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**REGIONAL DEPARTMENT OF DEFENSE RESOURCES
MANAGEMENT STUDIES**



**DEFENSE RESOURCES MANAGEMENT –
TRENDS AND OPPORTUNITIES**

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Postgraduate Course*

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TRENDS IN DEFENCE RESOURCES MANAGEMENT

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1. GENERAL ISSUES REGARDING THE MILITARY SPENDING AND BURDEN SHARING

Military spending and burden sharing have been perennial and interrelated sources of tension within the Atlantic Alliance and within the political systems of its members. Due to the fact that the defense ministries never manages to acquire the resources they strive to obtain in order to achieve their goals, oftentimes there are disputes within the Alliance that members countries are not spending sufficiently on national and allied defense.

Since scarcity is the operative condition under which defense planners work, properly run military establishments must count on working with the resources that their political masters are likely to accord them, rather than the resources that they would ideally like to have in hand. Defense planning and budgeting is consequently a highly complex and challenging exercise in matching the size and the capabilities of national militaries to the resources that are, or realistically will be, made available to purchase these capabilities and to the missions that military leaders will be asked to undertake. The first step in managing defense resources is to recognize and prioritize national security challenges, and resources must be allocated in such a way as to minimize security risks to the degree that this is fiscally feasible.

What make the current budget environment so daunting is the **rapidly evolving strategic environment** and the attendant uncertainties that this has injected into the military resource management and planning processes.

➤ **Major doctrinal shifts.**

Some of the greatest budgetary tensions historically arose in the wake of major doctrinal shifts:

- **Although the Cold War** saw all manner of tensions arising out of defense spending and burden sharing matters, the relative stasis of the strategic environment during those years infused the planning process with **a certain degree of predictability**. The 1952 strategic concept was based on mutually assured destruction (article 5).
- Later, NATO moved from the mutually assured destruction to a strategy based on flexible response in the 1960s. In that particular case, NATO's new posture

resulted in a new emphasis on expensive conventional forces needed to diminish reliance on a nuclear tripwire that no longer seemed fully credible. That new posture, however, unleashed fresh burden sharing tensions within the Alliance as some member countries struggled to match their heretofore neglected conventional force structures to the new doctrine - an expensive proposition that even then many politicians and their constituents were reluctant to underwrite.

- Recognizing the post-Cold War military environment, NATO adopted the Alliance Strategic Concept during its Washington Summit in April 1999 that emphasized conflict prevention and crisis management.
- The end of the Cold War on the European continent, violent conflict in South-eastern Europe, the September 11 attacks, the rise of domestic as well as international terrorist threats, and the wars in the Middle East and Afghanistan have each contributed to a rethinking, not only of national defence requirements, but of allied requirements as a whole. Although the 1999 strategic concept was more comprehensive, it was elaborated before all this events which have offered the Alliance the “lessons of 21st century security” and impose nowadays a new strategic concept.

Change in the strategic environment is accelerating and national and NATO planners are extraordinarily hard pressed to keep pace, particularly because defense budgets are so stretched for so many reasons. These budgetary pressures are going to place an ever-growing premium on laying out priorities and developing allocative efficiencies in the defense sector so that acceptable levels of security can be achieved in the face of potentially declining, or at least static, resources.

➤ **Major economical changes - implications of the economic crises**

In 2008, it was estimated that global military expenditures totaled \$1,464 billion, representing an increase of 4% in real terms compared to 2007, and a 45% increase since 1999. Despite the overall growth of governments’ defence budgets in the past decade, the global financial crisis has had a significant and far-reaching impact that will eventually compel governments to reassess national budgets. Defence budgets for 2009 were already in place prior to the financial crisis and defence budgets have not yet been drastically affected. In light of increasing government debt, rising social welfare demands, and plummeting GDPs, maintaining current defence spending may prove difficult over the medium term. The nations’ defence ministries and military services all face tough budgetary decisions in the coming years, and governments may feel both politically and financially compelled to reduce defence outlays after 2011 if the economic situation does not improve substantially (Annex 1, the perspective of national defence budgets for NATO member countries).

➤ **Implications of the strategic environment changes**

- **Active deployments are eating up resources that otherwise might have been spent on transformation.** Active military deployments in conflict situations are revealing a real gap between the aspirations for military transformation and the current state of allied forces. NATO member forces today are deployed on an

array of missions under national, NATO, EU and UN flags. These missions are consuming resources, some of which might otherwise be used to underwrite transformation. In some cases, like Afghanistan or Iraq, those forces are deployed on highly costly military operations that are piling on enormous budgetary burdens, although, in most cases, countries have appropriated extra funds specifically to cover these mission costs. Repairing or replacing damaged equipment, responding to unanticipated equipment requirements, and higher than anticipated fuel and payroll bills are nonetheless stretching already tight defense budgets.

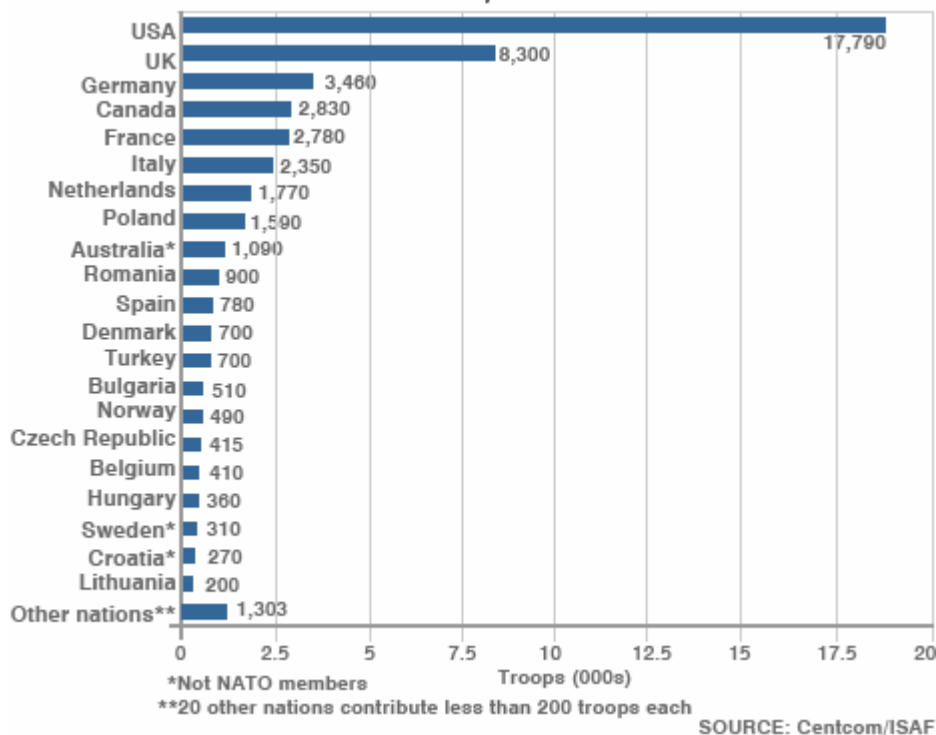
1. **Active deployments are a training laboratory for new NATO members.** For newer members of NATO, these deployments have been particularly trying. The SFOR, KFOR and ISAF missions, however, have effectively served as a training laboratory for new members on resource management in deployment conditions. The lessons have been hard earned but extraordinarily valuable.
2. **Cost-effectiveness is increased by spreading the security burden within military alliances.** The cost-reducing potential of Alliance membership is increasingly discussed among traditionally neutral countries that are finding it difficult to muster resources for their own national defense. The irony is that NATO members themselves are still not fully exploiting their Alliance's potential to foster multinational resource efficiencies. NATO, for example, has never managed to standardize equipment in ways that would yield far greater procurement savings as well as improved military effectiveness.
3. **Uneven defense spending.** While the American defense budget has risen substantially, most European NATO members have kept their defense spending steady. European societies, with a few notable exceptions, have been reluctant to forego the so-called peace dividend that allowed governments to slash defense spending after the collapse of the Soviet empire. These divergent spending trends have widened the capabilities gap between the United States and its European allies and created serious political tensions as well.

Nowadays European countries are increasingly being asked by their leaders to sanction military deployments deemed essential to national, European, transatlantic and indeed global security interests. There has long been a hope that the development of an EU military dimension might help galvanize European leaders and their publics both to sanction increased defense outlays and to embrace the kind of multinational co-operation that would render European defense spending more efficient - something that NATO has never really managed to pull off. Yet, this has not happened, at least, not to the point where most European governments would willingly sanction greater defense outlays. Moreover, the insufficient level of co-operation between NATO and the European Union is leading to costly duplications that could exacerbate the enduring problem of allocative inefficiency in Europe.

4. **Reactivation of old disputes within NATO.** Active force deployments have revived old burden sharing debates. If security within an alliance is "non-excludable" and "non-rival" (it is not possible to withhold a security benefit from a non-contributing ally), it is easy to understand why there might be a temptation to "free ride" within an alliance. Certain countries, might find it difficult to make a

noticeable difference in the general security environment, no matter what they were to spend on defense. This condition becomes an almost structural disincentive to spend on defense. After the dissolution of the Soviet threat, almost every country within the Alliance took advantage of the altered environment to cash in their peace dividend. Yet, the rise of compelling new threats and decisions to take on new missions to deal with them have subsequently revived old burden sharing questions. The uneven contributions Allies are making to the common effort in Afghanistan, for example, lie at the centre of nowadays debate. The problem is not only financial; it also involves the willingness of some allied countries to put "boots on the ground". A degree of asymmetry has emerged in force deployments, with certain allied countries taking on the riskiest missions and others generally abstaining from doing so.

ISAF TROOP CONTRIBUTING NATIONS, FEB 2009

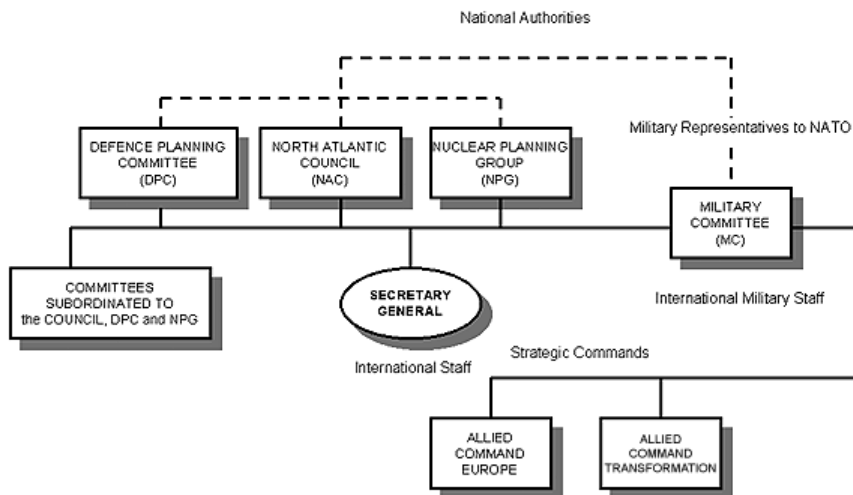


Indeed, looking along the spectrum from crisis prevention to military intervention to peacekeeping and post-conflict reconstruction, there is an array of means by which allied countries can contribute to security. Developing the capacity and the willingness to project military power is only one aspect of burden sharing in the new strategic environment. Reducing threat, also involves a high degree of civil engagement in crisis regions, an area where Europe might have a comparative advantage.

- **New possible models regarding the division of labor within the security environment.** Some security analysts have argued that a division of labor, conferring upon the United States war fighting military responsibilities for Western defense and conferring upon Europe the civil dimension of crisis and post-crisis management, is a formula for transatlantic fragmentation and ultimate disunity. The United States clearly needs to develop its peacekeeping capacities and Europe its war fighting capabilities.

- **New force structures.** In order to encourage military innovation among NATO members and reconfiguration of forces, NATO has created a new command, Allied Command Transformation.

NATO's Civil and Military Structure



NATO member and partner military establishments are in the midst of abandoning obsolete force structures that were originally arrayed to deter a land-based incursion from Eastern Europe (or from Western Europe in the case of the former members of the Warsaw Pact) to structures that emphasize light, rapidly deployable, mobile and sustainable expeditionary forces with a reach that goes well beyond Europe.

NATO Response Force (NRF) is a "coherent, high readiness, joint, multinational force package" of approximately 25,000 troops that is "technologically advanced, flexible, deployable, interoperable and sustainable". Its role is to act as a stand alone military force available for rapid deployment by the North Atlantic Treaty Organization as a collective defense, crisis management or stabilization force, or to act as an initial entry force for a subsequent primary deployment. The NRF consists of land, air and sea components provided by NATO members. Contributed forces first train together and then become available for a 6-month period before being replaced by the new force.

The purpose of the NRF concept is to provide NATO with a robust and credible high readiness capability, which is fully trained and certified as a joint and combined armed force, able to deploy quickly to participate in the full spectrum of NATO missions wherever required. The concept of NRF was first endorsed at the Prague Summit (2002), approved by NATO Defense Ministers in June 2003, and first headquarters created in October 2003 in Italy under command of NATO Joint Force Command in Brunssum, Netherlands, designated NRF 1.

NRF was pronounced to have achieved Initial Operational Capability with 17,000 in 2004, and a success after participating in security operations for the Athens Olympics and Afghanistan elections. NRF 3 (2005) and NRF 4 (2006) confirmed

popularity of the concept among NATO member states. Only the command structure of the NRF became fully developed by October 2006.

The first elements of the NRF are able to deploy within five days, with the rest of the force capable of operating self-sufficiently for a period of 30 days. Depending on mission requirements, the NRF will operate either as an Initial Entry Force to facilitate the arrival of Follow-on-Forces, or as a Stand-alone Force. Within the full spectrum of NATO missions, the NRF may conduct the following types of missions:

- Non-Combatant Evacuation Operations;
- Counter Terrorism Operations;
- Embargo Operations;
- Quick Response Operations to support diplomacy as required.

To fulfill these tasks the NRF consists of a combined and joint force package that will be tailored to each specific mission. This force package is based on a brigade size land element (including special operations forces), a joint naval task force, and an air element capable of 200 combat missions per day. Accordingly, the NRF command and control structure consists of a Combined Joint Task Force Headquarters (CJTF HQ) with subordinated Land, Air and Maritime Component Commands (LCC/ACC/ MCC). Although already mature, the overall concept and related capabilities will continue to develop over coming years.

Forces participating in the NRF are drawn from the entire NATO Command and Force Structure. Forces will be assigned to the NRF on a rotational basis with the formal stand-by period lasting six months. Units that are assigned undergo a specialized 12-month preparation program that is split into the six months of unit training under national responsibility and six months of joint and combined training under the responsibility of the respective component command. After a successful final test, NATO's Supreme Allied Commander Europe (SACEUR) will certify the force.

While the NATO Response Force has only been used 5 times (The 2004 Olympic Games, the Iraqi Elections, humanitarian relief to Afghanistan, humanitarian relief in the wake of Hurricane Katrina, and humanitarian relief in the earthquake disaster in Pakistan), it shows great promise to be an effective military tool.

During the NATO defense ministers, June 2009, it was agreed on a new structure and arrangements for NATO Response Force. It will include a core element, a command and control part, as well as forces available on call. Moreover, the new force generation mechanisms will allow for more sustainable and “user-friendly” contributions from individual Allies.

2. THE NATO BUDGET AND THE BURDEN OF TRANSFORMATION

Members of the Alliance contribute in different ways to the three NATO run budgets: the civil budget, the military budget and the Security Investment Programme. Each of these is underwritten by individual contributions from member states based on previously agreed ratios related to per capita GDP, the size of the national economy and several other factors.

The military budget is NATO's largest. It covers the operational costs of the international military staff in Mons, Belgium, and the various NATO commands in Europe and North America. It also underwrites the costs of maintaining and deploying the NATO AWACs fleet, the NATO pipeline system and the Maintenance and Supply Agency.

The NATO civil budget covers the costs of running the NATO Secretariat in Brussels, including staff and administrative costs. It also underwrites the Partnership for Peace, the Euro-Atlantic Partnership Council, the Mediterranean Dialogue and a range of other programmes.

The budget for the NATO Security Investment Programme helps support selected allied military installations and construction projects. In recent years, this fund has underwritten projects that encourage transformation away from the old static defense postures toward crisis control, anti-terrorism and more mobile military structures. In practical terms, the fund finances various NATO functions including command, control and communications initiatives, software packages, logistics, training installations and transportation.

- **The asymmetry in force deployment - a growing source of tensions within NATO** In 2005, NATO revised its approach to funding non-article 5 NATO led operations. It provided a set of principles that would inform funding for any given mission, although the primary mechanism remains the "costs lie where costs fall" rule. This also applies to partner countries participating in these missions, although it does not rule out the possibility of bilateral or multilateral aid for these countries. Costs not attributed to specific national militaries can be funded out of the NATO budget. The new concept also covers theatre level enabling capabilities that were once funded nationally. These costs are borne by the military budget and the Security Investment Programme, cover all manner of engineering support, fuel storage and other infrastructure costs, and are shared by all member states under standard cost sharing formula.
- **The asymmetry in defense spending between UE and European countries jeopardize Euro-Atlantic solidarity.** National defense spending priorities, capabilities issues and the willingness to deploy and sustain forces in the field are the real source of tension among allied countries. While US defense spending has increased massively over the last five years, European defense budgets remain low in historic terms. The perception of some is that while NATO forces are engaged in war-fighting situations, some Allies are simply unable or unwilling to contribute to the difficult missions, in part, perhaps, because their militaries are under funded and not prepared for those missions.

In 2006 NATO ministers agreed that: **"Allies who currently devote to defense a proportion of GDP which is at or above 2% should aim to maintain the current proportion. Nations whose current proportion of GDP devoted to defense is below this level should halt any decline in defense expenditures and aim to increase defense spending in real terms within the planning period. (DPC-D(2006)0004, 7 June 2006)**, which was reiterated this position at the Riga summit in November 2006. NATO is also using the four-year-old military transformation agenda to advise member governments on future procurement

strategies, although defense purchasing remains the sovereign prerogative of member states, both in NATO and in the EU. Defense transformation budgets are fairly low and are far lower in Europe than in the United States. The reasons for this transatlantic discrepancy are obviously related to different spending levels and Europe's structural lack of allocative efficiency, but they could also reflect divergent cultural outlooks on risk and return.

Comparative Table with defense expenditure UE /UE for 2007 (Personal research)

<i>EUROPEAN-US DEFENSE EXPENDITURE – GENERAL (2007)</i>		
<i>Expenditure/Europe vs. US</i>	<i>Europe</i>	<i>US</i>
<i>Total Defense Expenditure</i>	<i>€204 Bln</i>	<i>€ 454 Bln</i>
<i>Defense Expenditure as a % of GDP</i>	<i>1,69%</i>	<i>4,5%</i>
<i>Defense Expenditure Per Capita</i>	<i>€417</i>	<i>€1504</i>

Possible solutions:

NATO administered capabilities rather than nationally. C3I as well as theatre missile defenses are two broad areas that might increasingly be moved from national to NATO responsibilities. NATO's Prague Capabilities Initiative has called for improved chemical, biological and nuclear defense capabilities, intelligence, surveillance and target acquisition, theatre-to-ground surveillance, C3I (Command, Control, Communications and Intelligence), improved combat effectiveness including precision guided munitions, strategic air and sea lift, air to air refueling, and deployable combat support. The mission in Afghanistan has only added to the list. Counter-IED (improvised explosive device) capabilities, for example, have recently become a key priority for obvious reasons.

- **Common funding.** Certain common endeavors can serve as laboratories through which deeper collaboration might be attempted. Currently if a country's forces are serving a rotation on the NRF when it is called upon for deployment, the costs will fall only on those countries that are on rotation. Countries that deploy troops on dangerous missions will thus not only bear the real risks to those soldiers; they will also shoulder the costs of deployment, sustaining those soldiers in the field, and the costs of replacing worn and destroyed equipment. This state of affairs could put allied solidarity at risk. The Secretary General of NATO has proposed **developing a common funding mechanism for a trial period for short-term NRF deployments in order to assess the potential positive effects on the force generation process.** This NRF test has been approved by the NAC and the details for implementation are currently under review. But it is crucial to recognize that burden sharing is not simply an accounting exercise and efforts are needed to ensure that member nations also accept the burden of effective forces to NATO missions.
- **mission specialization within Europe or within the Alliance as a whole.** Mission specialization would mean that smaller countries, in particular, would not

need to develop a broad range of capabilities which they can ill afford and which do not necessarily bolster their security or that of the Alliance. Multi-nationalizing certain NATO capabilities, like transport or even medical care in the field would reinforce these efforts. This means, in effect, that systems would be jointly developed, procured, owned, maintained and operated under the aegis of the Alliance. In classical economic terms, countries would specialize in those military functions in which they might have a relative advantage and offer those military services in exchange for the specialized military services of its allies. Of course, this presumes that participating countries would have a perfectly shared strategic vision, great trust in their allies, and common threat perceptions. The NATO AWACS system is the best example of this approach (Ellehuus). The barriers to multinationalization, however, are historic, formidable and persistent.

