, it is efficient communication that gets the attention. However, good knowledge of the missing elements that transforms this type of communication into an inefficient one is important. In this respect, Burns [7] makes a list of the features of inefficient communication and these are:

• I know best –describes a person keen on proving that s/he is right while the other is wrong.

• Blaming- the subject blames others for his/her own mistakes;

• Martyrdom – the subject claims to be an innocent victim.

• Authority undermining –the person states that the other is in the wrong or is a loser because s/he "always" or "never" does things.

• Hopelessness – the subject abandons the dispute claiming that it is worthless trying;

• Vindictiveness – the subject claims that s/he is entitled to better

treatment but refuses to ask for this directly;
• Denial – the person insists not being angry, hurt or depressed event though it is exactly the opposite;
• Passive aggressiveness – the subject withdraws without saying anything or "storms" out of the room slamming the door;
• Self blaming – instead of solving the problem the subject behaves as if s/he was to be blamed;
• Helping at any cost – instead of listening to the other person's problems, the subject tries at any cots to help;
• Sarcasm – the subject's words or tone reflect hostility and tension, even though these are not acknowledged in the open by this;
• Scape goating – the subject pretends that the other person has a problem while s/he is happy, balanced, uninvolved in the conflict;
• Defensiveness – consists in the refusal to admit we are in the wrong or that we are imperfect;
• Counter attack – instead of being aware of the other person's feelings, we reply in kind;
• Diversity – instead of being concerned of the "here and now" moment, one of the partners or both presents lists of previous conflicts or tense situations.

The reasons that prevent people to adequately communicate with one another are also listed by Burns [7]:
• Conflict phobia – similar to the the technique of the ostrich, it shows that the subject is afraid of conflict or of hostile feelings;
• Emotional perfectionism – the subject is convinced that people are to despise him if they know what s/ he feels;
• Fear of disapproval and rejection – the subject is afraid that people will not like him/her if s/he expresses ideas and feelings in the open;
• Passive aggressiveness – the subject represses frustration and hostility instead of openly expressing them;
• Hopelessness – the subject tends to think that nothing works, therefore s/he concludes that the situation is truly hopeless;
• Low level of autonomy - the subject believes that s/he is not entitled to express feelings or to ask for things from the others;
• Spontaneity - the subject believes that any change in his personal style is ridiculous and fake;
• "Mind reading" – the subject believes that the others should know what s/he thinks, feels, wants before s/he expresses these in the open;
• The growing up tendency – the subject is afraid to admit that s/he is upset since s/he does not want to give satisfaction to anyone;
• The need to solve the problem – the subject is in a conflict and tries to solve the problem without openly sharing his/her feelings and listening to the other person.

On top of all of the above, Burns [7] also makes a list of the attitudes that prevent us from listening to the others:
• Self righteousness – the subject imagines that he is always right, while the others are always wrong;
• Blaming - the individual is convinced that the problem was generated by other people, and hence s/he is entitled to blaming them;
• The need forvictimization – the individual pities her/himself and believes that the others treat her/him unjustly because of their selfishness and sensitivity;
• Unawareness – the individual fails to perceive the consequences of her/his behavior on other people and therefore cannot understand her/his contribution to the ensuing problems;
• Defensiveness – the subject is so afraid of criticism that cannot bear to hear unpleasant or negative things;
• Hypersensitivity to constraints – the person is afraid of being under other people's control;
• Exaggerated requests to the others – the person feels entitled to benefit from a special treatment on behalf of the others and feels frustrated when that does not happen;
• Selfishness – the subject wants a particular thing at a certain moment and gets very angry and disinterested in what other people think or feel;

• Distrust – the individual rejects the others for fear the latter might take advantage of him/her;
• The compulsive need to offer help – the subject needs to help the other even though all the latter need is to be listened to.

3. ASSERTIVE COMMUNICATION

The psychologist counselor needs to also be aware of the role played by assertive communication and behavior. In this context, Holdevici [6] underlines that assertiveness is an attitude and a means of action in the situations when feelings must be expressed, rights need to be claimed or a "no" is required. The assertive behavior is in between aggressiveness and submissiveness. Hence it must be anchored in an individual's belief that s/he is entitled to ask what s/he wants by respecting one's own rights.

By way of contrast, the non assertive or submissive behavior is about looking down on one's own rights and also about the exaggerated submission to others' feelings and needs. Consequently, the other people around the subject cannot possibly know anything about her/his own feelings and needs if s/he does not unveil them and when time comes to ask for something s/he experiences feelings of guilt. Unless s/he is able to associate some right to his request, the others will continue to show disdain. In this respect, Bourne [8] makes a list of an adult's personal rights:

• I am entitled to request what I want.
• I am entitled to refuse the requests I cannot meet.
• I am entitled to express both my positive and negative feelings.
• I am entitled to change my opinion.
• I am entitled to make mistakes and not to be perfect.
• I am entitled to observe my own system of values.
• I am entitled to say "no" to whatever I feel that I am not ready to do, is dangerous or is in conflict with my own system of norms and values.
• I am entitled to establish my own priorities.
• I am entitled not to feel responsible for other people's behavior, actions, feelings and problems.
• I am entitled to require honesty on behalf of others.
• I am entitled to get angry with somebody I care about.
• I am entitled to be myself.
• I am entitled to feel frightened and tell people that.
• I am entitled to say "I do not know".
• I am entitled not to apologize or excuse my behavior.
• I am entitled to make decisions based on my own feelings.
• I am entitled to meet my own needs when and where I deem fit.
• I am entitled to have fun and be frivolous.
• I am entitled to be healthier than the people around me.
• I am entitled to be in a climate in which people do not take advantage of me.
• I am entitled to make friends and feel good around other people.
• I am entitled to change and evolve.
• I am entitled to respect for my own needs and desires on other people's behalf.
• I am entitled to be treated as a person worth of respect.
• I am entitled to happiness.

Based on all of the above, it results that depending on the message to be conveyed about a specific problem can be assertive, passive or aggressive.

Thus, an assertive behavior makes sure that the problem is discussed, the rights are defended, and the individual chooses his /her own activities, trusts oneself and also acknowledges others' rights.

Subjects displaying passive behavior avoid problems, ignore their rights, allow others to make choices for them, are distrustful and perceive others' rights as more important than theirs.

Aggressive behavior is about confronting problems directly, promoting one's own rights with little regard fro others', acting by one's own decision with littke regard for others' opinions, viewing one's own rights as more important than others'.

One game that can be played in relation with these types of behavior is called "The Cutlery". The game participants form pairs and the roles they assume are that of a fork and of a spoon. Each piece of cutlery argues the advantages of its use in an aggressive manner towards the other piece. Afterwards, roles are changed, and an assertive style is practiced. After all pairs play their roles, the assertive and non-assertive behavior of the two pieces of cutlery is discussed.

4. PROBLEM SOLVING

According to Băban A[9], problem solving is one of the most important skills in teenagers' development. This allows them to cope with crises in an adaptive manner, to make responsible decisions, to avoid involvement in risky behaviors. In this respect, it is worth reminding that most of the risky behaviors aim at "solving" emotional problems and conflicts in a non-adaptive manner that predisposes young people to mental and physical issues. The development of problem solving skills is one way of enabling teenagers to solve dilemmas in ways that protect their life quality. Consequently, these abilities underpin the development of a person in terms of self esteem, communication, decision making, life planning, career, as well as prevent risky behaviors like smoking, drinking, doing drugs, acting passively or aggressively, committing suicide.

According to Miclea M.[10], a problem is defined as a gap between a current situation and a desirable situation in the future. This gap cannot be spontaneously bridged since it requires a number of solutions and a decision making process. Thus, any problem is composed of: the current situation, the goal or the desirable situation, the restrictions that guide the decision making process needed to solve the problem.

Problems are an inherent part of social and psychological life and an individual's receptiveness ensures the latter's efficient adaptation. Problem ignoring, avoidance or denial is often associated with adaptation dysfunctions and with performance decrease in various fields. Acknowledging problems as a means of developing specific skills and competences changes the current perspective on problems as negative issues. Thus, a problem should not be viewed as a lack of abilities, but as part of daily life.

In this respect, Proctor R. [11] underlines that a number of steps need to be taken in the process of solving problems, and these are reflected in the attitude towards the problem and in the abilities to solve it as part of a process of social learning.

According to Băban A. [9], the ability to solve problems is a specific operation based on:

- finding alternatives, that is the ability to generate multiple solutions, overcoming stereotypes and the rigid conviction that there is one ideal solution for problems.
- anticipatory thinking, namely the ability to anticipate the consequences of specific actions on short and long term.
- planned thinking, or the ability to plan a series of actions required by the implementation of a solution.

What is really important is that young people perceive themselves as able to solve problems and to take responsibility for solving them. In this respect, Beddell and Lennox list a number of principles that need to be observed [12]:

- Problems are a natural way of life: their existence does not indicate any weaknesses, but rather situations that require the development of a set of skills and knowledge.
- Most problems can be solved: learning problem solving abilities develops the feeling of being competent, self efficient and self trust and hence becomes a way of personal development.
- Take responsibility for problems, which is actually an encouragement for the individual to take hold of his/her own psychological and social maturity.
- Define the problem before acting: this requires acquiring skills for defining, clarifying problems, as well as for identifying their consequences, their priority and for formulating solutions or avoiding them.

• To solve problems is to establish what you can do and NOT what you cannot do: this requires establishing realistic goals and focusing on what s/he already knows and not on the skills or knowledge s/he does not have.

• Solutions must be selected based on personal abilities and knowledge, namely solutions must be selected in accordance with a person's psychological development.

• Solving problems requires respecting others' rights, as well: some attitudes like avoidance, abandoning the quest for solutions, choosing solutions that are unacceptable for the decision maker or for others without minding the others' rights and feelings can have negative consequences on solving them.

The stages required in the problem solving process are:

• Acknowledging the problem;
• Defining the problem;
• Generating alternatives;
• Making decisions;
• Applying the decision made;
• Evaluating the consequences of the chosen solution.

In the counseling process, any psychologist need to follow seven steps in supporting the client to solve his problems. These step require both entities to play specific roles as it is to result from the explanation of the steps provided below.

Step 1. Exploring the problem.

The client explains the problem in general terms. At this stage, the psychologits must rely on empathy, physical ssistance and open ended questions.

Step 2. Understanding the problem.

The client is supported by the counselor in clarifying the problem, his arguments, worries and feelings.

The counselor resorts to physical assistance, empathy, open ended questions, congruence and confrontation.

Step 3. Defining the problem

The current status of the problem is defined by resorting to dates, goals, obtsacles. Moreover, the role of the counselor to sum up helps define the scope of the problem, as well as the expectations of the client.

Step 4. Generating alternatives.

The client proposes course of action that could contribute to solving the problem. The goal of this stage is to identify all imaginable solutions. The techniques used for this are brainstorming and the analysis of alternatives.

The counselor suggests possible aletrnatives and if the client experiences difficulties in formulating these, s/he uses open ended questions.

Step 5. Evaluating the alternatives.

The client evaluates his/her own attitudes and values in order to identify the priorities based on which decisions are to be made. Thus, the advantages and disadvantages of every alternative are analyzed. Moreover, an analysis of the resources required for the implementation of each solution, the benefits, the risks, the consequences and efefcts on short and long term is also undertaken.

The counselor enumerated the values incurred by the problem and underlines the most important ones. Moreover, s/he enumerates the strengths and weaknesses idedinfied by the client for each solution. The tools eemployed at this stage are: empathy, open ended questions and sum up.

Step 6. Choosing the best alternative.

The client chooses the best alternative based on the values underpinning it. The following questions are to be of help in making a decision:

• Do I have all available information?
• Is this a specific alternative?
• Do I believe in this alterrnative?
• Does this alternative match my own values?
• Does this alternative help me develop as a person?
• Does this alternative meet my expectations?

The counselor will take notes on the best alternative and enumerate the values underpinning it. Moreoever, s/he enumerates the strengths of the alternative. With a view to that, s/he asks the client the following questions:

• Is the alternative specific enough?
• Is the alternative a credible one and possible to be applied?

•Does the alternative coincide with your values?
•Does the alternative help you develop as a person?
• Is the alternative something you can control?
• Is the alternative what you want to do?

The instruments that the counselor can rely on at this stage are open ended questions and empathy.

Step 7. Applying the selected alternative.

The client will develop an action plan in order to put the selected alternative into practice. In this respect, the following questions need to be answered:

• What are my goals and how to I prioriteze them to solve my problem?
• What is the first action of my action plan?
• What is the next action of my action plan and what other action could replace it so that I can fulfill my goals?
• What obstacles am I to meet in achieving my goals?
• What resources do I have to remove the obstacles?
• What else do I need to apply the selected alternative?
• How long do I need to reach my goal?
• Where will the actions take place?
• When will I make the first action?

The role of the counselor is to assist the client in applying a reasonable action plan. Therfore, s/he needs to elicit answers to the following questions:

• What goals underpin this alternative?
• What is th first action needed to be included in the action plan?
• What are the next activities in the plan and in what orders do they come to achieve the goals?
• What obstacles can prevent you from achieving your goals?
• What can you use to remove these obstacles?
• What else is there needed to reach the goals?
• How lomg does it take to achieve the goals?
• Where are the actions implemented?
• When will the first action be implemented?

In this context, one of the best strategy suggested for problem solving is the therapeutic story or fairy tale. Depending on the category the client's problem is part of, this instrument helps the client learn to accept, appreciate, understand and be aware of his/her own story. As a result of the constraints imposed by the length of this paper, a further description and exemplification of this instruments is to be provided in a future article.

5. A REPERTOIRE OF GAMES

5.1. ICE BREAKING EXERCISES

According to Ionescu G. [5], the first encounter of a group is marked by awkward silence characterized by the people's inability to communicate and relate since they do not know one another. In order to overcome such situations, specialized literature recommends ice breaking exercises meant to warm up the atmosphere and which are accepted by clients as a result of their pleasant, relaxed approach. Basically, there are several types of icebreaking exercises:

1. Handshaking.

The subjects are asked to shake hands with one another for a few minutes and thus try to get introduced and acknowledge the other group members.

2. Let your hand talk.

The clients are asked to shake hands and while doing that to notice the message conveyed by the grip: determination, hesitation, anger, force, joy, sadness, etc.

3. Hug me.

The participants are asked to hug one another in a friendly manner. In this way, through verbal and non-verbal communication, they convey a positive message. The role of such exercises is to ensure group acceptance and feeling of belonging to it.

4. The prism of knowledge.

Group members are asked to form pairs even though they do not know each other and to make confessions to one another concerning a personal achievement, a professional accomplishment, a secret. Each of

them draws a prism on a piece of paper and when hearing the partner's answers they draw them in the prism. At the end of the exercise the participants need to present their partners' answers. Thus, group members get to know one another.

5. In the circle.

The subjects stand in a circle and say their first name accompanying this with a gesture, a mime, etc.

6. This is what I look like today.

Standing in a circle the participants introduce one another in the following manner: "Hello. My name is….and my funny face for today is this (while saying the name they must also make a funny face)".

7. I give you a smile.

The subjects stand in a circle. One of them gives to someone in the circle a scarf and asks for a smile in return. The latter accepts the scarf, says thank you and gives it to another person asking for a smile. All those who smile when they get the scarf remain in the circle. If there are people who "forget" to smile, the other group members remind them the rule by smiling at them.

8. The spider web.

The game leader holds a rope ball in his hand and everybody forms a circle. He throws the ball to one of the participants and the latter needs to introduce him/herself and name one trait that characterizes him, rolls the rope thread around his pointing finger and then throws the ball to another participant. Thus, a "web" is woven while everybody in the group gets to know one another and respect the others' options.

9. The symbol.

Each subject is asked to write his/her first name on a piece of paper and to add to it a characteristic symbol. They will then wear this as a name tag and explain to the other participants the significance of the symbol.

10. The months of the year.

The group leader announces everybody that they need to form a line or a circle in the order of their birthdates without communicating with one another.

All of the exercises above are meant to support the psychologist counselor in furthering the efforts and goals of the sessions.

In addition to the above games, there are also games aimed at allowing participants to self evaluate, communicate and establish relations, solve problems.

5.2. SELF EVALUATION AND SELF AWARENESS GAMES

Most of the games under this heading focus on self esteem, self perception, self evaluation and they are only one of the first steps in the counseling process. Some of these are as follows.

1. If I was…

This game can be played individually, in pairs, or by choosing a member of a group without nominating him/her. Its goal is to portray the person based on the answers provided to the open ended statements below:

- If I was a season, then I/it would be….
- If I was a musical part, then I/it would be…
- If I was a book, then I/it would be…
- If I was a dish, then I/it would be…
- If I was a drink, then I/it would be…
- If I was a color, then I/it would be…
- If I was a flower, then I/it would be…
- If I was an animal, then I/it would be…
- If I was a tree, then I/it would be…
- If I was the citizen of another country/continent, then I/it would be…

2. How are you today?

It can be played individually and in group. The participants are asked to answer the question by using mimic, gestures or words.

3. This is me.

The group leader asks the participants to continue orally the affirmative sentences s/he utters. The goal of the exercise is to identify positive thinking with participants. The beginning of the statements is:

- I enjoy…
- I'm good at…
- I prefer to…
- It is all right when…
- I'm glad that …

4. Choose.

Participants form a circle and are asked to choose from a nearby table with objects and toys (e.g. shells, pebbles, pencils, money, books, jewellery, toy cars, pens, buttons, flowers, beads, dry branches, food, etc.) what they think represents them. Once everybody chooses, they have to justify their choices. At the end of every justification, the other group members are allowed to ask questions. Thus, the connotations of traditional or subject related symbols can be highlighted. However, the symbols should not be transformed into "labels".

5. Who am I?

The exercise requires participants that individually or in group complete the sentences below:

- The people I most care about are…
- I feel proud of myself because…
- The people I most admire are…
- I like a lot to…
- I wish…
- One of the best things I did was…
- I would like to become…
- I intend to…
- I would rather…than…
- I know I can…

6. How well do I know myself?

The game is based on individual work. The client is asked to imagine a s/he is a garden and to draw it. Will the client recognize him/herself in the image of the garden? This is the question from where the counselor can begin the discussion.

7. What do I do with my values?

The game can be played individually or in a group. The participants are asked to find the right place for the values they upheld in one of the following objects:

- Backpack- a personal storage place that allows me to store my values and resort to them whenever I need.
- Washing machine- the object that helps me "clean" my values in order to use them some other time, as well.
- Dustbin- a disposal recipient where I toss the values I no longer need.

8. Who am I?

Either individually or in a group, the participants are asked to complete the sentences below:

- I'm a student who…
- I take pride in…
- It is hard for me to admit that…
- One of the nicest things that I would like to mention about me is that…
- It annoys me to…
- I feel very well when…
- It saddens me to…
- I'm afraid of…
- I feel alone…
- I hate…
- It makes me nervous…

9. Mirror, mirror…

The participants are asked to individually take a test covering the following self awareness issues:

- Strengths: qualities that recommend you.
- Weaknesses: what is to your disadvantage.
- Opportunities: what supports you.
- Threats: what stalls you.

The answers provided to all of the above draw a person's objective "image in the mirror".

10. My path.

The game can be played both individually and in group. The participants are asked to imagine a path that goes through places of joy and sorrow for them. At the end of this path there is an object, a person, a phenomenon to which the participants best relate. Once they reach the end of the path, the group members are to justify the difficulty or the feeling of relief they feel upon taking the path and coming to its close.

11. Finish the story.

This is a group game. The group leader suggests a topic for a story that needs to be told together, each participant assuming the role of the character assigned when the story line reaches him/her to be continued. It is very important that each participant gets involved, and the emotional impact of the story on the participants is closely monitored. It is the group leader's task to begin and end the story, as well as to make sure that everybody participates.

12. My business card.

The game is played individually and each participant is asked to make his/her own business card containing a symbol of the person like the name, a graphical representation, a line, a word, etc. Preferably, each participant should be able to present the justification of the choices made for the business card.

13. The palm contour.

Each participant is asked to draw the contour of the palm (left or right) on a board and then write on each finger a characteristic. This is an attempt at getting to know oneself, as well as the others.

14. The envelope with good deeds.

Individually or in group, the participants are asked to write or draw (if it is easier) all the good deeds they make during a week on a piece of paper. At an agreed time, the "good deeds" are taken out of the envelope and analyzed, each participant explaining the attitude shown when making the deed.

15. The white paper.

A white paper is placed in front of the participants. The counselor asks them to tell the others what they can see on the piece of paper (a landscape, people, etc.) and to give arguments for what they describe. This helps the counselor begin the discussion on the subject's self-awareness.

16. The board of crazy ideas.

The participants are asked to write or draw the craziest ideas that come to their mind right then on pieces of paper. These are then pinned on a board and each participant must account and interpret their piece of writing or drawing. A relaxed warm atmosphere is a sign of high self esteem and enables mutual trust.

17. Unlimited possibilities.

The participants are asked to express their ideas as elaborately as possible on one of the following questions:

- What is the most surprising thing you did this week or even today?
- If you were to do something today, what would that be?
- What would you do if you could do anything?
- What was it that you most liked of what you did today or this week?
- If you lived for a year on a deserted island, what would you take with you and why?
- What is the greatest job in the world? Why?
- What is it that you are best at and how do you feel when you do that activity?

18. Today I feel…

Draw the expression of your face reflecting what you are feeling right now.

19. What would my emotions look like if I could see them!

Draw the emotional state you are experiencing at the moment.

20. The rope for "clothes".

The participants line up on a rope for clothes pieces of paper about the most important events of their lives. These pieces can contain poetry, prose, drawings, pictures, photos, etc. that actually answer questions like:

- What are the events that had an impact on you and what events had no impact whatsoever on you?
- What events would you like to relive?
- What would your perfect life be like?
- What events do you remember with joy?
- What events are there that you do not want to remember?
- Do you imagine your future alone or with other people?
- What negative thoughts would you have if you could?

21. The shipwreck.

The game participants are told that they are on a journey by boat at sea. A storm starts and despite the efforts of the crew, the boat shipwrecks on an island. The participants want to survive but there are no objects that they can use for this purpose. They need to answer the question concerning what they would have taken in their baggage to help them. The participants must name at least five objects and to account for their choice.

22. Me, the poet.

In order to get familiar with the client's self perception, the counselor asks the latter to complete the following lines as in a poem:

I am…
I wonder…
I hear…
I want…
I understand…

I say…
I hope…
I am…

I pretend…
I feel…
I touch…
I'm worried…
I cry…
I am…

5.3. GAMES FOR COMMUNICATION AND ESTABLISHING RELATIONS

1. The path of trust.

Participants work in pairs. One of them wears a blindfold and pretends to be blind, while the other stands behind him, places a hand on his shoulder and plays the role of the one who can see. They take a walk and need to go over the hurdles that pop up on their way. After a while they change the roles. At the end, the participants make comments on their experiences and feelings during the game.

2. The tangle.

The participants from a circle and join their hands. In three minutes they, while holding hands they need to get entangled. Then, in three more minutes they need to disentangle without being allowed to talk. The question is: how do they communicate?

3. The twins talk.

The game participants form pairs and hold their hands, being considered "twins". The pairs have to talk to one another by the following rule: one person in the pair of twins utters the first word of a sentence and then the pair picks up and says the second word and so on. At the end of the game, the "twins" are asked whether the task was an easy one or not, whether they managed to communicate and coordinate harmoniously.

4. Do you know the rules of communication?

The counselor presents the group or the individual the possibility of discussing the rules of communication and interaction:

- Every opinion must be listened to;
- Nobody is interrupted;
- All questions have a point;
- Nobody is ridiculed;
- Everyone has the right not to participate actively;
- Nobody is criticized;
- Everyone has the right to be listened;
- Nobody is blamed;
- Nobody is forced to express his/her opinion;
- Nobody is judged or labeled;
- Nobody monopolizes the discussion.

5. Do you observe the ten commandments?

For an efficient communication, the counselor can present the client a set of rules, principles similar to "the ten commandments of communication":

1. One cannot refrain from communicating;
2. To communicate is about self esteem and self awareness;
3. To communicate is to acknowledge other people's needs;
4. To communicate is to listen;
5. To communicate means understanding messages;
6. To communicate is to give feedback;
7. To communicate is to understand a relationship as a process;
8. To communicate is to express your feelings;
9. To communicate is to accept conflicts;
10. To communicate is to get involved in solving conflicts.

6. The walk.

The subjects walk around a room specially chosen for this game without having met before. At a certain point they stop in front of a person, shake hands, say hello, introduce themselves and then resume walking. Thus, in five minutes the game participants must try and meet as many people as possible without shaking people's hands twice.

7. The pair.

The subjects from the group walk around trying to find their "pair", that is the person whose attention they can get and maintain by telling an interesting story. If the "pair" leaves because of lack of interest in the discussion, then communication gails.

8. Continue.

The group leader emphasizes the importance of non verbal behavior

by asking participants to form a circle. S/He makes a gesture that needs to be replicated and added to by the neighbor from the left. Thus, gestures are repeated and enriched from one person to another until the game reaches the group leader's neighbor to the right.

9. The story in the bag.

The subjects form a circle. The group leader holds a bag with objects and starts telling a story. At a certain moment during the story he hands the bag out to his neighbor to the right who must pick an object. The group leader includes the object extracted in the story. The bag circulates and thus the story is told collectively.

10. Give him your hand. (therapeutic story).

A man had sunk in a swamp in the North of Persia. It was only the head that was above the swamp and he was crying out for help. Soon a lot of people gathered around him. One of them decided to help him. "Give me your hand, he shouts. I'll take you out of the swamp." However, the victim continued crying out fro help without heeding the rescuer's words. "Give me your hand, the rescuer said several times." Nonetheless, the only answer he got was a continuous cry for help. Then somebody came close to him and said: "Don't you see that he will never give reach out to you. You must stretch out your hand and thus you will save him."

6. CONCLUSION

The target of the counseling process is more often than not an "untreaded territory" that do not always react to the first stimulus used by the psychologist. Therefore, worm up exercises and other games are a novel and original means to approach a subject who, at a certain point in his/her life, is confronted with specific problems.

All of the above is nothing but a starting point in acquiring knowledge, shaping attitudes and behavior, getting involved, communicating, relating, participating, accepting, understanding, etc.

It is only by being aware of and accepting psychological support that biological, psychological and social disabilities can be countered. Consequently, both the client's and counselor's activities are framed the following formula:

- There are problems.
- Are there problems?
- There are problems!

Ultimately, it is the counselor's responsibility to provide more or less rhetorical answers.

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REFERENCES

[1] Rogers, C. (1966) Developpement de la personne, Paris, Dunod.

[2] Ellis, A.; Grieger, R. (1977) Handbook of Rationaletherapy, SpringerCoup, New York.

[3] Stanton, N. (1995) Comunicarea (Romanian for Communication), - Societatea Ştiinţă şi Tehnică, Bucureşti.

[4] Ivey, A. E. (1994) Intentional Interviewing and Counseling. Facilitating Client Development în Multicultural Societes Pacific Grove, C. A.: Brooks/Cole Publishing Company.

[5] Ionescu, G. (1990) Psihoterapie, Ed. Ştiinţifică- Bucureşti.

[6] Holdevici, I. (2000) Ameliorarea performanţelor individuale prin tehnici de psihoterapie, Ed. Orizonturi: Bucureşti.

[7] Burns, D. (1989) The Felling Good Handbook, A Plume Book, New York.

[8] Bourne, E. J.; (1995) The Anxiety and Probia Workbook, The 6 Edition, New Harbiner Publications inc.Oakland.

[9] Băban, A. (2001) Consilierea educaţională, Cluj – Napoca.

[10] Miclea, M. (1999) Psihologia cognitivă- Modele teoretice experimentare, Ed. Polirom: Iaşi.

[11] Proctor, R. W. (1995) Skill Acquisition and Human Performance, Thousend Ouks, CA: Sage Publication

[12] Bedell, J. R.; Lennox,S,S (1997) - Handbook for Communication and Problem – Solving Skills Training - A Cognitiv - Behavioral Approach, New York, John Wiley by Sons, Inc.

NEW TRENDS IN ORGANIZATION INFORMATION SYSTEMS DEVELOPMENT

Codrut MITROI

Advanced Technology Institute, Romania

An organization's architecture is the rigorous description of its structure that includes organization components (entities), their features, as well as the relationships among them. This description must be comprehensive and include organization goals, mechanisms, and rules, internal and external processes, as well as technology. The architecture must be structured by layers and the interaction among these contributes to achieving organization goals. In this respect, specialized literature provides several approaches depending on the perspective taken on an organization: the management/owner perspective, organization process designer view or process administrator view. One of these is actually the mix of business process view and information view, with the following components for the latter in most cases: data architecture, application architecture, technological resources architecture.

Key words: *information systems, enterprise architecture, information flow, Intranet.*

1. ORGANIZATION INFORMATION ARCHITECTURE

An organization is an entity that uses and combines human, financial and material resources in order to reach a set of goals [1]. There is a wide range of organizations such as: plants, corporations, governments, government authorities, defense and intelligence establishments, academic and educational institutions, etc.

Regardless of their field, all organizations follow universal principles like establishing a set of goals, setting up a hierarchical structure based on authority levels and decision making power, delineating roles and responsibilities of every component within the hierarchy, identifying the means to ensure communication among these components, as well as the methods to facilitate goal accomplishment.

An organization's architecture is the rigorous description of its structure that includes organization components (entities), their features, as well as the relationships among them. This description must be comprehensive and include organization goals, mechanisms, and rules, internal and external processes, as well as technology. The architecture must be structured by layers and the interaction among these contributes to achieving organization goals. In this respect, specialized literature provides several approaches depending on the perspective taken on an organization: the management/owner perspective, organization process designer view or process administrator view. One of these is actually the mix of business process view and information view, with the following components for the latter in most cases: data architecture, application architecture, technological resources architecture [2].

The reference model of organization architecture clearly distinguishes among the architecture levels in **Figure 1.**

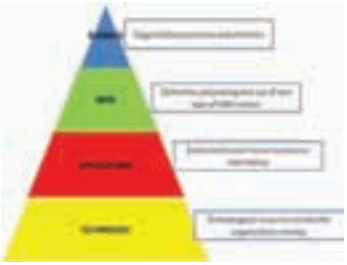

Figure 1: Organization architecture [2]

These levels can be further divided in several subdomains as follows [3]:

i) Organization processes architecture with the following main subdomains:
- Requirements of organization processes;
- Organization processes rules;
- Organization structure;
- Organization mission/vision;
- Goal accomplishment indicators;
- Organization processes modeling and design.

ii) Data/information architecture with the following main subdomains:
- Data/information architecture;
- Data/information management;
- Data/information quality;
- Data/information security;
- Business intelligence;
- Data/information dissemination.

iii) The application/integration architecture subdomains is divided in:
- Components for organization applications integration;
- Organization services defining;
- Organization stakeholders' applications development.

iv) The technological architecture comprises:
- Hardware resources;
- Software resources;
- Communication services;
- Security.

An overview of organization architecture and its domains and subdomains is presented in **Figure 2.**

Figure 2: Domains and subdomains of organization architecture [3]

As it results from the figure above, the information system is the "backbone" of the enterprise.

2. FEATURES OF AN ORGANIZATION INFORMATION SYSTEM

An information system is defined as the number of technical and procedural resources aimed at collecting, processing, storing and using an organization's data and information. Its goal is to ensure the supply to every user within the organization the knowledge the latter is entitled to access. Such a system must allow the flow of information to the various functional levels of an organization in an operational manner, information selection based on certain criteria, adaptability to structural changes in information or in its processing methods. In this respect, the information supplied by such a system must be [4]:
- Relevant – it offers the knowledge needed by decision makers to undertake their tasks;
- Accessible – it enables users to use it and pass it on;
- Accurate – it can be replicated as close as possible to the initial context;
- Concise – it brings added value through its objectivity and as a result of removing irrelevant elements;
- On time – the user can access it in due time so that the decision made is well grounded;
- Costs incurring – all financial resources generated by information acquisition, processing and dissemination to the user generate costs.

An information system is composed of:

i) Data and information – these are the primary components of an information system and they characterize organization activities and processes. In this respect, the major difference between data and information is worth reminding. Thus, as a result of data processing within the information system information renders added value. This increases organization knowledge and underpins the actions of the decision makers;

ii) Information flows – these are all the data, information and decisions related to one or several specific activities and that are conveyed via pre-established paths at a given speed, frequency and using certain information resources;

iii) Data and information collection, processing, distribution and use techniques and resources – these are composed of all hardware and software resources, communiction services and infrastructure, as well as specific organization procedures that allow primary data to gain the added value needed to reach organization goals in a swift manner.

The future of an information system is connected to the concept of knowledge management. The latter is to allow organizations to move from working with data to working with knowledge, as presented in the figure below.

Figure 3: Knowledge management architecture

Specialized literature offers a number of definitions of "knowledge management" and the one preferred for this article belongs to Y. Malhotra [5]. According to this specialist, knowledge management provides the elements necessary to solve critical problems related to an organization's adaptation, survival and competence when confronted with changes in its environment. It basically includes organizational processes that are oriented towards a harmonious mix of data, information processing capacity rendered by information technology, and people's capacity to create and innovate.

Thus, as it results from such a definition, **data** are the basis of the pyramid from **Figure 3.** They are collected in a given context and do not have a meaning by themselves. When their context is identified or when they acquire meaning data are organized and summarized becoming information. Hence, **information** is next in the pyramid and it turns into knowledge when its user is able to understand its patterns and to employ it immediately or in the future in order to achieve organizational goals. The main methods to transform information into knowledge are analysis and synthesis.

Some authors add one more level to the pyramid and they call it "wisdom". This concept involves understanding the principles needed to make judgments and it is used in the decision making process.

1.3. Features of information architecture in the military field

Despite their features, military establishments are not any different from other organizations. As a result, their success or failure depends on the ability to encapsulate the dimensions underlying the organization architecture concept and to rapidly absorb the improvements in information systems in order to preserve the distinguishing features of the armed forces: swiftness, responsiveness, efficiency and steadiness.

A military operation's success is rendered by the extent to which the information collected at tactical

level enable various command layers to make decisions in a short time frame and to control forces in order to accomplish assigned missions. The battle field has become more demanding than ever lately. The new types of asymmetric warfare, the concept of *network-centric warfare*, force mobility, the increasing space between battle groups, the armament that is electronically controlled require new solutions to ensure information flow at tactical and strategic levels.

The C4I concept – *Command, Control, Communication, Computers and Intelligence* (some alternatives of the aforementioned concept can be found in the intelligence field) alongside its derivative C4ISR – *Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance* represent the backbone of military operations conduct.

In December 1997, the US Department of Defense released the C4ISR system architecture that can be applied to all force categories [6]. The model, displayed in **Figure 4** described three architectures: operational, system and technical, as well as the relationships among these. Its goal is to ensure a high level of consistency, correlation and integration of the information derived from the three architectures with a view to supporting tactical and strategic decisions made at the command level from within each main force category.

As it results from the figure below, the **operational architecture** describes the tasks and activities, the operational elements and information flows needed to support or to finalize an operation. The type of the information that is transferred, the frequency and type of changes are specified in sufficient details in order to establish the desired level of interoperability. The **system architecture** converts this interoperability level into a set of capabilities needed by the system and compares the current and foreseen implementations in terms of the capabilities required, including the services, functions and interface standards in order to achieve the performance level required within specified constraints.

The **technical architecture** defines the criteria that govern the implementation of each system capability and consists in identifying the physical components of system architecture and their arrangement in a manner that describes each component's physical structure, technical functions, design features and technical characteristics available within specified constraints.

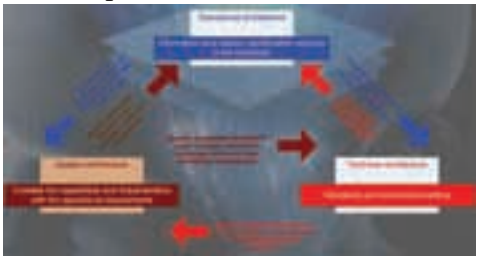

Figure 4: DoD C4ISR system architecture model [6]

Based on the model released by the DoD, a number of C4I system implementations were developed by specialized literature both in the military field and in the intelligence area. One of these is displayed in Figure 5. This adds to the three architectures described by the initial model other components that contribute to the C4I system functionality [7]:

• Military command systems – they are integrated systems of doctrines, procedures, organization structures, personnel, equipment and facilities that collect, examine, integrate, analyze, evaluate, interpret information from various military areas in order to support the activity of command and decision making bodies.

• Defense resources management system – consists of all resources needed to manage human resources, acquisitions, budget planning, logistics, the health and legal system.

• Armament control system – is defined as one or several force category specializations endowed with the needed equipment, materials, services and facilities.

• Training system – expands upon the Distributed Interactive Simulation (DIS) concept and is aimed at simulating diverse and numerous military operations in a virtual manner. Thus, a larger number of active entities and range of battle and environmental effects are represented. Such a virtual environment allows for a more thorough representation of the battle field and hence the conduct of both conventional and asymmetric military operations.

• Information system – refers to all the means, methods and procedures that contribute to the collection, processing, storage and use of data and information in a military system. It includes the resource management system that belongs to the information and communications field, the database management system, the data collection and distribution system, as well as the "business intelligence" system.

Figure 5: C4I systems general architecture [7]

In conclusion, the military and intelligence fields align to the requirements of the information society. In this respect, the parallel between the concepts of e-defense and e-bussiness can be representative for running the military organizational processes.

2. TRENDS IN THE DEVELOPMENT OF ORGANIZATION INFORMATION AND COMMUNICATIONS SERVICES

2.1. A generic model of organisation services structure

Generally, an organization's requirements dynamics in terms of information and communications services is high due to its need to swiftly adapt to new business opportunities or to stakeholders' requests.

Organization information and communications services are aligned to organization information structure which corresponds to the following zones:

i) The front office zone where the organization's link with its external stakeholders is established;

The main features of this zone are related to the management of the organization's relationship with its customers and beneficiaries. Its most important elements are the quality of the data supplied to beneficiaries and the security of their access to an organization's data and information.

ii) The back office zone where all internal structures of an organization interact;

This zone is focused on ensuring data integrity, availability, and processing and use swiftness. As with the previous zone, data security (under the form of physical, access policies and personnel security) is a salient component.

In most cases organization services are similar regardless of organization field and more often than not an organization process is supported by two or more services. In this respect, **Table no. 1** presents a number of applications and services characteristic of some organizations as examples.

Table no. 1. Examples of applications and services characteristic of some organizations

SERVICES	APPLICATION/PROCESSES								
	Trade	Production	Call center	Banking system	Information supply	Governance	Education	Health	Defense and intelligence
Voice	√	√	√	√		√	√	√	√
Videoconference		√				√			√
Interactive video	√						√	√	
Traceability	√	√							
E-mail	√	√	√	√			√		√
Portal	√			√	√	√	√	√	√
Access database	√		√	√	√	√		√	√
Document management	√	√		√		√			√
Enterprise Resources		√				√		√	√
Management (ERP)	√	√		√		√			
Client relations (CRM)	√	√		√		√			
Help desk	√	√	√	√	√	√	√	√	√
Internet[1] access	√	√	√	√	√	√	√	√	√

[1]It is the framework within which the organization uses the service in its primary form to supply its own services and not as a support for communications

At first sight the range of organization services would require the development of an infinite number of information and communications resources at technological level. However, the great advantage of technologies consists in the standards that contribute to their grouping/ structuring within services, as well as to their interoperability.

The next subchapter is to focus on a brief and yet not limited description of the services supplied within an organization, as well as on the protocols and standards underlying these.

2.2. Voice and multimedia services

The voice and multimedia services are increasingly used within organizations. The multimedia experience is the mix of information and communications technology that ensures maximum satisfaction to the final user and is characterized by transparent data access, storage, processing and communication.

A general definition of multimedia services is *"the combination of two or several initial media (images, graphics, audio files, video files, animation, files) in order to create, store, supply and access an integrated content"*.

Some significant examples of multimedia services that can be applied in various organization fields are:

- Static images used for e-commerce, e-banking or e-government applications in various resolutions (from small ones used for consulting to high ones needed for detailed images). Some of this require in their turn adding some other images (for example a payment form to which images of document copies are attached);
- High resolution images used in specific situations like medical imaging (X-rays, CTs and other types of scanning) or military applications (detailed maps with 3D terrain configuration);
- Static and moving images used in e-learning to ensure a direct teacher-student relation or in the so called "live books" that, besides the regular content of a book, also contain animations or external links;
- Moving images used by organizations in video conferencing or connections.

Depending on the goal underlying the use of multimedia services, a video file can be combined with an audio file or with data files.

As far as the traditional voice service (telephone), it can be supplied as such or it can benefit from added value services like voice mail, interactive voice response (IVR), etc.

Due to the nature of primary signals and the means to approach them in an integrated manner, there is an ongoing concern worldwide for the identification of standards and protocols that ensure undistorted coding of these signals, uniform processing and compatibility with transport protocols associated with communications networks.

Audio-video and multimedia services require focus on the quality delivered to customers. In this respect, the applications used to deliver these services are underpinned by standardized quality control mechanisms.

2.3. Organization portal

Within any organization there is a wide range of data and information that, if they are not adequately structured, filtered and supplied to users can lead to processing delays and even to mistaken decisions that can negatively impact an enterprise.

An organization's portal is a concept that enables the search, interaction and use of the data and information from an organization so that its goals are accomplished. This is based on information resources that are similar to the ones used in the Internet to ensure access to sites. The strength of such an instrument is derived from the following key parameters:

- organization data and information structuring;
- swift use of data and information by users;
- users' ease of access to the various sections of the portal by relying on friendly graphic interfaces;
- a safe environment for information supply underpinned by the "need to know" principle.

A model of an organization portal (see **Figure 6**) that can be adapted to the requirements of any enterprise must have the following capabilities [8]:

i) Classification (taxonomy) – is the process of labeling the information owned by an organization based on their content and the relations they establish with other types of information. For example, taxonomies by subject, functions, organization groups, project, products, etc. can be developed. It is important for these classifications to meet organization requirements so that their use generate added value. Once a taxonomy developed, an information indexing process must be defined for it. In this respect, one way of accomplishing this is through metadata (i.e. data about data);

ii) Content management – is the regular updating of information content as a result of which information acquires new value or is archived;

iii) Integrated search – information is stored in different places and therefore mechanisms for simultaneous search in several data storage places (databases, emails, forums, applications, etc.) must be developed;

iv) Personalization – is the process as a result of which information search and use is done based on its relevance to users or groups of users. It must be flexible so that it allows subsequent changes of user groups or of other information to which the latter have access. One of the strengths of this process is its interaction with the user via the creation of a specific graphic interface that allows for a swift and easy search of needed information;

v) Integration – is the characteristic that determines a unified version of available information within an organization. In this respect, it is necessary to define an information architecture that allows the processing and use of the data that belong to both structured and unstructured storage places;

vi) Collaboration – is the feature that allows information to be shared among several users based on the "need to share" principle. There are two collaboration methods: the asynchronous mode that includes services like email, forums, etc. and the synchronous one that uses multimedia services. With the latter, the applications from within the portal must meet the quality requirements of these services;

vii) Scalability – is a plug-and-play feature that allows for subsequent development of services;

viii) Security – is an extremely important dimension of an organization portal that must ensure users' access based on some security policies that should not excessively slow down the process of information use. In this respect, a current security implementation is the Single Sign On access that allows a user to employ those parts of the application based on the "need to know" principle.

Figure 6: Model of an organization portal architecture [8]

Taking into account the variety of services and technologies that underlie an organization portal, it is pretty difficult to measure the overall level of service quality. However, a new conceptual model based on performance measurement can be identified [9], [10]. This is divided in two categories: the one of information that can be valued by using the portal, and the one associated of information resources supporting the portal, as presented in **Table 2.**

Table no. 2. Measurement of service quality provided by organization portal

	Quality parameter	Capabilities
Information	Content usefulness	Value Accuracy Consistency Up-to-date
System	Accessibility	Availability Responsiveness
	Feasibility	Robustness Finality
	Transactional	Atomicity Consistency Segregation Durability
	Security	Authorization Authentication Confidentiality Non-repudiation

2.4. Services for organization processes integration

In large organizations information is spread out in all its components by using heterogeneous resources. Even if each of these "information islands" can tackle specific activities, at overall organization level there is a lack of correlation among the

information originating from these components which thus leads to decreased organization performance.

In order to eliminate this disadvantage several solutions aimed at standardizing organization processes, as well the defining, processing and use of the data belonging to this integrated environment have been made. Nowadays, the solution that facilitates information exchange within organization and also contributes to developing a consistent outlook on it is known as Enterprise Resource Planning (ERP).

ERP enables the relationship between an organization and information technology through planning the four factors that impact the accomplishment of organization goals: human, financial, technical and logistic. In order to allow for a decentralized processing environment, its architecture is the client server type and it consists of three levels:

i) Presentation level – refers to the mechanism used to access ERP functions and is made of user graphic interfaces or access software resources;

ii) Application level – is defined by the logic underlying ERP and consists of information resource sharing between the users and the database;

iii) Database level – responsible for managing organization data and the information associated to the latter (metadata).

Even though the adoption of ERP as an organization tool involves high costs (in this respect, some studies estimate the costs of such an instrument at hundreds of millions of Euros for an organization with complex information flows), the advantages of using ERP are multiple. Some of these are listed below:

• Data standardization and elimination of undesirable overlaps as a result of introducing data/ information into a database in a consistent manner;

• Supply of functions necessary for inter-modular interaction, which is a very important factor contributing to ERP scalability;

• Supply of comprehensive reports on the status and trends associated with organization goals which thus leads to an increase in efficiency;

• Information management in an accurate and consistent manner as a result of removing information overlap resulted from organization entities using different instruments;

• Increased efficiency assurance in the human resource field as a result of optimizing the information flows in this field and correlating them with the flows of other organizational entities.

The ERP can be molded for all activity fields of current society like the economic, financial, banking or military one. As far as the latter is concerned, the implementation difficulties are higher given the system's two-fold orientation and inherent features: resource management (which is the current purpose of the ERP) and C4ISR related characteristics. Figure 9 presents by comparison an ERP architecture used in the civil environment and the US Navy ERP architecture [11].

Figure 7: Comparison between civil ERP (left) and the US Navy ERP (right) [11]

Taking into account the role that the process integration services play at organization level, it is obvious that the ERP related information flows require higher performance parameters compared to those associated with an organization's portal.

3. CONCLUSIONS

The future of organization information systems is indissolubly connected to the foreseen transformation of current industrialized economy into a knowledge based one. Concurrently, organizations need to adapt their information flows so as to be able

to generate new knowledge based on the existing one. Activities based on design, research, innovation are to play an dominant role in ensuring organization competitivity in an ever demanding society. The policies and strategies concerning the development trends of a knowledge based information society have already been framed by the programmatic documents of the European Union. In this respect, the Digital Agenda for Europe and its subsequent documents are worth reminding.

The action plan for a knowledge based society for the next 5-10 years is to be found in a study elaborated by SCF Associates Ltd. for the Swedish government entitled "A Green Knowledge Society" [12] and consists of the following guidelines: Knowledge based society: participation for all; Information and communication "green" technology: a support for an efficient and ecological economy; Future generation infrastructure: balancing investment and competition; Soft infrastructure: social capital investment; ITC field and small and medium enterprises; One information market: activating cohesion and development; E-government revolution: reviewing the concept of public service delivery; On-line trust: a safe digital world; Coherent management: reviewing the European decision making process.

In conclusion, information processes from within organizations increase in complexity by day as a result of the global economic and social environment. The principles underlying information flows are similar regardless of organization field and they are related to the contribution made by information and communication services to achieving organization goals in an efficient and economic manner. The new requirements made by information society correlated with organization strategic goals lead to an increased dynamics of these flows and consequently place increasing demands on the responsiveness of organization technical resources in general and of the available communication and information resources, in particular. Organization Intranet is a real "backbone" supporting the entire information system of an enterprise as a result of resource convergence. Some of the direct benefits generated by organization Intranet are: increase in productivity, ensuring a collaborative work environment, significant decrease in costs, as well as promoting a cohesive corporate culture.

REFERENCES

[1] V. Cornescu, P. Marinescu, D. Curteanu, S. Toma (2003) Management: de la teorie la practică, Editura Universității, București.

[2] Niles E Hewlett (2006) The USDA Organization Architecture Program, PMP CEA, Organization Architecture Team, USDA-OCIO. January 25.

[3] *** Organization architecture: an overview, Wikipedia book.

[4] *** Concepte privind sistemele informaționale și sistemele informatice ale organizațiilor economice, Facultatea de Economie și Administrarea Afacerilor Craiova.

[5] Yogesh Malhotra, Knowledge management for e-bussiness performance: advancing information strategy to „Internet time", Information strategy, the Executive's Journal, vol 16 (4), 2000, pp. 5-16.

[6] C4ISR Architecture Working Group (1997) C4ISR Architecture Framework, version 2.0, December.

[7] Ștefan Cantaragiu et alii E-defence și societatea informațională, societatea cunoașterii, Agenția de Cercetare pentru Tehnică și Tehnologii Militare.

[8] Atul Aneja, Chia Rowan, Brian Brooksby (2000) Corporate Portal Framework for Transforming Content Chaos on Intranets, Intel Technology Journal Q1.

[9] Wan Nurhayati Wan ab. Rahman, F. Meziane (2008) Challenges to describe QoS requirements for Web services quality prediction to support Web services interoperability in electronic commerce, Communications of the IBIMA Volume 4.

[10] Z. Yang, S. Cai, Z. Zhou, N. Zhou, Development and validation of an instrument to measure user perceived service quality of information presenting Web portals, Information & Management 42 (2005) 575–589.

[11] ***, The navy ERP architecture white paper, Organization Integration Inc., 2008.

OVERTURES TO REDUCING ROMANIAN MINISTRY OF NATIONAL DEFENSE TENUITY IN INFORMATION RESOURCE MANAGEMENT

Lucian BIBO

LTC Eng., Department of Armaments, Ministry of National Defense, Bucharest, Romania

Information is not knowledge,
Knowledge is not wisdom,
Wisdom is not truth,
Truth is not beauty,
Beauty is not love,
Love is not music,
And music is the best.
Frank Zappa, "Packard Goose"

Information Resources Management (IRM) means planning, budgeting, organizing, directing, training and controlling information. It encompasses both information itself and related resources such as personnel, equipment, funds and technology. For many organizations, information and the technology that supports it represent their most valuable, but often least understood assets. The Romanian Ministry of National Defense (MoND) has to face this fragile issue, too. Hence an analysis of the AS IS situation is more than necessary if future endeavors in the field are to succeed. Moreover, the identification of possible solutions and of their likely constraints is another aim of this article.

Key words: *information resources management, performance measurement, balanced scorecard, planning, programming, budgeting, controlling.*

1. OVERVIEW OF CURRENT STATE OF IRM WITHIN THE ROMANIAN MOND

The situation of information resources management within the Romanian MoND presents a set of features that are more or less related to the overlap in understanding the concept of IRM. Thus, except relatively sufficient regulation in information security, there is a huge need to establish the legal framework for the management of information, not only of information technology and communications (IT&C).

The *Government Decision no.1366/1990* (later changed through Government Decision nr. 233/2004) [1] establishes the attributions and responsibilities for the "informatization" of the Romanian society. The act legally enforces IT development using strategies. In this respect, all governmental organizations should have a directing project for contributing to an information based society. Inherently, the MoND issued internal regulations. However, establishing information management strategies and applying them at lower levels of execution still proves a conundrum. In the case of the very few situations when planning proved adequate and in line with the requirements of the

act, budgeting for the plans raised serious difficulties. Additionally, the previously mentioned Government Decision was abrogated in 2004.

On top of the above issues, despite efforts in acquiring infrastructure and IT&C services for the Romanian armed forces, a great number of limitations surface:

1. The private communication **infrastructure is undersized** and hardly sustains operational requirements, there are only limited information transport capabilities, and the existing systems' mobility is reduced.
2. There are numerous **redundancies and duplications** because of a **stove piped system architecture** restricting the flow of information within the organization;
3. Even though projects are undertaken with the intention to integrate most of the local applications, they actually lack an ERM system approach that would most likely be a more effective manner of approaching the issue;
4. The **existing capabilities** do not adequately meet the changes in **mission, policy and doctrine** which leads either to the partial use of some systems or to the abandonment of others;
5. Even when the phrase *"integrated systems"* is referred to, they do not actually work together as they are meant to;
6. The need to find a solution similar to the one developed by the US is already a requirement on behalf of the users, namely "a typical desktop set-up, available to all Defense sites, is a single screen connected to a wireless network that can display multiple security "sessions".

In addition, even if there are some methodologies for management, planning and performance evaluation, de facto **MoND is evaluated** by external authorities (as stakeholders' representatives) using **efficiency criteria related to financial resources and risk management.** This pure financial approach for managing organizations suffers from two drawbacks:

- It is **historical**. Whilst it tells what has happened to the organization, it may not tell what is currently happening. Nor it is a good indicator of future performance.
- It is too **low**. The added value resulting from intangible assets is not measured by normal financial reporting.

2. POSSIBLE COURSES OF ACTION

"Progress, far from consisting in change, depends on retentiveness. When change is absolute there remains no being to improve and no direction is set for possible improvement: and when experience is not retained, as among savages, infancy is perpetual. Those who cannot remember the past are condemned to repeat it."[2]

The intention of this paper is not pointing a finger at particular causes that determined the current situation, or to appreciate its severity.

In my opinion changes should address fundamentals of the MoND management. I will not explicitly mention issues linked to human resources but they are intrinsic whenever information and management arise. Obviously, one of the most important elements in IRM is people, either as simple actors or managers. Consequently, measure to determine the success or failure.

2.1. Reviewing MoND Enterprise Architecture

The concept of Enterprise Architecture [EA] focuses at the core on how organizations are engineered. Within this context a number of possible ways in which to use the term are prevalent:

1. EA as a philosophy - the enterprise approaches its design and re-engineering in a systematic and structured way,

2. EA as a practice - noun: in order to define, structure and make explicit our engineered enterprise, we establish a practice that uses formal methods and frameworks to do so (e.g. Zachman, TOGAF),

3. EA as a capability - the people, skill, process and technology exists and delivers defined services,

4. EA as an instantiation - The enterprise we see is the instantiation is the reality.

Every enterprise has an architecture, some explicit and some not. Some come to being by accident, but many are formally designed.

In 1987, John Zachman [3] wrote: *"To keep the business from disintegrating, the concept of an information systems architecture is becoming less of an option and more of a necessity."*

From that moment on, the Enterprise Architecture Framework of Zachman evolved. It became the model around which many major organizations are viewing and communicating their enterprise information infrastructure. It provides a blueprint, or architecture, for the organization's current and future information infrastructure. The Zachman EA at that time presented a new model for viewing and communicating information infrastructures. Instead of looking at the process as a series of steps, he organized it around the points of view (perspectives) taken by the various players.

Players in the EA framework are:

1. someone who has undertaken to do business in a particular industry,

2. business people who run the organization, systems analyst who wants to represent the business in a disciplined form,

3. a designer who applies specific technologies to solve the problems of the business,

4. system builder,

5. the system itself.

The perspectives or points of view are represented as rows in a matrix.

Zachman acknowledged that each of the participants was looking at the same categories of information, represented in the columns of the framework.

In this respect, the Information Categories in the Enterprise Architecture framework are:

- The data manipulated by an organization **(WHAT)**.
- Its functions and processes **(HOW)**.
- Locations where business is conducted **(WHERE)**.
- Events that trigger business activities **(WHEN)**.
- People and organizations involved **(WHO)**.
- Motivations and constraints which determine how the business behaves **(WHY)**.

After identifying key entities/areas and outcomes the big challenge is be to find the process or methodology to get the implementation in place in a simplified and traceable manner - keeping standards and practical feasibility in sight.

2.1.1. Output and Benefits of Enterprise Architecture (EA) for MoND

A legitimate question may arise in connection with this topic: what benefits will MoND gain?

Proper EA will give structured information of MoND organizational resources, providing all information in a single framework which will help regarding future investment and decision making.

Most areas within MoND either do not understand the value of EA or have different perceptions of it, as dictated by their influences and needs. This need not be the case.

A useful analogy in this regard is a comparison to city planning. In city planning, a city planner focuses on the city's infrastructure while city management centers its thinking on

issues that affect the "quality of life" of its citizens and the ultimate goals of the city itself. Similarly, the enterprise architect, like the city planner, focuses on the provision of the technology environment that enables the MoND transformation – which is the main concern of the stakeholders.

Clearandtransparentidentification of authoritative data sources will be another benefit. There is an essential need for enforcement through regulation as well as execution of where those authoritative data sources are, standardizes on that data, and move out. If we go forward on the road we've been, we will just continue to proliferate different more or less closed boxes of data.

On the other hand, EA may be helpful to honestly assess the maturity of MoND organization and ability to accomplish its missions.

The method and approach is highly dependent on MoND's ability to value it. It needs to work top-down or middle-out to show the enterprise relationships and dependencies.

Enterprise Architecture Maturity Levels are:

- initial (chaotic, ad hoc, individual heroics): the starting point for use of a new or undocumented repeat process,
- repeatable: the process is at least documented sufficiently such that repeating the same steps may be attempted,
- defined: the process is defined/ confirmed as a standard business process, and decomposed to levels 0, 1 and 2 (the latter being Work Instructions),
- managed: the process is quantitatively managed in accordance with agreed-upon metrics,
- optimizing: process management includes deliberate process optimization/improvement.

To summarize, the real benefits of EA are as follows:solid know-how of MoND area, clear facts which allow identifing problem/opportunity areas (SWOT analysis), derive/ design an operational framework suitable to MoND (using IT platforms), strategize IT costs through re-use, re-structuring.

2.2. Using a Performance Measurement System

Performance measurement is a process for collecting and reporting information regarding the performance of an individual, group or organizations. It can involve looking at process/strategies in place, as well as whether outcomes are in line with what was intended or should have been achieved.

Good performance is the criterion whereby an organization determines its capability to prevail. Performance measurement estimates the parameters under which programs, investments, and acquisitions are reaching the targeted results.

Most of us have heard some version of the standard performance measurement clichés: *"what gets measured gets done", "if you don't measure results, you can't tell success from failure and thus you can't claim or reward success or avoid unintentionally rewarding failure", "if you can't recognize success, you can't learn from it; if you can't recognize failure, you can't correct it", "if you can't measure it, you can neither manage it nor improve it",* but what eludes many of us is the easy path to identifying truly strategic measurements without falling back on things that are easier to measure such as input, project or operational process measurements.

Performance measures should be developed for each of the strategic objectives. Leading and lagging measures are to be identified, expected targets and thresholds established, and baseline and benchmarking data developed. The

focus on strategic objectives, which should articulate exactly what the organization is trying to accomplish, is the key to identifying truly strategic measurements.

Strategic performance measures monitor the implementation and effectiveness of an organization's strategies, determine the gap between actual and targeted performance and determine organization effectiveness and operational efficiency.

Good performance measures should:

- focus employees' attention on what matters most to success,
- allow measurement of actions to budget,
- provide a common language for communication,
- define explicitly in terms of owner, unit of measure, collection frequency, data quality, expected value(targets) and thresholds,
- be valid, to ensure measurement of the right things,
- be verifiable, to ensure data collection accuracy.

The thing is that the Romanian MoND has embraced continuous improvements initiatives but without identifying real and significant measurements. It seems to be half deaf to the saying: You can't manage what you don't measure nor you can't improve it.

Nowadays there are several performance measurement systems in use like: Balanced Scorecard (Kaplan and Norton, 1993, 1996, 2001) [4] [5], Performance Prism (Neely, 2002) [6], and the Cambridge Performance Measurement Process (Neely, 1996) [7] – meant for business implementation, and the ones designed for team-based establishments like: the Total Productive Maintenance/ Total Productive Manufacturing (TPM Process) authored by Jones and Schilling [8], 7-step TPM Process (Zigon, 1999), and Total Measurement Development Method (TMDM) (Tarkenton Productivity Group, 2000).

With continued research efforts and the test of time, the best-of-breed theories that help organizations structure and implement its performance measurement system emerged.

Using the Balanced Scorecard [BSC] method can be a choice for the Romanian MoND

To implement a BSC, Kaplan and Norton mention the following 5 principles:

1. Mobilize change through executive leadership (ownership and active involvement in the change project),
2. Translate the strategy into operational terms (using the 4 perspectives and a strategy map)
3. Align the organization to the strategy (coordination amongst business units, staff units and shared-service centers),
4. Make strategy everyone's everyday job (communication, education, align personal objectives, link compensation),
5. Make strategy a continual process (regular strategy meetings and update BSC and strategy map).

In addition to these, opinions of professionals in the field are also important to consult to weigh the advantages and disadvantages, as well as the most common traps of performance measurement. In this respect, some opinions about implementation expressed on 12manage.com [9] forum might be useful:

"Don't over-measure (Use no more than 3 to 4 Critical Success Factors per strategic objective or goal; use only a manageable number of measures per Critical Success Factor)" Alan, UK.

"Every objective should be assigned to a specific member of the management team, who "owns" this objective, indicator or measure." Paula, Italy.

"Keep It Simple and Stupid. Simplicity is crucial, especially in the first period. Don't assume all employees will learn in one meeting what cost you six months to prepare with your consultant . Allow everybody to see the big picture first. So start very simple and let it grow slowly." David, Iceland.

"Ensure that any measures built into a BSC are aligned and that their impact/effect on other measures is closely considered and thought through." Mark Pym, UK

"Get underneath the surface of the measures and ask yourself what behavior these measures will really drive. Discuss this with Focus Groups. Ensure your underlying policies and procedures support and promote the measures, especially your reward, benefits and HR policies.""Leaders must provide the necessary support, money, and people to successfully implement a Balanced Scorecard process/system. Otherwise, this will become just another under-powered implementation that will eventually be cancelled due to lack of seeing any real benefits." Randy Retherford, USA

"Identify your drivers first. What is driving your mission or real purpose for being in business, vision for where you are going and objectives to maintain your mission and to achieve your vision? For me it's our values, our board ends, the desires of my employees, the demands of my customers and the external environment or what's happening in my country the world. Next is identifying your strategies, what are your going to do to be different and win with your vision, these drive the objectives that are supported with learning and support required to achieve these objectives." Stan Verran, Canada

"Plan your first review during the strategy formulation and stick to the schedule. Obtaining feedback and reflecting on what the performance measures are indicating is an important step in learning and refining the scorecard. It also drives making strategy everyone's everyday job." Paul Maguire, USA

2.2.1. Cautionary Note on Using Performance Measurement System

It is important to note that performance measurement can only be applied wherever a strategy has been formulated and has to be implemented. As Norton and Kaplan say *"you can't manage what you can't measure and measure what you can't describe"*.

A perverse effect of civilian control in military sector is that leadership at senior level changes as often as the political order changes, so continuity of strategy and commitment to measurement becomes a much greater challenge than within the private sector.