- **more open and transparent defense markets;**
- **shared purchasing and planning procurement co-ordination** Common purchasing of equipment, for example, would allow member governments to enjoy scale economies that would help drive down costs. An ideal situation would be NATO to have one central procurement agency drawing on a common budget to purchase equipment from defense industrial firms competing in a fully integrated pan-Alliance market. Costly research and manufacturing redundancies would thus be eliminated, costs would be reduced and interoperability improved. NATO's Defense Planning Process (DPP) strives to encourage this kind of specialization, and it is increasingly encouraging multinational solutions to meet military requirements. Greater efforts are needed on several fronts to unify research, development and procurement efforts, while also achieving a higher degree of role specialization within the Alliance and greater levels of common funding for multilateral projects. Again the limits to the process of role specialization are naturally defined by the fact that national militaries are ultimately responsible for national as opposed to Allied defense, no matter how important the latter is to the former.
- **increase Euro-Atlantic cooperation.** Some have taken this argument to an **extreme view** by suggesting that the United States should take on responsibility for war fighting and Europe oversee peacekeeping. Both Europe and the United States see this as a formula for Allied dissolution.

One of the lessons of the Kosovo conflict was that all NATO countries should maintain capabilities for high and low intensity tasks and that European states should not simply rely on the United States to conduct all high intensity military operations. Of course, Europe needs these capabilities to exercise influence over operational and strategic decision-making.

In Europe there is clearly room for specialization, which might help Europe begin to overcome the real capabilities gap that currently exists. The other extreme, however, is equally unrealistic. It would be characterized by a total lack of defense industrial co-operation, no national military specialization, the imposition of all manner of national restrictions on forces in theatre (caveats), perfect redundancy of equipment and missions, full protection of national defense industries and consequently soaring equipment and force costs (NATO Defense Economic

Conference). Naturally, though, allied countries are operating somewhere in between these two extremes.

Unfortunately, defense markets in Europe remain woefully disaggregated compared to the US market. There is no market depth, and massive duplication is evident. The countries insist on their own training and support facilities covering a broad range of needs and, as a result, there are few scale economies to drive down costs. Europe's defense industrial sector is equally characterized by too many firms developing too many similar armament systems that will be manufactured in relatively small production runs. There is enormous duplication of research and development for aircraft, tanks, ships and missiles. Europe is currently developing three combat aircraft, where economic logic would suggest it should only develop one. The unit cost of this equipment is very high because of the lack of scale production. Unit production costs, it should be noted, generally fall by 10% for each doubling in cumulative output (Hartley).

Although American leaders sometimes complain that the problems lie in Europe's lack of market openness and low level of defense spending, it is important to recognize that a mere 2% of US procurement is spent on foreign contracts. The problem clearly cuts both ways.

3. FUNDING MILITARY DEPLOYMENT AND PEACEKEEPING

UN, EU and NATO peacekeeping operations are financed in very different ways. Because peacekeeping can be considered a legitimate public good that benefits the entire international community, the potential for free riding is ever present within all three organizations. In other words, states that do not contribute to peacekeeping can benefit from these operations as much as those that do. Dealing with this fundamental asymmetry is a challenge common to all three organizations. Each lacks permanent capabilities of its own and thus relies on member countries to conduct operations.

While the UN invites member states to contribute forces to operations, NATO and EU have gone further both by agreeing capability targets for their members and by developing common training, procedures and standards (Homan). The UN, however, has been in the peacekeeping business longer than either NATO or the EU. NATO only formally embraced peacekeeping with the 1999 Strategic Concept, and the EU took on that role after adopting the Petersberg tasks in 1997 (Skons).

In 2008, as in 2007, 60 multilateral peace operations were conducted. A record 187 586 personnel were deployed, an 11 % increase over 2007. Of these, 166 146 were military and 21 440 civilian, including police.

The International Security Assistance Force (ISAF) in Afghanistan continued to be the largest peace operation, with 51 356 troops, an increase of around 9600 over the 2007 figure. MONUC in the Democratic Republic of the Congo and UNAMID in Darfur, Sudan, were the second and third largest missions.

Peace operations, by region, 2008

	No. of operations	Total personnel

		deployed
Africa	19	78 975
Americas	2	9 621
Asia	10	55 542
Europe	19	26 797
Middle East	10	16 651
Total	60	187 586

As of the end of December 2008, a total of 137 countries contributed uniformed personnel (i.e. troops, military observers and civilian police) to peace operations. Of those countries, 115 contributed military personnel, with the top 10 contributors, in descending order, being the USA, France, Pakistan, the UK, Bangladesh, India, Italy, Germany, Nigeria and Rwanda. The top Asian and African contributors sent their military personnel exclusively to UN operations (including UNAMID).

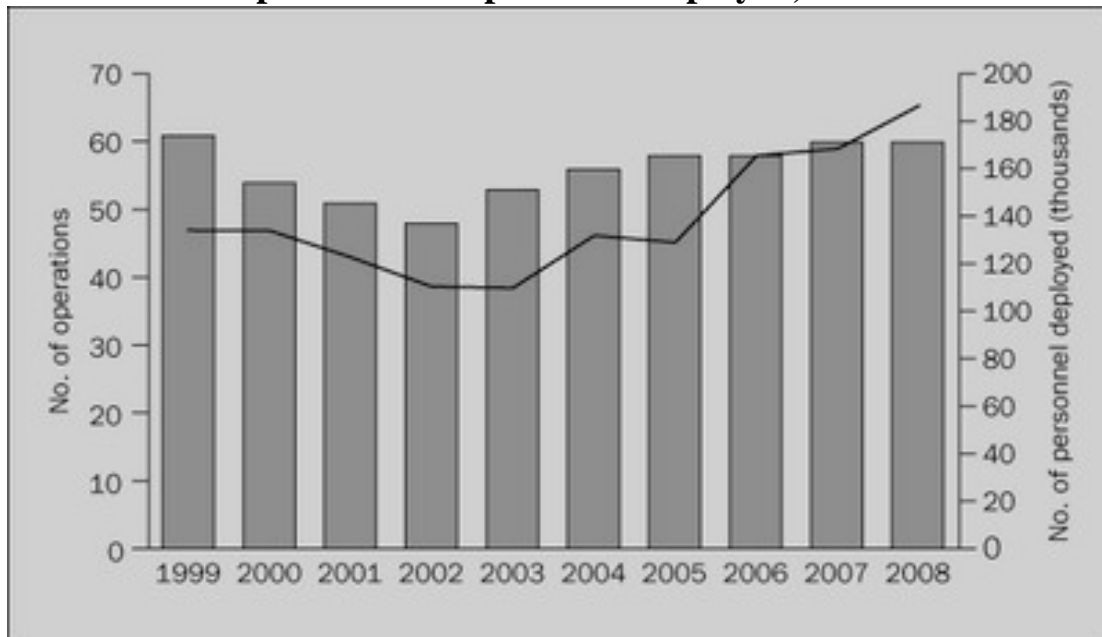
Peace operations, by conducting organization, 2008

	No. of operations	No. of deployed personnel
United Nations	23*	98 614
African Union	2	3 560
CEEAC	1	504
CIS	3	5 349
European Union	12	7 932
NATO	3	65 978
OAS	1	40
OSCE	9	461
Ad hoc coalitions	6	5 148
Total	60	187 586

* Including UNAMID

The annual total of active peace operations has risen steadily since 2002. Total personnel deployments have also increased, from a low of 110 789 in 2003.

Peace operations and personnel deployed, 1999–2008



Bar graph/left axis: number of operations; line graph/right axis: personnel deployed.

3.1. THE UNITED NATIONS

From 1988 to the mid 1990s, UN peacekeeping expenditures went from under US\$300 million annually to US\$3 billion (Sandler and Hartley). UN member state support for peacekeeping operations has been at least partly predicated on member governments' capacity to pay. Peacekeeping operations are financed outside of the regular UN budget through assessment accounts paid as a fixed share of UN member annual contributions. This is designed to provide a separate and permanent source of funding for these operations and to help overcome the free riding phenomenon. Contributions begin once the mandate for an operation has been adopted. But this can cause problems given national budget cycles (Homon).

The five permanent members of the Security Council and the 23 major industrial countries account for 98% of the total funding for these operations. Yet European and the US governments provide only a very small share of UN peacekeeping personnel. Of the 60,000 UN peacekeepers deployed in 2005, only 4,000 were from EU countries and only 100 were American. (This figure does not include UN approved missions to Bosnia and Herzegovina and Kosovo.) In broad terms, developed countries are paying developing country forces to carry out UN peacekeeping operations (Skons). Countries that deploy troops are reimbursed for soldiers and civilian specialists at very favourable rates.

3.2. THE EUROPEAN UNION

EU military operations (Annex 3), including peacekeeping and peace enforcement operations, are funded by member states outside of the Community

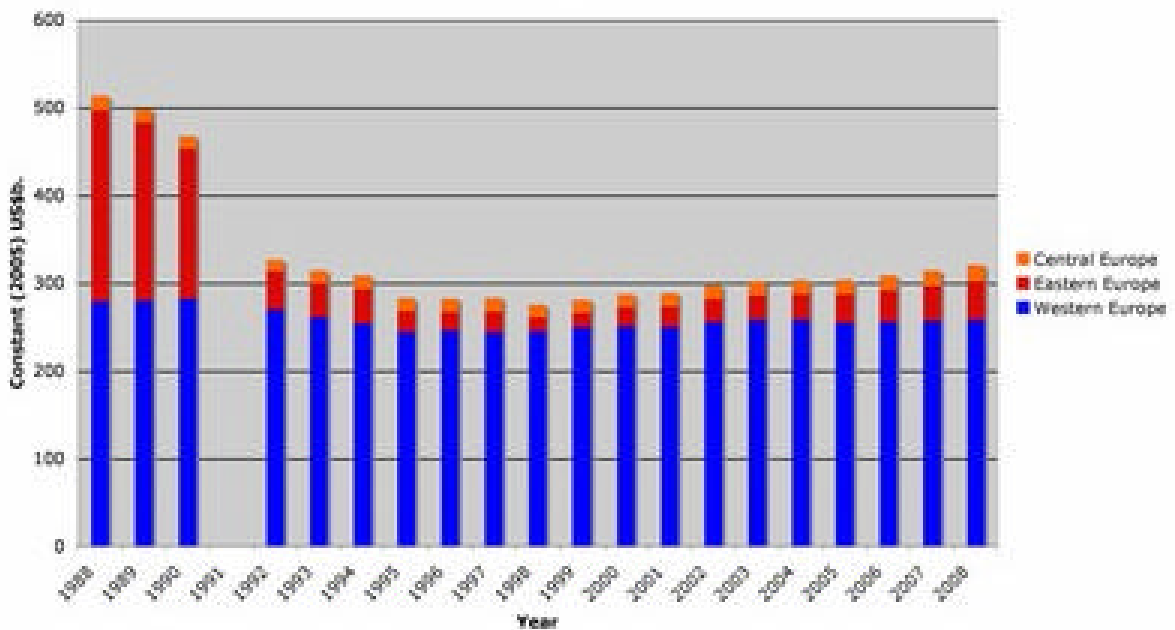
budget. Expenditures arising from military operations are charged to members in accordance with a GNP scale. But those countries that opt out of missions have no obligation to provide financial support. In September 2003 the Council established the so-called **ATHENA mechanism** to cover the common costs of EU missions and to streamline the budget process. This can cover costs for establishing headquarters, expenditure linked to transporting forces to the theatre of operations, administrative costs, locally hired personnel, public information and accommodation expenses, the costs of using NATO assets and certain outlays during the preparatory phase of an operation (Homan). The ATHENA mechanism calls for a special committee with representatives from each participating member state to approve budgets for the common costs of the operation. These decisions must be unanimously agreed and are binding. EU civilian tasks associated with these operations, however, are funded in various ways within the EU budget due to the different responsibilities of the Commission and the Council.

In Helsinki in 1999, the **European Council identified a set of specific military capability goals that member governments should strive to reach**. These are not funded by any EU budget but by the voluntary engagement of the member states. The initial goal was to develop by 2003 a force of 60,000 rapidly deployable troops that could carry out a range of the so-called Petersberg tasks and be sustained in the field for a year. When it was clear that this target was not going to be reached, the Council developed **the voluntary European Capability Action Plan (ECAP)**. It also incorporated a so-called bottom up approach by encouraging greater synergies in national defense planning while advancing multinational solutions in the production, financing and acquisition of these capabilities, as well as a degree of role specialization. These shared efforts, it was felt, would help generate the kinds of savings that might facilitate funding new defense capabilities.

Since the incorporation of the Petersberg tasks into the Common Foreign and Security Policy (CFSP) in 1997, the Union has been able to engage in humanitarian and rescue missions, peacekeeping operations and combat operations in certain crisis situations.

The list was further broadened in 1999 to include a range of military and civilian crisis management operations, and the Council then decided to create a **European Rapid Reaction Force** to bolster the Union's capacity to achieve these tasks. Subsequent EU missions in Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia*, and the Democratic Republic of Congo illustrated how different these missions can be, both in terms of operational conditions and in the kinds of forces required.

Europe military expenditure 1988-2008



The range of civilian to military responses to crisis situations cuts across the three pillars of the Union (European community, common foreign and security policy, and cooperation in the field of justice and home affairs):

- **European Commission** has full responsibility in traditional European Community functions, including foreign aid and other support systems that might be introduced as part of a **conflict or post-conflict prevention package**;

- **European Council** is the lead institution in the case of **military deployments that fall under the second pillar**;

- justice and police competencies can also be invoked under the third pillar (Bendiek). According to the Amsterdam Treaty, the financing of military operations is charged to member states proportionate to their GNP. To deal with some of the inherent tensions within this financing mechanism, the European Council in 2002 made a distinction between common and national costs for military operations where the former were to be funded through GNP based scales, while the latter were to be funded by the member states according to the "costs lie where costs fall" principle. This is very similar to the mission financing arrangement within NATO itself. Common costs include support for EU headquarters, infrastructures and additional equipment and other means of support for the forces (Skons). Invariably financing EU operations can become somewhat complex. It raises questions about the distinction between administrative and operational costs, and it leaves a great deal of room for interpretation. Operational financing matters have also generated tension between the European Parliament and the Council. Consequently the Council adopted further reforms in February 2004 to speed up financial decision making related to decisions made to deploy forces. This led to the creation of an automatic mechanism for assessing common operational costs including the costs of using NATO equipment and infrastructures. Personnel and equipment used for EU peace support operations, however, will continue to be drawn from national resources, which partly overlap with NATO's own pool of resources and forces. In itself, this points to a

growing need for close co-operation and co-ordination between the two organisations, particularly during the run-up to any potential force deployment (Annex 3).

3.3. NATO

NATO peacekeeping operations (Annex 2), like all of its missions, are funded through the "costs lie where costs fall" principle. Accordingly, member government defense budgets are the primary source of financing NATO forces in the field, both for peacekeeping and higher intensity operations. The burden falls primarily on those countries that have agreed to deploy or that have forces that are on rotation to do so. NATO does not pick up the costs for operating the command structure, but that, in any case, would typically constitute a very small share of the total cost of any given operation. Needless to say, there is a growing sense within the Alliance that more common funded programmes are needed, both for the sake of economic efficiency and operational effectiveness and to bolster allied solidarity.

4. THE PROBLEM OF EU-NATO RIVALRY - RESOURCE IMPLICATIONS

There are numerous reasons why NATO and the European Union need to deepen their collaboration and efficiency; financial considerations are not the least of these. Almost anywhere that NATO might deploy forces, the EU will likely be present in some guise because of its civil, political, diplomatic and developmental capabilities, as well as its emerging military ones. Working out operational co-operation between the two, however, has proven difficult.

While the record of NATO-EU collaboration in Bosnia and Herzegovina was largely positive, with the EU assuming peace operations from NATO in Operation Althea launched in 2004, the two organizations acted almost as rivals during the run-up to the limited Darfur operations ("NATO and the European Union", 20-21 March 2006).

The European Security Strategy (ESS) agreed in 2003 outlined five key threats to the Union and its members: terrorism, the proliferation of WMD, regional conflict, state failure and organized crime. Countering these threats does not always demand military responses, and the Union has its two other pillars to call upon to help manage the threat environment - a resource, of course, that NATO lacks, and one that it cannot easily work with because of the lack of institutional linkages between NATO and the Commission. While the European Commission is structured to oversee the civilian elements of pre-crisis and crisis management, the Council oversees the military dimension. NATO's dialogue with the Union is largely carried out with the Council, and it has limited opportunities to work in a structured fashion with the Commission.

The recently created European Defense Agency (EDA) is assuming defense planning and military research functions that were long the preserve of national governments and, to a lesser degree, NATO itself. The EDA is seeking to foster greater transparency among member state defense planners as a way to encourage joint development and joint procurement within Europe.

Clearly, the resource justifications for deeper EU-NATO co-operation are compelling. Although there are perfectly justifiable reasons why Europe needs to develop a military capacity independent of NATO, there is no reason why this should not unfold in close co-ordination with NATO simply because of the finite nature of defense resources, the fact that so many NATO members are also EU members and because NATO members and EU members share the core values informing their respective defense postures. Indeed, the two institutions have a range of very similar military and political goals. Both the EU and NATO are seeking to improve their expeditionary capacity, in part, by developing multinational expeditionary battle groups - the 25,000-troop NATO Response Force and the European Battalions. Each organization wants to encourage its members to manage costs more effectively by fostering multinational defense co-operation; each is intent on defending against the threat of terrorism, and both are looking to develop technological solutions to a range of these strategic challenges. In a perfect world, the two organizations could provide an integrated spectrum of crisis responses to intervene at various points from conflict prevention before a crisis is manifest, to full combat intervention, to providing a post-conflict peace-keeping presence. In any case, the lack of co-ordination between the organizations means that there has been no effort to structure such a seamless spectrum, and there is a risk that scarce resources shared by national governments between NATO and the EU could be squandered as a result.

The EU does not have a defense budget of its own, but it does have funding to develop both dual use technologies and to conduct homeland security research. The EU will spend some €1.4 billion on homeland security and space research from 2007 to 2013 and expects industry to spend as much in partnership with it.

The EDA has promoted the notion of a single EU market for defense equipment. As suggested above, the EDA has resuscitated the European Capabilities Action Plan (ECAP) and is encouraging members to share long range planning data.

One of the problems is that current planning cycles within Europe vary considerably, and this has implications for NATO and the EU. France, for example, plans as much as 30 years out while some countries operate within far shorter planning horizons. The EDA is working with national officials, the EU military committee, the EU Military Staff (EUMS) and the EU Council of Ministers to encourage voluntary harmonization of effort where this is possible¹. There are no reports, however, of any attempt to engage NATO in this important effort.

Current Issues

- **Communication** - EU-NATO communication does not take place on a broad enough level to be considered fully effective.
- **Functional and geographic scope** - since both organizations share so many key security challenges (stemming from their shared membership) it is unsurprising that ESDP objectives significantly overlap with NATO's strategic concept. Both organisations have made commitments to meet challenges on a global scale, particularly with respect to conflict prevention, crisis management, terrorism and WMD proliferation (NATO 1999, European

¹ ("EU/Capabilities: EDA to Prepare Capability Development Plan, Atlantic News No 3834," 19 December 2006).

Council 2003). Yet these similarities mean member states are frequently unsure as to which institution will best meet varying security concerns, leading to institutional rivalry which often has a damaging effect. There is additionally an emerging geographical separation – NATO appears content to let the EU take the lead in small scale peacekeeping operations in Africa and the Balkans, where European nations have stronger historical ties. The Alliance in contrast has unique assets and developed interoperability that make it a more logical choice in the case of large scale coalition operations and ‘combat focused’ exercises, such as the continuing pursuit of ex-Taliban forces. Although there is no guarantee that disputes will not arise in the future, shared understandings are emerging based upon the current capabilities of the two organizations, and changes in strategic thinking from prominent actors.

- **Defense capabilities** - there remains a large scale defense gap between EU states and the US, both in terms of funding and capabilities, which the Europeans have acknowledged and are looking to address (Cameron 2007, p.78). However, once again this is an area where the EU and NATO have sought their own solutions without full consultation, leading to a division of resources which is detrimental to all involved. Targets for improvements in military capabilities have been set separately by the Prague Capabilities Commitment and European Capability Action Plan. Although these initiatives cover similar areas, there remain very real differences in terms of what is covered and what is prioritized. A Capability Group was set up to coordinate the two programs, but due to structural constraints already highlighted has largely failed to produce tangible results. Improvement of military capabilities is an area where effective EU-NATO coordination would produce substantial benefits.

Command structures and forces EU has continued to develop ESDP structures which appear to duplicate NATO, but this has yet to cause severe disagreement (Grevi 2006). The EU Planning Cell of 2003 was tolerated, being based at SHAPE and thus operating within the NATO framework. The EU OpsCentre, opened in June 2007, had the potential to cause more alarm, raising the prospect of an integrated military command structure that duplicates SHAPE and giving the EU a centralized headquarters for autonomous activities. In responding to these suggestions, High Representative Solana stressed the different operational capabilities of the centre, highlighting that it allowed for coordination with civil assets – an element which SHAPE does not possess – and would thus represent a ‘division of labor’, an assessment shared by Secretary General De Hoop Scheffer (*EU Observer*, June 14 2007).

- **the duplication of deployable forces.** As a consequence of overlaps in scope and strategic objectives, key operational forces resemble one another closely and naturally draw upon the same resources from member states’ militaries. The EU’s Battlegroups and the NATO Response Force are both multinational rapid reaction forces designed to be swiftly deployed ‘out-of-area’. It is unclear which organization would take precedence should both forces be mobilized. Even if resources permitted simultaneous deployment, effective collaboration

would be constrained by the different ‘language’ of command used and NATO concerns over EU training (Lindstrom 2007, pp.48-50). The parallel development of these two forces is again indicative of institutional rivalry and ‘contending coalitions’, with the EU and NATO pursuing their own solutions to member states’ security problems as opposed to cooperating.