Another key problem in the public sector is the assumption that legal compliance is more important than operational output. Operational output, in turn, is often severely affected by inefficient, non-standardized and undocumented business processes - all affecting the ability to communicate effectively about performance and for everyone to learn/innovate.

You tend to get what you measure; meaning people might work to achieve the explicit targets which are set. For example, emphasizing traditional financial measures may encourage short-term thinking. Kaplan and Norton recognize this, and urge for a more balanced set of measurements. But still, people will work to achieve their scorecard goals, and may ignore important things which have no place on their scorecard.

Even if all of these challenges are overcome, one still has to find reliable data. The difficulty of data collection and institutional buy-

in can be mitigated by keeping the measures simple.

Without a proper infrastructure, the main trouble will be collecting the data from the various sources, but not to define the units of measure.

The whole point of "balance" is to remove the emphasis from financial matters, so achievement of training, coaching, staff development etc. are just as relevant as a budgetary indicator.

Even though the units of measurement may be brought back to a financial base, the underlying performance is the critical element. In other words, the unit of measurement is not just used for financial issues. When we talk about performance in government we have to remember the following dimensions: financial, operational, political and social besides of the perspectives (employee, operational, financial, citizens).

2.3. Using Total Cost of Ownership Method

As previously mentioned MoND experienced difficulties in life cycle evolution of some important IT &C projects. Not thinking about all associated costs over the life time period is often the most important issue at the stake when acquiring an asset.

The Total Cost of Ownership [TCO] method is a technique which can be used to make sure that all associated costs over a given time period are considered. Some examples of assets are software or hardware. TCO can be described as all costs of owning and operating an asset over time. TCO does not only reflect the costs of purchase. It also includes all other aspects in the further use and maintenance of the asset.

There is no broad accepted formula for TCO. The main thought behind is that you need to consider all relevant costs which are related to an asset. The following list contains typical cost elements of TCO: purchase price, installation costs, financing costs, commissioning costs, energy costs, repair costs, upgrade costs, conversion costs, training costs, support costs, service costs, maintenance costs, downtime costs, safety costs, productivity costs, risk costs, disposal costs. The factors to be used depend upon where the asset will work and its characteristics. (Software, computers, buildings, automobiles, equipment, plants, etc). Any significant purchase needs a comprehensive analysis of long-term effects and hidden costs.

2.3.1. Strengths, Limitations & Benefits of TCO

Obviously it is sensible to consider all costs when an asset is acquired and so the effort that is needed to do a TCO analysis and performing analysis has itself a cost.

No general formula exists and TCO does not offer help for the valuation of intangible assets. Sometimes it can be difficult to determine whether, and to what extent, certain costs must be allocated to an asset.

Sometimes TCO might not be very helpful to align investments with strategic goals.

Because TCO is a long-term measure, it reduces costs over time. It is useful when budgeting but if you have to cut cost immediately, is not of great help.

2.4. Establish the Chief Information Officers Position

A Chief Information Officer [CIO] is the most senior executive responsible for the information strategy, information architecture, information technology and information processes within the organization.

The CIO role is sometimes used interchangeably with the role of Chief Technology Officer [CTO], although they differ slightly. When both of these positions are present

in a large organization, the CIO is normally responsible for the strategy, processes and practices supporting the flow of information, whereas the CTO is generally responsible for the technology infrastructure.

Depending on the size and type of the organization as well as other factors, the Chief Information Officer typically (but not necessarily) reports to the Chief Executive Officer, Chief Financial Officer or to the Chief Operating Officer.

CIO Roles and Responsibilities are:

- Business Partner: Participate in business strategy and process improvement,
- Decision Support: Information analytics. Open up and analyze databases,
- Classic IT Support: IT organization and service levels,
- Contract Management: Relationships IT vendors, contract management,
- Integrator: IT architecture, systems integration,
- IT Strategist: IT vision, IT strategy, knowledge management,
- IT Education: Evangelize value of IT for the organization.

Although CIOs originally had a technical (computer) background, increasingly leadership capabilities, business penetration and strategic perspectives have taken precedence over technical skills and it is quite common for CIOs to be appointed from the business side of the organization to facilitate strategic alignment.

Furthermore, because information and knowledge management have become so important for any organization, the CIO has come to be viewed in many organizations as a key contributor in formulating the overall business strategy.

For the time being this function does not exist in Romanian MoND. First documented reference about the intention to introduce it was made in *The Conception for Modernizing and Optimising Romanian Army IT&C System*, issued in 2011.

Debates about the future CIOs positions in Romanian MoND hierarchy are expected. Despite an undermining opinion that J6 chief should be appointed as CIO of MoND, the most appropriate approach should be similar to that from US DOD (Assistant Secretary of Defense for Networks and Information Integration/Chief Information Officer), or UK MOD (Director HR and Chief Information Officer).

Chief Information Officers, as the nomenclature connotes, should be the leaders of information departments in MoND. Being quite conversant with their domain and intrigues of organizations they should be knowledgeable and current in contemporary issues and events relating to MoND missions. They should be therefore, in a good seat to advise the MoND management or departments, as the case may be, on information issues. CIOs should be also part of the policy decision-making body and should see to the smooth running of the MoND, in terms of personnel and machinery.

In certain situations, however, CIOs may have to contend with the problem of identity or recognition from the top echelon of the MoND who may want to undermine him and/or refuse to accept them as part of their teams.

2.5. Using Smart Defense to Implement Modern IT&C Systems

There is a great need for an Enterprise Resource Management system that should arm personnel with relevant, accurate information pulled from a variety of systems – delivered in the right format on the right device. When upgrading to a business process platform with agile IT architecture, all data can be synchronized, for information consistency and better defense planning. So will improve

the readiness of equipment and personnel, synchronize operational planning, heighten interoperability for increased efficiency and savings, gain global asset visibility and empower better decision making. Also it should provide metric hierarchies with relationships between departmental performance measures.

MoND should use one integrated platform that synchronizes resources to ensure forces are trained, equipped, and ready for a full spectrum of operations and model material and resource availability using organizational structure, deliver force management capabilities that enable interoperability and provide visibility and readiness of available resources across platforms.

Implementing virtual technologies should be spread to leverage infrastructure and should go along with increasing data channels qualities in term of bandwidth and availability. In conjunction taking into consideration cloud computing should be other priority. Even security seems to be the greatest challenge in outsourcing, an in-depth analyse, related with previous projects outcomes, could determine an important change in attitude.

3. CONCLUSIONS

How much of these are feasible, by whom and under what conditions? The answer resides both inside and outside MoND. As an example, not discussing the morality of military pension's recalculation, the process brought an unexpected positive outcome. The extremely intense process finally proved that MoND specialists were able to successfully deal with an almost unimaginable information problem. Everybody must admit that facing it could not be possible without the highest level management determination.

In a dangerous and volatile world where resources are stretched to their limits, political leaders and senior military have to make difficult decisions and painful tradeoffs more often than ever before.

Finding solutions to actual deficiencies concerning information resource management in MoND exceeds the purpose of this paper. What I hoped to do is offering a glimpse to possible ways of action, having in mind that, without doubt, better information management creates the framework for structural knowledge needed to answer wisely to one of the most challenging question of our days: How can the best possible decisions in these difficult times be enabled?

REFERENCES

[1] Hotărârea nr. 1366/1990 privind atribuțiile și răspunderile în informatizarea societății românești (în vigoare de la 14.01.1991 până la 03.03.2004, fiind abrogat(ă) prin Hotărârea nr. 233/2004.) (Romanian for Government Decision no. 1366/1990 on the attributions and responsibilities related to the establishment of a Romanian information based society, valid as of 14.01.1991 until 03.03.2004 and modified through Government Decision no. 233/2004).

[2] Santayana, George-Reason in Common Sense, http://www.gutenberg.org/files/15000/15000-h/vol1.html, last retrieved December 2012.

[3] http://en.wikiquote.org/wiki/John_Zachman, last retrieved December 2013 last retrieved December 2012.

[4] Kaplan, R., David P. Norton (1996) The Balanced Scorecard: Translating Strategy into Action, retrieved from http://books.google.ro/books?id=0tjRLqFH830C&printsec=frontcover&dq=Kaplan+and+Norton&hl=ro&sa=X&ei=eJc3VICbEsidPaeugPAH&redir_esc=y#v=onepage&q=Kaplan%20and%20Norton&f=false.

[5] Kaplan, R., David P. Norton (2001) The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the new business environment , Harvard Business School Press, retrieved from http://books.google.ro/books?id=vXKgk30rtnYC&printsec=frontcover&dq=Kaplan+and+Norton&hl=ro&sa=X&ei=eJc3VICbEsidPaeugPAH&redir_esc=y#v=onepage&q=Kaplan%20and%20Norton&f=false.

[6] Neely, Andy D. , Chris Adams, Mike Kennerley (2002) The Performance Prism: The Scorecard for Measuring and Managing Business Success, Financial Times/Prentice Hall.

[7] Neely, A., John Mills, Ken Platts, Huw Richards, Mike Gregory and Mike Bourne, Mike Kennerley Performance measurement system design: developing and testing a process-based approach retrieved from http://ccwebcorp-1.dmz.cranfield.ac.uk/about/people-and-resources/schools-and-departments/school-of-management/departments/ijopm2010.pdf.

[8] McCarthy, D., Nick Rich (2004) Lean TPM: A Blueprint for Change, Elsevier Butterorth Heinemman.

[9]Excerpts from http://www.12manage.com.

[10] MULHERN,Frank WANG, Manya - Linking Employees to Organizational Performance: A Framework for Driving Results @ Forum for People Performance Management and Measurement, 2008, http://www.marketing.org/files/Linking_Employees_to_Organizational_Performance_March-2008.pdf.

[11] KAPLAN, Robert S. NORTON, David. “Putting the Balanced Scorecard to Work.” Harvard Business Review 71, no. 5 (September–October 1993).

SECURITY AND PRIVACY ISSUES IN CLOUD COMPUTING

Amina AIT OUAHMAN

Royal Moroccan Armed Forces

Today, cloud computing is defined and talked about across the ICT industry under different contexts and with different definitions attached to it. It is a new paradigm in the evolution of Information Technology, as it is one of the biggest revolutions in this field to have taken place in recent times. According to the National Institute for Standards and Technology (NIST), "cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction" [1]. The importance of Cloud Computing is increasing and it is receiving a growing attention in the scientific and industrial communities. A study by Gartner [2] considered Cloud Computing as the first among the top 10 most important technologies and with a better prospect in successive years by companies and organizations. Clouds bring out tremendous benefits for both individuals and enterprises. Clouds support economic savings, outsourcing mechanisms, resource sharing, any-where any-time accessibility, on-demand scalability, and service flexibility. Clouds minimize the need for user involvement by masking technical details such as software upgrades, licenses, and maintenance from its customers. Clouds could also offer better security advantages over individual server deployments. Since a cloud aggregates resources, cloud providers charter expert security personnel while typical companies could be limited with a network administrator who might not be well versed in cyber security issues. The new concepts introduced by the clouds, such as computation outsourcing, resource sharing, and external data warehousing, increase the security and privacy concerns and create new security challenges. Moreover, the large scale of the clouds, the proliferation of mobile access devices (e.g., Smartphone and tablets), and the direct access to cloud infrastructure amplify cloud vulnerabilities and threats. As clouds become more and more popular, security concerns grow bigger and bigger as they become more attractive attack targets due to the concentration of digital assets.

Key words: *cloud computing, security, ITC, cloud deployment models, cloud software, cloud platform, cloud infrastructure.*

1. OVERVIEW OF CLOUD COMPUTING

The NIST cloud computing definition [1] is widely accepted as a valuable contribution toward providing a clear understanding of cloud computing technologies and cloud services. It provides a unifying view of five essential characteristics that all cloud services exhibit: on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service. It also defines three service models available to cloud consumers: cloud software as a service (SaaS), cloud platform as a service (PaaS), and cloud infrastructure as a service (IaaS). This definition also summarizes four deployment models describing how the computing infrastructure that

delivers these services can be shared: private cloud, community cloud, public cloud, and hybrid cloud.

Figure 1 shows cloud deployment models together with their internal infrastructure (IaaS, PaaS and SaaS). Cloud deployment models have similar internal infrastructure, but vary in their policies and user-access levels.

Figure 1: Cloud deployment models and infrastructure

1.1. Essential characteristics

On-demand service: A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service provider.

Broad Network Access: Cloud Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms such as mobile phones, laptops and PDAs.

Resource pooling: The provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand.

Rapid Elasticity: Ability to quickly scale in/out service

Measured service: Resource usage can be monitored, controlled, and reported, providing transparency for both the provider and consumer of the utilized service.

There is also a 6th characteristic of cloud computing advocated by the Cloud Security Alliance which is Multi Tenacity. It refers to the need for policy-driven enforcement, segmentation, isolation, governance, service levels, and chargeback/billing models for different consumer constituencies.

1.2. Cloud Service Models

Software as a Service (SaaS): The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure [3]. The applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g. web-based email), or a program interface. In other words, in this model, a complete application is offered to the customer as a service on demand.

Platform as a Service (PaaS): In this model, a layer of software or development environment is encapsulated and offered as a service, upon which other higher levels of service are built. The customer has the freedom to build his own applications, which run on the provider's infrastructure. Although the customer does not manage or control the underlying cloud infrastructure, network, servers, operating systems, or storage, but he has the control over the deployed applications.

Infrastructure as a Service (IaaS): also referred as Resource Clouds generally provide resources which are managed and can easily be scaled up, as services to a variety of users. They essentially deliver basic storage and compute capabilities as standardized services over the network. Servers, storage systems, switches, routers, and other systems are pooled and made available to handle workloads that range from application components to high performance computing applications.

1.3. Cloud Deployment Models

Regardless of the delivery model utilized (SaaS, PaaS, IaaS) there are four primary ways in which cloud services are deployed:

Public Cloud: The cloud infrastructure is provisioned for open use by the general public. It may be owned, managed, and operated by a business, academic, or government organization, or some combination of them. It exists on the premises of the cloud provider.

Private Cloud: The cloud infrastructure is provisioned for exclusive use by a single organization comprising multiple consumers (e.g., business units). It may be owned, managed, and operated by the organization, a third party, or some combination of them.

Community cloud: The cloud infrastructure is provisioned for exclusive use by a specific community of consumers from organizations that have shared concerns (e.g., mission, security requirements, policy, and compliance considerations). It may be owned, managed, and operated by one or more of the organizations in the community, a third party, or some combination of them.

Hybrid cloud: The cloud infrastructure is a composition of two or more distinct cloud infrastructures (private, community, or public) that remain unique entities, but are bound together by standardized or proprietary technology that enables data and application portability (e.g., cloud bursting for load balancing between clouds).

2. CLOUD SECURITY ISSUES AND CHALLENGES

Security has been one of the most challenging issues for the IT executives particularly in cloud implementation. In fact, numerous security challenges face the cloud as it encompasses many technologies including networks, databases, operating systems, virtualization, resource scheduling, transaction management, load balancing, concurrency control and memory management. Therefore, security issues for many of these systems and technologies are applicable to cloud computing.

2.1. Cloud Security: Categories and Issues

The related security issues that are challenging the cloud can be categorized into five major categories [4] summarized in **Table 1.**

The first Category, "Security standards" (C1), is part of service level agreements (SLA) [5] and legal aspects which define the relationship among parties (provider – recipient) and is extremely important for both parties [6]. It includes identifying/ defining the customer's needs, simplifying complex issues, encouraging dialog in the event of disputes, providing a framework for understanding, reducing/removing areas of conflict, eliminating unrealistic expectations. The user may suffer, in case of data loss, if the above factors are not taken into consideration as he may not be able to put claims on service providers.

Network category related issues are the biggest security challenges in clouds since cloud computing highly depends on network and therefore is more prone to network related attacks compared to the traditional computing paradigms. The clouds can actually be the focus of hackers due to the concentration of valuable "assets" within the clouds. Some of the common issues include unproper installation of network firewalls, Network security configurations, and Internet protocol vulnerabilities. This makes it easier for hackers to access the cloud on behalf of legitimate users [7].

Moreover, migrating to cloud increases the Internet dependency as

a main communication medium for cloud access. Therefore, if, due to some attacks, the Internet is disabled and the cloud services become unavailable, this may cause production to become severely crippled [8].

Table no.1. Security Categories in the cloud

No.	Category	Description
C1	Security Standards	Deals with regulatory authorities and governing bodies that define cloud security policies to ensure secure working environment over the clouds.
C2	Network	Refers to the medium through which the users connect to cloud infrastructure to perform the desired computations. It includes browsers, network connections and information exchange through registration.
C3	Access Control	Covers authentication and access control. It captures issues that affect privacy of user information and data storage.
C4	Cloud Infrastructure	Includes security issues within SaaS, PaaS and IaaS and is particularly related with virtualization environment.
C5	Data	Covers data integrity and confidentiality issues.

Regarding the Access Control category, many security issues and threats are to be considered. Account and service hijacking involves phishing, fraud and software vulnerabilities where attackers steal credentials and gain unauthorized access to servers [9]. This unauthorized access is a threat to integrity, confidentiality and availability of data and services [9]. Unauthorized access can be launched from within or outside the organization. Malicious insiders such as dishonest administrators can severely impact organizations' security.

Furthermore, a single customer may access data and compose services from multiple cloud providers using a mobile application or a browser. This kind of access brings in an inherent level of risk and this risk has been called privileged user access.

Unauthorized access also becomes possible through browser vulnerabilities. Therefore, Internet browser is one of the first stages where security measures should be considered because vulnerabilities in the browser open the door for many follow-on attacks.

As for the cloud infrastructure, the extensive use of virtualization brings unique security concerns for customers or tenants of a cloud service [10]. Virtualization alters the relationship between the OS and underlying hardware - be it computing, storage or even networking. This introduces an additional layer - virtualization - that itself must be properly configured, managed and secured [11]. Specific concerns include the potential to compromise the virtualization software, or "hypervisor". While these concerns are largely theoretical, they do exist. For example, a breach in the administrator workstation with the management software of the virtualization software can cause the whole datacenter to go down or be reconfigured to an attacker's liking.

Regarding the last category, data redundancy [12], data loss and leakage, data location [10], data recovery, data privacy, data protection [13] and data availability [11] have been considered to be the major and important issues in different

case studies which require data to be properly encrypted, transmitted, protected, controlled and available in the time of need.

2.2. Common known attacks on the Cloud

In a regular network, hackers used multiple computers or a botnet to produce a great amount of computing power in order to conduct cyber-attacks on computer systems. This process is complicated and can take months to complete. Nowadays, a powerful computing infrastructure, including both software and hardware components, could be easily created using a simple registration process in a cloud computing service provider. By taking advantage of the prevailing computing power of cloud networks, hackers can fire attacks in a very short time. For example, brute force attacks and DoS attacks can be launched by abusing the power of cloud computing.

A cloud system actually faces a big number of threats. However in this section, we will only cover five of the most common potential attack on the cloud.

2.2.1. Denial of Service (DoS) attacks

Most of the serious attacks in cloud computing come from denial of service (DoS), particularly HTTP, XML and Representational State Transfer (REST)-based DoS attack. The cloud users initiate requests in XML, then send requests over HTTP protocol and usually build their system-interface through REST protocols such as those used in Microsoft Azure and Amazon EC2. Due to vulnerabilities in the system interface, DoS attacks are easier to implement and very difficult for security experts to countermeasure [14]. XML-based distributed denial of service (DDoS) and HTTP-based DDoS attacks are more destructive than traditional DDoS because these protocols are widely used in cloud computing with no strong deterrence mechanisms available to avoid them. HTTP and XML are critical and important elements of cloud computing, so security over these protocols becomes crucial to providing healthy development of a cloud platform.

2.2.2. Cloud Malware Injection Attack

This attack attempt aims at injecting a malicious service implementation or virtual machine into the Cloud system. Such kind of Cloud malware could serve any particular purpose the adversary is interested in, ranging from eavesdropping via subtle data modifications to full functionality changes or blockings. This attack requires the adversary to create its own malicious service implementation module (SaaS or PaaS) or virtual machine instance (IaaS), and add it to the Cloud system. Then, the adversary has to trick the Cloud system so that it treats the new service implementation instance as one of the valid instances for the particular service attacked by the adversary. If this succeeds, the Cloud system automatically redirects valid user requests to the malicious service implementation, and the adversary's code is executed. An attacker can get access to user data through this attack. The incidents of this attack include credential information leakage, user private-data leakage and unauthorized access to cloud resources. The challenge does not only lie in the failure to detect the malware injection attack but also in the inability to determine the particular node on which the attacker has uploaded the malicious instance [15].

2.2.3. Side Channel Attacks

An attacker could attempt to compromise the cloud by placing a malicious virtual machine in close proximity to a target cloud server and then launching a side channel attack.

One incident of side channel attacks is the timing side channel attack [16] which is based on measuring how much time various computations take to perform. Successful modulation of this measured time may lead to leakage of sensitive information about the owner of the computation or even the cloud provider. Timing channels are especially hard to control and pervasive on clouds due to massive parallelism. Another incident of side channel attacks is the energy-consumption side channel attack [17]. Instead of directly attacking the software stack (virtualization layer), attackers can indirectly collect sensitive information about the cloud using energy consumption logs.

2.2.4. Phishing attack

Phishing is an attempt to access personal information from unsuspecting user through social engineering techniques. It is commonly achieved by sending links of WebPages in emails or through instant messages. These links appear to be correct, leading to a legitimate site such as bank account login or credit card information verification but they practically take users to fake locations. Through this deception, the attacker can obtain sensitive information such as passwords and credit card information. Phishing attacks can be classified into two categories: (1) an abusive behavior in which an attacker hosts a phishing attack site on cloud by using one of the cloud services and (2) hijack accounts and services in the cloud through traditional social engineering techniques [16].

Cloud security alliances (CSA) mentioned that cloud service providers do not maintain sufficient control over systems in order to avoid being hacked or spammed. To prevent such attacks, CSA proposes a few precaution measurements such as strict registration process, secure identity check procedure and enhanced monitoring skills [18].

2.2.5. VM Rollback Attack

The virtualization environment in cloud computing is the most vulnerable area to attack. The hypervisor can suspend a VM at any time during execution, take a snapshot of current CPU states, disk and memory and resume a snapshot later without guest VM awareness. This feature has been widely used for fault tolerance and VM maintenance; however, it also provides an open window to an attacker to launch VM rollback attacks. In a rollback attack, a user can take advantage of previous snapshots and run it without the user's awareness and then clean the history and again run the same or different snapshot. By cleaning the history, the attacker will not be caught for his suspicious activities. For example, an attacker can launch a brute force attack to guess a login password for VM, even if the guest

OS has a restriction on the number of attempts such as blocking the user after three failed attempts or erasing all data after 10 times, the attacker can still rollback the VM to its initial state after each try. The attacker will clear the counter inside the VM and bypass the restriction and run the brute-force attack again [19]. Furthermore, rolling back virtual machines can re-expose them to security vulnerabilities that were patched or re-enable previously disabled accounts or passwords. In order to provide rollbacks, we need to make a "copy" (snapshot) of the virtual machine, which can result in the propagation of configuration errors and other vulnerabilities.

3. SECURITY CONTERMEASURES

A cloud computing infrastructure includes a cloud service provider, which provides computing resources

to cloud end users who consume those resources. In order to assure the best quality of service, the providers are responsible for ensuring the cloud environment is secure. This can be done by defining stringent security policies and by applying advanced security technologies.

3.1. Security Policy Enhancement

With a valid credit card, anyone can register to utilize resources offered by cloud service providers. This causes hackers to take advantage of the powerful computing power of clouds to conduct malicious activities, such as spamming and attacking other computing systems. By mitigating such abuse behavior caused by weak registration systems, credit card fraud monitoring and block of public black lists could be applied [20]. Also, implementation of security policies can reduce the risk of abuse use of cloud computational power [21]. Well established rules and regulations can help network administrators manage the clouds more effectively.

3.2. Access Management

The end users' data stored in the cloud is sensitive and private; and access control mechanisms could be applied to ensure only authorized users can have access to their data. Not only do the physical computing systems (where data is stored) have to be continuously monitored, the traffic access to the data should be restricted by security techniques. Firewalls and intrusion detection systems are common tools that are used to restrict access from untrusted resources and to monitor malicious activities. In addition, authentication standards, Security Assertion Markup Language (SAML) and eXtensible Access Control Markup Language (XACML), can be used to control access to cloud applications and data. SAML focuses on the means for transferring authentication and authorization decisions between cooperating entities, while XACML focuses on the mechanism for arriving at authorization decisions [22].

3.3. Data Protection

Data breaches caused by insiders could be either accidental or intentional. Since it is difficult to identify the insiders' behavior, it is better to apply proper security tools to deal with insider threats. The tools include: data loss prevention systems, anomalous behavior pattern detection tools, format preserving and encryption tools, user behavior profiling, decoy technology, and authentication and authorization technologies [23]. These tools provide functions such as real-time detection on monitoring traffic, audit trails recording for future forensics, and trapping malicious activity into decoy documents.

3.4. Security Techniques Implementation

In this section we will discuss some of the possible mitigation solutions available in order to prevent and protect against some of the most common threats discussed earlier.

One of the solution tools is Log inspection. In fact, it collects and analyzes operating system and application logs for security events. Log inspection rules optimize the identification of important security events buried in multiple log entries. These events can be sent to a stand-alone security system, but contribute to maximum visibility when forwarded to a security information and event management (SIEM) system or centralized logging server for correlation, reporting and

archiving. Like integrity monitoring, log inspection capabilities must be applied at the virtual machine level.

Log inspection software on cloud resources enables:

1. Suspicious behavior detection
2. Collection of security-related administrative actions
3. Optimized collection of security events across your datacenter

As discussed earlier in this paper, malware injection attack has become a major security concern in cloud computing systems. It can be prevented by using File Allocation Table (FAT) system architecture [24]. From the FAT table, the instance (code or application) that a customer is going to run can be recognized in advance. By comparing the instance with previous ones that had already been executed from the customer's machine, the validity and integrity of the new instance can therefore be determined. Another way to prevent malware injection attacks is to store a hash value on the original service instance's image file [25]. By performing an integrity check between the original and new service instance's images, malicious instances can be identified. For XML signature wrapping attacks on web services, a variety of techniques have been proposed to fix the vulnerability found in XML-based technologies. For example, XML Schema Hardening technique is used to strengthen XML Schema declarations [26]. A subset of XPath, called FastXPath, is proposed to resist the malicious elements that attackers inject into the SOAP message structure [27].

Furthermore, to prevent phishing attacks, CSA (Cloud security alliances) proposes a few precaution measurements such as strict registration process, secure identity check procedure and enhanced monitoring skills [18]. Privacy laws in cloud computing do not allow cloud service providers to look at what customers are doing, so if a malicious individual or organization is performing something nefarious (phishing attack or uploading malicious code) by using cloud services, it cannot be detected until or unless notified by some security software.

4. CONCLUSION

Cloud computing is in continual development in order to make different levels of on-demand services available to customers. While people enjoy benefits cloud computing brings, security in clouds is a key challenge. Much vulnerability in clouds still exists and hackers continue to exploit these security holes. In order to provide better quality of service to cloud users, security flaws must be identified. Lots of research is going on to address the issues like network security, data protection, virtualization and isolation of resources. Addressing these issues requires getting confidence from user for cloud applications and services. Obtaining user confidence can be achieved by creating trust for cloud resource and applications, which is a crucial issue in cloud computing. Trust management is attracting much attention. Providing secure access to cloud by trusted cloud computing and by using service level agreements, made between the cloud provider and user; requires lots of trust and reputation management. In this paper we gave a telling overview of security threats of cloud computing as well as some effective countermeasures, beside introducing main elements of security in cloud computing.

NOTES AND REFERENCES

[1] The NIST cloud computing definition -- Recommendations of the National Institute of Standards and Technology: http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf.

[2] Gartner Hype-Cycle 2012 – Cloud Computing and Big Data (2012). Available at: http://www.gartner.com/technology/research/hype-cycles/.

[3] A cloud infrastructure is the collection of hardware and software that enables the five essential characteristics of cloud computing. The cloud infrastructure can be viewed as containing both a physical layer and an abstraction layer. The physical layer consists of the hardware resources that are necessary to support the cloud services being provided, and typically includes server, storage and network components. The abstraction layer consists of the software deployed across the physical layer, which manifests the essential cloud characteristics. Conceptually the abstraction layer sits above the physical layer.

[4] Cloud Computing – A Classification, Business Models, and Research Directions: http://www.im.uni-karlsruhe.de/Upload/Publications/5416512c-4711-4793-bd42-56e9241cc0a0.pdf.

[5] Cloud Computing Service Level Agreement By the European Union COMMUNICATIONS NETWORKS, CONTENT AND TECHNOLOGY UNIT E2 - SOFTWARE AND SERVICES, CLOUD—June 2013.

[6] A Framework for Auction-based HPC Computing Using Amazon Spot Instances, in Proc. of the International Symposium on Advances of Distributed Computing and Networking (ADCN), 2011.

[7] A quantitative analysis of current security concerns and solutions for cloud computing. http://www.producao.usp.br/bitstream/handle/BDPI/34999/2192-113X-1-11.pdf?sequence=1.

[8] Scheduler vulnerabilities and coordinated attacks in cloud computing: http://arxiv.org/pdf/1103.0759.pdf.

[9] Cloud Computing Security Considerations: http://www.digital.vic.gov.au/wp-content/uploads/2013/06/SEC-GUIDE-06-Cloud-Computing-Security-Considerations-Guideline.pdf.

[10] "Cloud Computing: Virtual Cloud Security Concerns". http://technet.microsoft.com/en-us/magazine/hh641415.aspx.

[11] "Dark Cloud: Study finds security risks in virtualization" http://gcn.com/articles/2010/03/18/dark-cloud-security.aspx.

[12] A survey and analysis of cloud model-based security for computing secure cloud bursting and aggregation in renal environment.

[13] Data Security in the cloud http://www.vormetric.com/sites/default/files/wp-data-security-in-the-cloud.pdf.

[14] A Defense Mechanism to Protect Cloud Computing against Distributed Denial of Service Attacks http://www.ijarcsse.com/docs/papers/Volume_3/5_May2013/V3I5-0202.pdf.

[15] Overview of Attacks on Cloud Computing: http://ijeit.com/vol%201/Issue%204/IJEIT1412201204_57.pdf.

[16] Determinating Timing Channels in Compute Clouds: http://arxiv.org/pdf/1003.5303.pdf.

[17] Energy consumption side-channel attack at virtual machines in a cloud: http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=6119058&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxpls%2Fabs_all.jsp%3Farnumber%3D6119058.

[18] Top Threats to Cloud computing https://cloudsecurityalliance.org/research/top-threats/.

[19] Defending against web application vulnerabilities http://www.infoq.com/articles/defending-against-web-application-vulnerabilities.

[20] “Cloud Computing Security Considerations Interface” http://etherealmind.com/wp-content/uploads/2011/04/Cloud_Computing_Security_Considerations-1.pdf.

[21] Cloud Vulnerability Assessment: https://www.wpi.edu/Pubs/E-project/Available/E-project-042412-130544/unrestricted/Vulnerability_Assessment_Within_The_Cloud_MA_AG.pdf.

[22] Guidelines on Security and Privacy in Public Cloud Computing http://csrc.nist.gov/publications/nistpubs/800-144/SP800-144.pdf.

[23] Tackling the Insider Threat http://www.bankinfosecurity.com/blogs.php?postID=140.

[24]Security Attacks and Solutions in Clouds http://salsahpc.indiana.edu/CloudCom2010/Poster/cloudcom2010_submission_98.pdf.

[25]Security Issues in Cloud Computing and Countermeasures http://www.ijest.info/docs/IJEST11-03-04-235.pdf.

[26] On the Effectiveness of XML Schema Validation for Countering XML Signature Wrapping Attacks http://ijircce.com/upload/2013/may/13_A%20Security.pdf.

[27] Analysis of Signature Wrapping Attacks and Countermeasures http://datenschutz.web-schell.de/tl_files/web-datenschutz-schell/Website-Dateien/PDF/wrapping-attacks_and_countermeasures.pdf.

EUROPEAN STRUCTURAL FUNDS MANAGEMENT. A COMPARATIVE CASE STUDY ON ROMANIA AND POLAND

Leonard - Constantin PESCARU

42nd Support Communication and Informatics Center/Communication and Informatics Command, Braşov, Romania

The Structural European Funds management is a topic of great interest for each European country that became or intends to become a European Union (EU) member. The paper presents an extensive comparative case study between Poland and Romania's approaches to the aforementioned subject. Poland was chosen as a landmark/reference for the comparison with Romania's accomplishments, because of its remarkable achievements since it entered the EU, being one of the most eloquent models of best practices on regionalization and European funds accessing. The good territorial reorganization along with the creation of a proper legislative framework and specialists' training created the most successful European model of the last decades.

Key words: *Structural European Funds, European Union, Poland, Romania.*

1. INTRODUCTION

European Structural Funds management is a topic of great interest for each European country that becomes a European Union (EU) member. For this case study Poland was chosen as a landmark/reference because of its remarkable achievements since it entered the EU. It might be the most eloquent model of regionalization and European funds accessing.

The good territorial reorganization along with the creation of a proper legislative framework and specialists training (the best example being that of Elzbieta Bienkowska [1]) created the most successful European model of the last decades.

2. A COMPARATIVE ANALYSIS OF ROMANIA'S AND POLAND'S APPROACHES REGARDING THE USAGE OF EUROPEAN STRUCTURAL FUNDS

Before 1998 Poland had 49 administrative units, much like the counties in Romania. The government led by Jerzy Buzek [2] decided to implement an administrative reform. Poland's territorial division started in January 1999 [3] and was based on a new three level model: *gmina* [4], *powiat* [5] şi *województw* [6] that worked on self-governance and decentralization principles. Within the new administrative division, the communes and districts are local governance units, the region's status being that of a management unit responsible with the application of the regional policy, being the highest ranking territorial unit with mixed governance between the central government and the self-governance (autonomy). Poland has 16 regions much like the autonomous regions of Spain and Italy. The region collects the income taxes from both individuals and the private sector.

Poland's 16 region model in which the power and the responsibilities flow from the central administration towards the regional and local ones show a clear vision of a centralized administration system. The 16 regions contain 379 districts

and 2478 communes. Each region chooses a *sejmik* [7] and an executive led by a *marszałek* [8] chosen within the regional Parliament with overall majority. The government has its own representative at the regional level by the name of *voivode* [9]. Here we can see some connection with the Romanian administrative and executive structure, having the County Council as Parliament representative led by a president and the *Prefect Institution* having the administrative authority.

In this way the Polish autonomous regions receive substantial decision power for regional economic development, especially starting with the 2007-2013 programs when regional operational programmes [10] unfolded at the level of each region. Starting with 2010 the Science Council is founded and has the task of coordinating regional and national policies. With Poland's accession to the EU, the European Funds represented most of the regional policies' budget (supplemented by state budget funds). From 42.1 billion Euro during 2007-2013, Poland used over Euro 16.6 billion to implement the Regional Operational Programmes [11]. Most of the funds were conceived for regional development, in other words the EU money was used for roads, hospitals, education managed by the regional authorities. These authorities directly negotiate with the European Commission (EC). The Regional Development Ministry takes part at these negotiations but does not dictate the regions what to do. Although Poland received Euro 42.1 billion for 2007-2013, 25% of this amount has been managed at regional level.

Unlike the first financing term, 2004-2006, when the regional authorities had restricted control (certain Operational Programmes were partially managed by regions), for the 2007-2013 term the regions had total control over 25% of the European Funds. Poland and Italy are the only countries that negotiated an extra instrument given as award for the countries with the greatest expenditure of funds within the Operational Programmes. Thanks to this mechanism the Polish received extra funds from the EU.

In Poland, the democratic behavior and civil society development along with the increase in economic activities would not have been possible without the decentralization process and the administrative reform, accomplished in two stages within 10 years: 1989-1999.

Similarly to Romania, the public main rules and structure of Polish administration were created in 1944 and 1989, according to political principles and circumstances of the time. The centralized system was based on the domination of ministry and departments' structure. Before 1989 there were two levels of public administration, the central region and the local region, both of which were controlled by the state. The system was extremely centralized and not so efficient for local and regional representatives.

The new system inherited a harmful mix between politics and purely administrative functions and it created a hardly distinguishable line between political responsibility and administrative competences. The economic and political transition process started after 1989 led to the rebirth of the local autonomy in Poland. Unlike other ex-communist countries, after 1989 the Polish experts have chosen a different path: the decentralization of the public affairs.

In March 1990 the "Territorial autonomy act" was amended and in May 1990 the first free local

elections in Central and Eastern Europe were carried out. The decentralization process started at the lowest level of the public administration and the role of "*Gmina*" (municipalities) has been strengthened. It was expected that the newly introduced territorial autonomy units (TSU) would reduce the bureaucracy and the costs of the public administration. Even so, the administrative Polish system was dominated by the centralized bureaucracy.

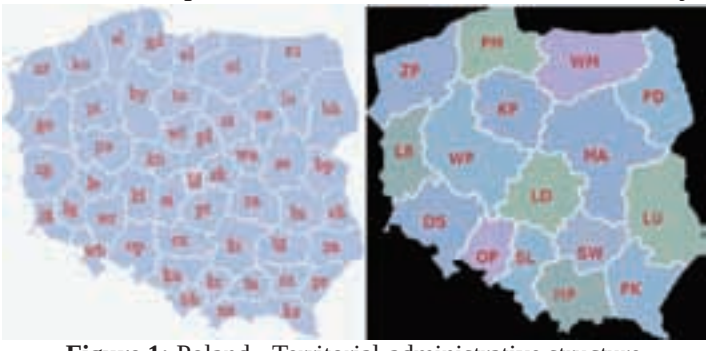

Figure 1: Poland - Territorial-administrative structure between 1975-1998 (left) and starting 1999 (right

The existence of 49 counties created excessive bureaucracy and this led to an expensive public administration. The second stage for the territorial autonomy started in Poland in 1999 when two more levels of units were created: districts and regions or voivodships. Between them there is no subordination, the commune is independent of the district or the region and similarly the district is independent of the region. The communes and the districts are units of the local public administration and the regions have regional governance units. Poland's decentralization process is an example of political success. The administrative reform facilitated the Polish economy and democracy to operate properly and helped the country in its process to enter the EU. The effects of the decentralization process allowed an efficient public administration management that acts at different levels, so as to improve competition and cooperation between the different levels of the administration.

The 1999 decentralization reform gave the territorial autonomy units full responsibility for the economic development of the regions. Along with the economic transformation Poland's social and regional discrepancy become deeper and deeper. Similarly to Romania, there are three types of discrepancies: a permanent difference between East and West, the discrepancies between the country capital and the rest of the country and between rural and urban areas. The Regional Development Ministry was established in 2005 to coordinate the regional policies and the EU financing instruments, proving political engagement for territorial development improvement and multi-sector cooperation.

Poland accomplished in a short time advancements towards multi-level governing and focused its regional development Policy on increasing competitively. It should be noted that Poland succeeded in negotiating with the EC so that the Regional Operational Programmes (ROP) were designed to be implemented in each of the 16 regions according to their specific needs.

Even though the R OP includes measures and objectives that cover the development needs at a national level, most priorities differ from one region to another and the implementation differs according to the regional socio-economic status and the development strategy. Most structural funds implementation programmes were handed to regional self-governing entities for project identification, payment inspection, audit, monitoring and certification.

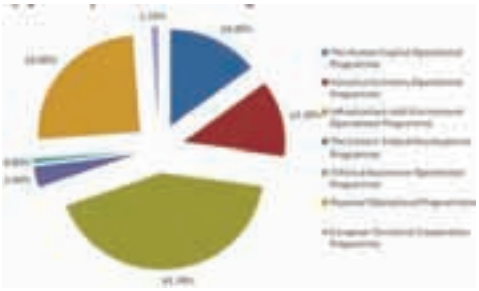

Figure 2: Percentages for the 2007-2013 financial year of a total of 42.1 billion Euro.

As the official website of the Polish Ministry of Infrastructure and Development [12] shows, the one that took over in 2013 from the Ministry of Regional Development, during 2007-2013, 296000 aplicants interested in to acquiring funds (both national and EU) for a total amount of 599.9 billion Zloty, representing a total of 142.85 billion Euro were recorded.

Of this total, 97837 contracts were signed with the recipients for a total amount of 94.06 billion Euro, of which 65.49 billion Euro (97.3% of the amount allocated) was from the EU.

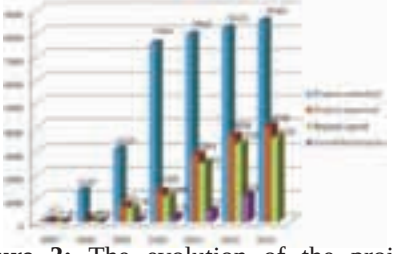

Figure 3: The evolution of the projects submitted within OPR between 2007-2013.

We can see in the next diagram that at ROP level the most important time was in 2010 when the number of projects submitted for financing doubled compared to the total number of projects from 2007-2009. This happened because of the economic crisis that hit Europe. In this respect, the EU funds were overall the key to the successful recovery from the economic crisis that affected the entire world. The EU funds alternative led to successive rise both for the number of projects submitted and for the approved and financed ones, their number constantly doubling in the next period.

As it results from the the previous diagram, starting with 2010, the number of rejected projects has been drastically reduced, leading to a corresponding number of approved projects and meaning that upon submission the project would need to meet all the requests from the Applicant's Guide.

However this also means that Romania needed four years to understand the mechanism for EU funds access and that has cost Romania, unlike Poland, 65% of the total amount from the EU.

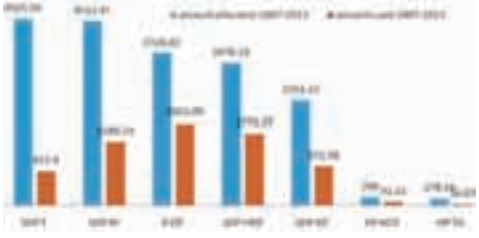

Figure 4: The status of the funds used for each OP during 2007-2013.

Except for Operational Programme Administrative Capacity Development (OP ACD) and Operational Programme Technical Assistance (OP TA) whose share was minimal in the EU allocated funds, the only programmes that managed to utilize reasonably the allocated funds

were ROP and Sectoral Operational Programme Human Resources Development (SOP HRD), a little over 50% of the available amount being used. The Polish model which managed by the end of 2012 to have all the EU allocated amount distributed towards submitted projects has to be implemented so that the financial time 2014-2020 should not be for Romania another missed objective considering the EU funding.

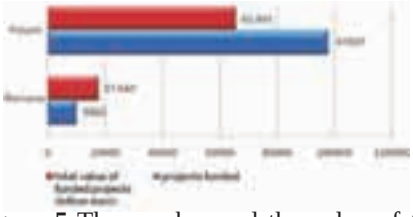

Figure 5: The number and the value of the funded projects during 2007-2013.

Poland is a step ahead compared to Romania due to the 2004-2006 timeframe when it received 8.275 billion Euros from EU funding, over 75000 projects being co-financed during that time. Half of this amount represented infrastructure projects which created a proper environment for Polish economic development. All of this materializes in a significant increase in the workforce market with the creation of new jobs along with the development of the industry and service sectors.

Additionally, another Polish asset was that with the OP creation 60% of the funding was directed towards areas like innovation, education, IT, university and infrastructure.

Characteristic for Poland was the assurance of a proper political climate for development, since politicians understood the advantages of being united as far as the European Policy is concerned. The Elzbieta Bienkowska model, the person that climbed step by step from the position of a EU funding specialist up to becoming Minister of the Regional Development Ministry respectively the newly founded Infrastructure and Development Ministry and Vice Prime Minister it is to be followed, the directions assigned by her being the basis for EU funding in Poland. Ensuring strategic vision continuity for each Minister involved in accessing the EU funding is one of the essential things that need to be done to ensure the success.

In conclusion, the Polish model could be a starting point in the successful application of the new OP so that the maximum percentage of paid projects from EU funding is achieved at the end of 2020. At the end of the seven years since joining EU, Romania's situation is not the one expected. During this financial time Romania was only able to use a third of the 19 billion Euros. It is an insignificant sum that shows the authorities' inability and carelessness in establishing coherent priorities at the level of central authorities.

Romania needs cooperation at political level and that can lead to the creation of a common framework necessary for EU Policy implementation at the highest level. The expenditure of the available EU funding for 2014-2020 is mandatory since it is enough in accomplishing the strategic objectives established by National Development Plan (NDP) and National Strategic Reference Framework (NSRF) for 2014-2020.

One of the reasons for the small expenditure of EU funding lies in the unjustified delay during the OP developed by each management authority (MA) from within the Ministries responsible with the programs. It is also because of the low feedback at the European Commission suggestions regarding OP accomplishment in Romania.

Another problem that arises during this time refers to the

inexistence of a strong institutional buildup within the chain of the intermediary organisms and regional and local units whose responsibilities are strictly related to the EU funding management. This situation has led to excessive bureaucracy and it rose the time length for submitting and approving the projects for each applicant. In this way a very important aspect is the correlation between methodologies for project implementation, similar projects having different interpretation and approval standards. Following these issues one can notice the poor involvement of central authorities in the creation of a common legal frame, unique, that is able to offer maximum shortcut so that for a project the time from submission at MA until payment would be the shortest.

Another reason for low EU funding expenditures in Romania is the shortcoming related to project management knowledge, the absence of trained managers and the lack of technical assistance regarding EU funded projects. One more reason which obstructed project implementation was the lack of local authority experts regarding EU funded projects. Poland's example where an army of experts were trained and well paid so that the option of working in the private sector would become unattractive was not followed. The few benefits that the local authorities had were canceled when the economic crisis hit Romania in 2008.

The delay in payments and refunds was another reason for the status of the EU funded projects. The gap between certain project steps and budget assignment for the next steps of the projects has led to extreme delays of the deadlines.

The most important reason of low expenditures of EU funding is related to the unstable political environment; the continuous change of some Ministers without sound political background and who ahould have been responsible for OP left its mark on the strategies regarding long and medium term EU funded projects.

Regional division must be an important aim for each government. In this respect, providing local authorities with a part of the 2014-2020 funding in order for these to develop projects regarding road, rail and naval infrastructure along with intermodal nodes is essential to any economy.

The low expenditure of EU funding affects the budgets that will follow, the increase in the amount being smaller compared to the EU funding for the other ex-soviet countries. In this manner we receive funding similar to Hungary and Czech Republic, countries with about half of Romania's population and territorial area but which managed to have a far greater expenditure of EU funding in the last financing stage [13].

Figure 6: Percentage of CE funding for the financial year 2014-2020 from the total of Euro 167.1 billion attributed to Eastern European countries.

According to a 2013 KPGM study regarding the expenditure rate of EU funding for the last 10 countries that joined the Union during 2004-2007, Romania sits on the last place with an expenditure rate of 12% of the funded projects compared Poland (49%), Hungary (40%), Czech Republic (57%) and Bulgaria (34%).

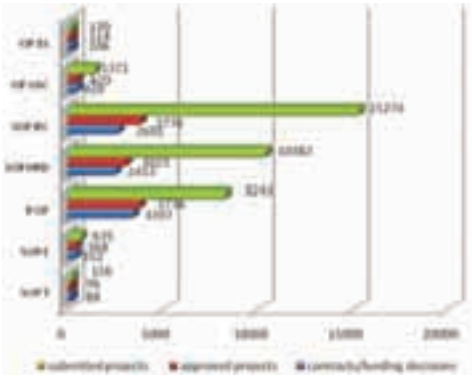

Figure 7: EU funding expenditure status for each OP at 31st of March 2013 [14].

In the previous diagram we can see that during this time enough projects were submitted so that to cover the entire funded amount but as we notice on the in figure 3, these projects were not conceived according to the requirements, the seven steps that each project has to pass sieving many of them. In this manner arises the question regarding the problems that impede the applicants when request project financing: lack of communication with local and national authorities in order to develop a project that covers all requirements for funding, the mismatch with the applicant's guide criteria for each OP or in most cases the lack of funding to start a project which, although it may meet all requirements, it may be disqualified because of the financing. The officials that check and endorse the projects does not check the actual project but only if it meets the requirements for the OP, maybe checking the benefits of each project. The lack of funding disqualifies the projects in the first stage.

Poland solved this problem by funding and allowing each project to start and then checking thoroughly the project's progress, in steps. After each step, according to the project's progress, more funding was to be expended for the project to continue. Unfortunately in Romania this did not happen so many projects came to a stop from the lack of funding.

3. CONCLUSIONS

In the last report of the Ministry for European Funding, its Minister alleged that on the basis of N+ 3 rules the EU funding of 2011 and 2012 can be used until December the 31st 2014 respectively December the 31st 2015 [15]. This becomes a good thing as it would raise the percentage of the EU funding up to 35%; this would alleviate the bitterness caused by the last place.

Remains to be seen the way in which local and central authorities would have learned their lessons from the last seven years for the next funding. One first step has been made with the Partnership Agreement [16] with which OP and management authorities for each programme were set. Although there were changes in titles, overall the OP remained the same: OP Main Infrastructure (OP MI), OP Human Capital (OP HC), OP Competitiveness (OP C), OP Technical Assistance (OP TA), Regional OP (R OP), OP Administrative Capacity (OP AC), The National Programme for Regional Development (NPRD) and The Operational Programme for Fishing (OP F).

The great novelty resides in the new MA setting; if so far every OP used to be in the area of a Ministry, starting 2014 The Ministry for European Funding will become MA for OP MI, OP HC, OP C and OP TA, The Ministry for Administration and Regional Development for R OP and OP AC and The Ministry for Rural Development and Agriculture for NPRD and OP F.

NOTES AND REFERENCES

[1] Polish politician, started her career working in the Affairs Department of the Silesia Voivodship, she was director for the Polish regional development, Ministry of Development between November the 16th, 2007 and November the 27th, 2013, now being the Infrastructure and Development

Ministry (newly created Ministry that contains the former Regional Development Ministry) and vice-president of the Ministry Council led by Donald Tusk.

[2] Polish politician, Prime Minister of Poland between 1997 and 2001, President of the European Parliament (July the 14th 2009-January the 17th 2012).

[3] Voivodship self-governance law, July the 5th 1998.

[4] Commune.

[5] District.

[6] Voivodship / Region.

[7] Regional Parliament.

[8] Marshal - in medieval Poland this was the military leader on the battlefield (na)

[9] Prince, voivode.

[10] During 2004-2006 at the voivodship level just one national programme was carried out - Integrated Operational Regional Programme.

[11] Five national Operational Programmes were carried out at national level: Infrastructure and Environment, Human Resources, Innovative Economy, Eastern Poland Development and Technical Assistance, as well as another 16 regional operational programmes for the 16 voivodships.

[12] The National Cohesion Strategy - level of implementation.

http://www.mir.gov.pl/english/european_funds/european_funds_2007_2013/implementation/strony/level_of_implementation.aspx.

[13] EU Funds in Central and Eastern Europe-Progress report 2007-2012. https://www.kpmg.com/RO/en/IssuesAndInsights/ArticlesPublications/Press-releases/Documents/EU-Funds-Central-Eastern-Europe%E2%80%93Progress-report-2007-2012.pdf.

[14] Viitorul instrumentelor structurale în perioada 2014 - 2020. Buletin Informativ, Instrumente structurale, nr. 5, aprilie 2013. http://www.fonduri-ue.ro/res/filepicker_users/cd25a597fd-62/bi/CIIS_Buletin_Informativ_Nr_5_aprilie_2013.pdf.

[15] Fondurile europene alocate pentru 2011 şi 2012 vor putea fi cheltuite până la 31decembrie 2014, respectiv 2015. Buletin Informativ, Instrumente structurale, nr. 8, decembrie 2013. http://www.fonduri-ue.ro/res/filepicker_users/cd25a597fd-62/bi/CIIS_Buletin_Informativ_Nr_8_decembrie_2013.pdf.

[16] Ministerul Fondurilor Europene. Acord de parteneriat propus de România pentru perioada de programare 2014-2020. Al doilea proiect. http://www.fonduri-ue.ro/res/filepicker_users/cd25a597fd-62/2014-2020/acord-parteneriat/AP-10.02.2014.RO.pdf.

ABBREVIATIONS LIST

EC - European Commission
EU - European Union
MA - Management Authority
NDP - National Development Plan
NPRD - National Programme for Regional Development
NSRF - National Strategic Reference Framework
OP - Operational Programme
OP AC - Operational Programme Administrative Capacity
OP ACD - Operational Programme Administrative Capacity Development
OP C - Operational Programme Competitiveness
OP F - Operational Programme for Fishing
OP HC - Operational Programme Human Capital
OP MI - Operational Programme Main Infrastructure
OP TA - Operational Programme Technical Assistance
R OP - Regional Operational Programme
SOP E - Sectoral Operational Programme Environment
SOP IEC - Sectoral Operational Programme Increase Of Economic Competitiveness
SOP HRD - Sectoral Operational Programme Human Resources Development
SOP T - Sectoral Operational Programme Transport
TSU - Territorial Autonomy Units

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A TAXONOMY OF DECEPTION BASED ACTIONS IN WAR

Kalin GRADEV

Senior assistant professor, Land Forces Department, Command and Staff Faculty, "G.S. Rakovski" National Defense Academy, Bulgaria

Deception during wartimes is probably as old as the armed conflicts themselves. Logic to mislead your adversary is efficient and potential payoff by using it can be gained quickly. Deception is traditionally employed not only in the military but also in political, economic, and commercial context. The paper presents an extensive categorization of military deception measures, and analyzes them at a manner which may contribute to the awareness rising of its vast opportunities among military commanders.

Key words: *categorization, criteria, military deception.*

1. INTRODUCTION

The success of military operations largely depends on the correct assessment of the adversary military forces. One of the main goals of modern warfare is to prevent the intelligence collection of the adversary forces or to impede obtaining intelligence data about the location, activities and intentions of their own units. In reaching this goal military deception (camouflage) [1] is of essential importance.

Deception in war is probably as old as the armed conflicts themselves. Logic to mislead your adversary is efficient and the payoff from it can be implemented very quickly. Deception is traditionally employed in political and military conflicts. In fact, it is inherent to all human relationships; it is an intentional activity to gain advantage over the adversary.

Deceiving the enemy is an integral part of military science and art and it requires time, effort and resources. One of the most important factors in achieving the tasks of military operations is misleading the enemy and quite often it has determined the outcome of fights, battles and engagements.

In publications of leading powers like the United States and Russia military deception is the subject of study, at both doctrinal and scientific research level [2, 3, 4, 5]. Military deception is mentioned in a number of national documents [6] related to the Armed Forces of the Republic of Bulgaria, but studies on this issue as a whole do not exist.

2. A CATEGORIZATION OF MILITARY DECEPTION MEASURES

The analysis of literary and doctrinal sources found that the most comprehensive definition of military deception goes as follows: *"A series of processes, actions and events executed in order to induce an adversary to take operational actions to the detriment of their own interests by manipulating their response decision-making process which is achieved by knowingly and intentionally bringing to their knowledge a combination of real, manipulated, incomplete and/or incorrect information"* [7].

Studies on the subject show that theories on issues related to military deception have been developed [8, 9, 10, 11], but the classifications presented in them do not fully cover the whole range of classification criteria. One of the most common classifications mentioned in the

military doctrines and works of authors examining the issues of deception (misleading the enemy) is made on the basis of the level and the scale these actions are executed.

Depending on its scale [12] military deception (also known as trickery [13]), is subdivided into:

- military deception at the strategic level;
- military deception at the operational level;
- military deception at the tactical level.

Military deception at the strategic level

Its goal is to impede the ability of the strategic decisions of the adversary to successfully protect their national interests and objectives. Strategic deception is used to affect the capability of adversary national leaders and senior military commanders to make accurate decisions. The desired result is to influence enemy strategic objectives, policies, and operations in favor of our own interests and those of our allies. The purpose of strategic deception is to create favorable conditions that will contribute to the accomplishment of the strategic objectives of the war. It is the responsibility of the military - political and strategic command.

Military deception at the operational level

At the operational level, the goal is to affect the ability of the adversary operational levels to make decisions for successful conduct of military operations. The focus is to undermine the capability of the adversary operational commanders to make decisions and carry out operations. The operational deception affects the decisions of the adversary commanders before, during and after the battle, so that the achieved tactical result can be used at the operational level. The operational military deception is used to conceal preparations for operation at a front or army level, to mislead the adversary about the intended mission, the main and other key areas, objectives and tasks of the operation, as well as the strength, location and readiness of the troops. Implementation of military deception at operational level is the responsibility of unit commanders and headquarters.

Military deception at the tactical level

Military deception at the tactical level focuses on the possibility to affect the ability of the adversary tactical commanders to make accurate and timely decisions. The aim is to influence the ability of adversary commander to make decisions regarding the conduct of battles and engagements. Deception is employed to the adversary commanders before and during a battle. Tactical military deception has to assist and support operational efforts in this direction [14].

The planning of these activities is carried out by the commanders and the headquarters of the divisions, units and formations [15] usually in a unified design, aimed at achieving strategic, operational or tactical effect. Rare are the occasions in which opposing forces are deceived by using single or one-time actions or events. The combination of various techniques, methods and means matched with the real action leads to the desired effect or result.

Besides “depending on the scale” criterion there are other criteria whose application would bring more clarity and completeness in the presentation of the importance and nature of deception. A more extensive classification will help achieve efficiency in determining the methods, the techniques and approaches for incorporating deception in operations and tactical actions.

Deception can be also subdivided depending on human perceptions intended to be affected into:

- visual - when targeted at changing visual perceptions, images, videos, etc;
- sound - when targeted at distortion of the data of the sound (signal) intelligence;
- light - used mainly at night to provide unreal data or dazzle the adversary;

• heat - used for distortion of data for non-existent real objects or a change of the information about them;
• analytical - when a change in the decisions of the adversary management bodies is sought through documents, maps or other means;
• electronic - when it is directed to modify the actual data in media, the internet, cyber space, etc.;
• combined - a combination between some of the above mentioned.

The distance from which the enemy can observe our own positions or our own actions is crucial for the degree of realism that is necessary to be achieved. The visual deception has to present realistic and complete images that are beyond any doubt. In the simulation of objects or military formations, deception must necessarily include personnel and movement of combat and providing equipment. Adversary forces would expect to observe certain types of silhouettes of equipment and traces on the ground surface. If dummies of equipment are used, then the number of tracks must be equal to the number of actual equipment belonging to the mimed formation. It is advisable these traces to be made with real equipment for complete reliability. Visible evidence of military activity and life on the site has to be furnished as well. For example, waste corresponding to the characteristics of the actual formation type has to be scattered in the site.

By comparing pictures made at different times, adversary forces could easily notice the lack of movement in a particular area. Therefore, moving dummies and ruse, operation of real military equipment and activities performed by real staff (if possible) increase the likelihood the adversary to be misled. All these activities should be performed regularly, including at night and in bad weather.

Sound deception of the enemy is achieved by sending forth sounds that mimic the sounds of the battlefield in order to bring them to the attention of the enemy. This type of deception is designed for the enemy sensors of sound intelligence and the human ear. The rule to be obeyed to make the deception convincing is that what the enemy sees needs to be confirmed with the appropriate sounds. If a visual simulation is exposed to enemy observation tools, the sound simulation must accurately match the visual.

The sources used for the presentation of the sound image can be either real sources or simulators. The real sounds should be mixed with those which are artificially produced because if only artificial sounds are sent forth they are most unlikely to be successful. The reproduced sounds must come from places which the enemy expects to be occupied by the counterfeit units or equipment. For example, the intelligence of the adversary forces will not believe the sounds of tanks coming from an impassable swamp.

With the advancement of warfare technology, equipment allowing simultaneous monitoring of visual, thermal and electronic image has become available. It hampers the actions of misleading and requires a combination of different methods and techniques in planning adversary deception to prevent them getting reliable information.

Depending on the means used to mislead the enemy, military deception can be classified as:
• physical - in this type of deception a combination of military forces and resources is applied to achieve the desired result;
• technical - resources and related to them operational techniques are applied to convince the opposing forces in the existence of certain information or to deny it. It is required to use all available technical resources (stations, computer systems and media);
• administrative – the used resources, methods and techniques are designed to convey documentation and other material evidence [16] to the enemy or to deny their existence. The deception is accomplished primarily by means of military documents (graphic or textual).

All these types of deception may be used independently or in combination with others depending on the current situation and the options available.

Physical means are activities and resources used to convince the adversary in the existence of certain information or to deny it. Physical means include operational activities and resources as follows:

- Movement of units;
- Drills and training activities;
- Tactical actions;
- Logistics activities, including the creation and transfer of stocks of material resources;
- Events on unit assessment;
- Intelligence activities;
- Camouflage (includes concealment, masking, mixing and distortion of the shape of the site);
- Use of dummies and decoys [16].

Dummies and decoys are widely used to deceive the enemy in the visual spectrum and they constitute an imitation of a real object in the battle space, while the decoy is used to attract the attention of the enemy in the wrong direction. When a dummy is used with the purpose of attracting the attention of the adversary forces in the wrong direction, it is called a decoy. It should be noted that the decoys need to be specially manufactured. Damaged or not liable to repair combat equipment which is not in operational mode can be used, as long as it has no visible damage that would reveal that it does not represent real threat to the enemy [17].

The dummies used can be permanent and/or dummies made of materials at hand with the efforts and resources of troop formations involved in the operations. Currently Bulgarian army does not have permanent dummies of military equipment available that can be used in operations. The Armed Forces of the leading armies as USA, China and Russia have such samples which are commercially available and can be purchased on the market of special products together with the materials used to make them according to information provided by the manufacturer. They are designed in a way to reflect the energy from the infrared spectrum and the energy emitted by the radars, which provides the dummy to be indistinguishable from the real military equipment.

Technical means are material resources and the associated operating techniques used to convince the adversary forces in the existence of certain information or to deny certain information. Different technical devices can be used for:

- Deliberate emission;
- Change of the direction of emission;
- Energy and sound absorption [16];
- Energy and sound reflection.
- The effectiveness of the sound methods increases at night or when the place from where they originate is concealed with the help of other technical means - for example, aerosols or fumes. The more inefficient the visual intelligence of the adversary forces, the more they rely on other kinds - sound in particular. The sound range depends on weather conditions, vegetation, topography, temperature and humidity.

Depending on the method to be applied military deception can be defined as:

- active - when coupled with active [18] actions against adversary forces to achieve a certain effect;
- passive - when active actions are not taken against the adversary forces;
- direct - when the measures are taken directly towards the object of deception;
- indirect - when the undertaken measures are directed towards other objects and systems, but they aim at influencing a change of decision of the object of deception;
- combination - when active and passive actions are applied against adversary forces.