The EU-NATO relationship can still be described as one of ‘contending coalitions’. The restrictions on consultation at the highest level (borne out of long-standing Turkish foreign policy) mean that wide ranging cooperation cannot be facilitated. This in turn leads to institutional competition – the pursuit of duplicative measures in offering solutions to security concerns, which divide resources and generate further tension. Yet recent events have demonstrated that the potential is there for an important ‘strategic partnership’ to be established. The most crucial development has been the shift in attitude of key actors, in particular the French and the United States, towards a more positive outlook on EU-NATO collaboration. Additionally, the organizations have demonstrated their capacity to work together effectively at an operational level, and recent missions have hinted at the emergence of a partial division of responsibilities. Yet for this potential to be fully realized, both parties must seek to eradicate fundamental barriers to communication to allow for effective, long-term strategizing.

5. CONCLUSION AND TENTATIVE RECOMMENDATIONS

For nearly 50 years, the Alliance never deployed forces on active combat or peacekeeping/enforcement missions. The past decade, however, has represented a sea change. With NATO forces actively deployed in several regions and with NATO members engaged in other military operations including those in Iraq, budgetary stresses have increased significantly. Alongside US, all NATO governments are confronting very serious budgetary tensions today.

- **The responsible NATO authorities should raise questions about the lack of multinational co-operation in a range of defense procurement and operational matters** because purely national approaches are generally far more expensive. Along these lines, NATO countries should be willing to **expose these shortcomings in the peer review process** and point to specific areas where certain allies are not meeting collective obligations.
- **One important element of the growing gap in defense spending and the related burden sharing lies in outstanding transatlantic differences about how to manage threat and even the very nature of threat.** This is a more intractable problem best managed by constant dialogue, intelligence sharing, and careful collaboration. There will never be a perfect harmony of perspective, nor of interest, but the Alliance has long succeeded in discerning the points of agreement and managing disagreements in such a manner that the strategic relationship is not damaged.
- **NATO needs to identify practical and reasonable proposals to increase nations' willingness to provide the required assets and capabilities for the Alliance's operations and missions.** Cost sharing might be one way to do so.

However, some NATO members doubt whether extending common funding programmes would necessarily encourage member governments to assume a greater share of the burden.

- **The Alliance should identify more ways in which mission costs can be shared.** They suggest that one of the strongest disincentives to participating in NATO missions today is the fact that costs now fall on those countries willing to participate in missions and not on the Alliance as a whole. The argument here is that some countries on active rotation are made to feel as if they have "lost a lottery". **The "costs lie where they fall" system** is thus seen by some as unfair, inefficient and a practice that **undermines solidarity. Failure to correct this will ultimately weaken the strategic purpose of the Alliance itself.** There are, for example, certain equipment purchases and operating expenses that might constitute public goods. Thus space-based communications systems and early warning and surveillance systems might be best purchased and managed as NATO rather than national assets. Most importantly, it is important to share in mission participation as well as mission costs if this proves feasible. The Alliance would not be viable in the long run if some members believed they could play their part by contributing money rather than troops to dangerous but necessary operations.
- **The perennial problem of inadequate defense industrial and procurement collaboration poses another set of problems.** Common funded projects can enhance financial predictability, increase efficiencies and help free up some resources needed for longer-term transformation. In this regard, the recent decision to purchase jointly strategic airlift assets is a step in the right direction. Now that the EU Battle Groups and the NATO Response Force are officially deployable, a dialogue is needed to ensure that these assets are complementary rather than rival. Joint training might unearth opportunities to improve interoperability. Common standards and transparent planning procedures would also create resource savings while triggering the kind of strategic synergies that would help these new forces become agents of genuine transformation. Transparency in the political decision making overseeing their administration would make it easier to work out a division of labor, particularly in those cases when NATO and EU forces are to be deployed to the same region as they were in Darfur.
- **NATO needs to deepen its dialogue with the EU on a range of strategic and military matters,** as well as in civil relief policy, aid and reconstruction, police and judicial support in crisis regions, but it cannot replace focused EU-NATO collaboration. The common NATO-EU agenda today remains far too restricted, particularly given the shared values of the two institutions, the fact that 21 NATO members are also EU members, that both institutions draw from many of the same resources, that they share an interest in encouraging scale economies and efficiencies in the defense industrial sector, that both are directly engaged in the development and introduction of transformative military technologies, hardware, and doctrine, and the ever present potential that they will be operating in the same crisis-torn regions.

- The NATO-EU relationship should also frankly acknowledge that while NATO has a comparative advantage in high intensity conflict, the EU has a broader range of policy tools at its disposal. Acknowledging this reality and its implications could provide a foundation for deeper co-operation and less rivalry. Scenario and contingency planning, training and equipment co-operation could help make the NATO Response Force and the European Battle Group more complementary than rival. **NATO and the EU should work to share resource and capability plans and both organizations should foster an environment that makes capabilities improvement possible without overlap and duplication.**
- **There must be something done regarding divergent doctrines, competing standards and profligate duplication.** Efforts are needed to coordinate long-term planning and procurement collaboration so that both NATO and the EU understand what the other is trying to achieve in terms of military transformation, so that synergies can be exploited and inefficient overlaps can be avoided. The rather narrow and formal North Atlantic Council and NATO Military Committee dialogues with the EU Political and Security Committees should be substantially broadened. Europe and North America need to move beyond the Berlin Plus formula. While the EU may still want to call on NATO assets for certain operations, NATO itself may need a system to call on EU assets, particularly in those areas like police, foreign aid and justice where it has no capabilities. This kind of resource sharing would lead to resource saving.
- Yet, hard security burdens can never be shared equally across the Atlantic if Europe does not do more to integrate its own efforts in the defense sector. If any degree of specialization is to unfold within Europe, NATO should be a welcome part of the process. Both NATO and the EU can reinforce European efforts to pool resources, share plans, and encourage transparency in defense budgeting, planning and procurement. The two institutions should reinforce these ends rather than act as rivals. Europe is not on the verge of creating a single military structure endowed with perfectly specialized national forces and a sole procurement agency overseeing a single defense market. But measures are needed to ensure far deeper collaboration within Europe than currently exists in everything from research and development, force specialization, and common funding of capabilities and operations.
- There may be even more scope within the EU than within NATO for the construction of a common defense market, but that does not mean that the transatlantic market should be closed. On the contrary, insofar as a unified European defense market is built, it should remain open to its North American partners to the greatest degree possible. The reverse should hold true as well, and American leaders should understand that a more unified European market will prove a better partner for American business while providing cost slashing competition to American firms - something that will ultimately benefit the militaries and the tax payers on both sides of the Atlantic. Nationalistic defense purchasing is actually weakening collective security interests.
- **The member states must increase spending on research and development in transformational military technologies.** Even if budgets are tight, there are ways

to generate resources to bolster this investment, some of which have been adumbrated above. Military transformation is not cheap, and funding it will require allies to eliminate systemic redundancies including non-integrated defense markets and overlapping and redundant capabilities. Ultimately niche capabilities specialization within the Alliance and within Europe requires confidence in one's allies.

- Peacekeeping will remain a vital function for Western and NATO forces. It is increasingly apparent that wars can be won and lost after the territorial battle seems to be over. Winning the peace demands specialized training and equipment and sometimes as much political will as war fighting. To neglect this role is to risk military defeat - a hard lesson that the United States appears to have learned in Iraq.

Annex 1

THE PERSPECTIVE OF NATIONAL DEFENCE BUDGETS FOR NATO MEMBER COUNTRIES

ALBANIA

According to the Implementation Plan for Transformation of the Armed Forces (2002-2010), Albania plans to increase spending by 0.1% GDP every year until 2010. Though Albania's defence budget for 2009 is \$270 million¹ and the Ministry has pledged to spend 2% of GDP on defence in 2009, under-funding remains the primary challenge for Albania's armed forces. Albania's armed forces consist of 11,020 troops, but the current restructuring efforts will force the reduction of troops to roughly 10,000 men by 2010. Defence officials admit that Albania will continue to need bilateral assistance and international support to increase local force levels for international expeditionary forces, strengthen logistical support, and acquire military hardware.

BELGIUM

Belgium spends just over 1% of its GDP on defence (half of NATO's suggested level), and NATO criticized its armed forces modernisation plan for 2000-2015 for not meeting the expected military expenditure threshold of member states. The 2000-2015 defense modernization programme anticipates personnel reductions of over 16%. The government will channel resulting savings into funds for international peace operations, procurement investment, and spending for about 24 major modernization projects.

Despite the global financial crisis, Prime Minister Herman A. Van Rompuy has also announced that Belgium would double its civilian aid to Afghanistan. In 2009 and 2010, Belgium's budget for Afghanistan will reach €12 million (\$17 million) per year.³ Moreover, the Belgian Defence Minister, Pieter de Crem, has stated that the government has increased its ground troop strength in northern Afghanistan and continued to provide F-16s in the south. In regards to the Belgian government's current €200 million deficit on the account of the Treasury, Defence Minister DeCrem has promised to sell outdated materials to bring much needed funds into the MoD.

BULGARIA

The Bulgarian economy has and continues to be significantly affected by the economic crisis. Economists predict that Bulgarian GDP is set to contract by around 6% in 2009, and according to Fitch Ratings, Bulgaria has \$26.2 billion of debt due in 2009, equal to 6% of the GDP. Furthermore, the latest NATO press release criticized Bulgaria for only allocating \$12,384 per capita for defence (in comparison, the Czech Republic allocates \$24,476 per capita, Denmark \$36,891, and the US \$46,941). These are worrisome numbers, and raise concern for how the global financial crisis will affect the limited amount of funds already budgeted for defence.

Bulgaria's Defence Ministry is working to make its forces interoperable with other NATO forces and is seeking to standardise and codify its military hardware to comply with NATO standards. The new Defence Minister, Nikolay Mladenov, recently reported that the Ministry is now operating almost like a construction firm. He made it clear that his top priorities would be to prevent cuts in the salaries of the

military, and to guarantee sufficient funds for Bulgarian military missions abroad. Mladenov further noted that the Ministry staff was too large (currently employing 1,440 people and its Social Agency maintains about 800), and personnel cuts would be necessary to achieve optimization.

CANADA

The economic slowdown in Canada has compelled the government to impose a freeze on new defence programmes. It has announced that spending would remain in line with the 2007 budget. In 2008, however, the Prime Minister laid out the Canada First Defence Strategy, a 20-year programme designed to enhance force capacity by investing in 'four pillars': personnel, equipment, readiness, and infrastructure. It will increase force size to 100,000 (70,000 regular and 30,000 reserve); replace core equipment fleets; strengthen readiness to deploy and sustain troops once deployed; and improve and modernise defence infrastructure. Over the next 20 years, the Canada First Defence Strategy will expand the annual defence budget from approximately \$18 billion in 2008-09 to over \$30 billion in 2027-28.⁵

In the 2008-2009 budget round, the Finance Minister announced plans to increase defence spending by 1.5% a year until 2011. After which increases of 2% per year could be expected until 2020, amounting to an additional CAD 12 billion for defence for over a 20-year period. Despite the global economic downturn and a \$50 billion deficit, in May 2009, Defence Minister Peter MacKay reassured the elite of the defence industry that the crisis would not prevent the Canadian government from spending \$60 billion on new equipment.

CROATIA

Although Croatia initially anticipated spending 2% of its GDP on defence by 2010,⁸ because of the economic crisis this benchmark will unlikely be achieved. Croatia now anticipates cutting its military budget by about €74 million. After a meeting on 6 March 2009 amongst Ministers of Defence from southeast European countries, Croatian Defence Minister Branko Vukelic reassured the international community that Croatia would continue to participate in NATO, UN and EU missions in Afghanistan, Chad, and the Golan Heights, and would strive to adopt NATO equipment standards. Croatian President Stjepan Mesic has also reaffirmed the country's commitment to NATO, while noting that modernizing and equipping the army would continue, although at a slower pace than originally anticipated.⁹

Croatia currently has 270 troops in northern Afghanistan as part of the NATO-led ISAF forces,¹⁰ and plans to dedicate to NATO operations a motorized infantry company, an engineering platoon, and a nuclear, chemical, and biological weapons defence platoon.

CZECH REPUBLIC

The Czech Republic's defence spending has been constrained by competing government priorities, and will unlikely meet NATO's suggested defence spending of 2% GDP before 2014. The Defence Ministry estimates that between 1.5 and 1.7% of GDP will be spent on defence over the next four years. According to the approved state budget for 2010, the Czech Defence Ministry's budget will fall by CZK 7 billion (\$364 million). Whereas the defence sector was allocated CZK 56 billion (\$2.9 billion) in 2009, it will be reduced to CZK 49 billion (\$2.5 billion) in 2010.

The Czech Republic has reassured the international community that major modernization projects are unlikely to be affected. The Defence Ministry will likely proceed with the purchase of 107 Pandur II armoured personnel carriers (APCs) and four Casa C-295M transport aircrafts. The budget reduction will also not affect foreign missions, which cost around CZK 3 billion (\$182 million).

DENMARK

The Danish government is currently working on its National Defence Bill, which will establish a framework for Danish Armed Forces spending until 2015. Despite the economic crisis, the Danish government has indicated plans on increasing defence spending. The annual increase could be as high as \$100 million. This, however, contradicts figures provided by Danish National Statistics, which predicts defence spending will likely fall in 2010 from \$4.72 billion to \$4.67 billion. Several opposition parties, including the Social Democrats (SDP), oppose increases in defence spending, especially the purchase of aircrafts. The SDP also opposes increases in funding for Denmark's military operations in Afghanistan, and wants the government to cut the overall defence budget in the face of serious economic challenges.¹¹

In April 2008, Denmark increased its force level in Afghanistan to 698. The Parliament of Denmark projected that spending in Afghanistan for 2009 is about DKK 745 million to defence and about DKK 400 million to development.

ESTONIA

As a result of the global financial crisis, in June 2009, the Estonian Ministry of Defence revealed a \$3 million cut in the defence budget from \$414 million in 2008 to \$411 million in 2009.¹² The economic crisis has also spurred movement towards joint defence procurement among Latvia, Lithuania, and Estonia. Officials from the three countries are seeking to harmonize their national procurement plans in order to eliminate differences in the armament and equipment contributed by each country.¹³

In January 2009, the new Defence Development Plan for 2009-2018 was adopted, which seeks to strengthen Estonia's national defence capability and that country's capacity to contribute to international security. The 2007-2010 budget plan identifies the following procurement priorities: EEK 10 billion (\$887 million) for the development of modern, multipurpose and quickly reacting military components; EEK 1.2 billion (\$106 million) for two multipurpose ships, renovation of the Kati, a spill response vessel, and other critical equipment; and, EEK 1.9 billion (\$168 million) to participate in NATO integrated air safety system and to develop an air-policing airport in Amari that meets minimum requirements.¹⁴

Estonia has also participated in NATO-led operations in Afghanistan since 2003. Estonia currently has 150 personnel stationed there,¹⁵ and deployed additional troops for the elections in August 2009.

FRANCE

In response to the global financial crisis, France has pursued an expansionary economic policy. It will increase its defence budget for 2009 and 2010 by €1.8 billion to reach €32.02 billion. The 2009 budget included increased allocations for spending in R&D (€10 million), materiel procurement (€1,425 million), and

infrastructure and transport work (€220 million). For foreign operations France will increase spending from 2008 by €50 million to roughly €888 million in 2009, of which €15 million will be dedicated to NATO operations in 2009. The six-year plan will inevitably require equipment cuts and procurement delays because a 40% increase in investment would be needed to pay for planned programmes and those funds may not all be available.¹⁶ The Ministry of Defence, however, has been authorized €500 million in supplementary funding. Total supplementary spending amounts to €1,485 million for 2009 and €770 million for 2010. In order to underwrite the €1.8 billion (\$2.3 billion) rise in defence spending, France intends to close bases around the country and sell property and radio frequencies. Over three years, defence officials hope to acquire €4.5 billion from asset sales and savings, which will subsequently be utilized for equipment modernizations and pay rises for military and civilian staff. Defence spending from 2009 to 2020 is estimated to total €377 billion. Defence spending would be held constant in real terms until 2012, after which it would increase annually by 1% above the inflation rate.

GERMANY

Germany's defence budget for 2009 rose by €1.6 billion, a 5.6% increase over 2008 levels²⁰. The budget for 2010 has already been set at €31 billion.

Despite an increase in the defence budget, Germany has begun restructuring current defence programmes and commitments in anticipation of the latter implications from the global financial crisis. In order to finance the wide-ranging structural changes and capability requirements, the Ministry of Defence has announced a series of measures intended to save €26 billion by 2015: personnel cuts will continue with a further 17% reduction in military personnel and 40% reduction in civilians by 2010; the number of military bases will be reduced from over 600 to roughly 400; and several procurement programmes will be cancelled or scaled back. There are concerns that tight budgetary conditions may prompt Germany to pull out of its partnership with the US and Italy on the Medium Extended Air Defence System (MEADS).

GREECE

In 2008, the Greek government made significant improvements in the transparency and oversight of the national defence budget. The 2008 budget increased 6.9% from 2007 to €5.97 billion.

Though Greece hopes to restructure substantially its domestic defence industries and upgrade its technological infrastructure, the economic downturn will likely impair this effort. The 2010 defence budget is slated for a 15% cut, in order to husband resources needed to weather the economic crisis. Estimates put Greece's military spending between €-10 billion (3-4% GDP per year). The defence budget will be further cut by 10% through to 2015 in an attempt to reduce the Greek deficit. Over the next five years, Greece will allocate roughly €15.5 billion for procurement: 26% of the funds will be allocated for upgrading and modernization of existing systems, 19% for naval operations, 19% for air operations, 15% for ground operations, and 5% for air defence.

HUNGARY

Hungary has been hit particularly hard by the global financial crisis, with GDP falling 6.7% this year alone. In response, the International Monetary Fund (IMF) and the European Union assembled an emergency financial rescue package of \$25.1 billion. In March 2009, the Hungarian government reaffirmed its commitment to NATO operations in Afghanistan, as well as its ongoing effort to modernise national defence forces in compliance with NATO standards. Military expenditure has fallen substantially over the last decade, due to pressures on government finances and the need to reduce the overall budget deficit. Among the Central and East European countries Hungary has one of the smallest defence industrial sectors. The Hungarian National Assembly has held a series of debates on budgetary planning in light of the financial crisis.

ICELAND

Although a long standing and important member of NATO, Iceland does not have a standing army although it maintains a coast guard and a Crisis Response Unit. Because of the severe economic crisis in Iceland, which has been made all the more trying due to the failure of the country's banking system, the government will have to radically change the funding and structure of the Icelandic Defence Agency. Some of the Defence Agency's tasks include: participation in coordinated NATO Air Surveillance and Policing operations; preparation and execution of defence exercises in Iceland; execution of the US-Iceland bilateral defence agreement from 1951; and, cooperation with international institutions in the field of defence. There have been calls to save money by merging different operations of the Agency with that of other institutions. According to the 2009 budget, ISK 1.2 billion (\$11 million, €8 million) will be allocated to the Iceland Defence Agency.

ITALY

The restructuring of the Italian defence budget reflects the current three-year spending reduction plans imposed by Finance Minister Giulio Tremonti on all Italian ministries. The 2009 defence budget was characterized by a 4% decrease in spending from €21.13 in 2008 to €20.29 billion in 2009. As a result of this contraction, Italian defence spending will account for just 1.24% of the GDP in 2009.

Future spending plans suggest that forces will be further reduced to 141,000 by 2012 (in 1995 force levels were 330,000). The 2009 functioning budget includes a decrease of 24.9% in training expenditures, a 36.7% decrease in maintenance expenditures and a 45.8% decrease in infrastructure expenditure.

LATVIA

Latvia's GDP is projected to contract by 18% this year, which has raised concerns about the sustainability of government spending. Latvia nevertheless remains committed to maintaining defence spending levels at 2% of the GDP until 2010. Its leaders see doing so as an expression of the nation's strong commitment to NATO membership. The government has already ordered a 40% reduction on planned budget expenditures with the exception of EU budget payments, Defence Ministry payments to NATO and the UN, and other payments to international organisations. Once implemented, the budget amendment will result in the Defence Ministry's budget being reduced by LVL 30.8 million (\$60.8 million).

LITHUANIA

In light of the global financial crisis and its very serious impact on Lithuania and, faced with increasing debt and a collapse in economic growth, the Lithuanian government has reduced its 2009 defence budget to \$430.8 million, a level 20% below the defence allocation for 2008. This marks Lithuania's first defence cuts since 1999. The new budget will reduce spending for light arms and surveillance equipment by 8.5% (LTL 25.1 million), personnel supplies by 6%, maintenance by 16.7%, communications by 7.5%, transportations by 20.8%, and facilities maintenance by 68.8%.²⁹ Lithuania will also look to co-operate with the other Baltic countries such as Latvia, Estonia, and Poland to establish a joint procurement plan to economize and reduce defence-operating costs. Defence spending will likely stand at 1.2% of GDP in 2009- the lowest of any NATO country but Lithuania is also in the midst of one of the steepest declines among NATO members.