Depending on the needed effect, military deception can be categorized as follows:

- blocking - when suspension or delay of certain actions of the adversary forces is aimed at;
- encouraging- when the aim is to urge the adversary forces to undertake certain actions;

Depending on the type of tasks, the events on the misleading of the adversary forces can be carried out by:

- concealment;
- mimicry;
- demonstration;
- disinformation.

Concealment uses events and methods of camouflage which exclude or impede the identification of exposing signs by the adversary forces, thus protecting the formations, their actions and sites. Concealment can be used to hide the preparation for combat actions, to mislead the enemy as to the availability, state and readiness of units and formations, their armament, the way the firearms are used and the warfare. It can be achieved by compliance with the camouflage discipline, using the camouflage properties of the area, the conditions of limited visibility and by the use of engineering and technical ways and means. Concealment should be conducted by the formations permanently without specific instructions from the senior commander (headquarters).

Mimicry reproduces unmasking signs, inherent to real sites. It envisages the creation of false positions and areas of formations' deployment, fake sites using mock equipment and other means of camouflage, by constructing mock sites, and by imitating signs of activity of units and formations.

Demonstration (demonstration actions) is a set of deliberate display of real military unit movement, rearrangement, concentration and warfare. Its aim is to paralyze the adversary forces in secondary directions or to display the concentration of a large amount of forces and resources in certain areas. It is usually conducted with limited forces and resources allocated by units and formations. The formations participating in the demonstration may not know the real purpose of their tasks. This is done in order to maximize the reality of the demonstration [19].

Disinformation is designed to provide the adversary with false and misleading information of different nature. It is one of the most - powerful means of operational camouflage due to the large number of tools and the methods for their implementation. Disinformation is carried out in strict accordance with the design of the commander to conduct the operation and to mislead the adversary force.

According to the type of operations [20], in which adversary deception is planned, organized and incorporated, the deception can be:

- in combat operations (defensive, offensive operations);
- in security and stabilization operations;
- in peacekeeping operations.

The content of the actions related to adversary deception in each one of the above mentioned operations is identical, but the methods and the effects sought after will be different.

Depending on the location, the activities concerning military deception are planned and carried out depending on the area of operation and can be:

- in the zone of the operations;
- the close zone of operations;
- the deep zone of operations;
- the rear zone of operations;
- in the area of influence;
- in the area of interests.

The place where the misleading actions will occur is of great significance in the operations planning, as according to the determined critical points and importance of each operation, it is necessary to estimate the distribution of forces and resources. If misleading

actions in defensive operations concentrate mainly in the zone of close and rear operations, in the offensive operations the concentration is primarily in the zone of deep operations. It is necessary to have a detailed planning and accounting for the effects and results of adversary deception designed for the area of influence and area of interests, especially in stabilizing operations, since substantial damage rather than advantage can be induced.

Depending on the type of the object [21] of the adversary deception we can speak of:

- collective - actions taken are designed to affect a wide audience and are aimed primarily at the collapse of morale and will of the adversary to fight;
- individual - it is aimed at adversary decision makers.

Actions, activities and events related to military deception can be planned and implemented on a unified plan or independently; over a period of time or once only; by applying always the same techniques or combined methods.

Depending on the period of time the actions are conducted, the adversary deception can be subdivided into:

- deception activities before the real actions [22];
- deception activities along with the real actions;
- deception activities after completion of the real actions.

Technical and administrative events, designed to conceal one's own activities and to create wrong impression about the real intentions and goals in the adversary are usually planned and carried out before the real actions. Military deception along with real actions is implemented mainly for demonstrative purposes. Efforts are directed to divert the fighting power of the adversary forces from the direction of decisive tactical actions and to transfer it to secondary. Actions, measures and activities related to the adversary deception after completed real actions is usually applied in order to conceal the intentions of subsequent operations; to create a certain public opinion or to divert the intelligence of adversary forces from the created unfavorable conditions for their own or neighboring units.

3. DECEPTION MEASURES AND THE GULF WAR

There are a lot of cases which illustrate the development of the strategy of a military deception and the opportunities to employ deception based actions in the time of war, but one of the most successful demonstrations of adversary deception occurred during the first Gulf War when the military formation known as "Troy" was involved [23]. This formation, consisting of 460 people, managed to create a "ghost division" (fake division) with only five tanks, a few wheeled vehicles, 4th Psychological Operations Group, small units of the United States Marine Corps and British Army.

Battle group "Troy" took up an offensive position, covering an area usually taken up by a division. The aim was to make the enemy believe that there was an American division deployed against them. Models of armored vehicles, artillery guns and helicopters as well as a set of loudspeakers to achieve the illusion by emitting sounds of tanks, trucks and helicopters were included in the operation. This acoustic emission confused the Iraqi posts for sound intelligence. Part of Iraqi intelligence officers attempted to prove the sound authenticity, but they were prevented to do it by Apache helicopters and attack aircraft A-10 Thunderbolt II, which were in the state of readiness to render support to the military deception operation.

Before long, the Iraqis stopped investigating the origin of the sounds and took for granted the fact that they were facing a military formation with the size of a division at least. This successful deception blocked a large number of Iraqi troops and allowed the other units of the coalition to redeploy for the next flanking maneuver.

The strength of an American division is approximately 17 000 to 21 000 people, i.e. the ratio of imitating forces and resources to imitated ones is 1:36 to 45. If we compare these figures with the concept of the Soviet military science that the ratio of imitating to imitated resources should be about 1: 3, it can be inferred that these actions are an extremely successful example of adversary deception employment.

The last example shows that skillful planning, organization and use of contemporary technical equipment combined with skilful performance may enhance the efficiency of deception operations significantly over the conventional military science concepts of it.

4. CONCLUSIONS

It is possible to deceive opposing forces through the use of multiple methods, forms and techniques, and by applying specific approaches, techniques, tactics and procedures. There may be different goals and objectives; different effects may be sought after in order to achieve certain results.

Military deception can be practiced at all levels of command and control using various assets and resources. In short, this is a very diverse part of military science and art which incorporates elements of many of its subdivisions, which combined in a certain way are used to fulfill the mission and ultimately to reach the desired end result.

NOTES AND REFERENCES

[1] In allied publications of the USA and NATO, actions related to employing deception to adversary forces is referred to as “masking”.

[2] А.А.Бекетов, А.П.Белокон, С.Г.Чермашенцев „Маскировка на действията на подразделенията от сухопътните войски”, 1978 г. стр.7, 8.

[3] Черненко А.П Некоторъе вопросы обмана противника в оборонителном бою. В.мысль, 1994, no. 8.

[4] FM 90-2 Battlefield Deception, http://www.fas.org/irp/doddir/army/fm90-2/toc.htm.

[5] JP3-13.4 Military Deception, https://community.apan.org/ioc/m/mildec/108373.aspx.

[6] The Doctrine of the Armed Forces of the Republic of Bulgaria. C., Military Publishing House, 2011, Guide for Planning of Operations, Part II - operational level”;” Guide for Planning of Operations - Part III - tactical level”.

[7] Dimitrov D., Opportunities for land force tactical formations to implement techniques and forms in order to deceive the adversary. “G.S.Rakovski” DA, Thesis 2013.

[8] Bell and Whaley, Cheating and Deception, p.45 - 74. Transaction Publishers, 1991, second edition, ISBN: 9780887388682.

[9] Donald Daniel and Katherine Herbig, Propositions on Military Deception, p. 3.

[10] Mark Johnson, Major Jessica Meyeraan, Military deception: Hiding the real - showing the fake, USAF Joint Forces Staff College, Joint and Combined Warfighting School, 7 March 2003.

[11] Michael Dewar, The Art of Military Deception in Warfare, 1st ed. Newton Abbot, UK: David & Charles, 1989, 9 - 20. ISBN-13: 978-0715392225.

[12] According to the Military Doctrine of the USA.

[13] In sources from Russia the classification related to military deception refers to it as military trickery.

[14] JP 3-13.4 Military Deception, Chapter I, https://community.apan.org/ioc/m/mildec/108373.aspx.

[15] The Doctrine of Land Force Operations C, 2014.

[16] JP 3-13.4 Military Deception Chapter I - 6, https://community.apan.org/ioc/m/mildec/108373.aspx.

[17] FM 90-2 Battlefield Deception, http://www.fas.org/irp/doddir/army/fm90-2/toc.htm, 5:1.

[18] The active actions include the whole set of military and non-military, fatal and non-fatal actions.

[19] A.P. Belokon, S.G. Chermashentsev, "Masking the actions of Land Forces units", 1978, pp. 7-8.

[20] Doctrine of the Armed Forces of the Republic of Bulgaria. C., Military Publishing House, 2011.

[21] The "subject" of the military deception is the one who plans and executes the military deception actions, and the "object" of military deception is the one against whom the military deception is conducted (i.e. the adversary).

[22] The term "real actions" is used as unifying both combat and stabilizing actions.

[23] Gulf War Loudspeaker Victories." http://www.psywarrior.com/loudspeaker.html.:2-3.

INSTRUMENTS OF DEFENSE RESOURCES OPTIMIZATION. DEFENSE RESOURCES MANAGEMENT AND PERFORMANCE MANAGEMENT

Florin-Eduard GROSARU

Associate Professor, PhD,
Regional Department of Defense Resources Management Studies, Brasov, Romania

Major decisions to allocate defense resources lead to high expenditures. What is more,they always generate extremely high public expenditures for long periods of time and that actually influences multiannual budgets. One solution to mitigate the great social impact of that is to plan defense resources by focusing on performance and transparency to the supporting citizens so that political and military decision makers are clear about the priorities and constraints placed by previous commitments on current decisions, as well as by the limitations posed by current commitments for future decisions. It is only thus that the inherent processes supported by defense resources allocation systems based on performance management reach maximum efficiency and effectiveness.

Key words: *defense resources, optimization, defense resources management, performance management.*

1. INTRODUCTION

The ongoing metamorphosis of humankind engenders changes to the infinitesimal level of all fields of social life. Nowadays world is presented with a clear-cut dichotomy between globalization and fragmentation. In this respect, it is beyond any shadow of doubt that the underlying forces of this are the power drive that characterizes human beings, and the differences among civilizations: *"The key issues on the international agenda concern differences among civilizations. There is a power shift from Western civilization to non-Western ones. Global politics is multi-polar and multi-civilization."*[1] Globalization has already shown its strength and tends to engulf fragmentation. Thus, nowadays' mega-networks of all kinds –IT, product distribution, mobile phones, fast cross border transportation, the borderless products that have conquered the life of young generations, along with other features of globalization play an active role even in those cases when, at least at organization level or at the level of formal statements, fragmentation becomes manifest. Moreover, globalization plays a perfidious role in motivating the actions of the great world players. These are keen on meeting their economic and financial interests related to ensuring their safe cheap and unconstrained access to resources and markets worldwide while striving for power and influence and taking measures meant to prevent competition from using the same resources. Hence, *"[...] Economically speaking, we live in something that is very close to One World. The trouble is that politically, it isn't. [...] Hence we can see that globalization changes our world because it increases economic competitiveness and political defensiveness. Is there a solution*

to this problem? It is of the yes and no that makes the global problem difficult". [2]

In this context of globalization as an encompassing phenomenon, the concept of state security no longer refers solely to the military field. It acquires new meanings from fields like economy, finances, politics, society, environment, etc. that are well integrated, planned, balanced and correlated. Thus, it comes as no surprise that globally speaking the monopoly over the decision making process, or at least the influences the latter is subjected to, is manifest in all fields: social, political, environmental, military, etc. While the main instruments used to this purpose are of economic and financial nature. Currently, economy, which is an important pillar of a state influences the other fields but it is also subjected to their influence, as well.

The military field is part of the social environment and hence of its evolution. Consequently, the new technical, scientific and information discoveries have generated a breakthrough in the military since the latter is mostly sensitive to technological changes and the political will of society. In this respect, a study focused on the forecast for the defense market published by IHS Jane's Defence Weekly [3] outlines the factors that contribute to world competition in the defense sector: problems with national budget construction and assurance, customers' requests that are incessantly on the increase and changing, frequent political changes, and pressure of prices. The chapter on defense expenditures for the next four years (2014-2018) underpins all of the above. Other issues approached by the study are the evolution of the most important world markets in the defense field (Saudi Arabia, Australia, Brazil, the Great Britain, China, South Korea, India, France, Germany, Russia and the USA), and the estimation of defense expenditures for seven regions of the world (Africa, North America, Latin America, Asia/Pacific, the Commonwealth of Independent States, Europe and Middle East). Thus, for the aforementioned time period, an increase of 5.3% in defense expenditures, and hence in the quantity and quality of defense resources, is estimated. Even though this increase is not of a significant nature since it actually refers to the technological update/upgrade required by likely future conflicts, it actually highlights nations' political will to preserve their power status that they have acquired at regional and international level.

Thus, the military field is completely dependent on the society it serves and as such does not cease searching for the best solutions in terms of efficiency and effectiveness to the goals established by the political factors. In this respect, successful strategic military plans build upon an optimal integration of strategic concepts and a planning of capabilities and resources made available by the civil political component that measures up to performance standards. Hence, the concept of optimization relies on interrelating the commitment of top level decision makers of a nation to the defense field with the rigorous analysis of the latter's requirements, affordable costs, necessary programs and capabilities needed. Basically, military planning is inherently related to judicious human, financial, logistics, information resources planning.

In conclusion, the military system is nothing but a resource consumer, even though its resource requirements are never fully met. As such, it needs to transfer the goals established by the political decision making bodies into capabilities in a transparent and optimal manner.

All of the above considered, the aim of this paper is to analyze, outline and describe the fundamental concepts and instruments that underlie the complex process of defense resources allocation so that the evolution and the dynamics of

the aforementioned research field is properly grasped.

2. DEFENSE RESOURCES MANAGEMENT

The question that emerges when first encountering the concept of "defense resources management" is **"Why approach defense resources management as long as there is already the well-defined concept of management?"**.

In order to provide an answer to this, the paternity of the aforementioned concept must first and foremost be identified. Thus, the first to use it was the North American public management system as a result of the differences between the increasing requests for resources on behalf of the military system and the responsibility of civil governmental authorities to meet these and their willingness to do so under constraints such as: the amount of resources could be reasonably assured and the arguments underpinning the requests were clear and transparent. These clear-cut limitations were actually the result of overlapping missions of the armed forces services that led to requests for resources that served similar goals but for different entities. Moreover, the economists were already convinced that the defense sector had proven inefficient from an economic and financial perspective. The evaluation criteria by which such a conclusion was reached were: efficiency, need and timeliness of resource consumption, as well as goal precision, since it is a well known fact that the very purpose underlying the existence of the defense system, that is **"national security'**, is immaterial and pretty vague for the common tax payer. Hence, the concept of "defense resources management" initially referred to defense expenditures.

Under these circumstances, the political and military decision making bodies had to search for scientific means by which to make resource requirements so that the capabilities built/employed were large and flexible enough to counter any future unpredictable crisis and the planning of military activities could meet the challenges raised by a volatile security environment [4]. Having determined the fundamental needs of the defense sector, the issue of establishing, evaluating and justifying both defense programs and the solutions chosen to build them had to be tackled. In this respect, the approach was two-fold. First, an answer to the question: "How much is enough?" [5], had to be provided. Second, the best action plans had to be elaborated while assuring the abilities that are required by the swift adaptation to crisis situations.

The solutions to all of the above queries consisted in the identification and adaptation of those methods that had proven successful in private companies to the defense environment in order to optimize the allocation of available defense resources and hence to increase defense efficiency and effectiveness by adopting objective decisions. The result was the coinage of the **"defense resources management"** concept that managed to a certain extent to eliminate the differences created by the multiple constraints expressed as: necessary/allocated/executed/justified.

As for the proper definition of the aforementioned concept, there have been attempts on behalf of theorists in this direction but their explanations concerned mostly the instrument by which the management of defense resources is undertaken, that is the planning, programming, and budgeting system of defense resources.

All of the above considered, the concept of "defense resources management" and more specifically the nominal phrase of "defense resources" requires clarification. Thus, the term of "resource" alludes to *"the supply or the source of the means that may be used at a certain moment"* [6], while that of defense resources has acquired multiple

interpretations. For instance, the Military Lexicon defines it as *"the sum of means available at a given moment to meet the needs triggered by military actions"* [7]. This definition is not too different from the one provided by The Romanian Law on National Defense: "the sum of human, material, financial, and other resources assured and employed by the state with a view to supporting the defense of the country"[8]. In terms of the resources that are part of the defense area, the Integrated Concept on Romania's National Security (in Romanian: Concepția integrată privind securitatea națională a României) approved by the Romanian Supreme Council of National Defense (in Romanian: Consiliul Suprem de Apărare a ării; acronym: CSAT) in April 1994 identified these as *"[…] the capacity and possibility on behalf of the Romania to defend and promote its fundamental national interests"* [9]. As far as all of the above definitions are concerned, the similarities are worth noting: the role of state as a generator of unlimited possibilities for the defense area with a view to assuring citizens' safety and national security. Consequently, if to all this the notion of "defense', defined as "one of the main ways of conducting battles that focuses on stalling enemy's offense; the sum of measures taken to serve this goal" [10] is added to all of the above, then the concept of defense resources refers to the sum of entities that generate forces, means and information available to the state and that, by their nature or destination, can be used by the state to stop hostile actions of an adversary that is viewed as an enemy.

Defense resources management is defined by specialists in many ways in a more or less complex manner. However, what underpins these explanations is the fact that this type of management is the instrument that supports the military in achieving the goals outlined by the political bodies. In this respect, W. Hinkle and V. Gordon view this type of management as a complex process consisting in interrelated activities and that begins with the delineation of medium and long term objectives, continues with outlining plans aimed at reaching these, with budget allocation for the aforementioned plans, with their implementation and ends with feedback and plan review [11]. Referring to the same complexity, Mirela Pu ca u underlines the following: *"defense resources management can be defined as the sum of activities, skills, abilities, experience, competence and masterly endeavors to conceive, implement, correlate, coordinate and lead the process or processes meant to identify, evaluate, allocate and efficiently use human, material, financial, technological, information, cultural and other resources needed to generate and regenerate the forces, means and activities required to continuously optimize the national, European and international environment, as well as to put the concepts of security and defense into practice."* [12] A more general definition of the same concept describes it as the specific system of accomplishing goals by employing instruments contributing to the analysis and evaluation of alternatives [13].

Basically, *"regardless of its definitions, the goal of defense resources management is assure an efficient and effective of limited defense resources in accordance with the multiple goals and priorities of national defense. […] Any defense resources management system needs to assure the link between defense goals, military requirements and available resources"*.[14]

To sum up, defense resources management is a sequence of activities pertaining to planning, organizing, decision making, coordinating and controlling, all of which are part of the process of employing defense resources that

supports the implementation of the country's defense policy.

2.1. The role of defense resources management

And yet, **What is defense resources management needed for?** In this respect, its role can be described as aiming at allocating resources in the military field in order to support the decision making process by supplying relevant data while allocating the exact amount of time for the efforts made in this direction. Simultaneously, defense resources management is the unequivocal mathematical and transparent process of allocating resources. As a result of its salient feature that allows it to be used as a planning instruments that can be used in any field and hence contributes to the elimination of the arbitrary in allocating resources, it builds communication channels among political decision makers, military experts and citizens. Moreover, defense resources management provides leaders with adequate and efficient instruments that allow them to make reasonable and well argued decisions.

Another question tightly related to the previous ones concerns the **history of defense resources management**.

This type of management dates back to the "60s in the USA. During the Kennedy administration the Department of Defense, under the leadership of the State Secretary, Robert McNamara, identified a series of specific issues like:

The lack of planning, organization, execution and control on short and medium term;

- The shortage of instruments to evaluate the accomplishment of goals as compared with the resources allocated and with the ones employed;
- The absence of a clear correlation between strategic analyses, resource allocation and defense budget elaboration;
- Rivalries among services generated by inequitable and subjective allocation of resources;
- The lack of a joint analytical grounding of resource allocation on behalf of all services;
- The absence of a unique plan in the field of defense planning on behalf of the State Secretary that should have framed an integrated vision on national security, priorities and inherent resources;
- The lack of unique budgeting for all services and hence the faulty perception that the budget was merely an instrument for financial management and not a management instrument that needs to identify priorities and balance resource allocation;
- The lack of a forecast for multiannual expenditures since budgeting was a yearly endeavor;
- The shortage of estimates on the expenditures generated by using armament during its whole life cycle.

The burden of all of the above, as well as the looming threat posed by the Communist countries, especially by the Soviets, the financial pressures generated by the US direct involvement in military conflicts [15] led McNamara to the reform of the whole system of defense resources management. The success of this endeavor was highly supported by his wide experience in managing important private companies – he had been Chief Executive of the Ford Motor company and as such had innovated a lot at management level-, by his knowledge of system theory, statistics, etc. One of McNamara's priorities was to turn the goals established by the political decision makers into public policies and, hence, into complex models of planning supported by coherent systems of budget planning. Charles J. HITCH, Under Secretary of State in the Department of Defense brought an important contribution to the aforementioned efforts

by introducing the methods of operational research in high level policy. In this respect, his scientific preoccupation with the development of models aimed at correlating human activities with expenditures and performance contributed a lot. It is thus that the Defense Planning, Programming, Budgeting System, as an instrument of defense resources management, is framed.

The success of restructuring defense resources management based on the direction formulated by McNamara led to its optimization, as well as to the clarification of its three most important elements and their inherent roles: planning- as a strategic long term endeavor, programming- as a medium term breakdown of the activities required by the planning stage, and budgeting- as a short term effort that involves identifying the costs of each activity by estimating its evolution towards meeting the goals and objectives already established.

Despite the success of McNamara's reform in the field of defense resources management, there were no substantial changes in the USA in the "60s and the "70s. The causes were more of a psychological nature and were related to the unfavorable opinion of the US citizens on the Vietnam War. That led to a softened stance on behalf of politicians as far as the identification of other likely threats to the US national security was concerned. Consequently, the Congress, the political decision maker, rejected McNamara's criticisms of the defense program on grounds that they were nothing more but arguments in favor of transforming the US into a "world policeman'. Moreover, the structures within the military system did not join their efforts to outline a planning concept based on uncertainties. What they actually did was to focus their efforts on countering the main Soviet threat and a few other crises that they viewed as important.

However, the "70s is the time when the US defense resources management system is imported and implemented in various forms, entirely or partially, fully or less adapted to the national cultures of Western countries like: Australia, Belgium, Canada, the Great Britain, Norway, the New Zealand and Sweden [16]. Moreover, the volatility of the security environment generated by the by the Soviet invasion in Afghanistan in 1979 and by the events in the Persian Gulf and Middle East in the late "70s and early "80s led to a revival of the philosophy underpinning defense resources management and to the emergence of the concept "regional threats'. This concept generated the necessity to build capabilities different from those targeting a total war on behalf of the Union of Soviet Socialist Republics (USSR) in Europe, namely smaller scale capabilities for deterrence and defense. Thus, the need to build a rapid deployment task force and a central command structure [17] led to specific defense program. The latter was not a success in terms of planning under uncertainty. However, it generated new capabilities and, most importantly, led to the adaptation and guidance of political and military decision makers towards the realities underpinning the geopolitics of the last decade of the "80s, both of which were tested in Irak in 1990.

The methods employed in planning under uncertainty had worked pretty well until the "80s when, the change in the approach to defense resources management that occurred alongside with the geopolitical permutations of the time forced the political and military decision makers, as well as the strategists to reconsider, even though not entirely, their stance on an imminent war between the East and the West. Thus, all of the above made them focus on the likelihood of wide spread small scale confrontations that could occur in important regions of the world. In this respect, the ultimate threat envisaged by the aforementioned specialists was the simultaneous emergence of such

conflicts. The 1990 experience in Iraq showed both the limits of classical methods and of the small changes in the defense area from the "80s since the USA was not operationally ready for such minor threats. More specifically, even though the USA had the advantage of qualitative forces and excellent capabilities, it was not ready to act swiftly politically or militarily in order to remove non-standard threats [4]. However, with a view to all this, the paradigm of defense resources management formulated in the "80s is the closest possible to planning under certainty.

2.2. Current approaches to Defense Resources Management

As far as the question: **What is the current approach yielded by defense resources management (DRM)** goes, the answer is that the current DRM is based on the principles of planning, programming and budgeting established by McNamara in the "60s [11]:

- The process of decision making in the military system must be initiated to solely serve national interests.
- Defense needs and costs must be balanced since, unavoidably, the important decisions in the defense area are made within limited resources.
- Multi-annual plans are necessary in order to forecast the consequences of current decisions.
- Explicit and objective analyses must underlie the decision making process in order to assure the latter's complete transparency.

Current resources management relies on three fundamental activities that uphold a completely transparent system so that current commitments and results are tracked, controlled and recorded. These are as follows:

1) Establishing practical objectives. It is common knowledge that defense objectives are part of national policy. Consequently, they must be perfectly aligned to the other national objectives. Moreover, they need to be formulated in such a manner that they are achievable and measurable in order to guide resources allocation and management to the end of meeting the national interests in terms of defense. As a result, the objectives must be formulated by taking into account available national resources, as well as the costs estimated based on the resources required to accomplish them. Therefore, planners have to adjust their objectives until the final costs envisaged or these are well defined. All of the above is very well summed up by Russell MURRAY [18]. According to him, there is only one criterion that contributes to the identification of what is the desirable content of a policy (to be read as objective), regardless of how satisfactory that was: *"My criterion for what a policy statement should say, whether it was satisfactory, was whether you could distinguish by their actions those who had read it from those who had not."*[19] Thus, the assessment of an objective is best done by evaluating the actions of those who decided implementing it upon having perused/understood it. Basically, this iterative process inherently reduces the uncertainty level and increases the chances to perfrom well in accomplishing objectives.

2) Force planning and subsequent financial needs involves the development of multi-annual comprehensive and realistic plans. Moreover, it is the stage that normally follows the setup of realistic objectives. In this respect, the adequate elaboration of plans is based on transparently encompassing all major political decisions concerning resources allocation, as well as on efficient methods of easily turning requests into yearly budgets. Since resource allocation decisions are based on estimates of future costs and performance, force and financial planning is adjusted annually in accordance with the realities of a given time period and

cost fluctuations. Consequently, the purpose of such an activity is to support political decision makers in making decisions concerning national defense. The details related to resource allocation become the task of the specialists in the military field who make the necessary adjustments in order to develop realistic multi-annual budgets.

3) Use of independent analyses of Defense Resources Management is the most difficult, controversial and yet important initiative required to effectively allocate resources. Impartial evaluations made by disinterested parties objectively support the political and military leadership.

In conclusion, nowadays, the concept of Defense Resources Management is defined by the elements from within the planning, programming and budgeting system that are aligned to the surrounding environment. Thus, strategic planning identifies strategic goals and determines the inherent activities and their sequencing through medium term programming and by budgeting their costs on short term. This is a two way process since, based on ad-hoc constraints bearing direct impact on budgeting, the action plans (i.e. programs) need adjustment and that triggers the review of strategic planning.

At the end of the "90s, Defense Resources Management faced challenges generated by the geopolitical and geo economic transformations that emerged worldwide. These led to deficiencies/ mismatches in force planning in the defense area, great budget constraints, massive downsizing of military personnel, legal restrictions (especially in East European countries), as well as important issues related to the understanding and implementation of defense resources management systems at national level. All of the above impacted the international community and, in this respect, the North Atlantic Alliance is a very good example. The solution to the deficiencies was the elaboration and implementation of capabilities based planning system. This proved efficient and effective in generating a flexible, mobile and adaptable force. Even though the concept emerged at the beginning of the 21st century, it is evolving as a result of both the complexity of the current defense and security environment and the need to become aligned to the existing planning processes.

As far as the concept of capability is concerned, there is still a high degree of confusion about it and, as a neologism in the Romanian language, it is often defined as capacity or adaptability. The term actually refers to the ability to manage the capacities available at a given moment in time. In the military field, a capability refers to the sum of abilities, skills, competences developed, as well as to the available defense resources.

Thus, capabilities based planning *"[…] introduces the novelty of integration…[author note:of all forms of defense planning]… in a more flexible framework focused on the adaptation to the current security environment by identifying the necessary capabilities, analyzing the options of developing them in terms of costs, effectiveness, risks, feasibility, use of standard modules within the constraints imposed by the availability of defense resources"*[14].

2.3.The Romanian approach to Defense Resources Management

With a view to all of the above, the inherent question is: **What is the Romanian approach to Defense Resources Management?**.

It is worth reminding that Romania is part of the former communist countries and, as such, its defense planning inherited from communist times used to be excessively centralized, rigid and completely dissociated from the missions of the armed forces and inherent costs. The forces were mostly worn out both physically and psychologically and hence unable to react to the new threats and risks emerging with the radical changes in the world's geopolitics. Under these

circumstances, Romania adopted and implemented a new way of defense planning based on planning, programming and budgeting as described by the US specialists beginning with the "90s. This new direction of Romania in defense resources management was regulated by the Law on defense planning no.473 of 2004 which is also in full compliance with the commitments made to NATO. This was subsequently followed by a number of legal provisions and documents concerning both the national level and the military system: the National Security Strategy, the Defense White Paper, the National Defense Strategy and the Military Strategy, orders of the Romanian Minister of Defense, all of which were meant to regulate the functioning of defense planning and, inherently, the whole Romanian defense resources management system. The full implementation of an integrated defense planning requires long term reforms and Romania pledged to implement them and showed commitment in doing so.

As already mentioned, the Romanian defense resources management system is based on the one developed in the USA and adapted to national features. The two systems share the same goal: to connect defense goals and objectives with the resources required and allocated; the same stages: planning on long term, programming on medium term and budgeting on short term; the same desideratum: to establish common objectives for the structures within the defense system concurrently with identifying and establishing priorities for resource allocation as required jointly by the services. One major difference between the two systems resides in the means of developing the program structure. While in the USA this is triggered by missions, in Romania it is framed by force categories. In Romania, DRM as a process is based on the interactions among the three main systems: the Planning, Programming, Budgeting and Evaluation System; the Requirements Generation System and the System of Defense Acquisitions Management. Basically, these include all programs and activities unfolded at national level as part of Romania's contribution to the collective defense mechanism from within NATO and the European Union, to other international organizations/ institutions or are part of the bilateral/ multi-lateral relations signed by Romania with other partners.

Currently, the Program for Government 2013-2016 established the direction to be followed by the Ministry of National Defense. In this respect, Romania's priority is to consolidate its position within the international organizations which is part of. To this end, the focus is on accomplishing the commitments made as a member of NATO/EU by making the capabilities based defense planning process more efficient and adaptable to the processes employed by partner countries. In this respect, Romania is making efforts to diminish the deficits in capabilities as identified and listed in the Critical Capabilities Package issued during the Lisbon Summit in order to implement the project: NATO Forces 2020 [20] that is exclusively focused on developing capabilities through the Smart Defence [21] initiative of NATO, as well as through the latter's equivalent at EU level: Pooling & Sharing [22]. All of the above are nothing but the result of NATO's new vision on defense planning launched in 2009 and known as NATO Defence Planning Process – NDPP. This is actually the institutional framework created by allies to support one another's efforts to develop their own capabilities and forces, as well to cohesively approach the issues the Alliance needs to tackle and thus eliminate the overlaps among member states. In line with this approach, Romania has harmonized its defense planning system to NDPP by changing the time frame for its defense planning from six to ten years and, consequently, harmonizing procedures in order to develop its capabilities as part of a broad vision and, intrinsically, making the necessary legal changes –a new defense planning law– and

issuing the subsequent regulations needed at institutional level.