LUXEMBOURG

Luxembourg has an army of approximately 450 professional soldiers, about 340 enlisted recruits and 100 civilians. The total budget stands at \$369 million, or 0.9% of GDP. The Luxembourg government has been working on a package of economic and social measures to combat the global financial crisis, which includes the planning and development of infrastructure projects scheduled for 2011-2012. In 2005 Luxembourg spent approximately \$310 million on defence, or about 0.85% of the GDP. Luxembourg participates in the NATO ISAF mission in Afghanistan, takes part in EU and NATO sponsored missions in Africa, and has committed to sending a team of de-mining experts to participate in UNIFIL in Lebanon.

NETHERLANDS

The Netherlands economy appears to be weathering the economic crisis and it does not face the kinds of fiscal pressures that several other NATO member states confront. Defence spending in 2009 increased from €8.1 billion to €8.5 billion. The Dutch government estimates a 1% budget surplus for 2011. It forecasts that the government will contribute \$13.9 billion in 2012 to defence spending- an increase of 23.9% over spending levels in 2007. In November 2007, the Dutch government agreed to remain an additional two years in Uruzgan, Afghanistan, beyond its original 1 August 2008. Foreign Minister Maxime Verhagen indicated the government would slightly reduce overall Dutch military presence during this time, and that if troops were still needed in the region at the end of this timeline, NATO would need to find others to fill the void. The Dutch currently have 1,730 troops in Afghanistan. The Dutch mission in Afghanistan is thus slated to conclude on 31 July 2010.

NORWAY

There has not been any political discussion within Parliament about reducing the defence budget as a consequence of the global financial crisis. Indeed, Norway increased 2009 defence spending by 2% to about \$5.4 billion, mitigating fears among military leaders that the government would use the economic downturn to reduce defence outlays. In real terms, the 2% increase represents an additional \$101 million for the Norwegian Armed Forces above what was distributed in 2008. Moreover, in January 2009, the armed forces had a budget increase of NOK 88 million, and in the revised national budget the government recently added NOK 505 million for international operations. The increase in the defence budget affirms the government's

intention to bolster its military capability as part of Norway's long-term strategy to strengthen and participate to a greater extent in NATO and UN international missions. The strategy aims to increase the armed forces by 1,000, thereby boosting the overall force size to 17,000. A budget increase of NOK 800 million is forecast over the next four years.

POLAND

In the wake of Russia's conflict with Georgia, Poland announced it would increase defence spending in 2009. It embarked upon a \$22.7 billion 10-year modernization programme focused on air defence, helicopters, Navy, command and communications systems, and unmanned aerial reconnaissance equipment. The economic crisis, however, has compelled the government to announce a 7.8% cut in its defence budget for 2009 to PLN 22.6 billion (\$6.5 billion) compared with the \$7.5 billion budget on which it had originally planned. As Poland's defence budget is pegged to its GDP, defence outlays hinge on national economic performance. The Ministry of Defence intends to keep defence expenditure in 2010 in line with the legal minimum requirement of 1.95% of the GDP. As of April 2009, defence spending was expected to rise gradually from PLN 23.8 billion in 2009 to PLN 28 billion in 2013. As a result of the global financial crisis, Poland has been reassessing priorities and defence commitments. It withdrew Polish Military Contingents from three UN-led operations, while increasing the number of Polish troops to 2,000 in Afghanistan in May 2009.

PORTUGAL

In 2008, the defence budget was set at €2.1 billion (\$3.11 billion). The government stated that its priority would be the modernisation of equipment, the upgrading of infrastructure, and the continued reduction of personnel numbers. However, given the current economic climate, military spending is not a top priority for the current government, and it is unlikely to increase substantially over the short term.

ROMANIA

The approved expenditures for the Ministry of National Defence for FY2009 were initially LEI 7,652 million, representing 1.32% of the GDP. In April 2009, after the state budget rectification, the new budget allocated to the Ministry of National Defence was reduced by LEI 696 million, which resulted in an adjusted budget of about LEI 6,955 million. As a consequence of the global financial crisis and fiscal pressures in Romania, the government has cancelled or postponed a series of new planned acquisitions. The only new expenditures and acquisitions involve NATO/EU related commitments or are absolute priorities such as those that might improve the protection of the deployed troops. The Ministry of Defence also suggests that Romania will maintain the current level of forces on foreign missions by withdrawing troops from Iraq and increasing the presence of Romania's troops in Afghanistan.

SLOVAKIA

Since defence expenditure levels are roughly correlated to economic performance in Slovakia, as long as economic growth is maintained the defence expenditure is expected to remain steady. In 2008, the budget increased by 11% from 2007; however, Slovakia's reports to the UN revealed that the Defence Ministry had

not spent its full budget. There has been some concern expressed about how the global financial crisis will shape Slovakia's future defence budget. The Defence Ministry has already delayed plans to purchase new aircrafts, and the government recently announced it will seek savings of almost €32 million across the public sector. These could be signs that future defence spending might contract. Since mid-2008, Slovakia has steadily increased its share of deployable troops to the ISAF mission in Afghanistan, KFOR in Kosovo, ALTHEA in Bosnia and Herzegovina, UNFICYP in Cyprus, and the UNTSO observer mission at the Lebanese, Syrian and Israeli borders. Slovakia has made a concerted effort to increase troop strength in Afghanistan from 70 in June 2008 to the current level of 246.36 Slovakian defence funding will continue to focus this year on personnel, training readiness, and equipment and infrastructure modernisation.

SLOVENIA

The economic downturn has compelled the Slovenian Defence Ministry to make draconian reductions in defence spending. The mid-term Defence Plan for 2007-2012 initially anticipated defence expenditures reaching 2% of Slovenia's GDP by 2009; however, Slovenia will unlikely be able to achieve this mark before 2014. To reach that level of spending, the defence budget would have to be increased by between 8 and 16% over that period. In March 2009, Defence Minister announced that the defence budget would be further cut and would only grow by 5.36% from 2008. Slovenian defence spending is heavily concentrated on efforts to transform the military from a conscript-force to a fully professional NATO-compatible service. Efforts are also underway to bring procurement spending under the main budget. Recent ministry activity includes the purchase of new combat vehicles for €138 million; stabilising personnel costs at around €10 million; and increasing funds for operations from €70 million in 2005 to €180 million by 2010.

SPAIN

Between 2000 and 2007 Spanish military spending nearly doubled from €7.6 billion to €12.7 billion. Spain is the fifth highest defence spender in Europe, but political support for increased military spending is lukewarm. Budget increases ended in October 2008 when the global financial crisis shifted priorities away from military spending. The Spanish Ministry of Defence is preparing to decrease spending to €8.24 billion, which is a 3.9% decrease from the 2008 level of €8.49 billion. While spending on personnel is expected to rise by 2%, the Ministry of Science and Innovation announced that it would slash defence R&D outlays by 12% (to €1.45 billion) and investment is also likely to fall by 15% compared with 2008 levels. The Zapatero government's commitment to tax cuts and increased social spending will place further pressure on the defence budget. Despite the smaller budget, the MoD intends to supply the army with a new fleet of mineprotected armoured fighting vehicles. Spain's professional military will be 81,000 strong in 2009.

TURKEY

On 11 December 2007, Turkey's parliament approved a 1.7% increase in the MoD's FY2008 budget, which was fixed at TRY 13.27 billion (\$8.84 billion). Operations against the Kurdistan Workers' Party (PKK) terrorist organisation in Iraq and a broad effort to bolster Turkey's domestic defence industry by strengthening

technological capacity are two factors which have increased military outlays. Despite the serious impact of the global financial crisis on Turkey and a 35% depreciation of the Turkish Lira against the dollar, MoD officials insist that the economic downturn will not adversely affect current defence procurement expenditures. In late 2008 Turkey approved a budget increase from TRY 13.27 billion to TRY 14.5 billion (\$9.3 billion) for 2009, and the defence budget is forecasted to rise to TRY 15.70 billion in 2010. Some independent analysts, however, foresee an eventual decrease both in Turkey's defence budget and in its troop strength due to the weak economy, EU pressures, and evolving threats.

UNITED KINGDOM

Published in 2007, the UK Government's Comprehensive Spending Review (CSR) for the financial years 2007/08-2010/11 provided defence with an agreed settlement of an average annual increase of 1.5% until 2010/11 (nearly £4 billion over the period in cash). The Core Defence budget was set at £32.6 Bn for 2007/08, £34.1Bn for 2008/09, £35.4Bn for 2009/10, and £36.9Bn for 2010/11. In 2009 the Defence Budget will be over 10% higher, in real terms, than in 1997, marking the longest period of sustained growth since the 1980s. The cost of operations is additional to the Core Defence Budget and is met from the UK's Treasury Reserve. In the financial year 2008/09, over £2.6Bn was spent in support of operations in Afghanistan and nearly £1.4Bn on Iraq - bringing the total spent on all UK operations since 2001 to over £14Bn. Included in this figure is £5.2Bn spent on Urgent Operational Requirements (UORs) in terms of equipment that could not have been anticipated through the normal procurement programme.

The UK Treasury does not put a limit on the amount of money available from the Reserve in support of the UK armed forces on operations. However, in recent years the Treasury and Ministry of Defence have agreed an estimate for the UOR funding - in financial year 2009/10, an estimate of £635 million was agreed for UORs. This estimate has subsequently been enhanced by £101 million to counter Improvised Explosive Devices, bringing the total UOR estimate to £736 million. Any expenditure over and above this estimate would initially be met by the Reserve, but would ultimately have to be repaid through the defence budget within two years.

While these defence spending levels have so far been sustained during the financial crisis, in January 2008 the Select Committee on Defence predicted that cuts in the defence programme are likely. In March 2008, the House of Commons Defence Committee concluded that the Government could not fund the MoD's full-equipment programme and that it would need to make difficult decisions to compile a more realistic and affordable procurement programme. The next spending review will take place in 2010 during which time the future of the defence budget will become clearer.

UNITED STATES

In May 2009 President Obama requested \$533.8 billion for the FY2010 base defence budget and \$130 billion for overseas contingency operations (OCO) in Iraq and Afghanistan. Though the budget proposal does represent a cut in Bush Administration projections, it still amounts to a 4% increase overall from 2009. Though US defence spending is rising, albeit at a slower pace under the Obama

Administration, a number of analysts suggest that defence budget cuts are likely to occur over the coming years due to serious fiscal pressures. Jane's forecasts a 6% drop in the FY2011 defence budget (to \$644.55 billion), and by 2013 defence outlays could fall as low as \$606.6 billion. A recent assessment of Obama's defence policies conducted by Morgan Stanley suggested that Obama "will not cut the DoD budget within his first 18 months in office", but could "curtail defence spending growth, with an eye for a potential defence budget peak possibly in 2010 or the year after".

There have already been important cuts in particular military programmes and hardware, which have been supported by US Secretary of Defence Robert Gates, who has continuously called for the curtailment of a number of big-ticket items in order to generate savings that could be applied to higher priority and more useable systems. Major weapons systems, especially those behind schedule, are under scrutiny. Secretary Gates has made compelling cases for ending programmes that significantly exceed their budgets or use limited tax dollars to buy more capability than the nation needs. Moreover, Secretary Gates wants to de-emphasize structures and spending for conventional warfare against larger enemies, and shift this money to programmes for "irregular" warfare against small and unpredictable adversaries. The Pentagon is planning to increase the number of special operations forces by 5%, and will hire more than 30,000 new civilian officials over the next five years, by gradually reducing the number of contractors to 26% of the Pentagon work force. The DoD will also have to manage the bill for withdrawing 130,000 US soldiers from Iraq, along with enough military hardware and gear to fill over 450,000 shipping containers.

Annex 2

NATO OPERATIONS AND MISSIONS

1. NATO in Afghanistan

NATO's operation in Afghanistan currently constitutes the Alliance's most significant operational commitment to date. Established by UN mandate in 2001, the International Security Assistance Force (ISAF) has been under NATO leadership since August 2003.

ISAF comprises some 64,500 troops from 42 different countries deployed throughout Afghanistan. Its mission is to extend the authority of the Afghan central government in order to create an environment conducive to the functioning of democratic institutions and the establishment of the rule of law.

A major component of this mission is the establishment of professional Afghan National Security Forces that would enable Afghans to assume more and more responsibility for the security of their country. Much progress has already been made. From a non-existent force in 2003, the Afghan army currently comprises approximately 92,000 soldiers, and has begun taking the lead in most operations.

In addition to conducting security operations and building up the Afghan army and police, ISAF is also directly involved in facilitating the development and reconstruction of Afghanistan through 26 Provincial Reconstruction Teams (PRTs) which are engaged in identifying reconstruction needs and supporting humanitarian assistance activities throughout the country.

2. NATO in Kosovo

While Afghanistan remains NATO's primary operational theatre, the Alliance has not faltered on its other commitments, particularly in the Balkans. Today, just under 14,000 Allied troops operate in the Balkans as part of NATO's Kosovo Force (KFOR).

Having first entered Kosovo in June 1999 to end widespread violence and halt the humanitarian disaster, KFOR troops continue to maintain a strong presence throughout the territory, preserving the peace that was imposed by NATO nearly a decade earlier.

Following Kosovo's declaration of independence in February 2008, NATO agreed it would continue to maintain its presence on the basis of UN Security Council Resolution 1244. In June 2008, the Alliance decided to take on responsibility for supervising the dissolution of the Kosovo Protection Corps and to help create a professional and multiethnic Kosovo Security Force.

3. NATO and Iraq

Between the Balkans and Afghanistan lies Iraq, where NATO has been conducting a relatively small but important support operation.

At the Istanbul Summit in June 2004, the Allies rose above their differences and agreed to be part of the international effort to help Iraq establish effective and accountable security forces. The outcome was the creation of the NATO Training Mission in Iraq (NTM-I).

The NTM-I delivers its training, advice and mentoring support in a number of different settings. All NATO member countries are contributing to the training effort either in or outside of Iraq, through financial contributions or donations of equipment.

To reinforce this initiative, NATO is working with the Iraqi government on a structured cooperation framework to develop the Alliance's long-term relationship with Iraq.

4. Monitoring the Mediterranean Sea

NATO operations are not limited only to zones of conflict. In the aftermath of the September 11, 2001, terrorist attacks, NATO immediately began to take measures to expand the options available to counter the threat of international terrorism. With the launching of the maritime surveillance operation Active Endeavour in October 2001, NATO added a new dimension to the global fight against terrorism.

Led by NATO naval forces, Operation Active Endeavour is focused on detecting and deterring terrorist activity in the Mediterranean.

Since April 2003, NATO has been systematically boarding suspect ships. These boardings take place with the compliance of the ships' masters and flag states in accordance with international law.

The increased NATO presence in these waters has benefited all shipping traveling through the Straits by improving perceptions of security. More generally, the operation has proved to be an effective tool both in safeguarding a strategic maritime region and in countering terrorism on and from the high seas. Additionally, the experience and partnerships developed through Operation Active Endeavour have considerably enhanced NATO's capabilities in this increasingly vital aspect of operations.

5. Supporting the African Union

Well beyond the Euro-Atlantic region, the Alliance continues to support the African Union (AU) in its peacekeeping missions on the African continent.

Since June 2007, NATO has assisted the AU Mission in Somalia (AMISOM) by providing airlift support for AU peacekeepers. Following renewed AU requests, the North Atlantic Council has agreed to extend its support by periods of six months on several occasions – the latest until 31 January 2010. NATO also continues to work with the AU in identifying further areas where NATO could support the African Standby Force.

NATO's support to AMISOM coincided with a similar support operation to the AU peacekeeping mission in Sudan (AMIS). From June 2005 to December 2007, NATO provided air transport for some 37,000 AMIS personnel, as well as trained and mentored over 250 AMIS officials. While NATO's support to this mission ended when AMIS was succeeded by the UN-AU Mission in Darfur (UNAMID), the Alliance immediately expressed its readiness to consider any request for support to the new peacekeeping mission.

NATO's continuing support to the AU is a testament to the Alliance's commitment to building partnerships and supporting peacekeeping and humanitarian efforts beyond the Euro-Atlantic region.

6. Counter-piracy off the Horn of Africa

Building on previous counter-piracy missions conducted by NATO (Operation Allied Provider and Operation Allied Protector - see below), Operation Ocean Shield is focusing on at-sea counter-piracy operations off the Horn of Africa. Approved on 17 August 2009 by the North Atlantic Council, this operation is contributing to international efforts to combat piracy in the area. It is also offering, to regional states that request it, assistance in developing their own capacity to combat piracy activities.

Terminated operations and missions

1. Counter-piracy in the Gulf of Aden and off the Horn of Africa

From October to December 2008, NATO launched Operation Allied Provider, which involved counter-piracy activities off the coast of Somalia. Responding to a request from UN Secretary-General Ban Ki-moon, NATO naval forces provided escorts to UN World Food Programme (WFP) vessels transiting through the dangerous waters in the Gulf of Aden, where growing piracy has threatened to undermine international humanitarian efforts in Africa.

Concurrently, in response to an urgent request from the African Union, these same NATO naval forces escorted a vessel chartered by the AU carrying equipment for the Burundi contingent deployed to AMISOM.

From March to August 2009, NATO launched Operation Allied Protector, a counter-piracy operation, to improve the safety of commercial maritime routes and international navigation off the Horn of Africa. The force conducted surveillance tasks and provided protection to deter and suppress piracy and armed robbery, which are threatening sea lines of communication and economic interests.

2. Pakistan earthquake relief operation

Just before the onset of the harsh Himalayan winter, a devastating earthquake hit Pakistan on 8 October 2005, killing an estimated 80 000 people and leaving up to three million without food or shelter.

On 11 October, in response to a request from Pakistan, NATO launched an operation to assist in the urgent relief effort. The Alliance airlifted close to 3,500 tons of supplies and deployed engineers, medical units and specialist equipment to assist in relief operations. This was one of NATO's largest humanitarian relief operations, which came to an end on 1 February 2006.

The Alliance has provided assistance to other countries hit by natural disasters over time, including Turkey, Ukraine and Portugal.

3. NATO in Bosnia and Herzegovina

Between 1995 and 2004, NATO led a peace support force in Bosnia and Herzegovina, helping to maintain a secure environment and facilitating the country's reconstruction in the wake of the 1992-1995 war.

In light of the improved security situation, NATO brought its peace support operation to a conclusion in December 2004 and the European Union deployed a new force called Operation Althea. This has taken on the main peace stabilization role previously undertaken by NATO under the Dayton Peace Agreement. NATO has maintained a military headquarters in the country to carry out a number of specific tasks related, in particular, to assisting the government in reforming its defense structures.

4. NATO in the former Yugoslav Republic of Macedonia¹

Responding to a request from the Macedonian government, NATO implemented three successive operations there from August 2001 to March 2003.

First, Operation Essential Harvest disarmed ethnic Albanian groups operating on Macedonia's territory.

The follow-on Operation Amber Fox provided protection for international monitors overseeing the implementation of the peace plan.

Finally, Operation Allied Harmony was launched in December 2002 to provide advisory elements to assist the government in ensuring stability throughout Macedonian territory.

These operations in the Former Yugoslav Republic of Macedonia* demonstrated the strong inter-institutional cooperation between NATO, the EU and the OSCE.

NATO's first military operation

After diplomatic efforts failed to end the conflict in Bosnia and Herzegovina, the International Community called upon the Alliance to act, and NATO was prepared to respond.

In August 1995, NATO launched Operation Deliberate Force to compel an end to Serb-led violence in Bosnia and Herzegovina. This successful air campaign paved the way to the signing of the Dayton Peace Accords in December 1995.

To support the implementation of this peace agreement, NATO immediately deployed a UN-mandated Implementation Force (IFOR) comprising some 60,000 troops. This operation was followed in December 1996 with the deployment of a 32,000-strong Stabilization Force (SFOR), which maintained a secure environment in

Bosnia and Herzegovina until the mandate was handed over to a European Union (EU) force in December 2004.

These first three successful peace-support operations demonstrated NATO's readiness to act decisively when called upon by the International Community. What followed was a period of unprecedented operational activity for the Alliance.

Annex 3

THE EUROPEAN UNION MISSION

The **Petersberg missions** are a key component of the European Security and Defence Policy (ESDP) and provide the basis for the legitimacy of the European Union's crisis-management operations. The **WEU Council of Ministers**, meeting in Petersberg (Germany) on 19 June 1992, drew up a list of crisis-management missions that the member states wanted to be capable of conducting jointly. The Petersberg Declaration stated: *“Apart from contributing to the common defence in accordance with Article 5 of the Washington Treaty and Article V of the modified Brussels Treaty respectively, military units of WEU member states, acting under the authority of WEU, could be employed for:*

- *humanitarian and rescue tasks;*
- *peace-keeping tasks;*
- *tasks of combat forces in crisis management, including peace-making”.*

That definition of the Petersberg missions was included word for word in the **Amsterdam Treaty** (Article J.7), making the EU an important player in international security, and was also fully incorporated into the 2000 **Treaty of Nice** (Article 17) and into the **Lisbon Treaty** (Article 43 of the consolidated version of the Treaty on European Union).

In light of the new threats to European security, the **Lisbon Treaty** amending the Treaty on European Union and the Treaty Establishing the European Community **broadens the scope of the Petersberg missions** and includes *“joint disarmament operations”, “military advice and assistance tasks, conflict prevention” and “post-conflict stabilisation. All these tasks may contribute to the fight against terrorism, including by supporting third countries in combating terrorism in their territories”.*

Successive European Councils have refined the objectives and methods for the conduct of these missions, leading to a European doctrine founded on a civil-military approach to crisis management:

Military capabilities

- The **Helsinki European Council**, held on 10 and 11 December 1999, adopted the **Headline Goal 2003** defining military capabilities. With a view to covering the full range of Petersberg tasks, the EU should be able to deploy a rapid reaction force of 50 000 to 60 000 troops within 60 days and for a period of at least one year.

- The **Brussels European Council**, meeting on 17 and 18 June 2004, endorsed the **2010 Headline Goal**, the main innovation of which was the development of the **“battlegroup”** concept. Battlegroups consist of 1 500 troops and can be deployed in less than 10 days for a period of up to 120 days. Since 1 January 2007, there have been two battlegroups on

permanent operational standby.

Civilian capabilities

- The **Feira European Council**, which met on 19 and 20 June 2000, developed the civilian aspects of EU-led crisis management in four priority areas: police, protection of the civilian population, civil administration and rule of law (assisting the judiciary and law enforcement systems). In particular, member states undertook to provide up to 5 000 police officers and to be able to deploy up to 1 000 of them rapidly, within 30 days.

- The **Brussels European Council**, meeting on 16 and 17 December 2004, finalised the **Civilian Headline Goal 2008**. The EU should be able to conduct monitoring missions and provide support for EU special representatives. Its activities include security sector reform and support to disarmament, demobilisation and reintegration processes. Civilian capabilities should be deployed in less than 30 days after the launch of the operation.

- At the ministerial Civilian Capabilities Improvement Conference held on 19 November 2007, the **Civilian Headline Goal 2010** was approved. It calls for the mainstreaming of human rights and gender issues into the concepts and conduct of civilian operations, and better exploitation of synergies between civilian and military ESDP and Community action in order to maximise coherence in the field and at the Brussels level.

Since 2003, EU member states have launched more than 20 operations throughout the world, including about 15 civilian missions (police, rule of law, border monitoring) and five military operations.

Completed civilian missions include:

EUPAT in the former Yugoslav Republic of Macedonia (December 2005-July 2006), *AMM Aceh* in Indonesia (September 2005-December 2006), *EU's supporting mission to the African Union's AMIS* operation in Darfur (July 2005-December 2007), *EUPOL Kinshasa* in the Democratic Republic of the Congo (April 2005-June 2007) and *EUJUST Themis* in Georgia (July 2004-July 2005).

Completed military operations are *CONCORDIA* in the former Yugoslav Republic of Macedonia (March-December 2003), *ARTEMIS* in the Democratic Republic of the Congo (June-September 2003), *EUFOR RD Congo* (July-November 2006) and *EUFOR Tchad/RCA* in Chad and the Central African Republic (January 2008- March 2009).

Ongoing missions

❖ Civilian operations

- The *EU Monitoring Mission (EUMM)* in Georgia has been operational since 1 October 2008 and will continue, in principle, until 14 September 2010. Its aim is to contribute to stabilisation, normalisation and confidence building in Georgia, through the presence of civil observers.

- *EU SSR Guinea-Bissau* was established in support of security sector reform (SSR) in the Republic of Guinea-Bissau. The mission started on 1 June 2008 and will continue until 31 May 2010.

- ***EULEX Kosovo***, launched on 16 February 2008, is the largest EU civilian mission ever conducted in the fields of police, justice and administration. The mission's initial mandate is due to expire on 14 June 2010.

- ***EUPOL Afghanistan***, which began on 15 June 2007 and is envisaged to last for a period of at least three years, aims to assist the Afghan authorities with the establishment of an effective and sustainable civilian policing system that will meet international rule-of-law and human rights standards.

- ***EUPOL RD Congo*** succeeds ***EUPOL Kinshasa*** (April 2005-June 2007) and aims to assist the Congolese authorities in the area of SSR. Its mandate extends to 30 June 2010.

- ***EUJUST LEX*** is the EU's first integrated rule of law mission. It launched its activities for the training of Iraqi police officers and judicial staff in the EU Member States on 1 July 2005. Since July 2009 it has been preparing the pilot phase for training activities in **Iraq**. Its initial 12-month mandate has since been extended to 30 June 2010.

- ***EUPOL COPPS*** is a police mission in the **Palestinian Territories** charged with advising and mentoring Palestinian civilian police staff, coordinating international aid to the Palestinian police and providing advice on penal justice matters of concern to the police. This mission began on 1 January 2006 and continues until 31 December 2010.

- ***EUBAM Rafah*** is a border-assistance mission at the Rafah crossing point. It was launched in November 2005 and has been extended to 24 May 2010. However, due to the political situation, operations have been suspended since 13 June 2007 and downsized until the crossing point is reopened.

- ***EUBAM Moldova-Ukraine*** is a border-assistance mission to Ukraine and Moldova. It began on 30 November 2005 with a two-year renewable mandate which was extended to November 2011.

- ***EUSEC RD Congo*** is the EU's advisory and assistance mission in the DRC in the area of security sector reform. It was launched on 8 June 2005 and is due to end on 30 September 2010.

- The ***European Union Police Mission in Bosnia and Herzegovina*** (EUPM) was launched on 1 January 2003 and aims to establish a professional and multiethnic police force in accordance with best international practice, particularly with regard to the fight against organised crime. The mission has been extended until 31 December 2009.

❖ Military operations

- ***EU NAVFOR Somalia – Operation ATALANTA***, the first EU naval military operation, has been operational since 8 December 2008. It contributes to the deterrence, prevention and repression of acts of piracy and armed robbery off the Somali coast.

- The ***ALTHEA*** mission contributes to stabilisation and maintaining a climate of security in **Bosnia and Herzegovina**. It was launched on 2 December 2004 using NATO assets and capabilities in the framework of the Berlin Plus agreements. It is currently being considered whether to replace it with a civilian mission or a military observation and advisory mission.

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ELEMENTS OF FORCE PLANNING WITHIN THE AIR FORCE

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*We will have to learn, before understanding any task, to first ask the question,
"What information (data) do I need, and in what form, and when?...The next question people
have to learn to ask is,
"To whom do I owe which information and when and where?"*

Peter Drucker, "What Executives Need to Learn"

ACKNOWLEDGMENTS

When I had chosen this final paper title I first asked who needs, who is interested in such a topic? The answer came extremely easy in my mind. First of all, my colleagues and I need. On the other hand, it could be a future development analyses or an article published in a military review. Finally, I had written this course final paper, in support of the Plans and Policy Section within the Air Force Staff, the place where I work.

The paper provides some important elements dealing with the complex and dynamic area of force planning. This is a time of rapid change in the force planner's world. Old threats have new faces, and the nature of future threats is largely uncertain. A knowing person could find in this paper the planning concepts to guide him through these complex and dynamic areas.

I convey my appreciation to Lecturer Daniel SORA and the DRESMARA staff. This paper could not have been completed without their support. Professor has provided important directions and ideas, and critical scrutiny of my efforts, drawing upon his widely varied experiences to help me in dealing with such a complex issues.

Moreover, the challenging and rigorous academic atmosphere promoted by DRESMARA allowed me to make such efforts possible. Also, an excellent administrative organization of the centre provided me the time to devote to write this paper on time.

To conclude, my desire here was to present some elements of force planning, a way for comparing alternative force choices. I also intended to focus on the issues that should be considered within the force planning process, data collecting and processing. Moreover, I have wanted to show a way in asking the right questions and seeking the best answers through a deeper understanding of force planning principles. The purpose of writing this paper was also to provide a tool for understanding the

fundamental concepts of force planning and approach for organizing our thinking about the task of planning future military forces.

Point out that strategists and force planners deal with a wide array of variables when they formulate national security goals, strategies and future military requirements. Should one of them dominate force planning, or can they be melded together to improve decision making?²

Henry Bartlett

1. A FRAMEWORK FOR FORCE PLANNING

1.1. Introduction – Force Planning, a challenging art

An ancient cliché holds that strategy is an art, not a science. Specifically, strategy is the linking of ends and means—a "game plan" that tells how finite resources will be employed to accomplish declared objectives. Coherent strategy is the key to institutional success; it is as important for businesses and universities as it is for countries.

Force planning, like strategy, is also an art. It is the process of appraising the security needs of a nation, establishing the military requirements that result from them, and selecting within resource constraints, military forces to meet those requirements.

Practitioners of strategy and force planning constantly fight to achieve a balance among many competing variables. The art of strategy and force planning is made evident by how well the inevitable tensions among these variables are resolved.

Rational force planning is an analytical process designed to link declaratory and employment policy. To that end it assesses the military balance in possible contingencies, measures force capabilities in relation to requirements, and, after cross-program evaluation, establishes clearly priorities for allocating resources.

General defense planning has many aspects, including:

- ***Force planning***, which seeks to provide the fullest range of military capabilities possible;
- ***Operational planning***, which involves choosing the best military options available;
- ***Functional planning***, which involves different forms of standardization, and other forms of specific/localized planning.

During the accession process, *force planning* held pride of place in the military. It "operationalized" all other forms of planning into force goals that ultimately produced the capabilities needed to integrate into NATO.

1.2. Framework

² Bartlett, Henry C. "Approaches to Force Planning," NWC Force Planning Faculty, Newport, Naval War College Press, 1995, v. 1, pp. 114-126.

Every year, the Romanian Parliament debating the appropriate level of resources it should dedicate to defense. It is imperative that we properly plan our forces to ensure that we consummate our gains, decrease our risks in the future, and prepare ourselves well for the opportunities and challenges of the twenty-first century. Choosing the right military forces for the future involves consideration of many important factors. If we want to do force planning well, we must have a comprehensive methodology which helps us to identify the many relevant factors and then consider relationships among them. The nation's interests and objectives are the goal that we wish to achieve. The military capabilities required to support the military component of the strategy are determined, and alternative force choices are evaluated.

My desire here is to present a rational framework for force planning. In essence, it is to show a way for comparing alternative force choices. I do not have in my intention to explore the PPBE System used by the MoND to select forces and provide for their necessary support. I do not intend also to explain the equipment acquisition process used to procure and field the weapons selected. Again, I intend to focus on the concepts and issues that should be considered within these two processes. The intent is to show a way in asking the right questions and seeking the best answers through a deeper understanding of force planning principles.

1.3. What Force Planning Is

Force planning is subsumed under defense policy, which in turn acts in support of national security policy and foreign policy. One of the best ways to distinguish between force planning and other elements of defense policy is to differentiate among policy levels. We could distinguish between declaratory policy-statements of political objectives with intended psychological effects and action or employment policy-concrete military objectives and plans employing current forces in support of those objectives. Force planning is the development of forces flowing from the requirements of declaratory policy or the shortfalls in employment policy. Force development planning should, therefore, unite a declared strategy and the means to implement it.

What of force planning? A split exists in this decision levels. Those with a micro-perspective on force planning tend to concentrate on weapons system acquisition. Case studies abound in documentation of the difficulties of weapons system development. The majority of these analyses ultimately explain the acquisition process as a nonrational, political-military-budgetary compromise. But the macro-perspective on planning military forces may be the most ignored decision level. The concern at this level is not with what individual weapons systems are procured but what military forces are required to meet specific contingencies. Judgments are required not only on the size and structure of the force, but also on the mix of force modernization, readiness, and sustainability. Force planning must be related to declaratory and employment policy in a rational way. Given these three policy levels-declaratory, force development, employment--***what would a rational force planning process look like?*** The declaratory policy should come first:

incorporating objectives formulated by political leaders enjoying popular support. The employment policy should follow: utilizing existing forces to accomplish the declared strategy. Force planning is third: developing forces in support of declared policy and designing forces to overcome shortfalls in contingency war plans. Finally a budget emerges: within given constraints, supporting the planned and programmed force.

1.4. What Force Planning Is Not

If the rational chain of the force planning process is continued, the result should be a budget. Since 2000, the MoND has constructed its budget through the Planning, Programming, Budgeting and Evaluating System, referred to as the PPBES. Force planning is not the PPBES, and in my paper I do not attempt to explain that system. Indeed, somebody could suggest that the first "P" in PPBES comes from planning. It could be close to the truth. In theory, knowledge of the PPBES helps to understand the force planning process and its need for rational input. The planning cycle is actually the longest of the series of events in the PPBES. A major disconnect occurs within this process. The service planners submit a "planning force"--levels required to meet declared policy with reasonable assurance of success. The Defense Guidance responds with fiscal constraints to be used by the services in preparing their programs. Consequently, the Defense Guidance ends the planning process and turns the attention to programs and budgets. But there is no meaningful coordinated force planning process that makes trade-offs within these areas. Instead, we usually find a bureaucratic battle of service-oriented programs and budgetary cuts and revising.

1.5. Scope

Force planning can be defined as the process of establishing military requirements based on an appraisal of the security needs of the nation, and selecting military forces to meet those requirements within fiscal limitations. The Services are responsible for organizing, training, and equipping the forces. Force planning concepts are based on the following main issues: (1) the allocation of scarce resources, and (2) the relationship among goals, means and risks. There will never be enough resources to satisfy all desires. So, we must establish requirements, set priorities, make decisions, and allocate scarce resources to the most critical needs. To obtain the most from our limited resources (means), we must determine where we want to go (objectives) and how we plan to get there (strategy). The importance of these intuitively obvious ideas sometimes gets lost in the process of making detailed assessments and specific weapon system decisions. It may be necessary to adjust our security objectives (goals) to fit within the limits of our economic, political, and military power (means).

The force planning framework is divided into two sections: strategic choices and force choices. Strategic choices involve the identification of national interests, national objectives, the national strategy, and a supporting national military strategy.

Force choices involve an assessment of the national military strategy, available forces, and the threat, in order to identify deficiencies that result when specific fiscal constraints are applied to the acquisition of defense forces. Each of these two basic choices has a major feedback loop that is depicted by the heavy lines in Figure 1.

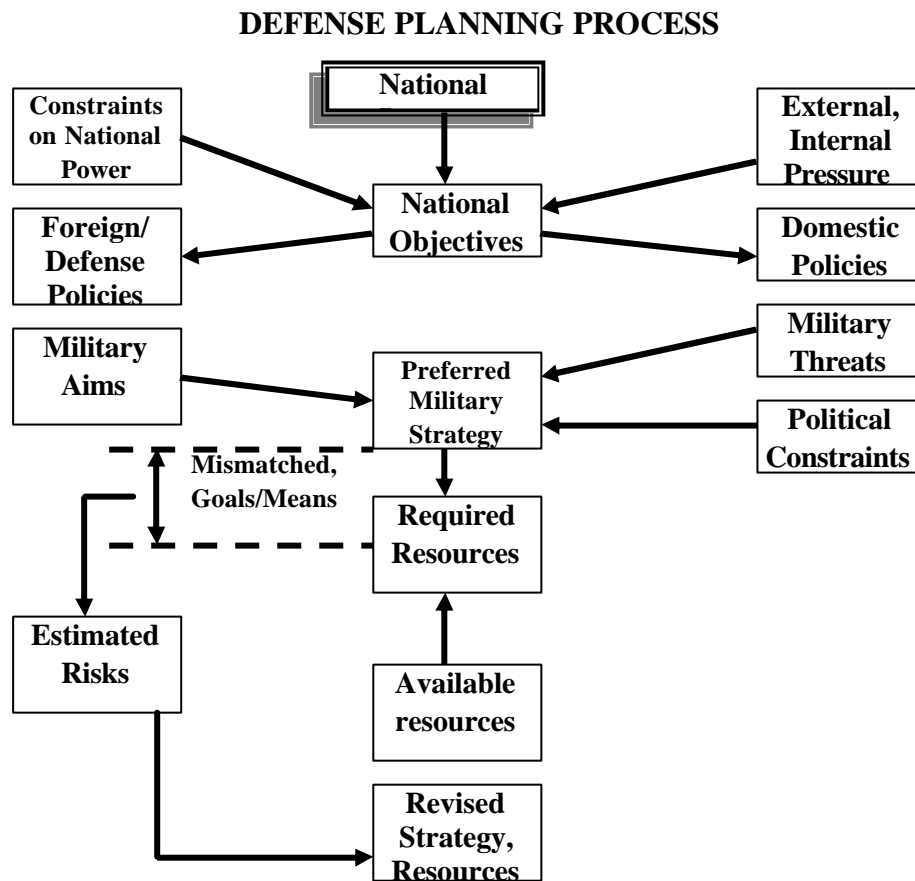


Figure 1 - Defense Planning Process

These lines indicate the nature of the force planning process. Assessments play an important role in force planning, as this is where strategic and force choices come together.

The basic perspectives, choices, assumptions, and constraints, which are introduced during the formulation of national interests, objectives and strategy, establish the course of successive decisions. The formulation of national strategy is perhaps the most difficult because it involves consideration of so many interrelated and complex factors.

*"If you don't know what you want to do, you can't plan how to do it."
John Collins*

In meeting the national objectives, national strategy should also consider the interests and objectives of our allies, friends and enemies, constraints imposed upon our human, industrial and material resources, and the technology that we can reasonably expect to have available during the time period of interest. "Thinking strategically" eventually involves the balancing of goals and means. In this way, a

major responsibility of the force planner is to create the future military capability needed to ensure the nation's objectives are met with its desired strategy.

Speaking about the national interests we could say that they are the most important wants and needs of a nation. The national interests are normally stated in terms of national survival and well-being. Preservation of territorial integrity, freedom, independence, political institutions and honor are fundamental. Force planners must explain why their plans often require them to reflect on which national interests are represented, and why military force, is necessary.

Speaking about the national objectives, whereas national interests define the basic, nonnegotiable needs of a nation, national objectives "spell out what a country is trying to do." National objectives are the specific goals that a nation seeks in order to advance, support or defend its national interests. They are generally described in three categories-economic, security, and political-although other categories such as social, ideological, or technological are also used.

National Security strategy refers to the overall approach or master plan for accomplishing our national objectives through a combination of political, economic, military, diplomatic or psychological means.

Several concepts flow from these principles and significantly affect how force planners and operational planners approach their responsibilities. This means planners must realistically assess what favorable means is desirable and what is achievable. Operational planners are concerned with employing today's forces against today's threat. Existing forces can severely limit the choice of objectives and strategy.

Technology is another factor which can offer new opportunities to the nation as it develops its future forces. A strategy for technology is very important to ensure such opportunities are fully exploited and to guard against technological surprise. At the same time,

pushing to the frontiers of technology is expensive and inherently uncertain. In addition, poorly focused programs waste resources and ultimately limit the technological opportunities available to future force planners.

1.6. Strategy as a Guide to Force Planning

Strategies could be broken down into sets of key elements or "descriptors" that can be used as criteria for evaluating alternative force choices. We will also point out that force planners deal with progressive layers of strategies. Logically, the descriptors of lower level strategies should support those at a higher level of national security concern. If this is done, strategy provides an excellent means for indicating appropriate levels and mixes of military forces in support of national interests.

2. ELEMENTS OF FORCE PLANNING - THE KEY VARIABLES

In the following I present the key variables in the art of force planning. This part stresses logical decisions about goals, means, and strategy; it identifies potential mismatches among the variables, repeating the process as necessary. Then I will focus more narrowly on military force planning.



Figure 2 – National Security, Planning and Force Choices

The "Bartlett model in figure 3 illustrates this dynamic process. It can be used to explore substantive controversies and to facilitate national security decision making. The model reveals the interaction among what is considered the key variables, and thereby represents a comprehensive approach to strategy development and force planning.

2.1. Goals and objectives

Force planners usually think in terms of levels of objectives. At the highest level are national interests, which endure over time and command large support. The survival of the country and the health of its economy are interests that appear on any such list. Force planners also agree, by and large, about the desirability of global peace, although they may disagree about the impact of any specific conflict on national interests. Less tangible-and as a result, more controversial-goals arise from the concern for such values as democracy and human rights.

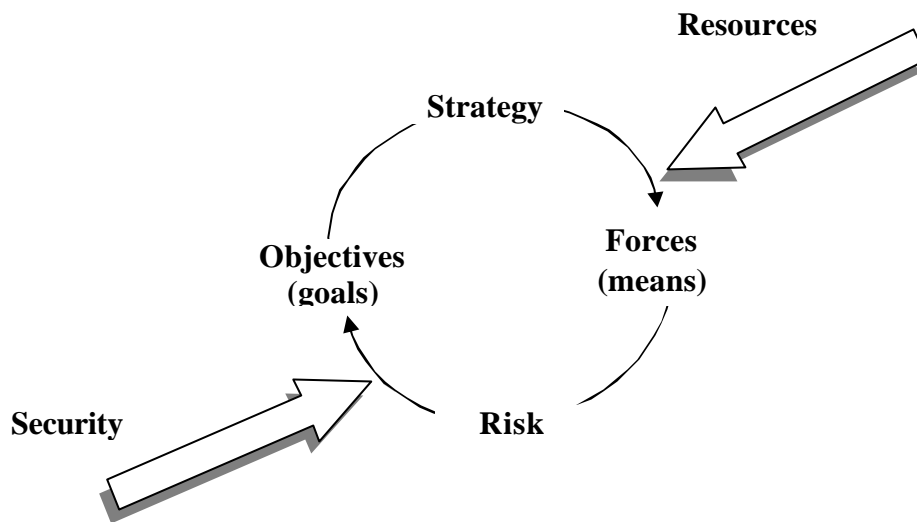


Figure 3 – Bartlett model

Lower-level goals must be reconciled with these highest-level, national interests. Global objectives must be weighed against regional and long-term goals against short-term. Assuring such consistency demands a high degree of intellectual rigor and discipline from all force planners.