In our opinion, the future development of the Romanian defense system needs to be focused on efficiency, flexibility and transparency in the context of increasing regional and international risks and threats to national security. Other factors that also play an important role in this development are Romania's partnerships with world organizations and the tendency to preponderantly allocate the national budget to fields viewed as priorities (i.e. education, health, infrastructure investments, etc.). In order to meet the requirements and overcome the constraints already described, an efficient implementation of an optimal performance management system is needed.

2.4. Performance management

Performance management is quite a new concept advanced in the international debates among specialists in management, despite the theories dating back to the 18th and 19th centuries. In terms of conceptual delineations, the term of performance can be viewed from different perspectives [23]. According to the Dictionary of Romanian Language (in Romanian: Dictionarul Explicativ al Limbii Romane, acronym: DEX) [24], it refers to: *"the (exceptional) result obtained in a field"*, or *"an accomplishment in a given field"*, to mention just a few of the plethora of meanings associated to anthropology, biology, culture, pedagogy, sociology, philosophy, economy, didactics, etc. Thus, the term is related only to results, that is to quantifiable outputs of an activity or process. The common denominator in this case is the reference to overcoming a barrier established by the initial forecast of the result yielded by an activity or process. In other words, performance is about surpassing average results. However, current theories call "performance' even the results that are below average or below the standards initially established. In this respect, it is worth noting though the socio-linguistic difficulties posed by this term as it is explained, understood and used in the Romanian and the English languages:*"…the definition provided by the dictionary [author's note:DEX] includes the term into a category of excellence from the very beginning […]. But such a category does nothing but to impose constraints. Thus, the current use of the word in the Romanian language can mislead, especially when it is used along with the neologism of 'management'. Moreover, there is no verb entry in DEX that is associated to the same area of meanings as the noun. […] …the definition provided by Oxford Advanced Learner's Dictionary takes a two-fold view on the term of performance, which is actually a valid one if the term is to be properly approached. According to the definition provided, the noun "performance' refers to "how well or badly you do sth.;how well or badly sth works', and, to accomplishing a specific task, activity, etc. "the act or process of performing a task, an action,etc.', a meaning that is to be found under the verb entry, as well. "* [25]

All of the above considered, it is important to underline that the term "performance' cannot be equated to that of "result', that is to "what results from an action, a consequence, effect" [24]. Performance is attributable to human actions, even though some of the current uses of the term refer also to technology. Hence the question referring to how performance can be reached can only be answered by advancing the phrase: performance management. Technically speaking, performance management refers to the features of a device, system or technical process that usually works within specified parameters. However, these features can always be improved as a result of technological evolution. This is not the case, though, with the human being. The latter can evolve, but to what point? How much can a human being be improved within its biological constraints? This is where

actually performance management steps in and places the individual within lucrative groups and processes so that organizations can benefit.

Thus, what is performance management after all? There have been various definitions of this concept in time. One of these focuses on the evaluation of the results yielded by specific actions. Others refer both to such an evaluation and to the process itself that generates the results and its monitoring in order to intervene when needed. In this respect, Bititci&McDevitt [26] claim that performance management is the process used by companies to manage their performance in accordance with their corporate goals and functional objectives.

To sum up, *performance management is the science and art that makes available to all organization members –managers and employees, alike- the theoretical and practical instruments that are needed and convenient, at the same time, with a view to professionally motivating them to attain organization goals in an efficient and effective manner*.

2.4.1. Roles and benefits of performance management

In terms of the roles played by performance management these can be summarized as: assuring the support needed by organization employees to focus on the alignment of individual professional objectives to those of the organization. It is thus that motivation for achieving performance standards is assured, and this can lead to increased productivity at organization level. Moreover, the transparent break down of organization goals into objectives and the dissemination of the latter at all levels, assures a clear understanding of organization vision on behalf of all employees. Performance management assures the implementation of "win-win" strategies that actually contribute to the employees' direct and unrestrained involvement in the evaluation activities inherent of this concept. The effects of unfolding activities become visible as a result of performance management instruments that allow managers to monitor the accomplishment of specific objectives and of performance indicators. That leads to saving time, to optimizing ongoing processes and to increasing the efficiency and effectiveness of production flow. Last but not the least, the greatest benefit possible generated by performance management consists in the performance itself.

From another perspective, performance management contributes to the establishment of the roles and functions of each and every structure within an organization alongside with the setup of performance standards and indicators. As a result, a direct automatic relationship is established between roles and standards and that allows for the implementation of medium and long term plans. To this end, vertical communication and understanding performance indicators become mandatory requirements for each organization unit. Last but not the least, measuring and evaluating results, ensuring feedback in an objective and productive manner are other important components of performance management.

The loop described by the performance management process is closed through feedback. According to Daniels AUBREY, for this to occur, two important elements are needed: forecast result (i.e.quantifiable data) and desirable behaviors (i.e. actions) that contribute to accomplishing the former. Thus, the term feedback must not be mistaken for general information or data. Feedback refers to the information related to performance and that allows an individual to adjust result [27]. Feedback becomes really important in the measurement and complex analysis of organization performance and determines intervention when needed. In this respect, in his book: *Perform or Else: From Discipline to Performance*, Jon McKenzie underlines that, since the performance of every organization is in a continuous change as a result of feedback and under the influence of internal and external factors,

it is important for the outputs of an organization to become inputs. That creates a cyclical process that is adaptable and useful to making those adjustments needed for an organization to prove efficient and effective [28].

In conclusion, performance management is an elliptical process that links employees' individual professional objectives with those of the organization by planning future performance and optimizing processes. Consequently, the components of this process cannot be isolated: they are interlinked and generate final products that underpin organization development goals. In this respect, the trends in performance management underline the need to concentrate on medium term planning, since this allows for a greater predictability of short term result and, consequently, interventions within the process can no longer influence it negatively. Moreover, this type of management is about creating a certain flexibility in defining and describing the responsibilities of organization components with a view to encouraging employees' initiative and creativity and developing and maintaining an ongoing dialogue between managers and their subordinates. In this respect, as Codreanu A. [25] notes, performance management can be undertaken *"only through partnership* [author's note: between managers and employees], *a proactive attitude, focus on mutual benefits rather than on individual ones, skill improvement and competence development, open and quality oriented attitude"* and, consequently, *"one can make the transition between a view in which performance means hard work to one in which performance means efficiency"*. It is thus that actually the views on performance management underline the importance of identifying and delineating the sum of factors underpinning performance.

Most of the above considerations are anchored in theories developed based on realities from private companies. However, public management raises just as many challenges. There are specialists who track the origins of performance management back to the evaluations of high officials of the Wei dinasty (3rd century) or, even before that, during the Han Dinasty [29]. Similarly to the private environment, the public field needs to continuously adapt to its external environment as a result of citizens' requirements, changes in the private environemnt and international mutations. Nonetheless, when adapting to all of the above, there are minor delays and even reluctance because of legal constraints and bureaucracy. As a result, *"even for governments and non-profit organizations the focus is on efficiency […] at a time when activities are required to unfold with the same precision as thos of any business"* [28]. Under such circumstances, efficiency and effectiveness must be understood in terms of maximum standards, while performance management is a useful and necessaary instrument to this end.

In the case of the military environment, which is part of public management, performance management adapts to the former's features and underpins the activities of structures, their inherent systems and processes. Thus, it supports force training and readiness for battle, development and maintenance of capabilities, assurance of armamments through acquisitions and maintenance, and last but not the least, assurance and deployment of operations. The ultimate proof of effective performance management in the military is winning battles with minimum resource waste. However, this is an extreme case and, evidence of system functioning in peace time is preferrable.

As already highlighted, the international environment impact the defense area. Concerning this, the sociologist Morris Janowitz describes the outlook on the modern armed forces: a professional force that is no longer rigid, inflexible or costly for society and relies on capabilities, a diminishing of the civil-military discrepancies by increasing the visibility of military's inclusion into

society as a citizen whose task is to defend his citadel, an increase in the flexibility of the military leadership process though an efficient merge between the management and leadership skills, the emergence of a prototype of the military who can adapt to contemporary internal and external requirements and, last but not the least, the adaptation and modernization of armed forces' missions in accodance with the security needs of the society is serves [30]. In this respect, Janowitz underlines the following principle: "*One cannot be a good military without civil orientation and one cannot be a good civil leader without a minimum military background*" [30]. The role played by performance management in achieving all of the above development directions in the military field becomes more than obvious. To accomplish the goals of modern armed forces available resources must be managed in accordance with performance indicators, processes must be judiciously planned, and actions must be efficiently executed.

The only stakeholder and contributor to the military is society. The latter generates feedback in appreciation of having had its need/ request for stability and national/ regional security met. This is actually the raison d'etre and outcome of the military, after all. As such, performance management, is one of the guarantees that the armed forces can fulfil their strategy.

3. CONCLUSION

In conclusion, the development and maintenance of modern armed forces relies heavily on performance management. Consequently, a defense system built on perfromance principles requires, besides training an hard work, a proactive attitude on behalf of its members that involves individual skill and competence with a view to accomplishing organizational goals.

A defense system relies on resource allocation and, in this respect, performance management is a major guiding framework. Thus, Defense Resources Management alongside with Performance Management play the role of instruments that maximize the efficiency and effectiveness of the defense resources allocation process and, hence, of instruments regulating all processes from within the military establishment.

NOTES AND REFERENCES

[1] Huntington, P. Samuel (1997) The Clash of Civilizations and the Remaking of World Order (translated in Romanian as: Ciocnirea civilizațiilor și refacerea ordinii mondiale), Filipeștii de Târg: Antet, p.38.

[2] Helbroner, L. Robert, Thurow, C. Lester (1998) Economics explained: everything you need to know about how the economy works and where it's going. – newly revised and updated, Touchstone, New York, USA: Simon&Schuster, pp. 196, 197.

[3] Anderson, Guy, Andrews, Stephen, Clough, Marcia, IHS Jane's World Defence Industry Survey 2014, IHS Jane's Defence Weekly, 16 July 2014 / Vol. 51 / Issue 29 / pp. 22-31.

[4] Davis, K. Paul, Planning under uncertainty then and now: paradigms lost and paradigms emerging in Paul K. Davis (1994) New Challenges for Defense Planning: Rethinking How Much Is Enough", RAND Corporation-supported research, Santa Monica, USA, pp. 15-16.

[5] Enthoven and Smith (1971) in Davis, K. Paul (1994) New Challenges for Defense Planning: Rethinking How Much Is Enough", RAND Corporation-supported research, Santa Monica, USA, p. 16.

[6] *** (2012) Dictionary of Romanian Language (in Romanian: Dicționarul Explicativ al Limbii Române), Romanian Academy, "Iorgu Iordan-Alexandru Rosetti" Institute of Linguistics, București: Univers Enciclopedic Gold, p. 947.

[7] Soare, C., Valentin, ARSENIE, Traian, BARBU, Constantin, ONIȘOR (1994) Lexicon militar, 2nd edition, reviewed, Chișinău: Saka, p. 281.

[8] Law no. 45/1994 on the national defense of Romania, published in Monitorul Oficial , part I, no. 172, 7 July 1994, with subsequent changes and additions, Art. 14 (in Romanian: Legea nr. 45/1994 a apărării naționale a României, publicată în Monitorul Oficial al României, partea I, nr. 172, din 7 iulie 1994, cu modificările și completările ulterioare, Art. 14).

[9] The Integrated Concept on Romanian National Security (in Romanian: Concepția integrată privind securitatea națională a României), approved by CSAT in April 1994, subchapter 4.3., available at: http://xa.yimg.com/kq/groups/21093100/1419258218/name/8, last retrieved: August 2014.

[10] ***, (2012) Dictionary of Romanian Language (in Romanian: Dicționarul Explicativ al Limbii Române), Romanian Academy, "Iorgu Iordan-Alexandru Rosetti" Institute of Linguistics, București: Univers Enciclopedic Gold, p. 53.

[11] Vance C., Gordon, Wade P. Hinkle, Best Practices in Defense Resource Management,

Document D-4137, Institute for Defense Analyses, January 2011, USA, p. 2, available at: http://www.researchgate.net/publication/235032827_Best_Practices_in_Defense_Resource_Management, last retrieved: August 2014.
[12] Pușcașu, M. (2009) National Defense and Defense Resources Management (Apărarea națională și managementul resurselor pentru apărare), București: "Carol I" Publishing House, p. 46.
[13] http://www.eionet.europa.eu/gemet/en/concept/3672/, last retrieved: August 2014.
[14] Constantinescu, M. (2014) The planning, Programming and Budgeting System as Part of Defense Planning and Defense Resources Management (in Romanian: Sistemul de planificare, programare, bugetare în contextul planificării apărării și al managementului resurselor de apărare), București: "Carol I" Publishing House, pp. 24, p. 128.
[15] In 1961 the USA were militarily involved in 16 theatres of operations in various areas around the globe, while in 11 other other regions the US troops were on standby. By contrats, the USSR were involved in far fewer operations.
[16] Garcia, Plaridel, Comentan, PPBS in Developing Countries: The Philippines Case, Naval Postgraduate School, Monterey, California, December 1975, pp.46-77, available at: http://www.dtic.mil/dtic/tr/fulltext/u2/a024934.pdf, last retrieved: August 2014.
[17] RDJTF – Rapid Deployment Joint Task Force and USCENTCOM – US Central Command.
[18] Russell Murray II was th first deputy of the Under Secretary for Defense for system analysis between 1962-1969, and between 1977-1981. He was appointed Under Secretary of Defense in charge with program analysis and evaluation by Jimmy Carter; available at http://www.presidency.ucsb.edu/ws/?pid=7274, last retrieved: August 2014.
[19] in Conference on THE DEFENSE PLANNING, PROGRAMMING, AND BUDGETING SYSTEM (PPBS): PAST, PRESENT, AND FUTURE, p. 135, 4-6 November 1982, Washington, D.C., Coordinators: Dr. Bernard Rostker, Dr. Lewis Cabe, Editor: Mr. Walter Golman, CENTER FOR NAVAL ANALYSES available at: https://www.cna.org/sites/default/files/research/5800020000.pdf.
[20] *** The White Defense Paper (in Romanian: Carta Albă a Apărării),approved by CSAT, Decion no. 77 of 17.06.2014, pp. 21-22, available at: https://www.semperfidelis.ro/e107_files/public/1384498223_1234_FT37324__carta-alba-a-apararii_.pdf, last retrieved: August 2014.
[21] http://www.nato.int/docu/review/topics/en/Smart-Defence.htm, last retrieved: August2014.
[22] http://www.eda.europa.eu/docs/default-source/eda-factsheets/final-p-s_30012013_factsheet_cs5_gris, last retrieved: August 2014.
[23] http://www.slideshare.net/aumbra/conceptul-de-performanta.
[24] ***, (2012) Dictionary of Romanian Language (in Romanian: Dicționarul Explicativ al Limbii Române), Romanian Academy, "Iorgu Iordan-Alexandru Rosetti" Institute of Linguistics, București: Univers Enciclopedic Gold, p. 802, p.954
[25] Codreanu A. Performance management after Romania's Integration into NATO (in Romanian: Managementul performantei dupa integrarea Romaniei in NATO) in the proceedings of the Communications Session of the Regional Department of Defense Resources Management Studies "Innovative trends in Defense Management and Economics, Brasov:"Carol I" Publishing House, 2006, pp.59-60, 64.
[26] Bititci, U.S., Carrie, A.S., Mcdevitt, L. Integrated performance measurement systems: A development guide, International Journal of Operations & Production Management, 17(5), 1997, pp. 522–534, available at http://performancedriver.wordpress.com/2012/05/23/definition-of-performance-management-in-recent-literature, last retrieved: August 2014.
[27] Aubrey, C. Daniels (2007) Managementul Performanței. Strategii de obținere a rezultatelor maxime de la angajați, București: POLIROM, p.173.
[28] McKENZIE, J. (2001) Perform or Else: From Discipline to Performance, Routledge, pp. 69-73, p.81.
[29] http://www.managementulperformantei.ro/pages/individual/profil-si-evolutie/evolutia-in-istorie-13.html, last retrieved: August 2014.
[30] SAVA, I. N. (1998) Armed Forces and Society (collection of texts on military sociology) (in Romanian: Armata și societatea (culegere de texte de sociologie militară)), București: Info-Team, 1998, pp. 11-25, p. 14.
[31 www.cna.org.
[32] www.drexel.edu.
[33] www.dtic.mil.
[34] www.eda.europa.eu.
[35] www.eionet.europa.eu.
[36] www.forbes.com.
[37] www.hr.cornell.edu.
[38] www.mapn.ro/diepa.
[39] www.managementulperformantei.ro.
[40] managementhelp.org/performancemanagement.
[41] www.nato.int.
[42] www.opm.gov.
[43] performancedriver.wordpress.com.
[44] www.presidency.ucsb.edu.
[45] www.researchgate.net.
[46] www.semperfidelis.ro.
[47] www.slideshare.net.
[48] www.successfactors.com.
[49] www.tbs-sct.gc.ca.
[50] xa.yimg.com.
[51] www.workinfo.com.

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FEATURES OF INTERNAL/MANAGERIAL CONTROL IN PUBLIC ORGANIZATIONS

Gheorghe MINCULETE*
Maria -Ana CHISEGA-NEGRILA**

* PhD in Military Sciences, professor at the Logistics, Finance and Accounting Department, The Command and Staff Faculty,"Carol I" National Defense University, Bucharest, Romania
** PhD, associate professor at the Air Force Department, The Command and Staff Faculty, "Carol I" National Defense University, Bucharest, Romania

Control aims at the protection of patrimony, the quality of information, and the increase of performance and application of guidelines coming from the management of the public organization. It is the process that measures and verifies the quantitative and qualitative accomplishment of tasks, paperwork, and performances, while making the comparison with the planned objectives and showing if some corrective measures are needed. Internal control will always trigger rejection and lack of cooperation from the controlled parties. The article will mainly focus on the elements of the system of internal control at the level of the public organization briefly stressing the standards in the field.

Key words: *management, organizational objectives and activities, control, internal/managerial control, internal control system, strategies of internal/ managerial control, internal control standards.*

1. INTRODUCTION

In the current international context scarred by the deepening of the economic crisis, internal control plays an important role in the evaluation and improvement of performance in public organizations, a field that should be further developed in order to improve the efficiency of these organizations. This role refers to the evaluation and improvement of performances in organizations from the public sector and cannot be achieved without the existence of specialists in the field, of tools, regulated techniques and methodologies, some of which being adapted to the characteristics of the specific entity.

Initial interest for the definition, delineation, and in-depth approach of the concept of internal control first appeared beginning with the second half of the last century, and belonged to expert accountants, internal and external auditors from developed Western states. They demonstrated that the application of internal control to the financial and accounting fields at the level of economic entities (but not only), can contribute to making and certifying sincere, accurate, and real financial accounts/statements [1].

Gradually, a number of internal and external factors appeared at the level of entities/institutions. That determined broadening the scope of internal control, from the financial and accounting fields to all the activities of an organization, and stressed the urgent need that the managers of entities/institutions should focus their interest on creating and implementing increasingly efficient systems of internal control, which could allow them to monitor the organization in order to achieve the pre-established objectives. Among the mentioned factors, we could list: the increase and diversity of economic risk factors, the increased complexity of

organizing entities, the frequency of drawbacks in their functioning, the continuous development, but also the complexity of the legal framework that has to be complied with, etc. [2].

The idea of control has its origins in the Latin phrase "contra rolus," which can be translated as "verifying the copy of a document against the original" [3]. Looking back, the practice in the Roman Empire involved recording tax obligations of tax payers in two registers named "role" and "counter role" kept by two separate people, and which served to check and recheck in order to administer the Empire's incomes and expenses [4,5].

"Internal control" is part of the standard terminology used by the European Union. However, unlike its meaning of "to verify" [18] used in Latin countries, its main meaning in English is "to have control over". Worth reminding though is that the meaning of the term control is more complex than that and cannot be solely reduced to its original definition as inspection, and checking [6; 19].

Specialized literature includes other explanations of the term. So, francophone specialists define control as "verification through inspection of documents correctness" [7]. In this respect, the Anglo-Saxons perceive control as *"an action to supervise someone or something; the thorough examination or the power to lead as a mechanism for adjusting the operation of a device"* [8].

As seen in practice, control is not only a means of checking reality and repairing errors, but also a management objective.

Very often, the meaning of the world control is associated with the one of "assessment" which is also frequently connected with the idea of "knowledge". This will enable management to coordinate, in the most economical and efficient way, the activities within the organization [4;5].

As for its mission, control is an element of management, but, at the same time, it is a "human activity," useful not only to management, third parties/ business partners, but also to public authorities and even to the population.

In time, control has evolved by improving management and organization systems, as well as the environment in which it functions and which, in its turn, is permanently changing [9;10].

2. CONCEPTUAL DELINEATION OF THE TERM

In an economy that is integrated into the information society, control systems can be defined as a group of principles and processes that have as a result an environment which encourages managers and employees to concentrate on obtaining value for company owners and other interested parties [11].

In 1992, the Treadway Commission from the US (The Committee of Sponsoring Organizations of Treadway Commission - COSO) issued a brief integrated model of internal controls and COSO. The purpose of this model was to furnish basic concepts regarding the establishment of an efficient system of internal control [7].

COSO defines internal control as the process related to the managerial team of an entity/institution which aims at providing reasonable assurance regarding the achievement of the following types of objectives: efficiency and efficacy of operation, credibility of financial reference, compliance with laws and regulations [12].

According to the above-mentioned, internal control systems represent, in the view of COSO, a process that is implemented and monitored by organization management whose purpose is to develop and apply the necessary regulations. These refer to the control meant to identify the possible risks and their counteraction to a risk limit accepted by the organization (firm, public institution, etc.) in order to obtain the reasonable assurance that the objectives of that entity will be achieved [8,5].

According to **Figure 1**, the COSO Model includes five components of an efficient system of internal control that gives assurance to the management of the organization as shown below [8].

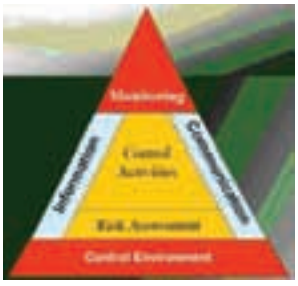

Figure 1: The efficacious system of internal control (COSO Model) [12]

- *Control Environment* at the level of the organization: establishes the basis of the system of internal control by furnishing structure and general discipline.
- *Risk Assessment:* involves the evaluation and analysis performed by the management, not by the internal auditors, of the risks that can affect the established objectives.
- *Control Activities:* refer to policies, procedures, control and other practices whose purpose is to ensure that the objectives established by the management are achieved and the possible risks are identified.
- *Information and Communication:* supports all the other COSO components by informing the employees regarding the responsibilities of control and furnishing of information in an adequate format and in time so that the members of an organization can fulfill their tasks.
- *Monitoring:* involves the supervision of internal control by management, supervision by other members that are outside the process (internal auditors, monitoring entities, etc.) or application of independent methodologies such as procedures or standard questionnaires filled in by the employees within the process.

According to Western specialists, an efficient system of internal control is based on specific ethics and deontology. To this purpose, policies and procedures connected to this field are promptly understood and followed at the level of the organization which means accepting to perform regulate internal controls in order to efficiently manage risks according to management's expectations.

In the time of planned economy in Romania, control had different objectives, being organized in specialized structures such as inventory, financing, quality etc. It was the state that dictated the interior control of economic entities and organized the exterior control in order to supervise the way in which internal control was performed at the level of economic organizations [13].

Laws that had regulated internal control until 2005 did not represent in a detailed manner what was included into the planning and implementation of adequate and efficient internal control [14]. The document mentioned what the manager of public institutions had to do in this field in order to ensure the drafting, approval, application and improvement of organizational structures, methodological regulations, procedures and evaluation criteria so that the general and specific requirements of internal control could be met, but it did not mention how to do so.

Because the preventive financial control was mentioned in a distinct chapter of the aforementioned regulation, it was perceived as separate control from the internal one, being organized as such and not integrated into the internal control of a public entity.

According to Romanian legislation, internal control is a term that includes all the financial and non-financial control activities,

and structures that organize them. Procedures, methodologies, including internal audit, decided upon by the management and harmonized with its purposes have the mission to assist managers in leading the entity in an efficient, economical, and efficacious way, thus ensuring the application of management's strategies [15; 20].

The Law of internal public audit, article 2, align. b defines internal audit as *"the assembly of control forms exercised at the level of the public organization, including the internal audit, established by the management in accordance with its objectives and legal regulations in order to ensure the administration of funds in an economical, efficient, and efficacious way, also including the organizational structures, methods and procedures"*[16].

According to specialists, in order to draft adequate strategies of internal control, the manager of the public organization will focus on: the necessity of control; the integrity and responsibility of the personnel involved in this process at all management levels and in all the activities; the provisions of procedures and instructions adequate to the organization; the furnishing of timely, internal and external communication; the information from national and specific regulations; the identification, evaluation and management of essential risks at the level of the organization [17].

3. Elements and functional coordinates of internal/managerial control

At the level of each public organization, management through its control function takes notice of certain differences of the results compared against the objectives, analyzes the cause that generated this and takes (corrective/preventive) measures. In order to accomplish this, the objectives have to be defined first.

For each public organization, the organic functional objectives are grouped according to three criteria as follows: the efficacy and efficiency of functioning require the objectives to be connected with the purpose of the public organization and the efficiency of using resources; accuracy of internal/external information refers to the objectives connected to both keeping adequate accounting records, and having pertinent and sufficient information used in the public organization or given to third parties; compliance with laws, regulations, and internal policies determines objectives that are connected with the assurance that, within the public organization, activities will be unfolded according to the requirements mentioned in the laws and regulations while also complying with internal policies [21].

As a complex function of the management of the public organization, internal control brings its specific contribution to identifying and approaching the specific risks so that it will result in achieving the organizational objectives within the planned parameters. **Figure 2** highlights the place and role of internal control within the public organization (entity).

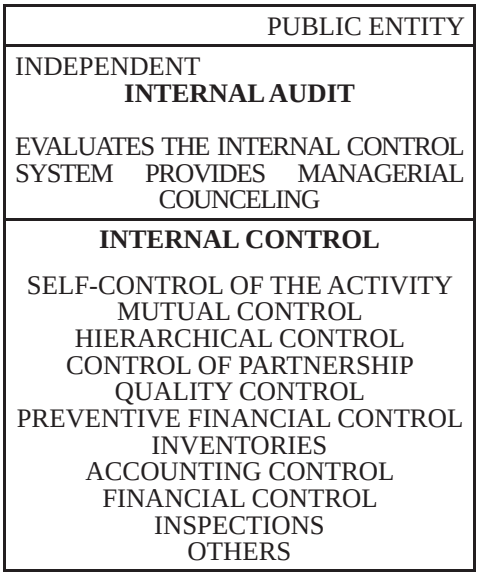

Figure 2: Internal Control Elements in the Public Organization

Within any public organization, in order to achieve objectives and perform organizational activities, the necessary resources (human, material, financial) are allocated through plans and programs based on functions. So, planning and scheduling represents within the internal control system, the reference basis around which all the specific activities (of internal control) are performed.

Therefore, according to the applicable regulations, the internal control system is defined as a set of policies and procedures designed and implemented by the management and the personnel of the public organization in order to provide reasonable insurance regarding the following: achieving the objectives of the public organization in an economical, efficient and efficacious way; complying with external rules and management policies and rules; protecting goods and information; preventing and detecting fraud and errors; ensuring the quality of accounting documents and producing timely and accurate information regarding the financial and managerial segment [18].

In order to apply and develop an internal/managerial control system in any public organization, eloquent management rules are defined by the current regulations so that an internal control model will be designed by aligning the internal control systems from the organizations with the provisions of the current legal standards.

As a function belonging to the management of the public organization, control imposes through specific mechanisms that knowledge and inventory of patrimony are ensured together with the ways to guide, organize and perform administrative activities. So, through internal control, management ensures that information is dynamic and real, which triggers valuable conclusions and quality decisions.

Internal control is integrated into the management system of all structural components of the public organization, and falls under the responsibility of the personnel at all levels offering reasonable insurance in order to meet the individual or general objectives. Control activities are undertaken at all levels of the public entity as a form of self-control, chain control (on process phases), and hierarchical control. These activities include observation, comparison, approval, reporting, coordination, checking, analysis, authorization, supervision, examination, separation of functions and monitoring. Specialized control can be organized by specially designed structural components (committees, control structures, etc.) whose activities are undertaken based on the plans designed by taking into account the risks.

Internal control is based on risk management because the management of the public organization has the obligation to identify risks that could affect the objectives, and to take measures that should localize, as well as keep the risk within acceptable limits.

The purpose of internal control systems is to assure the management of the public organization that the risks are kept within certain limits that have been established beforehand and thus contributing to: reaching desired objectives and targets; complying with the laws, regulations, norms and internal policies etc.; providing accuracy and integrity of information and reports; using resources in an economical, efficient, and efficacious way; protecting the stocks (corporate and non-corporate) [13; 22].

The public organization is subjected to permanent decision-making processes that keep it attuned so that it will function normally. This is in fact a system that contains a group of subsystems which are bond to each other by functional elements. When the first signs of disturbance in the system appear, it is imperative that a corrective decision should be taken. This is when control steps in through its role to discover causes and identify risks that disturb its normality in order to take measures

to redress it. The better the use of the correlation between the prevention, risk identification and managerial practice is, the more developed will the organization be and that is why the link between the two activities has to be taken into account at all levels of management [11].

The internal auditor will evaluate the system of internal control of the public organization and will confirm or not its functionality. Even after the internal auditor has finished the evaluation, there is still a risk, audit risk, which cannot be ignored taking into account the relativity of the internal control.

The new architecture of control systems was implemented in 2005 as a result of the
Internal Control Code that represents the very foundation of drafting and planning control in the Romanian public sector through the 25 specific standards (of internal control) that establish minimal management roles that have to be applied by all public entities [3]. At the same time, the standards mentioned are minimal criteria for the adequate and efficacious evaluation of the internal control systems in any public organization.

Control standards regulated in Romania define a minimum of management rules that all public entities have to comply with. To this purpose, an important element is the fact that based on these standards, internal control systems can be evaluated by auditors.

In order to build an adequate reference system, the objective of standards is to create a uniform and coherent model of managerial control based on which internal control systems are evaluated and changing areas and directions are identified.

European practice has determined that the management of each public entity should establish the control systems that are part of their responsibility based on the standards elaborated by the Ministry of Public Finance. In this respect, the general formulation of the standards was necessary in order to give managers the possibility to apply them regardless of the significant differences that are among different public organizations.

Drafting the standards that lie at the basis of the implementation and development of internal control procedures was based on the experience in the field of the European Commission, INTOSAI, The Committee of Sponsoring Organizations of Treadway, Canadian Institute of Charted Accountants [5]. These standards, briefly listed below, are grouped in five key elements of internal control [4]:

- Control Environment includes the organization, management of human resources, ethics, deontology and integrity as follows: Ethics, Integrity (Standard 1), Attributions, Functions, Tasks (standard 2); Competence, Performance (Standard 3), Risk positions (Standard 4), Delegation of authority (Standard 5); Organizational Chart (Standard 6).
- Performance and risk assessment tackles the management problems related to establishing objectives, planning, scheduling and performance as follows: Objectives (Standard 7), Planning (Standard 8), Coordination (Standard 9), Monitoring performance (Standard 10), and Risk management (Standard 11).
- Information and communication groups the problems connected with building an adequate information and report system regarding the execution of the management plan, of budget, use of resources, informing on errors as follows: Informing (Standard 12), Communication (Standard 13), Correspondence (Standard 14); Hypotheses, reevaluation (Standard 15), Identifying errors (Standard 16).
- Monitoring focuses on the way to document procedures, continuity of operations, recording exceptions to the procedures, separation of tasks, monitoring

as follows: Procedures (Standard 17), Separation of tasks (Standard 18), Supervision (Standard 19), Managing (Standard 20); Continuation of activities (Standard 21), Control strategies (Standard 22), Access to resources (Standard 23).