2.2. *Security environment*

Assessing the security environment is one of the most difficult tasks of force planners. Sudden changes in the security environment may radically alter national objectives in particular regions of the world. An assessment of the security environment should include a wide range of considerations, such as shifting international power centers, dominant trends, critical uncertainties, evolving economic interdependence, changing domestic requirements, cultural, religious, and demographic trends, ethnic warfare, ecological challenges, and advancing technology. All of these, and other considerations, are factors that determine a nation's security environment.

Force planning is often understood as "game plans" for achieving desired goals with limited means. The art of the force planners is not only to select the best plan among alternatives but to be sure the game itself is worth playing. At the highest level of Air Force thinking, such a game plan is often referred to as extremely important or national security, strategy. It reflects the structure of international relations-not merely a country's sense of who its allies and rivals are but also its strengths, weaknesses, and the capacity of its body politic to accept challenges. A good strategy should provide a clear concept of how economic, diplomatic, and military instruments of national power will be used to achieve national goals and policy.

Lower levels of strategy, for each of the major instruments of national power, are more prescriptive. An economic strategy should explain, for example, how a country intends to change its rate of growth or its role in the world marketplace. A diplomatic strategy should describe how a nation expects to implement its highest

goals through communication with foreign governments, directly and in international forums. Finally, a military strategy should support the others, explaining how, and under what circumstances, the military instrument of national power will be used to achieve influence, deterrence or defense. Going down to the services level, the Air Force should bring its contribution to achieve national security objectives.

The means or tools available to execute the chosen strategy comprise, theoretically, the total resources of the country. In practice, however, force planners usually think in terms of three basic sets of tools. The economic instruments of national power include trade agreements, foreign aid, the money supply, taxes, government expenditures, subsidies, and sanctions. Among the diplomatic means are alignments, alliances, treaties, good offices, and negotiations of every conceivable kind and complexity. The changing world security environment will alter the relative utility of these instruments and will add others. Different instruments of power already affect international and domestic arenas. Some authorities would emphasize psychology-which reflects the ability of national leaders to use the terrorist threats to dominate the communications media, and thus to mobilize public opinion at home and abroad. Still others include technological, informational, environmental, social, cultural, ethnic, and other forms of interaction and influence.

2.3. Constrained resources

Wants almost always exceed resources, for government as well as military or individually. The Air Force must choose among rival demands and mutually exclusive alternatives. Before this, the MoND compete for resources against many other government agencies, against nongovernmental demands, and against each other, especially when a democratic country is at peace. As a result, force planning determines resource allocation, deciding which objectives and courses of action are most important, and setting priorities.

2.4. Risk of failure

Uncertainty is the dominant characteristic of the international and domestic security environments. As a result force planners must weigh their hopes for success against the possibility of failure. They do so by re-examining the security environment, goals, strategies, available resources, and tools needed to achieve stated objectives. This is a continuous, repetitive process. Perhaps the single most important value of risk assessment is that it results in a constant effort to identify and correct imbalances among the key variables. Strategists, for instance, tend to focus on goals-means mismatches, because of their concern that national objectives not become too ambitious for the resources available. Force planners tend to emphasize strategy-force incompatibility, hoping to ensure that the level and mix of future forces will in fact adequately support a given military strategy. Practitioners of strategy and force planning constantly fight to achieve a balance among many competing variables. The art of force planning is made evident by how well the inevitable tensions among these variables are resolved.

2.5. Realigning the Key Variables

As force planners consider the twenty-first century, they face a constant need to adjust their thinking. The model suggests that a change in one variable will usually result in the modification of others, and accordingly in mismatches. To restore the balance, planners must be ready to realign the key variables. There are a number of ways of doing so.

2.6. Modify the goals

In a rational world, force planners would first assess the international security environment in terms of shifting power centers, dominant trends, and critical uncertainties; then they would articulate specific national goals or objectives. Thus the most logical place to begin correcting a mismatch between the security environment and the means is to reconsider the national goals.

2.7. Change the means

Political changes may generate substantial modification in the means available. Such changes are sometimes quantitative. A qualitative change in means may necessitate shifting priority from some instruments of national power to others. Consider two illustrations of an adjustment in means precipitated by the recent change in the security environment. First, many observers believe that in an interdependent world economic tools for achieving national objectives have become more effective than military ones, so greater attention must be paid to the strategic use of tools such as boycotts, most-favored-nation status, free-trade agreements, and technological advantage. On the other hand, in the post-Cold War era the efforts go to adjust the military means in order to achieve the security environment and to protect against the new asymmetric threats.

2.8. Revise the strategy - Strategic Vision

The strategic vision is a roadmap; it creates an institutional strategy for planning and decision-making to deal with defense challenges that may emerge in the future. Defense planning is shaped by an overall strategic vision for the future. This assists in identifying long-term strategic objectives, which result in annual priorities. Strategic visioning is deciding where we, as a service, want to go. Force planning is deciding how we will get there.

A long-term strategic vision provides the Air Force with a direction to move forward into the next years and decades. It must shape the future by building capabilities. A strategic vision provides a context for change initiatives across Air Force. It is a check for developing short-term objectives. If goals and objectives in the Air Force do not accord with the strategic vision, they must be realigned.

2.9. Re-evaluate the risk of failure

It is inevitable that national security analysts will disagree about the risks. As an example, a planner assuming that an airbase can be kept in the active forces and fully trained in a short period of time will see little risk in reducing active-duty units; a colleague who rejects that assumption will be worried about such cuts. Another source of discomfort is the potential for "war stoppers," obstacles that make

impossible a vital course of action. For example, over the coming decade logistical constraints could well frustrate otherwise good plans and strategies. Finally, the degree of confidence also depends crucially on the nature of the threats and the national interests at stake. Weapons of mass destruction and terrorism, for example, tend to create greater levels of anxiety than conventional conflict. Such examples suggest that risk, as used in this model, cannot be quantified.

2.10. Seven Principles for Defense Planning

1. Face facts, recognize ignorance.
2. Apply geostrategic priorities for fault-tolerant planning.
3. Recognize that the long term is a succession of short terms.
4. Sustain or acquire flexibility to adjust to changing circumstances.
5. Learn from the past.
6. Play to the strengths.
7. Reexamine assumptions, reshape rationales.

Principle No. 1: Face Facts, Recognize Ignorance

Much that the professional defense planner would like to know is simply unknowable. Ignorance of the future in detail is not a problem for, or a weakness in, planning. Rather it is simply a permanent condition for which no apology is necessary. Particular events rarely can be predicted. Wisdom begins with frank recognition that detailed "future history" is beyond research.

No less important than recognition of ignorance over the detail of "future history" is appreciation of what is known about future in security environments. Defense planners are able to proceed prudently and usefully from the enduring fact that their glass of relevant knowledge will always be half-or more-full. What they know about the structure, or probable structure, of future defense needs typically will be more than adequate as a basis for the framing of recommendations.

Defense planners confronting the terribly, potentially paralyzing, fact of their detailed ignorance of the future should be encouraged to develop two lists: the knows and the unknowns (and unknowable).

Principle No. 2: Geostrategic Priorities for Fault-Tolerant Planning

Defense planners do not need a crystal ball. Instead, they need a gold-stamp plaque on their desks, which reads as follows:

First Priority: NATO GRF (Graduated Readiness Forces) designated air forces.

Second Priority: NATO FLR (Force Low Readiness) designated air forces.

Third Priority: Air Defense forces.

In support of that common sense, the three priorities incorporate, in to , a genuinely unified vision of military policy and-logically and practically-a descending critical dependence.

Principle No. 3: Recognize That the Long Term Is a Succession of Short Terms

The time to shape the future (and the most economical method for effecting the same) is as that future is unfolding.

Principle No. 4: Sustain or Acquire Flexibility to Adjust to Changing Circumstances

Defense planners cannot know today what policy demands will be placed upon the Air Forces five to 10 years hence. But they do know the kinds of demands that could be forthcoming, and they do know the character of military capabilities that the Air Force will require. Of course, it is difficult to size forces for a world wherein plausible and semi plausible threats are diffuse. Flexibility has many components, including an openness of mind, an excellence in doctrine (or in provision for doctrinal revision), and a suitable elasticity of organizational framework. Also, however, flexibility is a matter of money and time. Flexibility tomorrow in the use of military power of all kinds must depend upon decisions made today. Military investment (and related) decisions in the early 2000s will determine the military capabilities of the year 2010.

Principle No. 5: Learn from the Past

History cannot tell us what will happen in the 2010s, but it can tell us what could happen. The past is the repository of experience which should alert us to the questions that may need answers. History does not repeat itself in detail, but the same kinds of problems and opportunities do arise, regardless of changing state players, political leaders, levels of technology, and so forth. Moreover, statesmen and defense planners have the tendency to commit old errors in new ways. Many defense planners in history have faced uncertainties on the scale which confronts in the past. Today's details are unique; the situation is not. The past is there for our education-let us use it.

Principle No. 6: Play to the Strengths

Self-knowledge, as Sun Tzu advised, is critical for success in strategy and diplomacy. Freedom of choice is somewhat constrained among means and methods in national security policy. Nationally preferred approaches to security problems simply may fail to deliver the requisite amount of strategic effectiveness. National geography and historical experience forge what is known as a strategic culture.

Principle No. 7: Reexamine Assumptions, Reshape Rationales

Policy and strategy assumptions are not invalid because they are old. Indeed, it can be useful to remember that nothing ages so rapidly as yesterday's news headlines. In accordance with the paradoxical logic of strategy, success can breed failure and-following Clausewitz-there is a "culminating point of victory." Quantitative change eventually compels qualitative change. The political framework is changing and so must the rationales both understood for planning purposes and advanced for the garnering of the necessary public support. Strategic wisdom benefit of public support in a democracy is just a set of ideas.

3. CONCLUSIONS

The primary purpose of this final paper has been to provide a simple tool to help my colleagues and me to better understand of strategy and force planning. I do not have clear if I succeed or not in my trial, nevertheless, I honesty consider that

there are few strengths in this paper: its very simplicity, makes it easy to remember; it focuses on the some important variables and force planning elements, and helps in their analysis; and, finally, it stresses the iterative nature of the national security decision making process. The second purpose has been to consider some of the approaches to force planning actually used by practitioners. However, during an actual planning cycle several of the approaches would probably be used to arrive at decisions. I consider that reading and using this paper and these approaches with judgment could constitute a real and challenging art.

Finally, the paper argues that force planners must keep a number of practical considerations in mind:

- ✚ Be sure the game is quality playing;
- ✚ Integrate a full range of strategic perspectives;
- ✚ Integrate force planning approaches;
- ✚ Identify key strategy and force planning "descriptors;"
- ✚ Set priorities, resolve conflicting demands upon resources, and eliminate mismatches;
- ✚ Assess the risk of failure and subsequent action;
- ✚ Select the best solution, considering economic, political, and military tools.

That force planning is an art. It implies that practitioners, and critics should recognize that there is more than one approach to formulating strategy and making decisions about future military force structure. Secondly, it underlines the fact that different approaches may lead to alternative solutions. I am convinced that reading this paper, will challenge the reader to start using ideas described in it, will challenge him to look for other ways or models to plan forces and will lead him to better national security strategies, plans, decisions, and force choices.

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NOWADAYS HUMAN RESOURCE PLANNING – NEED FOR NEW APPROACH TO PLANNING HUMAN RESOURCE IN ROMANIAN ARMED FORCES

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INTRODUCTION

Human resource planning has traditionally been used by organizations to ensure that the right person is in the right job at the right time. Under past conditions of relative environmental certainty and stability, human resource planning focused on the short term and was dictated largely by line management concerns.

Increasing environmental instability, demographic shifts, changes in technology, and heightened international competition are changing the need for and the nature of human resource planning in leading organizations.

Planning is increasingly the product of the interaction between line management and planners. In addition, organizations are realizing that in order to adequately address human resource concerns, they must develop long-term as well as short term solutions.

As human resource planners involve themselves in more programs to serve the needs of the business, and even influence the direction of the business, they face new and increased responsibilities and challenges.

Contemporary human resource planning occurs within the broad context of organizational and strategic business planning. It involves forecasting the organization's future human resource needs and planning for how those needs will be met. It includes establishing objectives and then developing and implementing programs (staffing, appraising, compensating, and training) to ensure that people are available with the appropriate characteristics and skills when and where the organization needs them.³

It may also involve developing and implementing programs to improve employee performance or to increase employee satisfaction and involvement in order to boost organizational productivity, quality, or innovation.

Finally, human resource planning includes gathering data that can be used to evaluate the effectiveness of ongoing programs and inform planners when revisions in their forecasts and programs are needed.

³ Jackson S.,Schuler R. – „Human Resource Planning - Challenges for industrial / Organizational Psychologists” in “American Psychologist” nr. 2, February 1990

Undoubtedly, there are many factors that account for the increased attention directed to human resource planning, but new technologies, economic conditions, and a changing work force seem particularly potent.

These create complexity and uncertainty for organizations. Uncertainty can interfere with efficient operations, so organizations typically attempt to reduce its impact; formal planning is one common tactic used by organizations to buffer themselves from.

A consideration of how the values of workers who will soon make up the majority of the work force differ from those who will begin to leave it suggests additional changes on the horizon.

1. WHAT IS HUMAN RESOURCE PLANNING

HR planning determines the human resources required by the organization to achieve its strategic goals.⁴ It is based on the belief that people are an organization's most important strategic resource.

But also, people are the most volatile resource of any organization.

According with the Ministry of Labour of Great Britain (1974), "Human resource planning is a strategy used for the purchase, use and retention of human resources improvement of an organization".⁵

It is generally concerned with matching resources to business needs in the longer term, although it will sometimes address shorter term requirements. It addresses HR needs both in quantitative and qualitative terms, which means answering two basic questions:⁶

- how many people ?
- what sort of people ?

HR planning also looks at broader issues relating to the ways in which people are employed and developed in order to improve organizational effectiveness. It can therefore play an important part in strategic human resource management.⁷

1.1. The aims and role of HR planning

The aims of HR planning might to be:⁸

- attract and retain the number of people require with the appropriate skills, expertise and competencies
- anticipate the problems of potential surpluses or deficits of people
- develop a well trained and flexible workforce, thus contributing to the organization's ability to adapt to an uncertain and changing environment
- formulating retention

⁴ Armstrong M. – *A Handbook of Human Resource Management Practice*, 10th Edition, Cambridge University Press, 2006, p. 363

⁵ Cole G.A. – *Personnel Management*, 4th Edition, CODECS Publishing House, Bucharest, 2000, p. 148

⁶ Armstrong M. – *A Handbook of Human Resource Management Practice*, 10th Edition, Cambridge University Press, 2006, p. 363

⁷ Armstrong M. – *A Handbook of Human Resource Management Practice*, 10th Edition, Cambridge University Press, 2006, p. 363

⁸ Armstrong M. – *A Handbook of Human Resource Management Practice*, 10th Edition, Cambridge University Press, 2006, p. 368

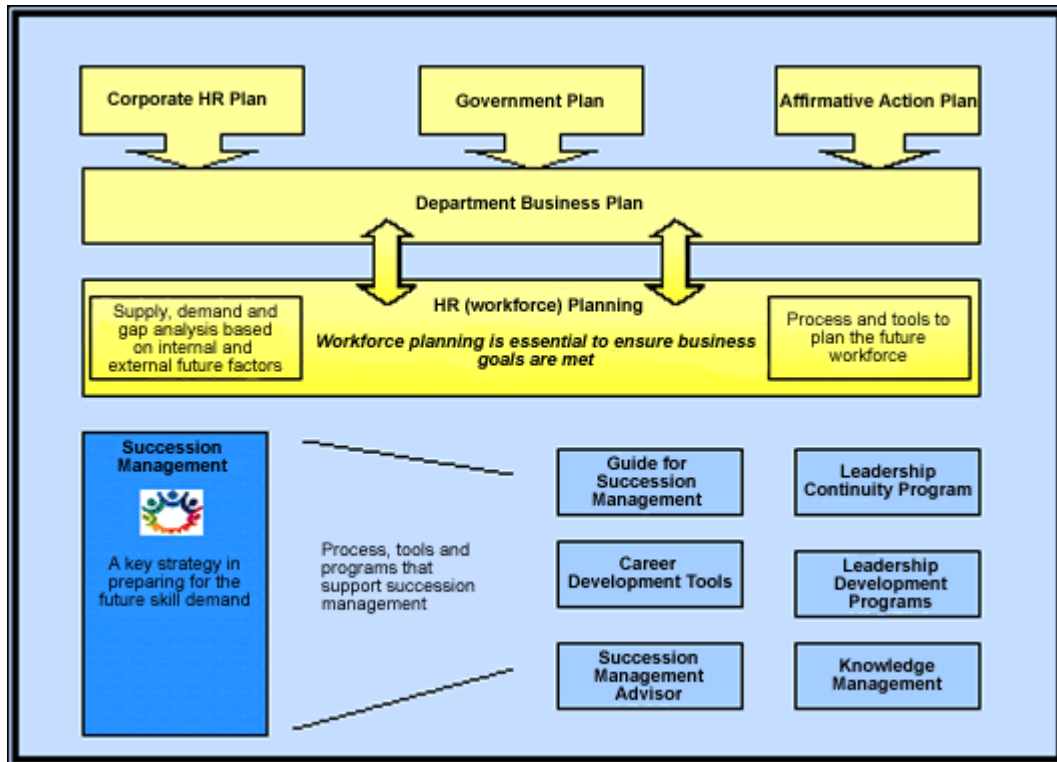


Figure nr. 1 – The role of HR planning

In situations where a clear strategy does not exist, HR planning may have to rely more on making broad assumptions about the need for people in the future, based on some form of scenario planning. Alternatively, the planning process could focus on specific areas of activity within the organization where it is possible to forecast likely future people requirements in terms of numbers and skills.

According with Michael Armstrong⁹, HR planning is a decision-making process that combine three important activities:

- identifying and acquiring the right number of people with the proper skills;
- motivating them to achieve high performance;
- creating interactive links between organization's objectives and people planning activities.

The process of HR planning is not necessarily a linear one, starting with the organization's strategy and flowing logically through to resourcing, flexibility and retention plans. It may be circular rather than linear, with the process starting anywhere in the cycle.¹⁰

⁹ ibidem, p. 364

¹⁰ ibidem, p. 367

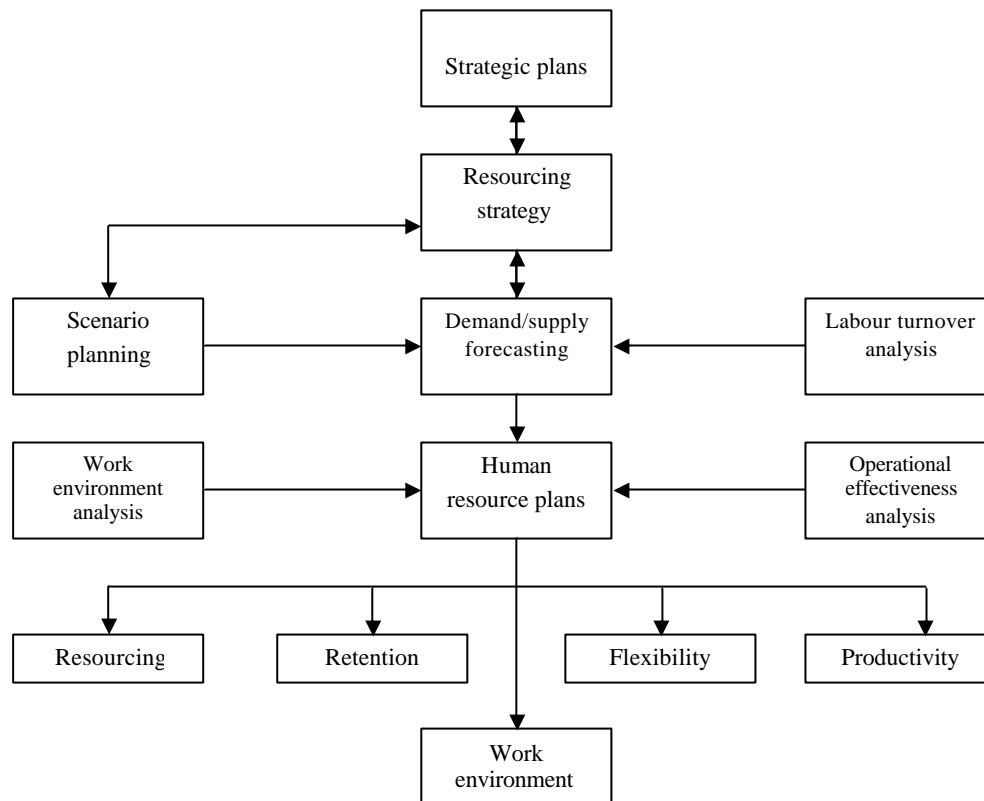


Figure nr. 2 – The process of HR planning¹¹

For example, scenario planning may impact on resourcing strategy which in turn may influence the organization's strategy. On the other hand, the starting point could be demand and supply forecasts which form the basis for the resourcing strategy.

The analysis of labour turnover may feed into the supply forecast, but it could also lead directly to the development of retention plans.

Some experts¹² highlight the distinction between “hard” and “soft” HR planning. If the first aspect is based on quantitative analysis in order to ensure that the right number of the right sort of the people are available when needed, the second is concerned with ensuring the availability of people with the right type of attitudes and motivation who are committed to the organization and engaged in their work and behave accordingly.

These assessments and analyses can result in plans for improving the work environment, providing opportunities to develop skills and careers. They can also lead to the creation of a high commitment management strategy which incorporates such approaches as creating functional flexibility, designing jobs to provide intrinsic motivation, emphasizing team-working, increasing employment security.¹³

¹¹ *ibidem*, p. 370

¹² Armstrong M. – *A Handbook of Human Resource Management Practice*, 10th Edition, Cambridge University Press, 2006, p. 364

¹³ *ibidem*, p. 365

1.2. How do organizations undertake HR planning

Human resource planning has two main dimensions:¹⁴

- functional dimension - is manifested in the rational and systematic approach in which organizations permanently anticipate the future staffing needs, according to their long-term objectives.
- the temporal dimension - HR planning have to meet the organizational plans

Every organization should carry out human resource planning so as to meet all objectives. To do this, every organization needs a clear idea of the strengths and weaknesses of their existing internal personnel.¹⁵

They also must know what they want to be doing in the future. This knowledge helps them define the number and kinds of employees they will need.

Human resource planning compares the present state of the organization with its goals for the future, and then identifies what changes it must take in its human resources to meet those goals. The changes may include downsizing, training existing employees in new skills, or hiring new personnel.¹⁶

The HR planning consists of three stages:¹⁷

- forecasting
- goal setting and strategic planning
- program implementation and evaluation

In personnel forecasting, HR specialists try to determine the supply of and demand for various types of human resources. They can use statistical methods or judgment. Under the right conditions, these methods predict demand and supply more precisely than using subjective judgment.

But many important events have not precedent and, in this case, statistical methods are of little use and the organization must rely on the subjective judgments of experts. Pooling their “best guesses” is an important source of ideas about the future.¹⁸ For example, they couldn't know exactly how many individuals leave (retirement and natural attrition-people choosing to leave for other reasons).

Statistical planning models are useful when there is a long, stable history than can be used to reliably detect relationships among variables and allow using of trend analysis.

Once the forecast is done, it is necessary an indication of the firm's labor supply. It calls for a detailed analysis of how many people are currently in various job categories or have specific skills within organization.

Then, the planners should examine trends in the external labor market (size of it, the kinds of people, etc.).

¹⁴ Manolescu A. – Human Resource Management, Economic Publishing House, 4th Edition, Bucharest, 2003, p. 240

¹⁵ McGraw-Hill/Irwin – Fundamentals of Human Resource Management, The McGraw-Hill Companies, Inc., New York, 2007, p.137

¹⁶ ibidem

¹⁷ ibidem

¹⁸ McGraw-Hill/Irwin – Fundamentals of Human Resource Management, The McGraw-Hill Companies, Inc., New York, 2007, p. 138

Issues related to a surplus or shortage of personnel can pose serious challenges for the organization. Options for reducing a personnel surplus cause differing amounts of human suffering.

The purpose of the second step of HR planning process, goal setting and strategic planning, is to provide a basis for measuring the organization's dimension. This planning stage is critical. The options differ widely in their expense, speed and effectiveness.¹⁹

For whatever HR strategies are selected, the final stage of HR planning involves implementing the strategies and evaluating the outcomes.

In evaluating the results, the most obvious step is checking whether the organization has succeeded in avoiding labor shortages or surpluses. Also, have to identify which part of the planning process contributed to success or failure.²⁰

This highlights the need for human resource planning to take a long-term view and to work towards preparing an organization to cope with its future requirements and achieve its strategic objectives.²¹ The information acquired through the process of HR planning provides the foundation for the development of HR strategies.

An inadequate human resource planning can cause unwanted problems in the short term:²²

- despite of all important efforts for new personnel recruiting and training, more important positions stay unfulfilled a long period of time, with bad influences in the accomplishing of organization's objectives;
- although some employees are better payed than the average payment within the organization, many of them left the organization because they can not identify opportunities for promotion.

1.3 HR planning process

We can conclude by considering that the HR planning have to find the best solutions for:

- determining the numbers to be employed
- retaining highly skilled staff
- managing an effective downsizing programme
- where will the next generation of managers come from

HR planning is indeed concerned with broader issues about the employment of people than the traditional quantitative approaches of manpower planning. Such approaches derive from a rational top-down view of planning in which well tested quantitative techniques are applied to long term assessments of supply and demand.²³

¹⁹ ibidem

²⁰ ibidem, p. 139

²¹ Foot M., Hook C. – Introducing Human Resource Management, Pearson Education Limited, Edinburgh Gate Harlow, 2002, p. 32

²² Manolescu A. – Human Resource Management, Economic Publishing House, 4th Edition, Bucharest, 2003, p. 230

²³ Armstrong M. – A Handbook of Human Resource Management Practice, 10th Edition, Cambridge University Press, 2006, p. 363

There are four very important categories of people which have to take into consideration in the HR planning process:

- existing staff
- recruited staff
- training staff
- personnel on point of departure

Numerical estimates about staffing needs are usually under the following approaches:

- based on leaders' discernment
- work study techniques
- statistical methods using

In the HR planning process we have to take into consideration:

- natural wastage/attrition – giving individuals a free choice in whether to leave or to stay – alternative jobs easier to obtain- This form of personnel reduction poses problems for management in that it is unplanned and uncontrollable. It is not the exact equivalent of normal labour turnover.
- voluntary redundancy – it is expensive because employees with long service find it attractive, and that the best specialists leave because there is demand for their skills whilst poorer personnel stay because they are “less marketable”.²⁴ Some experts²⁵ suggests the reverse actually occurs in practice. Marginal performers are more likely to take up voluntary redundancy packages because of either disillusionment with the job or the fear of dismissal without any financial cushion at a later date.
- compulsory redundancy – where no choice is presented to the departing employee, is the last resort strategy for employers and is usually seen as the least acceptable face of downsizing.
- early retirement – are usually utilized alongside other methods of workforce reduction, although it is often sufficient of itself to generate the required cuts (downsizing with dignity). In particular, it is seen as carrying less stigma than other forms of redundancy. Retired is a much more socially acceptable word than redundant.

Effectively managing workforce reduction is thus of increasing importance in HRM practice, not only because of its greater scale and frequency but also because of the potentially serious negative effects of its mismanagement. The mismanagement of personnel reduction can clearly cause major damage to both the organization's employment and general reputations.²⁶

There have also been increasing recent concerns about the organizational effectiveness of the post-downsized “anorexic organization”.²⁷ The benefits which organization claims to be seeking from downsizing (savings in personnel costs,

²⁴ Redman T., Wilkinson A. – Contemporary Human Resource Management, Pearson Education Limited, Edinburgh Gate Harlow, 2001, p. 303

²⁵ Redman T., Wilkinson A. – Contemporary Human Resource Management, Pearson Education Limited, Edinburgh Gate Harlow, 2001, p. 303

²⁶ *ibidem*, p. 301

²⁷ *ibidem*

speedier decision-making, better communication, enhanced involvement of employees) are “illusory” and the long-term effects “terrifying”.²⁸

Then potential negative impact of downsizing is not restricted to those who leave but it has also a major effect on the remaining employees (the impact of downsizing on the remaining employees is such that commentators now talk of “the survivor syndrome”).²⁹ This is the term given to the collection of the behaviors such as decreased motivation, morale and loyalty to the organization, and increased stress levels and skepticism that are exhibited by those who are still in employment following restructuring.

Succession planning is the process of assessing and auditing the talent in the organization in order to answer three fundamental questions:³⁰

- are there enough potential successors available (a supply of people coming through who can take key roles in the longer term) ?
- are they good enough ?
- do they have the right skills and attributes for the future ?

Succession planning is based on the information supplied by talent audits, supply and demand forecasts and performance and potential reviews.

Career planning uses all the information provided by the organization's assessments of requirements, the assessments of performance, and potential and management succession plans, and translates it into the form of individual career development programmes and general arrangements for management development, career counseling and mentoring.³¹

We could define career progression in terms of what people are required to know and to be able to do to carry out work at progressive levels of responsibility or contribution.

1.4 Contemporary challenges to HR planning

HR planning today is more likely to concentrate on what skills will be needed in the future, and may do no more than provide a broad indication of the numbers required in the longer term, although in some circumstances it might involve making short term forecasts when it is possible to predict activity levels and skills requirements with a reasonable degree of accuracy.³² Such predictions will often be based on broad scenarios rather than on specific supply and demand forecasts.

The gap between theory and practice arise from:³³

- the impact of change and the difficulty of predicting the future
- the “shifting kaleidoscope” of policy priorities and strategies within organization

²⁸ ibidem

²⁹ ibidem, p. 302

³⁰ Armstrong M. – *A Handbook of Human Resource Management Practice*, 10th Edition, Cambridge University Press, 2006, p. 403

³¹ Armstrong M. – *A Handbook of Human Resource Management Practice*, 10th Edition, Cambridge University Press, 2006, p. 404

³² ibidem, p. 366

³³ ibidem

- the distrust displayed by many managers of theory or planning – they often prefer pragmatic adaptation to conceptualization
- the lack of evidence that HR planning works

What HR specialists have to do in this case ? They need to:

- ensure they are aware of the strategic plans and can provide advice on the HR implications of those plans;
- point out to management the strengths and weaknesses of the personnel of the organization, and the opportunities and threats they present;
- be capable of scenario planning in the sense that they can identify future issues concerning the acquisition, retention and employment of the people, and advise on methods of addressing those issues;
- be aware of the scope to deal with future requirements by introducing various forms of flexibility;
- be capable of preparing relevant and practical resourcing plans and strategies for retaining people, based upon an understanding of the internal and external environment of the organization, and the implications of analyses of labour turnover.

2. Need for a new HR planning in Romanian Armed Forces

Human resources management used in the Romanian Armed Forces was, for the most time, built-up in response to a particular type of reality. Meanwhile, many things have changed inside the military organization and in nowadays realities of society and world, and also in the approaches to use this resource.

Staff policy is determined in accordance with Romania's National Security Strategy, White Paper of National Security and Defense of Government, and Romania's military strategy.

The main element of personnel strategy is inspired by the transition from the system that worked with career soldiers, volunteers and conscripts who had the constitutional obligation to mandatory military service, to the new system, based on a force composed entirely of volunteers, but also by changing the mission, due to the new position within NATO, especially oriented collective defense and crisis management operations and humanitarian sphere.

2.1 Build-up a personnel doctrine

It is necessary to build up a personnel doctrine which does not dictate personnel procedures for any particular operational scenario but it have to provides the doctrinal base for developing specific operational plans and standard operating procedures. This doctrine will represents the statement of how the personnel community thinks about operating in support of the Romanian Armed Forces in peace, crisis and war situations.

Personnel doctrine must provide a single source of doctrine for commanders, staff, and personnel managers. It also describes the process for providing personnel support to unit commanders, military personnel and civilians.³⁴

The doctrinal principles must be applied across the operational continuum and to all components of the Romanian Armed Forces, including the active armed forces and also staff in reserve.

It has to describe:

- the Romanian Armed Forces' personnel systems and functions
- the personnel organizational structure – the structures that operate systems and perform the functions
- the actions leaders must take to establish and project personnel systems in an area of operations
- objective personnel developments and system design

Personnel doctrine must be complete enough to guide armed forces' personnel, yet not so prescriptive that it limits support for the commanders and their subordinates. The personnelists must be versatile and able to improvise to ensure continuing, responsive and flexible personnel support for all categories of armed forces' personnel.

2.2 Use of scientific methods

A new approach of HR planning must be projected taking into consideration the next processes:

- organizational strategic plans – define future activity levels and initiatives demanding new skills
- resourcing strategy – developing intellectual capital:
 - resourcing plans – for finding people from within the organization and/or for training programmes to help personnel learn new skills
 - flexibility plans – for increased flexibility in the use of human resources
 - retention plans – for retaining the people the organization needs
- scenario planning – assessing in broad terms where the organization is going and the implications for human resource requirements
- demand/supply forecasting – estimating the future demand for people (numbers and skills) and assessing the number of people likely to be available
- labour turnover analysis – figures and trends as an input to supply forecasts

3.3 Integrated information system

³⁴ FM 12-6 *Personnel Doctrine*, Headquarters, Department of the U.S.A. Army

The lack of an integrated information system for standardized keeping records of all positions and personnel of the Romanian Armed Forces, able to provide real-time information, generate data flow problems in the personnel situation, leading to lack of efficiency in the preparation of analysis and forecasts necessary in decision-making and slows the process of human resource planning.

Such a integrated system would allow:

- an integrated management of all processes specific human resource management
- decisions regarding career and professional development, and also using and rewarding to be based on professional performance and personal potential
- ensuring transparency and free access to information about job vacancies, the promotion and professional development opportunities
- ensuring equal opportunities for promotion and professional development throughout their careers
- shift from personnel management work to a real human resource management:
 - nominal records and statistics to the whole staff (administration, payroll, motivation, promotion)
 - organizational management (administration, planning, organizational development scenarios)
 - time management (real worked time, vacations, leaves, permissions)
 - career management (analysis and description of professional qualifications)

2.4 Real individual career management

Military career will be punctuated, in the coming years, by the implementation of individual career management system which, subsequently, represents the essential element of the modernization of human resources management in the Romanian Armed Forces.

Planning and implementation of this concept is based on both knowledge and use of experience of the NATO armies, but also taking into consideration the particularities of the Romanian cultural and economic environment and of our Romanian Armed Forces.

Implementation of this concept pursues the harmonization of the individual needs of military personnel (the transparency and equal opportunity to access the upper ranks of the military hierarchy, recognition and respect of personal qualities, ranking them on the basis of objective and authentic criteria) and the military system needs (professionalism, loyalty, team spirit and discipline) that will further at the major objectives of the military system, in addressing new challenges imposed by future changes in international political-military situation in terms of diversification and leverage the unprecedented military missions.

Individual career management will provide individual career planning process, career development and management of military personnel to meet military needs and individual expectations.

Human resources management in the armed forces approaches career planning issue by directing the methods and means of career development and the type of planning necessary to achieve goals.

Career planning is a complex and systematic career goal setting, the design and implementation of strategies, self assessment and analysis of opportunities and evaluating the results. Career planning process employs both individual responsibility and organization, as both partners need to work constantly with regard to the common interest.

Career planning is an essential process in career management because it uses data and information of organizational needs and opportunities and potential or performances of employees, transposed into career development programs. The fundamentals of planning are represented, on the one hand, by human resources planning and, on the other hand, by the appraisal of potential assessment, behaviour and performance of employees.

The other components of human resources management, recruitment, selection and development, contribute to providing military structures with appropriate staff. From the training of future military personnel and continuing to improve the preparation of the staff through career and specialization courses and foreign language courses, this is a continuous process based on needs determined by the dynamics of staff.

Individual career development is a long-term process that covers the entire career of the military and is the result of interaction between ability and willingness of individual achievement and opportunities provided by the organization.

From the perspective of the Romanian Armed Forces, career development envisages among other things stability, commitment and involvement and loyalty of its members as the lack of adequate training programs and career development can lead to difficulties in attracting, retaining and developing of personnel.

It will not be neglect the international dimension of military career management, take into consideration career planning and development for those employees who will work in international structures

3. CONCLUSIONS

Human resource planning, in the broader meaning of the term, is one of the fundamental strategic roles of the HR function.

Because the purpose of human resource planning is to ensure that the right people are in the right place at the right time, it must be linked with the plans of the total organization.

Traditionally, there has been a weak one way linkage between organizational planning and human resource planning. Organizational plans, where they exist, have defined human resource needs, thereby making human resource planning a reactive exercise.

It seems clear that human resource management in general, and human resource planning in particular, will become more closely tied to the needs and

strategies of organizations. As this occurs, human resource planning will be the thread that ties together all other human resource activities and integrates these with the rest of the organization. Also needed is research on the change process.

Organizations of the future are likely to be in a state of continuous change and uncertainty. Human resource planning is likely to be seen not only as the thread that ties together all human resource practices, but also as the instrument for establishing and signaling when and how practices should change.³⁵

In other words, human resource planners are likely to take on the role of organizational change agents. To be effective in this role, they will need to adopt a systems perspective for understanding how the behaviors of individuals influence and are influenced by the larger organizational context.

As organizations change more quickly, so will the knowledge, skills, and behaviors needed from employees. This means that people working in organizations will be asked continually to adjust to new circumstances.

Research designed to help us understand how organizations can establish and maintain employee flexibility and adaptability is likely to make an important contribution.

Thus a final challenge in human resource planning is balancing current needs - of organizations and their employees - with those of the future. The criterion against which this balancing act is measured is whether employees are currently at the right place doing the right things but yet are ready to adapt appropriately to different activities

³⁵ Jackson S., Schuler R. – „*Human Resource Planning - Challenges for industrial / Organizational Psychologists*” in “*American Psychologist*” nr. 2, February 1990

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MILITARY KEY PERFORMANCE INDICATORS

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INTRODUCTION

*Key Performance Indicators (KPI) are financial and non-financial metrics used to quantify objectives to reflect strategic performance of an organization. KPIs are used to assess the present state of a business and to prescribe a course of action. The act of monitoring KPIs in real-time is known as business activity monitoring, and KPIs are typically tied to an organization's strategy.
(Wikipedia)*

Key Performance Indicators, also known as KPI or Key Success Indicators (KSI), help an organization define and measure progress toward organizational goals. Once an organization has analysed its mission, identified all its stakeholders, and defined its goals, it needs a way to measure progress toward those goals. Key Performance Indicators are those measurements.

Key Performance Indicators are quantifiable measurements, agreed to beforehand, that reflect the critical success factors of an organization. They will differ depending on the organization. A business may have as one of its Key Performance Indicators the percentage of its income that comes from return customers. A school may focus its Key Performance Indicators on graduation rates of its students. A Customer Service Department may have as one of its Key Performance Indicators, in line with overall company KPIs, percentage of customer calls answered in the first minute. A Key Performance Indicator for a social service organization might be number of clients assisted during the year.

Whatever Key Performance Indicators are selected, they must reflect the organization's goals, they must be key to its success, and they must be quantifiable (measurable). Key Performance Indicators usually are long-term considerations. The definition of what they are and how they are measured do not change often. The goals for a particular Key Performance Indicator may change as the organization's goals change, or as it gets closer to achieving a goal.

BACKGROUND

Military and civil/military Key Performance Indicators (KPIs) are vital tools to assess the performance of the European air traffic management (ATM) system in terms of satisfaction of military and civil/military requirements. However, they lag behind KPIs already created to measure the performance of civil aviation.

In July 2000, the EUROCONTROL Provisional Council requested the Director General to examine the implementation status of Flexible Use of Airspace in European states, and to establish a programme to foster integration of civil/military air traffic services, making real-time information available to civil and military authorities to enable them to maximize the use of airspace and existing capacity.

A consequent study produced an Outline Action Plan which included a requirement to:

“Establish a common methodology to measure actual usage of airspace structures for military activities in view of assessing its impact on civil traffic and on military operations”.

STUDIES

A Feasibility Study run by EUROCONTROL, a contractor and 5 volunteer nations (France, Germany, Hungary, Italy and UK) was completed in 2004, and resulted in the identification of 3 Key Performance Areas (KPA) and 8 KPIs.

This was followed in 2005 by an Implementation Study involving 5 pilot nations (Czech Rep, France, Germany, Italy and Norway) and 2 trials entailing data collection, KPI population and result validation. The outcome was generally promising but, not surprisingly, revealed that the greatest challenge for future population of the proposed Military KPIs was the collection of OAT data.

During the trials, nations collected most data manually at national level, and then populated an ACCESS database developed for the trials. This proved extremely labour-intensive and did not offer a realistic prospect for the effective future production of Military KPIs at a pan-European level. Thus, one conclusion from the Study was that automation of such data collection was vital for the Europe-wide implementation of Military KPIs.

The overall objective of the Implementation Study was to provide data analysis and results that facilitated the establishment of a comprehensive set of Military KPIs, including a methodology for the collection and dissemination of these KPIs throughout ECAC.

FUA

The need to develop a performance measurement framework for both civil and military utilisation of airspace is rooted in the Single European Skies initiatives and the Flexible Use of Airspace (FUA) concept. The airspace is a finite resource which is seen from different perspectives, sometimes conflicting between various users, and, therefore, subject to co-ordination to find a trade-off solution.

The FUA concept was developed by the civil and military representatives of the ECAC States together with representatives of Aircraft Operators (AOs). With the

application of FUA, airspace should no longer be designated as either purely civil or military airspace, but rather considered as one continuum and allocated according to user requirements. This provides ATM with the potential to increase the capacity of the air traffic system, allowing the maximum joint use of airspace through appropriate civil/military co-ordination. The application of the FUA concept also ensures that, through the daily allocation of flexible airspace structures, any necessary segregation of airspace is temporary, based on real usage within a specified time period.

The application of the FUA concept requires continuous monitoring of its effective use and associated benefits. Consequently, military authorities were interested in establishing military indicators that would provide relevant, decision making data, to military airspace managers - a military ATM performance framework was required that would be developed within the context of the FUA rules and principles already adopted in 1994. As such, a Military ATM Performance Framework Feasibility Study was conducted.

In such a framework, civil needs are frequently expressed in monetary terms (e.g. the en-route capacity shortfall in 2001 generated delays that can be valued at around 1.4 billion EURO), allowing them to put pressure on the ATM system to increase the airspace usage for civil purposes.