- Audit and assessment refers to the development of the assessment capacity of the internal control in order to ensure the continuation of its development process such as: Checking and assessment of control (Standard 24), Internal audit (Standard 25).

According to those mentioned in the regulated standards of internal control, each public organization should function in an efficient and efficacious way because risks, as well as counteracting methods (of solving, overcoming it) are identified in a timely manner as a result of control actions. However, in various situations, internal auditors can constantly improve the system of internal control and counseling managers better than anyone else within the mission and based on a rigorous and accurate methodology, as well as on their experience in the field.

4. CONCLUSIONS

In the context of good practice principles that are part of the Community acquis, control has a broader meaning as it is considered a managerial function and not an evaluation activity. By the use of control, the management observes the lack of concordance between results and objectives, and analyzes the causes that has determined it and takes corrective or preventive measures.

According to the new regulations in the field based on the principles generated by good practice accepted worldwide, each public organization is responsible for the implementation and assessment/self-assessment of the internal control system.

Through the legal procedures established by the management of any public organization, internal control is meant to provide reasonable assurance regarding the achievement of organizational objectives. In this respect, the managers are directly responsible.

In practice, control efficiency and quality depend a lot on the control environment which mainly refers to: integrity and ethical values; leadership philosophy and ways to perform activities; delegation of authority and responsibility; human relations practices and policies; personnel competence and performance; operational policies including rules and regulations.

In order to achieve internal control, the activities through which objectives are met are transformed into tasks, requirements and functions and are assigned to be executed by the units within any public organization (positions, departments, officers, subunits, etc.).

Implementing the internal control is a real opportunity offered to managers in order to improve the function and the performance of public organizations. This involves profound and collective thought about strong points, but especially about the vulnerabilities of the processes implemented within the respective organizations.

REFERENCES

[1] Dezvoltarea sistemului de control managerial la nivelul entitatilor publice. Retrieved September 09, 2013, from http://www.cnas.ro/pdf/audit/Dezvoltare_.sist_manag.pdf

[2] GHEORGHE, Dumitru. Analiză economico-financiară. Retrieved Februray 20, 2014 from http://www.scribd.com/doc/98277105/ANALIZ%C4%82-ECONOMICO-financiar%C4%83

[3] GHIȚĂ, Marcel (1995).Controlul financiar - componentă a mecanismului economiei de piață. Craiova: Editura Universitaria

[4] Institutul Auditorilor Interni, Ghid practic privind Auditarea mediului de control intern, Bucureşti, Aprilie 2011

[5] GHIȚĂ, Marcel (2009). Audit intern. București: Editura Economica, Ediția a II-a

[6] Dicționarul explicativ al limbii române (1998). București: Editura Academiei

[7] DEMETER, Alina (2010). COSO și Managementul Riscurilor, 28 Iulie. Retrieved September 10, 2013, from http://alinademeter.ro/2010/07/28/coso-si-managementul-riscurilor/, accesat în 09.09.2013

[8] GHIȚĂ, Emil, GHIȚĂ, Marcel (2007). Audit și control. București: Editura Fundației România de Mâine

[9] Legea nr. 234/2010 pentru modificarea și completarea Ordonanței Guvernului nr.119/1999 privind controlul intern și controlul financiar preventiv.

[10] BĂNCUȚĂ, Adrian Controlul intern - noțiuni și sfera de cuprindere (I). București: Pentru Patrie. Retrieved October 15, 2013, from http://www.revistapentrupatrie.ro/index.php?option=com_content&view=article&id=107%3Acontrolul-intern-noiuni-i-sfera-de-cuprindere-i&Itemid=60

[11] SHORTRIDGE, Toppe, Rebecca. The Evolution and Growth of corporate control systems, Internal Control Publications. Retrieved October 20, 2013, from http:// www.aicpa.org/Publications/InternalControl/Pages/InternalControl.aspx

[12] University of South Florida. Internal Controls Enterprise-Wide Risk Management. Retrieved October 30, 2013, from http://usfweb2.usf.edu/uac/documents/internalcontrols.pdf

[13] MITEA, Adrian, BĂNCUȚĂ, Adrian, Ștefan, SUDITU Ștefan, TĂNASE, Dumitru (2005). Auditul public intern, dela funcția de control la funcția de consiliere în cadrul asistenței manageriale. Bucureşti: Editura MAI

[14] Ordinul ministrului finanțelor publice nr. 946/2005, pentru aprobarea Codului controlului intern, cuprinzând standardele de management /control intern la entitățile publice și pentru dezvolatre a sistemelor de control managerial, Monitorul Oficial nr. 771/2006

[15] Ministerul Finanțelor Publice, Unitatea Centrală de Armonizare a Sistemelor de Management Financiar si Control (MFP), Îndrumar metodologic pentru dezvoltarea controlului intern în entitățile publice.

[16] Legea nr. 191/2011 pentru modificarea și completarea Legii nr.672/2002 privind auditul public intern, M.O.nr. 780/2011

[17] NEGRILA, Alina. Managementul Riscului si Controlul Intern in Cadrul Organizatiei. Retrieved November 18, 2013, from www.mattig-management.ro

[18] Model de implementare și evaluare a sistemului de control intern/managerial în cadrul unei entități. Retrieved November 20, 2013, from http://forum.portal.edu.ro/index.php?act=Attach&type=post&id=2102231

[19] Le petit Larousse (1975). Dictionaire enciclopedique. Paris: Larousse

[20] GHIȚĂ, Marcel (2008). Guvernanța corporativă. București: Editura Economica,

[21] MARE, Emil, OANȚĂ, Petre, Florin (2007). Control financiar, audit și expertize contabile. Sibiu: Editura Academiei Forțelor Terestre

[22] NICOLESCU, Ovidiu, PLUMB, Ion, PROCOP, Mihai, VASILESCU, Ion, VERBONCU, Ion (2003). Abordări moderne în managementul și economia organizației. Economia și managementul diferitelor tipuri de organizații. București: Editura Economică, Vol.3

THE REMOTE AND MOBILE AIR TRAFFIC CONTROL TOWER AND ITS POSSIBLE APPLICATION TO THE OPERATIONAL AREA

Tímea VAS

National University of Public Service, Faculty of Military Sciences and Office Training, Department of Military Aviation, Szolnok, Hungary

The concept of remote and mobile Air Traffic Control Tower (ATC TWR) and its development has started in Europe, Australia and also in the USA, in order to improve the efficiency of Air Traffic Management (ATM) systems in terms of air transportation safety. These new technologies are applicable in many countries in peace time, but on mobility reasons these are promoted to achieve commitments in the operational area. This article describes the devices and range of equipment of mobile and remote tower, and their specifications, which can even serve a medium sized airport, furthermore examines, whether how can those provide the air traffic services at an operational airfield

Key words: *remote tower, mobile tower, air traffic control, civilian airport, operational airfield.*

1. INTRODUCTION

Airports, as the ground element of air transportation infrastructure, usually possess limited capacity. Moreover, a range of factors could influence their optimal utilization. Essentially, these factors are the following: location of the airport, details of runway (s) (length, width, pavement concrete number and average runway reservation time), features of airport lighting and navigation equipment, dimensions of aprons and taxiways, and, last but not least traffic capacity and type of air traffic services as well.

What mainly determines the capacity of the airport, of course closely related to the above, is nothing else but how many and which category of aircraft the airport could receive and serve in a given time of period, from arrival to departure. The next term, from departure to arrival can also vary depending on the departure airport and the destination, the purpose of flight, as well and the occurrence of delay, typically in case of civilian and commercial flights. For example, the endurance of a trans-Atlantic flight takes 9-10 hours, so the departure time is scheduled in the evening in the majority of Western European airports, and hence the usual landing time on the other shore is in the morning. The same is valid for the flights departing from the American continent in the evening and landing in Europe in the morning. In the remaining time, for example the transfers to the Atlantic flights, the majority of the traffic makes up the feeding flights of the airport. These flights could be domestic or intra-continental, lasting for about 1-1.5 hour and even for a 6-8 hour period, which makes the airports loaded mostly at noon and in the early afternoon.

The total number of flights from and to an airport, also referred to as “total movements” is usually influenced by tourism seasonality, but also by economic or political effects that can drastically affect the growth or decline of movements. For example, according to the published

data in the annual reports of the Budapest Airport (LHBP) called Liszt Ferenc (Fig.1), the movement number dropped from 120,000 to 80 000 in the last few years.

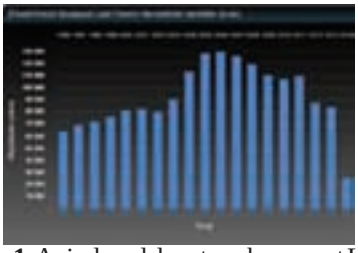

Figure1: Arrivals and departures by years at LHBP

The question that emerges concerns the means by which, considering the declining numbers of air traffic, an air traffic service provider keeps its profit while maintaining qualitative service, without disturbing aviation safety. This issue of cost-effectiveness is equally important for the two other international airports of Hungary, namely Sármellék and Debrecen, where the airliners schedule 14-20 flights per week, depending on winter or summer time. The costs involve the air traffic service of the above mentioned airports, and also the maintaining of the building and infrastructure of airport control tower. To optimize the cost of air traffic services is a key issue in many European and overseas countries. In order to resolve it, as a result of efforts made in Sweden a remotely operated airport control tower model, the so called virtual airport control tower model, has been developed and is under testing. During the tests the traffic of the Örnsköldsvik airport was controlled from the Sundsvall Centre, which is almost 100 km away.

In the area of military aviation, cost-effectiveness is not a negligible factor even though there are other aspects that prevail. In this respect, it is worth reminding that the current military operations in which Hungarian forces are involved, take place in remote location. Moreover the military exercises preparing our forces for new challenges, demand new solutions. At the beginning of operations in remote countries, where the local infrastructure has not been built or it has been completely destroyed, it is necessary to establish an airfield, that proves suitable for receiving logistics, deploying necessary services and maintenance, and which later on, after returning back to national purpose, could be sufficient for the local demands. A temporarily installed airport in the area of operations or even on the terrain hit by disaster- where the adequate airport infrastructure is not available and the air transportation is the only way to send supply- require mobile and fast installation of an airfield. Considering the facts mentioned above, the military requires a device, which can be easily and quickly installed, whose maintenance is sustainable in field conditions, and is equipped with communication, navigation and controlling tools for receiving the expected air traffic. In this case, besides the airport control tower (hereinafter called ATC tower) it could be necessary to install navigation, communication, lighting systems and maybe radar or the possibility to receive and display the signals of remote radar. Herein below, two options will be presented. One of them is an absolutely mobile device, which has already served for missions, and the other one has still been under testing and by this time has been developed for civilian purposes.

2. COUNTRIES DEVELOPING MOBILE TOWERS

Among countries developing mobile and deployable ATC towers special attention should be paid to Sweden, which, as a result of investing into new hardware and software technologies, despite the limited space installed the same controlling devices, equipment and displays in the container, that is also part of the conventional ATC tower. The control tower [2] is placed in

a 20-foot-long container, which is mounted on a trailer, but it can be set up and installed without lifting. It is generally expected that the container provides a 360° perspective for the air traffic controller (hereinafter called ATC). In the Swedish development, there are three positions for ATC personnel, whose duty depends on the duration of air traffic at the airport. The integrated control tower (Fig.2) allows each controller position to complete various functions. It also provides traffic handling, indication, presentation and sharing of control displays among positions. However, the displays are minimized and they provide compact working position, where the head-down time is reduced so that situational awareness capability increases. The tower equipment enables the provision of flights in all weather conditions, through day and night. The integrated tower is available also for civilian application not only for military use, so depending on requirements there are two different versions deployed with Military Off The Shelf (MOTS) or Commercial Off The Shelf (COTS) hardware. Standard interfaces are used for communication with external systems that would otherwise support redundant processing and can display all flight data scalable for ATC. All the three working positions are fully equipped with display of radar data, flight plan management system, radio system, weather information display, voice communication system, objective control device for archiving, the runway light system control panel and RCMS (Remote Control and monitoring System).

Figure 2: Units of I-tower

Among the conventional part of the communications systems are the Very High Frequency/ Ultra High Frequency (VHF/ UHF) radios and roof-mounted antenna system, the fiber optic cable, Satellite Communication (SATCOM) and Global System for Mobile Communication (GSM) standard analog phone lines, meteorological sensors, radar contact and Aeronautical Fixed Telecommunication Network (AFTN) station. The container can be lifted to 4.4 meter height, which means 6.0 meters high from the ground, the electronically controlled hydraulic system, and the operation requires 400V voltage 32A amperage. For the cargo a C130 aircraft is available. This ATC container is one of the logistic elements of an air force battalion, so its installation takes a couple of hours.

The Aeronav Group, which is based in Montreal, constructed and supplied the ANT-26 [1] type of mobile ATC tower in two different sizes. Concerning their equipment and functions, these are very similar to the Swedish model. The installation is quick and simple, they are suitable for military operation in a temporary landing site, and even appropriate for operation in the area affected by natural disasters. The mobile TWR can be combined with the permanently localized ATC systems as well (Fig.3), in order to, for example, monitor remote jobs like prevention of runway incursion. A number of configurations exist, the system may be expanded easily, it can operate autonomously, the unique air distribution system provides for operation reliability. Transportation of mobile TWR is possible in cargo aircraft, helicopters (as external cargo) or on a boat.

Figure 3: Combined operation with standard ATC TWR

In the queue of countries developing mobile towers there is also the US with its Sierra Nevada Corporation, that delivers for the U.S. Army the MSQ 135 Mobile Tower System (MOTS) easily installing ATC tower [3], associated with a 36 kW generator, a lighting system and meteorological sensors as well (Fig. 4). Its design allows its transportation on armored vehicles, and also its dropping into the area of operation by C17 or CH 47 helicopters. Basically, the MSQ 135 MOTS is used for military ATC operations. Therefore, besides standard air traffic control systems, there are others as well for theater management.

Figure 4: MOTS and supplemented units

Despite its prevalent use in the military, it is recommended for other purposes, because the air traffic control systems meet the International Civil Aviation Organization (ICAO) / Federal Aviation Agency (FAA) regulations, and could be an effective support of disaster management because of its minimal logistics needs. Compared to the former ones, its only backward is that it is not lifted with a hydraulic system. However, the presence of its own power unit and lighting system are clear advantages.

3.REMOTE CONTROL, FROM THE VIRTUAL TOWER [4]

The Remote Tower "r-TWR" (Fig.5) is a truly revolutionary initiative, agreeing with the requirements of all stakeholders like the airport operator, air traffic services and airliners. This is the first real opportunity to combine the use of dynamic resources with sharing information and maintenance of safety environment. The Swedish Defence and Secure Company (SAAB) was among the first that came up with a high-quality, user-friendly product on the international market. The r-TWR is an ideal solution to replace all locally fixed ATC positions. Its features are security, cost-effectiveness and interoperability. The "r-TWR" can be a perfect solution in the following cases:

- to replace the obsolete ATC tower of an airport;
- to establish ATC service in a new airport;
- to keep ATC service of two or more airports in one hand;
- to provide contingency plan and guarantee ATC service;

The costs of reconstructing the outdated devices of an ATC tower are almost similar to installing a smart camera system. Not to mention the fact that the r-TWR can be activated, in case of any traffic uses the airport both for departure or arrival. The camera system provides a 360° panorama of the airport and enables the detection and monitoring of objects in the air and on the ground. The r-TWR is also endowed with a information-sharing capability that contributes to the Collaborative Decision Making (CDM) system functions of modern airports. The task of the CDM system is to facilitate and enhance the flight planning schedules in an extended airspace, like the European airspace, to offer alternative solutions in case weather conditions do not allow using any

sectors or airways, or when air boxes, that general aviation traffic should avoid, are activated. The camera system helps to focus on any significant points of the airport, for example the runway, in order to prevent incursions. The amount of information gained facilitates and enhances situational awareness capability. It is not negligible that the objective control function that relies on image and voice recording supports investigations in case of an event. The r-TWR solution can be operated as a simulator, which helps ATC personnel to maintain their practical skills, enhance and refresh control skills to be used in case of emergency.

Figure 5: The r-TWR

The strategy of r-TWR validation has already made progresses. One of the key elements of the validation process is to re-regulate the operation of air traffic services described in ICAO documents, which are applicable only the "real world" operation not the virtual one. During the tests some shortcomings came out, such as the lack of radar data which can be useful to add to the object detecting function of cameras to provide information in low visibility or at night. Referring to the documentation it is also important to redefine the Air Traffic Controller Officer (ATCO) / Aerodrome Flight Information Service Officer (AFIS) system task, the supervisor's job scope and the area of responsibilities. During the tests all ATC personnel found the technology useful and suggested to extend alerting functions in order to enhance current safety. Among the supporters there is the Air Traffic Controllers European Committee (ATCEUC), but further tests and investigations are still needed in this respect.

4. CONCLUSIONS

Both developments that my article presented redefine the traditional experiences of airport management. The mobile ATC tower presents the opportunity of setting and operating an airport anywhere. Contrary to that, the r-TWR gives the chance to control the traffic of any airport from one place. With a view to that, the mobile tower meets the need to create a functioning airport in a relatively short time in an abandoned area. Accordingly, the mobile tower can be packed easily, its transport and installation takes few hours to achieve the ready function. The r-TWR is a good answer to the economic and political changes which make an airport abandoned and another one busy. However, the r-TWR has not spread yet, it is a trendsetting initiative which can extend the flexibility of airports and air traffic services. However, the question of which one of the above mentioned is suitable for an airfield in areas of operations still remains.

It is true that in current situations the mobile tower seems the most appropriate solution in an area of operation for two reasons: the short time period required for installing and the lack of energy resources. But the airfield which works temporarily during

operations could be the basis of infrastructure in a given country in the future. If the operation of the airport is planned for longer-term needs it is worth thinking over the r-TWR technology. In this respect, the time and cost factors argue in favor of r-TWR rather than of conventional buildings. In addition, the personnel of air traffic services may be in limited numbers which also supports the idea of a centralized ATC service. Finally, it is usually the economic and political changes that generate cost efficient and flexible solutions.

REFERENCES

[1] http://www.aeronavgroup.com/wp-content/uploads/2013/01/I-Mobile.pdf, download time 05.05.2014.

[2] http://www.saabgroup.com/Global/Documents%20and%20Images/Civil%20Security/Air%20Transportation%20and%20Airport%20Security/ATM/TWR06_proof-read.pdf download time:11.05.2014.

[3] http://www.sncorp.com/pdfs/cns_atm/MOTS%20Product%20Sheet%20FINAL.pdf download time:01.06.2014.

[4] https://www.saabsensis.com/wpcontent/uploads/2012/12/Remote_Tower_printHR1.pdf download time: 10.05.2014.

IMPLICATIONS OF INFORMATION TECHNOLOGY AND COMMUNICATIONS (IT&C) INTRODUCTION IN EDUCATION

Maria CONSTANTINESCU

Lecturer, Regional Department of Defense Resources Management Studies, Brasov, Romania

Education in general and the IT&C domain are subject to constant changes, both through policy formulation by the government or by private organizations and the continuous transformation of the needs generated by the recipients of the services generated by the aforementioned areas. These permanent changes, which are extremely dynamic and complex, have profound social, economic and cultural implications, which are difficult to predict and estimate in-depth. This paper aims to highlight the need for an integrated thinking in terms of making decisions that apparently are only related to the introduction of IT&C in the education field. The extensive and intensive use of technology should be carefully weighed also from the point of view of the impact it may have on short, medium and long term, in terms of the economic, social and cultural impact, at national or global level.

Key words: *IT&C; education; integrated approach, P(olitical)E(conomic) S(ocial)T(echnological) implications.*

1. INTRODUCTION

The education domain is one of the most challenging areas for each nation, due to the powerful impact it can have on the future development of society and people. Society, generally speaking, must consider very seriously the responsibility for the development of a state-of-the art educational system, which can add high value to a nation in all its aspects: political, economic, social, environmental and cultural.

Each modern educational policy provides a general framework consisting of human, material, financial, informational and judicial resources. However, some concerns arise on issues such as how much and when to use information technology and communications (IT&C) in the process of education and instruction. There are many success stories about computer based education, but at the same time there are also failures and drawbacks in terms of the multilateral development of a person. Most of the personnel involved in the education area have experienced both success and failure in their activity, through too much or too little use of IT&C, caused by the rapid changes in their micro- or macro-cosmos of education. Sometimes their frustration may lead to extreme reactions on using the IT&C during learning activities, such as rejection of these resources or using them indiscriminately, in areas where other types of resources (such as the human resource) would be more appropriate.

In this respect it seems obvious that a balance must be struck among multiple desires, policies (either personal or group led), and interests in relation to the propensity of the IT&C industry to promote various

devices like a must-have, and the opinions of the representatives of the old fashion way to educate and instruct. This is not a simple task and may require an in-depth, difficult and time consuming process, but once completed, this process shall form a very strong foundation for what may be called solid, durable and adaptive education.

2. DIFERENT PERSPECTIVES

2.1 The education perspective

There are many ways to define or to characterize the overall concept of education. It is not the intent of this paper to introduce a new definition, but generally speaking education (instruction) consists of a continuous process of learning. The purpose of learning is to acquire knowledge, skills, and habits in order to use them in daily life and this acquisition process is generally achieved through teaching, training, and/ or research. There are many systems and variations of them that can be applied, starting from educational policies at state level and finishing with the micro cosmos of educational methods used by the educators for a specific education activity, such lessons or seminars.

In this respect, none of the lessons learned through hundreds and hundreds of years have to be left aside in the process of deciding the main framework of education: who are the subject of education, what knowledge to be delivered, what skills and habits to be developed, when it is the right time to do this, in what location education activities should take place and what kind of supporting educational materials should be used.

There are some considerations to made in order to emphasize the impact of technology in the transformation of the educational process.

A few years ago, the assessment of the IT&C impact in education was difficult. When the computer era began, it generated a lot of enthusiasm and many voices declared that there is no need for professors anymore. Since that time, the experience has showed that no technology, no matter how advanced, can yet replace a good educator. Consequently, the changes to be made are in the field of educational methods, in order to find out the right use of technology for the right educational objective.

Because of the global network of relations already established, there are a lot of successful models where the IT&C use in education is very effective. At the same time there are also failure examples, with huge negative impact for short and/ or long term. The idea is to incorporate in the educational policies and strategies only what is effective and helps achieve the long term vision and not to insist in repairing what was wrongly designed from the very beginning.

There are more and more initiatives to introduce IT&C devices and even more complex technology in education. This tendency can be observed at all levels, as initiatives from enthusiastic professors, as school initiative (using funds from various sources or as part of collective research), as more elaborate policies addressing an a specific target group, and not in the least, at country level.

Regardless of the level of education, this deployment of IT&C will impact significantly the education area. It transforms the old fashioned way of teaching and communicating between educators and the subject of education. IT&C brings both advantages and disadvantages to the education area, and it is the educational system's duty to make sure that only the appropriate processes will be implemented.

There are some examples backing up the aforementioned ideas. In Romania, several schools are in the process of implementing various projects related to the introduction of IT&C and associated software for educational purposes only. The Superior Commercial School "Nicolae Kretulescu" from Bucharest received 20 tablets, 1 laptop, an e-board and electronic manuals from a private sponsor to boost their competitiveness among high schools [1]. Another example, the Pedagogical High School "Carmen Sylva" from Timisoara has won a competition and received a prize consisting of 31 high end tablets, two laptops, a smart board and dedicated software. All of these assets contributed to the increase in the ability of the students to acquire new knowledge, based on real time communication with professors from their school and from abroad [2]. At the level of the Romanian government, the Ministry of Education intends to allocate 100 million Euros from European funds to provide a tablet for each student in primary, secondary and high school [1].

In other countries, the situation is relatively similar, but at another magnitude. In USA, for example, St. Mel School from Woodland Hills, California, has decided to give each 5th grade student a tablet in order to accomplish all the educational and communicational tasks. The results obtained after a very short time were amazing, according to the principal. They have found also other environment friendly benefits, because of reduction in paper waste and in the funds required for other educational materials [3].

In Norway, at Sandvika High School, Professor Anne Michaelsen has started a very challenging work aimed at renouncing at the traditional blackboard and chalk, and even the whiteboard and marker [4]. She created a new method, a "digitally rich" environment were her students are learning constantly through online devices and software. The class is using Quadblogging for all educational and communication tasks. If the method would be generalized, the impact over the education industry may be tremendous.

In South Korea, the government is trying to take advantage of the technological advance of the country and to replace all paper based materials used in education with electronic based resources, of course by using tablets [5]. The project is a huge challenge and is estimated to total 2 billion USD.

The last example concerns OLPC (One Laptop per Child) [6]. This kind of project overrides national boundaries and may create a lot of opportunities for education, even for children, communities, and countries which do not have at their disposal large amounts of money for this purpose.

However, not everybody is enthusiastic and ready to make the shift to the IT&C deployment at any cost. There are studies which outline the drawbacks of using tablets excessively or intensively.

Upon a study conducted by UCLA in South Korea, the concept of "digital dementia" has been introduced, associated with short memory dysfunction of a person who uses electronic devices such as smartphones, tablets, laptops intensively [7] [8].

Another study focused on the ability of children to work with images, when they learn words and their meanings [9]. At very early ages, the impact of using tablets instead of classical methods may lead to dramatic changes in their perception of words and alter the formulation of proper constructions in the communication process.

The study has mainly shown that a person who learns foreign languages by classical methods instead of intensive computer based instruction may boost his/ her brain capacity and may become more effective. In this respect Giovanni Sartori's work, Homo Videns, signals the problem of social integration of the overexposed teen generation to what can be called "fluorescent screens".

So one of the interesting questions that arises is the following: Is it better to replace the old fashioned way of learning alphabet with a Word typing environment?

2.1. The economic perspective

The interaction between education and IT&C will create many interesting connections with other domains such economy.

Education always means proper infrastructure, such as buildings, didactical materials, books, utilities (electricity, water, Internet access) and most importantly, human resources.

Any decision to be made in order to change the actual situation, at micro and/ or macro level, will definitely affect many other domains.

Lack of access to IT&C may have negative implications on computer literacy rate (which is on the increase, becoming as important as the literacy rate, at least in the developed countries, and in many developing countries).

Some of the implications of fully deploying and using IT&C at its full capability are addressed below:

- Students may stay at home, as the access to online communication allows everybody to communicate with everybody. Consequently, there is no more need for buildings and the utilities associated with them (energy, water, Internet, transportation for students only) shall be decreased;
- Students do not need books and other paper printed materials. It will be a reduction in printing materials to be worked on at home with associated effects such paper industry declining, unemployment in the sector, and other effects related to the horizontal businesses;
- Many employees in the educational area and in connected areas may need to move to other jobs, with other qualifications that may require supplementary costs for society or for individuals;
- Some businesses may disappear because they are related to old fashioned education process;
- The increasingly request for IT&C may lead to a boost in production and selling of equipment, locally or abroad; that may lead to more jobs in this industry and more taxes to be collected;
- IT&C may boost local economies even by linking remote and unknown areas with more developed areas;
- Proper usage of IT&C in education may support sustainable development in two main ways. The future employees of the IT&C industry are receiving their knowledge and developing their skills mostly through the education system. At the same time, they can better understand the real needs for IT&C of the education domain.

In a survey made by Eurostat, among the obstacles in the path of lifelong learning for 2011, it is listed the lack of access to a computer or internet connection (in the case of long distance learning), along with other factors such as health or age, financial situation, lack of

employer's support, conflict with work schedule or distance related challenges. In that particular statistics, Romania features the highest rate of respondents, 10.4%, encountering the aforementioned problems, while within the European Union the average totals 1.6% [10]. Even though the data from Romania is listed as unreliable due to specific reasons, it is still significantly higher than the similar rate of other countries, including those of Central and Eastern Europe. Although the statistics apply to the particular area of long distance learning, it is illustrative for the increasingly important role the IT&C begins to have in the education area.

Table no. 1. Countries with no access to a computer or Internet for distance learning
Source: EUROSTAT

EU-27 (7)	1.6
Euro area (EA-17) (7)	1.8
Belgium	0.5
Bulgaria	1.4
Czech Republic	1.2
Denmark	:
Germany	1.8
Estonia	2.8
Ireland	0.8
Greece	2.5
Spain	0.6
France	1.9
Croatia (2)	:
Italy	3.0
Cyprus	:
Latvia	2.3
Lithuania	1.3
Luxembourg	:
Hungary	1.3
Malta	:
Netherlands	2.6
Austria	1.6
Poland	0.6
Portugal	:
Romania	10.4
Slovenia	:
Slovakia	0.5
Finland	1.8
Sweden	:
United Kingdom (4)	:
Norway	2.2
Switzerland	4.8

3. CONCLUSIONS

As it was mentioned in the previous examples, the financial burden will be huge and not all communities or countries will be able to afford it. Each decision-maker has to carefully analyze and decide upon the issue.

We live and function in a very challenging environment and each decision has an immediate impact and/ or long term effects. An honest analysis of the environment and an honest formulation of the hypothesis may create a proper framework for designing the educational system in tight connection with IT&C.

An educational system analysis has to provide the right answers regarding the effectiveness of IT&C deployment in education. It is not the place for large companies to decide what is needed for education and how to replace the role of professors, only in the name of profit.

In this respect, society is responsible for encouraging the best solutions for development and for requesting authorities to make more efforts in this direction. It is important for such efforts to be performed at national level, in order to allow all citizens equitable access to modern, sustainable and effective education.

REFERENCES

[1] http://stiri.tvr.ro/ministerul-educatiei-vrea-sa-acceseze-fonduri-europene-pentru-ca-fiecare-elev-sa-aiba-tableta_35019.html,last retrieved July 2014.

[2] http://www.debanat.ro/2014/02/elevii-de-la-carmen-sylva-invata-de-luni-pe-tablete-samsung-ultimul-racnet-foto/#ixzz2uRT4AMs1,,last retrieved July 2014.

[3] http://stirileprotv.ro/stiri/international/elevii-unei-scoli-din-california-nu-mai-invata-dupa-manual-ci-dupa-tableta.html, ,last retrieved July 2014.

[4] http://www.bbc.com/news/technology-25888737, ,last retrieved July 2014.

[5] http://thenextweb.com/asia/2011/07/04/south-korean-schools-to-replace-all-textbooks-with-tablets/#!xL95M, ,last retrieved July 2014.

[6] http://one.laptop.org/about/mission, ,last retrieved July 2014.

[7] http://www.foxnews.com/health/2013/08/15/digital-dementia-memory-problem-plaguing-teens-and-young-adults/, ,last retrieved July 2014.

[8] http://www.dailymail.co.uk/health/article-2347563/Digital-dementia-rise-young-people-increasingly-rely-technology-instead-brain.html, last retrieved July 2014.

[9] http://news.bbc.co.uk/2/hi/health/3739690.stm, ,last retrieved July 2014.

[10] http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/File:Obstacles_to_participation_in_education_and_training,_2011_(1)_(%25)_YB14_I.png, ,last retrieved July 2014.

INTEGRATION OF ARTILLERY AND MISSILES SYSTEMS IN THE AIR DEFENSE FRAMEWORK

Vasile ŞANDRU*, Emilia CALEFARIU**

*Air Force Academy, Braşov, Romania
** Transilvania University, Braşov, Romania

The topic on integrated systems of weapons represents an actual area of concern for many countries, which are interested in such systems and allocate funding for research programs. From this point of view, Romania is in a development stage, but the prospects are encouraging, more and more scientists being interested in the research connected with the development of such platforms. In this paper we present an analysis of the most advanced air defense systems that ensure proper airspace security, emphasizing on the need for their integration on a common weapons systems platform.

Key words: *Integrated Air Defense, Network Centric Warfare (NCW), allocation targets, flexibility, redundancy.*

1. INTRODUCTION

The new vision of the battlefield requires a complete change in the way the military forces operate. The changes refer the ability to adapt to a wider range of missions (from the entire spectrum of war), their organizational design principles, the development of leadership through the adoption of adequate training methods and strategies, and the introduction of new technologies.

The integrated systems of weapons have evolved in the recent years in two directions with converging effects: the technical (tactical) upgrade of the equipment used in operations and building new platforms that present an improved striking precision at larger distances, in all weather conditions, based on the emergence of new digital equipment and striking technologies, which have the ability to adapt to the needs of current battlefield while providing a real-time picture of it.

In this paper we intend to present an analysis of the most advanced air defense systems that ensure proper airspace security, emphasizing on the need for their integration in a common weapons systems platform. This system must be able to provide a reliable picture of the air situation by providing key elements related to the identification and location of friendly and adversary forces combined with the dissemination of this information to all hierarchical structures, thus achieving information dominance.

We choose this topic on integrated systems of weapons because it represents an actual area of concern for many countries, which are interested in such systems and allocate funding for research programs. From this point of view, Romania is in a development stage, but the prospects are encouraging, more and more scientists being interested in the research connected with the development of such platforms.

2. THE CONCEPT OF INTEGRATED AIR DEFENCE

The premise on which the foundation of the concept of Integrated Air defense is set is that the society has changed profoundly because of the wealth of information and the military should not lag behind. The changes were driven by integrated

development processes of economic organizations through the usage of information technology to achieve new standards of business efficiency.

Military operations must be conducted under the rules of economic profitability and practicality and are subject to the same actionable patterns characterized by:

- shifting focus from the platform (with its limited specific sensors and striking elements) to networked systems, which offer improved opportunities;
- treatment of actors (fighting entities) not as independent elements, but as part of an ongoing environmentally integrated entity;
- flexible policies and procedures which ensure rapid adaptation (or even survival) in such changing environments.

An integrated Air Defense system involves engaging the enemy in several progressing stages and requires: prioritization of objectives, rapid communications, radars that work synchronous with the launch systems, and uniform response of the whole entity over the whole protected territory of responsibility.

Those systems are basically computerized networks that include sensors, communication nodes and command centers, each of it performing special / essential tasks for good functioning of the entire system [4].

In theory, an integrated system should work by itself (almost without human intervention) once the target / targets have been distributed and the launch command was given.

2.1. Definitions

When we speak about integration, we understand the synergetic actions required to defend Romanian airspace against air attacks. The responsibility (authority) to assign necessary forces and to defend (prevent) in peacetime, crisis or wartime situations belongs to Military Strategic Command within General Staff and to Air Operational Command (COAP), which allocates all of the existing air defense elements in the Romanian Army. This enables the existence of a unified system with synergistic effects and capabilities nationwide.

The COAP provides the commandants with forces and facilities which could be used immediately. This creates the premises of the development of air defense efforts and coordinates requirements and integrates air control elements within its structure and with structures designed to execute the Air Policing service. Integration refers to the synergistic effect of convergence efforts and capabilities, and do not require the addition of supplementary weapons systems or platforms for air defense.

Integration is the best way to create an effective air defense and allows for event prevention and reduced essential risks/hazards. Specificity and dynamics of air operations clearly show two dominant factors governing air defense systems model: the opportunity for action response and speed of reaction. These factors require flexibility, redundancy and comprehensive response speed.

When it comes to integrate specialized forces for air defense missions, we should consider the following principles:

- the placement under unified operational command and control of all air defense units, in peacetime and war requires the application of restrictions related to the use and deployment of forces;
- the use of air defense forces designated for the execution of missions other than air defense, is done with the information / approval of hierarchical chain of command;
- the administrative and logistic support for air defense units designated category should remain in the responsibility of forces headquarters to which they belong;
- all units designated to participate in Romania's air defense must be connected to the National Air Command Control System (SCCAN);

- Reporting and Control Centre (RCC), with its elements of supervision and Air Policing functions as a component of the Air Operations Centre should be staffed only with trained personnel from Air Force.

2.2. Trends in achieving VSHORAD-SHORAD-MRAD class systems

The main trends in the development and improvement of integrated air defense systems are:

- development of combined multichannel systems - radar-cannon-rocket;
- the management of different categories of fire means (namely guns and surface-to-air-missiles) to be made by the same command and control system;
- the usage of new wavelengths; practical usage of the electromagnetic spectrum is under constant investigation;
- dimensional systems usage for determining coordinates of aerial targets;
- achieving an air defense systems' reaction time less than 5 s through integration;
- the achievement of increased mobility and launch capabilities in all weather conditions;
- increasing the security of information transmission through the usage of automatic encryption systems.

3. THE ROLE OF DIGITAL COMPONENTS WITHIN THE INTEGRATED AIR DEFENCE SYSTEMS

The change from analog to digital represents the process of implementing advanced information technologies, allowing all troops an improved and constant monitoring of friendly forces and the enemy. Existing and envisaged digital technologies will increase the efficiency through better usage of resources, transmission and exchange of information in real time to maintain a clear and accurate battlefield picture, adapted to the needs of each decision maker. This program is one of the highest research priorities of the moment in Romanian Air Forces.

This process requires the introduction of current technologies through acquisition or rehabilitation (modernization) of existing equipments. The aim is to achieve awareness of the situation, capability to answer key questions of the fighting forces (Where am I? Where are my own forces? Where is the enemy?) and improved control and command systems.

Without such digital transition, the Network Centric Warfare (NCW) concept would not have been possible to be achieved.

Figure 1: Stability operational environment

The old 1970s generation technique is generally no longer a key element on the battlefield. The new aiming devices belonging to the so called Army Battle Command System (ABCS) consist of:

- Tactical command system and positioning system - the Maneuver Control System (MCS);
- Information fusion devices - All Source Analysis System (ASAS);
- Indirect fire control systems - Advanced Field Artillery Tactical Data System (AFATDS);
- Logistics Control System (CSSCS);
- Air Defense Systems Air and Air Missile Defense Workstation (AMDW).

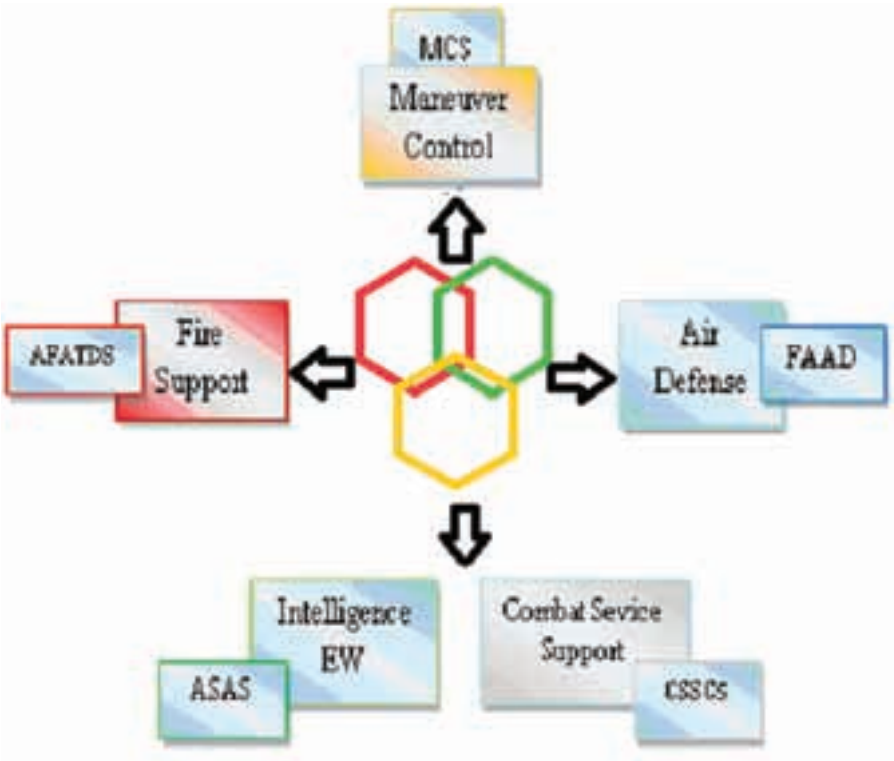

Figure 2: Army Battle Command system (ABCS) architecture

The introduction of a system-level tactical management allows each user to always have a situation image that provides three essential information covering locations: own forces, allies and adverse forces. At the same time, allows the transmission to the members of the network, real-time information about the opponent, giving commanders the possibility of providing further notice through electronic mail, accompanied by a graphic that indicates new targets. By integrating the system it ensures:

- information superiority (Information dominance) and its knowledge due to horizontal movement of information and network redundancy (which ensures stability), which can speed up the decision-making cycle (agility);
- extension of the operation by switching to a battleground segmented (deep / close / rear), and symmetrically to a larger space, nonlinear and asymmetric in depth which have taken decisive and precise operations (complexity);
- shift from the predominance of direct heat to it and the addition of the indirect to reduce the number of platforms to increase the effectiveness of common terminal mobility (ability to carry);
- constant flow of information logistics, allowing direct support as needed based on the precise distribution of the sectors of employment (endurance).

Network Centric Warfare advantages are numerous but, as pointed out earlier, in many of the new concept analysis, it is at the beginning.

4. AERIAL TARGETS DISTRIBUTION USING A COMPUTER SIMULATION

In this simulation example we will use the coordinate transformation in C++ programming. We presume

that targets will fly into systems responsibility airspace from various directions and with different speeds. From this perspective we have to allocate the targets to each system.

The targets distribution depends on the system's performances. To achieve the proposed task of simulation we established first the systems configuration (location; limits - left/right; number of systems).

We take into account six systems, thus two of them belong to antiaircraft artillery (AAA) and others four to Surface-To-Air Missile (SAM). The systems characteristics are presented in **Table 1**.

Table no. 1. System characteristics

Systems/ parameters	System units	$S_1^1 S_{AAA}^{12}$	$S_{21} S_{SAM}^{22}$	$S_{31} S_{SAM}^{32}$
Maximum range	[m]	3500	10000	40000
Minimum range	[m]	300	1500	2400
High altitude	[m]	3000	12000	10000
Low altitude	[m]	50	50	3000

There are 15 targets. The targets speed various between 200 and 1000 m/s. The targets characteristics are:
- flight direction (azimuth);
- flight altitude;
- speed;
- number;
- rectangular coordinates.

For example:
Target number 14:
- flight direction - 300;
- flight altitude - 6000 m;
- speed - 40 m/s;
- rectangular coordinates:

x = 4
y = -13

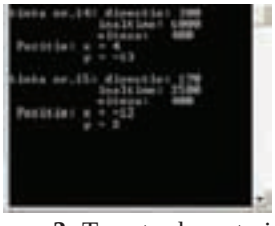

Figure 3: Targets characteristics

The possibility of targets distribution to integrated system was assessed by simulation. At the end of the simulation process it was indicated that only 7 targets were allocated to the systems depending on their performances.

The simulation briefly presented refers to a platform of integrated air defense systems.

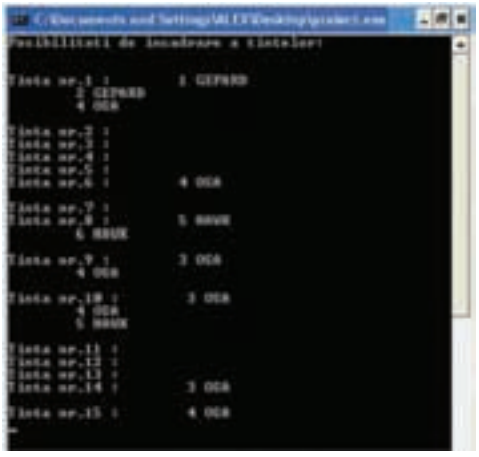

Figure 4: Targets allocation

5. CONCLUSIONS

The majority of people admit that we are members of a new era of information and engineering which influences the battlefield changing. Thus it is necessary to carry out the transformation that represents a vital component of Armed Forces being required new strategies in the process of acquisition and personnel training.

High technology, information technology, and new weapon systems create conditions for the expansion of the space of confrontation and for the setting up of new types of conflicts, based on the principles of information, instant fightback, actions network, reduction of the amount of waste and collateral effects.

It is also necessary to be applied a fundamental change of the way we think and act, being conscious that the precision, speed and flexibility of network-based military operations can produce a decisive effect on the battlefield.

Starting from these premises, we presented a study reported to the creation need of an integrated air defence model. The own forces and systems should follow the necessary steps to achieve a new qualitative level in order to deal with new types of threats.

This paper represents an analysis of air defense systems concerning its interconnection, stage of modernization, latest technologies purchased, future trends in weapons industry and management resources with a highlight on the compatibility of their synergetic functioning.

It is needed also to underline the necessity of using our own forces' weapons as a whole and to state the necessary steps which have to be followed for the materialisation of a platform that provides a real-time picture of the new threats, increasing precision of the impactor and targets neutralization.

The final goal of any initiative regarding the establishment of an integrated air defense system should take in consideration the theory, functioning and practice of generically named "systems of systems".

REFERENCES

[1] ACKERMAN, R. Special Forces Become Network-Centric. SIGNAL Magazine. Fairfax, VA: AFCEA, 2003.

[2] ALBERTS, D, GARSTKA, H, Signori. Understanding Information Age Warfare. Washington, DC, CCRP Publication Series, 2001.

[3] ALBERTS, D, GARSTKA, H, Signori. The Unintended Consequences of Information Age Technologies. Washington, DC: CCRP Publication Series, 1996.

[4] VASILESCU, C. Modeling the reliability of C4ISR systems hardware/ software components using an improved Markov model, Review of the Air Force Academy, the Scientific Informative Review, No. 2(21)/2012, p. 15, ISSN 1842-9238, http://www.afahc.ro/ro/revista/Nr_2_2012/Articol_Vasilescu.pdf.

[5] ALBERTS, G, STEIN. Network Centric Warfare. Developing and Leveraging Information Superiority, 2000.

[6] CEBROWSKI, GARSTKA. Network Centric Warfare: Its Origin and Future.

[7] GORDON, S, DUBIK. Land Warfare in the 21st Century. Strategic Studies Institute.

[8] MURDOCK, P. Principles of War on the Network-Centric Battlefield: Mass and Economy of Force, in Parameters, 2002.

[9] SENGUPTA, J. Created Structures for Network-Centric Warfare: Perspectives from Organization Theory.

[10].http://us.net/signal/Archive/March03/specialmarch.html.

[11] www.usni.org/Proceedings/Articles98/ARO Cebrowski.htm.

[12] http:/www.dodccrp.org/1999 CCRTS/pdf_files/track_4/017sengu.pdf.

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FEATURES OF INTELLIGENCE RESOURCES MANAGEMENT IN CRISIS SITUATIONS

Ilie PAUN

Ministry of National Defense, Romania

The emergence of security conceptual systems can contribute to diminishing the differences between security consumers and security providers and hence to the latter's transformation into security holders/guarantors. In this respect, intelligence is a field in its own right that can make an important contribution to this. Thus, intelligence in general, and its plethora of forms are a salient part of the arsenal of asymmetrical conflicts. Consequently, acquiring, holding or using information as part of intelligence is the major stake of the aforementioned antagonisms.

Key words: *intelligence resources management, crisis situations, intelligence.*

1. INTRODUCTION

Specialized literature focuses on a great variety of events and processes relevant for the analyses and studies on intelligence resources management. However, there is a deficit in the scope of these analyses in terms of framing the organizational approach they take within the wider international security environment.

An overview of the current security architecture and its underlying crises and conflicts highlights that there have not been major changes in the basic requirements of intelligence resources management. Thus, the latter's main goals have remained the same: safeguarding information and personnel, uncovering hostile intentions of third party state actors or non-state actors, identifying the structures and scope of activities of the parties involved in a direct aggression, crisis situation, conflict or espionage.

A salient part of intelligence resources management consists in the collection, evaluation, and dispatch of information to planners or decision making bodies with a view to having it modeled and employed in making decisions in the political, diplomatic, military or other security adjacent fields.

One basic truth in this respect was formulated by the the great Chinese strategist, Sun Tzu [1] who states that knowledge (i.e. information) allows intelligent governments and military leadership to outspeed adversaries and to benefit from great accomplishments. Such a statement remains just as important and relevant nowadays as it used to be two hundred years ago since it emphasizes the need for on time information supply in increasing the efficiency of human actions.

The evolutions and transformations in the international security environment along with the effects of globalization have led to significant changes in the security paradigm and hence to a reconfiguration of intelligence resources management.

In terms of their forecast ability in the field of intelligence resources management, Western powers have failed to graps in due time assertive approaches challenging the international security environment. For example, the Russian Federation of States reviewed its strategy and doctrine, and inherently, made large

investments in the military field, conducted large scale modernization of its fighting technology, used of coercion/force in managing political situations as it was the case of the intervention in Georgia or Ukraine and employs energy weapons. Similarly, Western states could not anticipate the creation of the Islamic State of Irak and Levant (ISIL), which sets a precedent in the system of international relations since it consists in the transformation of a terrorist organization into a state.

Since all of the above highlight an extensive field to be covered, this article is to only focus on the transformations from within the international security environment, the factors that influence it, and subsequently the intelligence resources management process and the possibility of a system approach to it.

2. FEATURES OF INTELLIGENCE RESOURCES MANAGEMENT

The complexity of the international relations framework, the numerous actors and their multifarious relations along with the globalization phenomenon can generate the "dismantling" of the classical international architecture of the XX century. Some arguments in favor of the above statement are: the transformation of ISIL into a state, as well as the constant effort of the Russian Federation to get and maintain a stronghold within the network of international relations through actions similar to hose during the Cold War that unequivocally dismiss a unipolar international order and are directed towards reestablishing Moscow's areas of influence. The Russian military intervention in Georgia and Ukraine has unavoidably impacted the region. Thus, Moscow's unilateral decision to reconfigure Georgia's borders, Crimeea's "integration" into the Russian Federation and the involvement of undercover Russian forcs in maintaining the crisis situation in Ukraine have all been generating numerous implications that trespass the Black Sea and Caucasus areas.

In order to prevent and counter such evolutions, the international community and, most specifically, the Euro Atlantic community has belatedly reacted by adopting a nubr of decisions both at the level of the European Union and at NATO level durng the Wales Summit in 2014.

In this respect, the concept of "hybrid warfare" was delineated as "the use of a wide array of overt and covert military, paramilitary and civilian measures as part of a highly integrated architecture"[2].

With a view to evolutions and trends like the ones mentioned above, the intelligence community should adequately and efficiently react by taking into account the factors that influence states' interactions within the international security environment and that are molded by the relations among states/establishments, states' extrenal policies, their geographical and political commitments, demographic, technological and economic trends, their political and military structures, as well as the trends of the late XX and beginning of XXI centuries in fields like culture, religion, ideology, media and online environment.

One of the few endeavors that aim at listing and cataloguing intelligence related agencies and services is the Intelligence Resources Program (IRP) [3] currently unfolding under the authority of the Federation of American Scientists (FAS). This is dedicated to identifying and and classifying the information available on any agency or intelligence service acting at national or international level. However, its webpage is but a limited unofficial database that, in the absence of quantitative studies on intelligence communities, can be though used for research and information.

One of the features of intelligence resources management is the manner of reacting to the evolutions in the

international security environment when it comes to avoiding strategic downturns [4] caused by opoosing forces/adversaries through prospective studies. There are three guiding criteria to evaluate this type of approach: the prospective nature, the goal of reducing uncertainty and the proven relationship with te intelligence resources management.

An aspect that is barely approached by specialized studies concerns the cooperation among different intelligence services both at national and international level. Nationally, the efficient cooperation among intelligence agencies and services can yield the effective use of information and, consequently, meeting national interests by delivering on time information to the military decision making entities. Internationally, an adequate legal framework is required that also pays its dues to issues like the sensitivity of information exchange, confidentiality and, most importantly, unaltered national interest. In this respect, at international level, the coordination of intelligence efforts is based on agreements, protocols, programs and projects. In this respect, it is worth mentioning international security organizations like UN, NATO, EU that, even though they have specific technological means such as satellites (i.e. EU) or surveillance and reconnaissance systems (i.e. the NATO Intelligence, Surveillance and Recoinassance System), do not have structures specialized in information collection. For these, they rely on the cooperation of national intelligence services.

From a methodological and institutional point of view, the features of intelligence resources management are still under the influence of two main factors:

- **The human factor,** namely the quality of the personnel from the intelligence structures and its impact upon specific processes, relations and products. This factor is the one that ultimately makes the diference between intelligence systems and the real situation in the field. On example in this respect I the involvement of Turkish intelligence services in the efforts made to release the group of Turkish diplomats from the Turkish Consulate in Mosul detained by ISIL.
- **The technical and material factor** is related to the upgrade/update level of the systems in this area. The information system from within intelligence agencies and services can be a simple or a complex one and can rely on one or several types of resources. The features of source exploitation by employing specific technical means are reflected in the management system.

Another salient feature is represented by the transformations of the terrorist phenomenon from the so-called "traditional terrorism" to extremely violent facets of it that make totalitarian claims based on an exacerbated religious approach rejecting any other outlooks on world order. Hence, the religious arguments underpinning this new form of terrorism rely on „radically different value systems, mechanisms of legitimation and justification, concepts of morality and, world view" [5]. Some of the underlying characteristics of this new type of phenomenon area: symbolic and theatrical displays, violent and non-discriminatory targeting of prospective victims, and perception of self righteousness as a result of a rigid interpretation of religious principles.

The revival of religious argumentation highlights an inherent error: denying the intrinsic rationality of the religious subconscious. Moreover, the importance of religion within contemporary terrorism is rendered by exploitation of faith in a world that has no other systems of values to rely on.

An important role in collecting information as part of contemporary fight against terrorism is played by Civil Military Cooperation (CIMIC) entities operating in conflict areas. However, CIMIC personnel should not play the primary role

in intelligence gathering. In this respect, the motto of each and every modern CIMIS structure deployed in the operational field is: "CIMIC is not Intellligence". Failure to act accordingly leads to distrust on behalf of friendly forces and civilian population. As a result of its specific missions and functions, CIMIC structures can collect information on the operational area, population, resources, relevant organizations and likely hostility that could hamper mission fulfillment both before and during deployment. The capacity of CIMIC structures to interact with organizations or key entities (local leaders, civil organizations, etc.) amplifies their importance as a source of information with a major role in obtaining information superiority in the area of operations. A well employed instrument by the Romanian forces deployed in theatres of operations to achieve CIMIC related goals is KLE (Key Leaders Engagement). However, apart from its advantages, this instrument can only be used in ongoing conflicts.

The actions undertaken against the new facets of terrorism require operational awareness and precise knowledge, along with the involvement of special forces and elements belonging to the intelligence community, as well as high tech means such the Unmanned Air Vehicles. Remote control weapons are to be used further on especially during the peak of military operations. However, there are at least two reasons for which the likelihood of successfully waging war without troops' heavy reliance on roles anchored in fundamental virtues is a but a phantasmagoria.

First, the use of remote controlled weaponry fundamentally depends on the technological prowess of the adversaries. Until now, drones and similar technology have been intensely used in asymmetric warfare against enemies with no solid anti aircraft or submarine systems and hence with limited capacity to wage cyber or electronic warfare directed against satellites or communications infrastructure. This is one of the counter arguments concerning a nation's decision to abruptly scrap its existing force structure or to exclusively rely on unmanned devices.

Second, asymmetric warfare conducted nowadays by the US in Afghanistan or in North Africa and that seem to frame the typology of future wars, is focused on two goals that can be hardly met by exclusively robot based weaponry. Closing a conflict through long term political agreements requires either direct control over the territory –and that can be achieved through the now traditional territorial occupation- or nomination of a new government. Territorial occupation is based on the presence of troops on the ground. A new government requires gaining political support of civilian population by winning their "hearts and minds" and that, in its turn, may incur a more significant foreign presence of civilian and military that can better meet the aforementioned desideratum than remote control systems.

The arguments above underpin the likelihood of future involvement of manned forces in theatre of operations. Consequently, the preoccupation concerning the transformation of fundamental virtues as a result of using military remote control systems may seem preposterous. However, as Codreanu and MacCuish point out, "The very words used to define the [asymmetric] environment are self explanatory in terms of the types of actions required. An environment defined under this acronym [i.e. VUCA] cannot but be: under the influence of rapid change (the volatility component), averse to pursuing stable long term solutions, of a complexity that makes it difficult to pinpoint every nook and cranny of a given situation and/ or to develop a comprehensive outlook… Thus, concepts like "value" and "competence"… should be more comprehensive but as long

as the guiding principles for the behavior of the organization and of the individuals that make it work are flexibility, adaptability, simplicity, tolerance to fuzziness while viewing challenges as opportunities to "juggle with", ability to keep pace with the changes in the environment, capacity and willingness to do more with less, consensus focused decisions requiring that centralized and decentralized approaches meet half way."[6]

Concerning the typology of current conflicts (namely, the terrorist actions of ISIL), the use of remote control systems to collect information is enabled or disabled by the technology of the adversary. Thus, if in the case of the expansion of the Russian Federation, the latter's technical and military raise challenges to pursuing such a goal. On the other hand, when tackling actions like those of the ISIL, such technology can be successfully employed.

Planning military actions in a virtual environment cannot become an advantage in the counter actions directed towards the "new facets of terrorism" in the absence of cultural and sociological approaches to detecting and recognizing targets. Therefore, reorienting the strategy against religious terrorism becomes a priority and consequently, the human factor defined as HUMINT acquires momentum since it is the most important source of information within intelligence resources management.

Additionally, the lack of experience and poor training of personnel in espionage have led to serious malfunctions of the intelligence system. As a result of these, there is a deficit in valuable information gathered from human sources at all levels of the armed forces, as well as an increase in collateral damages adjacently generated by insurgent "hunters". Lack of proficiency in foreign languages and in interrogation techniques contributed to situations like the ones in which the uncovering of the techniques employed by the US military, as well as the detention of individuals raising suspicions in Abu Graibh and Guantanamo, and their unfavorable wide range broadcast in the media led to the inclusion of US techniques among similar practices of representatives of the "new archaic order". The effect of violent interrogation practices was not the one intended, namely the fast retrieval of vital strategic information, but a failure in infiltrating among insurgents.

3. CONCLUSIONS

The international security environment is molded by the efforts of the state and non-state actors to gain access to resources, by the hegemonic tendencies of some of the players who are already or are to become great powers, as well as by the inherent strategic partnerships or coalitions.

Terrorism is one of the major factors influencing the international security environment and as such it has undergone major transformations triggered by religious fanatism. One example in this respect is ISIL and its fierce attacks and executions in Syria, Iraq and Algeria. A rational analytical perspective on such events, anchored in a costs-benefits type of thinking, cannot grasp the goals serving such an approach. However, what stands to reason is that there is a intrinsic logic of religious terrorism.

A new power balance prefigured by the ascension of states like India and China, as well as by the hegemonic tendencies of Russia is to impact both directly and indirectly the regional and global environment, and, inherently, the Euro Atlantic intelligence community. Therefore, necessary transformation/adaptation measures become mandatory

Information resources management and the intelligence field are to still be equally under the influence of the human factor and of the technical and material ones. Moreover, specific situations that require a

symbiosis of the two and hence of the underlying efforts are to emerge.

On short and medium term states are still to be the main actors having access to resources and thus legitimating the field of information resources management.

From an institutional perspective, an excessive geographical and organizational development generates a wide information spectrum correlated with systematization attempts from a methodological point of view. However, the latter places constraints on the instruments to be used and imposes preserving secrecy and hence it yields negative effects in adequately supporting and developing the activities of the intelligence community.

Recent developments in the field of security pinpoint the fact that decisions under uncertainty, rational actions, group think or game theory are to play an important role in information resources management.

REFERENCES

[1] Sun Tzu (2003) The Art of War, Barnes & Noble Inc. New-York, p. 58.

[2] Paragraph 13 from the Wales Summit Declaration issued by the Heads of States and Governments during the NATO Summit unfolded between 4 and 5 Sepetmber 2014 in Wales, source: http://www.mae.ro/node/28465, last retrieved September 10, 2014.

[3] http://www.fas.org/irp/world/index.html, last retrieved August 16 , 2014.

[4] Costinel ANUȚA, Studiile prospective și analiza de intelligence: de la managementul riscului la reducerea incertitudinii, (Romanian for Prospective Studies and intelligenc analysis: from Risk Management to Uncertainty Reduction) in George MAIOR, Ionel NIȚU (coord.) (2013) Ars Analitica, București: RAO, pp.230-246.

[5] Bruce Hoffman (1998) Inside Terrorism, Columbia University Press, p.87

[6] Codreanu, A., MacCuish MILITARY ETHICAL META-KNOWLEDGE AND INDOOR TEAM BUILDING GAMES. .FROM PROMISE TO PRAXIS, paper presented during the 4th Annual Euro-ISME Conference 2014 "Didactics of Military Ethics. From Theory to Practice", Koblenz, Germany.

[7] FM2-0, Intelligence, Headquaters Departament Of Army, USA, March 2010JP2.0, Joint Intelligence, Defence Department, June 2007, last retrieved August 2014.

[8] JP2-01, Joint and National Intelligence Support to Military Operations, Washington DC, SUA, October 2004, last retrieved August 2014.

[9] JP 2-01.3, Joint Intelligence Preparation of the Operational Environment, Washington DC, SUA, 2009, last retrieved August 2014.

[10] Ilie, Marin (ed.) (2007) Masa Rotundă "Sensuri ale managementului integrat al apărării" (Romanian for round table on Meanings of Defense Integrated Management), Brașov, 23 July 2007, București: "Carol I" National Defense University.

[11] Nicolaescu, Gheorghe, Simileanu, Vasile (2005) Restructurarea sistemelor informaționale (Romanian for Restructuring information systems), București: Top Form.

[12] Savu, Gheorghe (2000) Metode moderne de prelucrare și distribuire a informațiilor militare obținute prin cercetare, destinate conducerii strategice la pace și pe timp de război, teză de doctorat, Editura Academiei de Înalte Studii Militare, București.

[13] Williams, Reginald J., Kendall, Rocky (2002) Operationalizing Effects-Based Operations, an EBO Methodology Based on Joint Doctrine, USA.

[14] Wilson, Michael - Towards an Ontology of Integrated Intelligence and Conflict, Decision Support Systems Inc, April 2001.

[15] https://www.cia.gov/library/center-for-the-study-of-intelligence/index.html.

[16] http://www.ssu.gov.ua/sbu/control/en/publish.

[17] http://www.dia.mil/college/publications/.

[18] http://www.centerforintelligencestudies.org/.

[19] http://www.dtic.mil/.

[20] http://www.globalsecurity.org.

[21] www.defenceandstrategy.eu.

[22] www.departmentofintelligence.com.

[23] www.nato.int.

[24] www.globalsecurity.com.

[25] www.foreignaffairs.org.

[26] www.mae.ro/node/28465.

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