Military users must show their requirements as strongly as civil users. Currently, the vital link between airspace usage and the level of military capability and readiness cannot be illustrated as effectively as the link between civil cost and airspace usage. The Military Key Performance Indicators project intends to bridge this gap.

The application of the FUA concept allows the management of congested blocks of airspace, which may be simultaneously of interest to military forces and civil traffic. It aims to ensure that airspace will be effectively used and that it will deliver the expected benefits for both military and civil users. Continuous monitoring of the effective use and associated benefits of FUA is required for conflicting demand of airspace.

As a result of the implementation of FUA, military authorities have a significant interest in setting up military indicators to monitor that, on an ongoing basis, the volume, location and shape of airspace temporarily allocated for military purposes is adequate to maintain the required level of military capability and readiness.

PRIOR WORK

The initial KPIs proposed by the Feasibility Study were as follows:

- a) Airspace Efficiency:
 - Airspace Suitability
 - Airspace Availability
 - Allocation of the Ideal
 - Efficient use of Airspace
 - Efficient Booking Procedures.

- b) Mission Effectiveness:
 - Economic Impact of Excessive Transit
 - Impact of Airspace on Training.

PURPOSE AND USE OF KPIS

The main purpose of the Military KPIS is to identify and address the trends associated with military use of airspace for training purposes by establishing a common methodology to measure usage of airspace structures for military activities. This can be used to help to assess the performance of the ATM system in terms which fully satisfy military requirements as well as to assess the effective usage of airspace by both civil and military users through the eventual combined use of civil and military KPIS. The Military KPIS can be used to support:

- a) High level policy
- b) Negotiations with civil partners for airspace design
- c) Measurement of the impact of new designs on airspace availability and suitability
- d) Measurement of the efficiency in using airspace for military purposes.

1. AIRSPACE EFFICIENCY KPA

DEFINITION

The Airspace Efficiency KPA addresses how effectively the ATM system meets military requirements. It includes KPIS that directly relate to the use of airspace both in time and space (nm² and FLs), providing military analysts with long range airspace planning information, as well as, day-to-day operations data facilitating maximum efficiency of airspace usage.

1.1. KPI-1: PERCENTAGE OF AIRSPACE DESIGNATED SEGREGATED

The objective of KPI-1 was to provide a yearly indication of the proportion of airspace designated as segregated. This was done by generating a value that represented the available segregated airspace as a percentage of the nations' total airspace (UIR) at FL200. The intention was to provide a strategic measurement of airspace availability. Two basic options were examined:

- a) A calculation of relative geographical surface area only.
- b) A calculation of geographical surface area related to published operating times for the segregated areas to give an indication of total airspace 'occupancy'. For this option, three further sub-options were considered:
 - i) Time Requested. Calculation of a value that represented segregated airspace as a percentage of the nations' total airspace compared to the amount of requested training time (as opposed to published operating time).

- ii) Time Allocated. Calculation of a value that represented segregated airspace as a percentage of the nations' total airspace compared to the amount of allocated training time.
- iii) Time Used. Calculation of a value that represented segregated airspace as a percentage of the nations' total airspace compared to the amount of actual training time.

The sub-measurements i) to iii) were found to be a reflection of tactical airspace utilisation rather than strategic airspace availability and are, in effect, subsumed by KPI-3. Nevertheless, the available data would still support their generation if required on a National basis.

Recommendation

KPI-1 should be adopted for widespread use and should consist of two measurements:

- a) A calculation of relative geographical surface area between segregated airspace surface area and total surface area.
- b) A calculation of geographical surface area related to published operating times for the segregated surface area to give a measurement of total airspace 'occupancy'.

KPI 1-1 = $\frac{\text{Total Segregated Surface Area} \times \text{the total time the segregated area is available}}{\text{Surface Area (nm}^2\text{)} * \text{Time}}$

KPI 1-2 = $\frac{\text{Total Segregated Surface Area (nm}^2\text{)}}{\text{Surface Area (nm}^2\text{)}}$

1.2. KPI-2: ADHERENCE TO OPTIMUM AIRSPACE DIMENSIONS

The objective of KPI-2 was to provide an indication of how close the dimensions of the allocated training airspace were to the optimum airspace dimensions for the type(s) of mission being conducted. Two fundamental options were considered:

- a) Comparison of the allocation to a theoretical ideal (or optimum) set of dimensions.
- b) Comparison of the allocation to the request airspace.

Recommendation

KPI-2 should be adopted for widespread use, based on comparison of allocated airspace with the 'ideal' requirements developed by each individual nation.

Nations should be encouraged to develop airspace requirements matrices as part of KPI implementation.

1.3. KPI-3: UTILIZATION OF AIRSPACE

The objective of KPI-3 was to generate measurements to track the required, allocated and actual utilisation of airspace for military training, in order to help assess capacity utilisation. Two basic options were considered:

- a) Time Only. This compared Time Used vs Time Available in order to provide a measure of the time actually used for military flying compared with the total time available.
- b) Area and Time. This multiplied area by time in order to give a cross-dimensional measurement of utilisation. Three sub-measurements were calculated:
 - i) Area Used vs Area Requested – Time based. This provided an indication of actual utilization of segregated airspace in relation to the amount of airspace requested
 - ii) Area Allocated vs Area Requested – Time based. This provided an indication of the segregated airspace allocated for training in relation to the amount of airspace requested
 - iii) Area Used vs Area Allocated – Time based. This provided an indication of actual utilization of segregated airspace in relation to the amount of airspace allocated

All the data to support these calculations was readily available and all generated useful data. However, it was found that a combination of Area/Time Available (taken from the KPI-1 data set), together with measurements 3b(ii) and 3b(iii) gave the most complete picture of utilisation compared to capacity by showing:

- a) Total capacity available (in area multiplied by time).
- b) Total requested in comparison to capacity.
- c) Total allocated in comparison to request and capacity.
- d) Total used in comparison to request, allocation and capacity.

Recommendation

KPI-3 should be adopted for widespread use and should consist of four measurements:

- a) Total capacity available.
- b) Capacity requested.
- c) Capacity allocated.
- d) Capacity used.

Segregated Area Requested x Time Requested (min)

All Segregated Area x (Time Segregated Available – Unusable Minutes)

Total Allocated Segregated Area x Time Allocated (min)

Total requested Segregated Area x Time Requested (min)

Total Used Segregated Area x Time Used (min)

Total Allocated Segregated Area x Time Allocated (min)

1.4. KPI-4: EFFICIENCY OF BOOKING PROCEDURES

The objective of KPI-4 was to provide a measurement of the level of ‘overbooking’ that might be expected to cater for the vagaries of military operations and to monitor, through trend analysis, whether changes to this level might be occurring. Three options for measurement were considered:

- a) Time Used vs Time Requested. This provided an indication of the proportion of requested time that was actually used.
- b) Time Allocated vs time Requested. This provided an indication of the proportion of requested time that was actually allocated
- c) Time Used vs Time Allocated. This provided an indication of the proportion of allocated time that was actually used

From the initial results, it appears that this KPI might also be a useful tool for helping to predict the likely levels of military activity compared to requests made at H-24. This could potentially be used to help civil flow planning considerations.

Recommendation

KPI-4 should be adopted for widespread use and should consist of a single comparison of Time Used against Time Requested.

$$\text{KPI-4} = \frac{\text{Time Used (min)}}{\text{Time Requested (min)}}$$

2. MISSION EFFECTIVENESS KPA

DEFINITION

Mission Effectiveness addresses the economic impact of training activities. The KPIs provide information on time spent in transit.

2.1. KPI-5: ECONOMIC IMPACT OF TRANSIT

The objective of KPI-5 was to provide a measure of the economic cost of the time spent by military aircraft flying from their bases into their designated operating area(s) and returning at the end of the exercise. Two options were considered:

- a) Calculated cost (total transit time x operating costs).
- b) Transit Time only.

Whilst it proved feasible to determine the total time spent in transit, reporting of time alone was found to be of very limited value. Obtaining data on operating costs was found to be extremely difficult. Each nation's cost calculation inputs will depend on national accounting rules. Furthermore, since depreciation is likely to form a significant part of the calculation, even common aircraft types cannot be assumed to have a common operating cost across nations as the ages of the aircraft fleets are likely to vary.

Recommendation

KPI-5 should be adopted for widespread use and should consist of a calculation of total transit time x operating costs. This should be calculated on a national basis and the resulting output summed for pan-European reporting purposes. Nations should be encouraged to develop their own cost data to provide the necessary input variables as part of KPI implementation.

$$\text{KPI-5} = \text{Transit Time} \times \text{Cost}$$

2.2. KPI-6: IMPACT OF AIRSPACE LOCATION ON TRAINING

The objective of KPI-6 was to provide a measure of the time spent actually in the designated operating area, achieving the mission training objectives, compared with the total time airborne. This measurement proved straightforward to conduct and showed clear, easily understood results.

Recommendation

KPI-6 should be adopted for widespread use.

$$\frac{\text{Time Spent Training}}{\text{Time Spent Training} + \text{Transit Time}}$$

3. FLEXIBILITY KPA

Flexibility addresses the ability of airspace users and the airspace allocation system to adapt to short-notice changes.

3.1. KPI-7: TRAINING IN NON-SEGREGATED AIRSPACE

The objective of KPI-7 was to measure how often airspace users train in airspace not specifically designated for Military Training (i.e. permanently or temporarily segregated). It was found that this situation did not apply to any of the pilot nations (all reported flying only in segregated airspace). However, it is known that other European nations, including the UK and the Netherlands, regularly conduct military training outside segregated airspace. Indeed, informal figures from the UK suggest that the proportion of their flying conducted outside such airspace could be as high as 65 – 70%. Although no data was collected on this KPI, it is believed to be of significant relevance as it reflects the fundamental principles of FUA. Furthermore, a simple understanding of the prevalence of national approaches to the use of segregated and non-segregated airspace is likely to be of benefit in its own right.

Recommendation

KPI-7 should be adopted for widespread implementation, notwithstanding that the response from many nations will be zero.

$$\frac{\text{Time Spent Training in Non-Segregated Areas (min)}}{\text{Time Spent Training in Segregated and Non-Segregated Areas (min)}}$$

3.2. KPI-8 RELEASE OF AIRSPACE

The objective of KPI-8 was to generate a measurement of the timeliness of release of airspace when it was no longer required due to changes in military needs. A number of options were addressed:

- a) Calculation of the ratio of airspace released to provide a simple, un-timed indication of the overall amount of allocated airspace that is released when the requirement for it is cancelled.

- b) A calculation of the average time that such airspace is released in relation to H-hour (planned commencement of use).
- c) A 'sliding window' calculation showing the progressive proportional release at specified times prior to H-hour.

Despite some challenges with the timeliness of data capture and input, it was found that good data was available to support each of these calculations. However, the 'sliding window' approach was found to provide the most comprehensive output.

Recommendation

KPI-8, reporting the progressive, proportional release of airspace, should be adopted for widespread implementation.

KPI-8 reports on the release of airspace for civil use on cancellation of military use, by determining the proportion of flexible use airspace allocated but not used that was released for civil use on a time basis. Five measurements, namely:

- Airspace Released prior to Scheduled Start

$$\text{KPI 8-1} = \frac{\text{Time Given Back before Scheduled Start (min)}}{\text{Time Cancelled (min)}}$$

- Airspace Released 24 hours or more prior to Scheduled Start

$$\text{KPI 8-2} = \frac{\text{Time Given Back 24 hours or more before Scheduled Start (min)}}{\text{Time Cancelled (min)}}$$

- Airspace Released between 24 hours and 3 hours prior to Scheduled Start

$$\text{KPI 8-3} = \frac{\text{Time Given Back between 24 hours \& 3 hours before Scheduled Start (min)}}{\text{Time Cancelled (min)}}$$

- Airspace Released 3 hours and 1 hour prior to Scheduled Start

$$\text{KPI 8-4} = \frac{\text{Time Given Back between 3 hours \& 1 hour before Scheduled Start (min)}}{\text{Time Cancelled (min)}}$$

- Airspace Released less than 1 hour prior to Scheduled Start

$$\text{KPI 8-5} = \frac{\text{Time Given Back less than 1 hour before Scheduled Start (min)}}{\text{Time Cancelled (min)}}$$

CONCLUSIONS

- Performance will be the driver (decision making) of the future ATM System
- Performance assessment is based on provision of reliable and trustful information
- Transparency and openness of ATM stakeholders will:
 - grow mutual understanding and confidence,
 - facilitate decision making at strategic/political level,
 - Enhance civil/military cooperation.
- The military community should align its performance framework to ongoing pan-European ATM initiatives.
- Successful implementation of well-defined civil-military and military KPAs/KPIs will significantly facilitate enhanced levels of civil-military co-operation and co-ordination

- An adequate civil/military performance framework will support the implementation of the SINGLE EUROPEAN SKY (SES)
- Supporting tools will in a short timeframe provide a considerable amount of data for civil/military KPI
- KPIs will tailor future developments in ATM

ANNEX A – KPA/KPI TABLE

Table below represents the final, rationalised set of KPIs that are recommended for more widespread adoption as a result of the practical experience of this Project. The final, rationalised KPI numbers are used in this table.

KPA	KPI No.	KPI Title	Measures
Airspace Efficiency	1	Proportion of Airspace Designated Segregated	Geographical Surface Area against Published Times
	2	Adherence to Optimum Airspace Dimensions	Allocated Airspace against Optimum Dimensions
	3	Utilization of Airspace	Total Capacity Available Capacity Requested Capacity Allocated Capacity Used
	4	Efficient Booking Procedures	Time Used against Time Requested
Mission Effectiveness	5	Economic Impact of Transit	Total Time x Operating Costs
	6	Impact of Airspace Location on Training	Total Training Time against Total Airborne Time
Flexibility	7	Training in Non-Segregated Areas	Total Training Time in non-Segregated Airspace against Total Training Time
	8	Release of Airspace	Progressive, Proportional Release of Airspace relative to H-hour

ANNEX B – GLOSSARY.

General terms

Term Definition

Mission or airspace above FL200	A mission or airspace is classified as being 'above FL200' if all or part of it is above FL 200.
Time available	Some segregated airspace is permanently active (such as Prohibited Areas) while others are active for varying periods of time. The default active period is 06h00 – 23h00.
Time Requested	The time the airspace users requested to train in airspace.
Time Allocated	The time the airspace was allocated to the user to train in airspace.
Time Used	The time the airspace users actually trained in airspace.
Scheduled Start	The time at which training started in segregated airspace.
Optimum Airspace Dimensions	Are the length, breadth and height that would provide the most effective training area for a mission type.
Released airspace	Is the airspace that is given back to GAT i.e. no longer being used by the military and now made available to civilian air traffic.
Cancelled	Is a mission that is no longer undertaken. A mission can be cancelled before or after the expected scheduled start time.
Time of Release	The time at which the airspace is made available i.e. can be requested by another user.
Time of Cancellation	The time at which the airspace request was cancelled.
Delta Cancellation Time	The difference between the Scheduled Start Time and the Time of Cancellation.
Delta Release Time	The difference between the Scheduled Start Time and the Time of Release.
Delta Cancellation Time & Release Time	The difference between the Time of Cancellation and the Time of Release.
Segregated airspace	Is airspace of defined dimensions for the exclusive use of specific users. It includes

	Temporary Reserved Areas (TRAs), Temporary Segregated Airspace (TSAs), Danger (D), Restricted (R), Prohibited (P) Areas and any specially activated areas.
Abbreviation	Definition
AI	Aeronautical Information
AO	Aircraft Operator
ATM	Air Traffic Management
CMIC	Civil/Military Interface Standing Committee
ECAC	European Central Aviation Conference
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
FL	Flight Level
FUA	Flexible Use of Airspace
GAT	General Air Traffic

ANNEX C – EUROPEAN SEGREGATED AIRSPACE

This annex provides information on the segregated airspace information made available via the Eurocontrol Skyview2 version 2.1.1 tool [2].

Figure 11 below depicts the segregated airspace for Europe. In many regions, segregated airspace sectors overlap in a composite manner. Including the area (nm²) for each sector would result in multiple inclusions of the same area. Thus, during the implementation field trials we looked at the surface area covered by the segregated sectors, using the Eurocontrol Skyview2 version 2.1.1 tool [2].

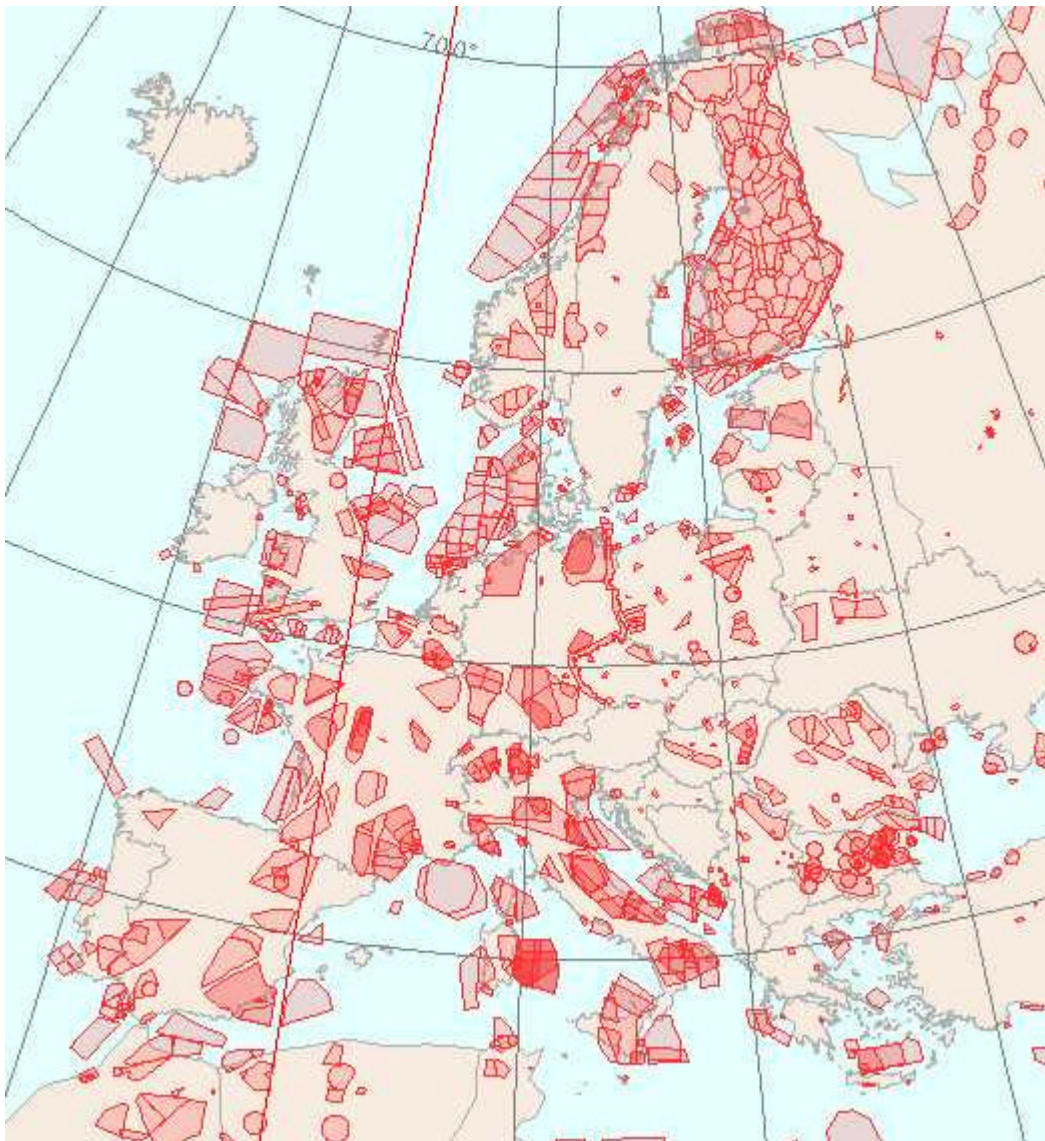


Figure 1. European Segregated Airspace (Eurocontrol Skyview2 version 2.1.1)[2].

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ELEMENTS OF COMPARED MANAGEMENT

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INTRODUCTION

The progress of any society depends to a decisive extent on efficiency in the use of human resources, natural and financial capabilities. Always, people have tried that in each unit of work, human resources or money that it spends, to ensure an increase as high volume and quality of production, to obtain increased quantities of material goods and services as only on such a basis can be provided intensive economic growth, creation of conditions in advanced economies and implicitly to raise material and spiritual welfare of the population.

Management can be approached as a process, position, profession, but also science and art. Management is defined as the art and science of leading, directing and controlling human effort to achieve predetermined goals of the organization in accordance with certain economic policies supported. As science, management is considered that all methods and processes of planning, organizing, allocating resources effectively and efficiently integrate and coordinate them to achieve desired objectives.

Core management process is based on fundamental exercise of its functions (identified and analyzed first by Henry Fayol), namely: forecast, organize, command, coordinate and control. There are other variations of process management functions, like: forecasting, organization, control (decision), training / motivation, coordination and monitoring / evaluation.

Management process can be divided into three stages:

- a. Provisional stage - characterized by foresight and exercise other functions in a prospective vision (organizational solutions, strategies, decisions, tactics);
- b. The operational phase - characterized by organizing, coordinating and training staff to achieve the objectives contained in plans and forecasts organization (the study of the flight where the future may be targeted);
- c. phase measurement and interpretation of results - is characterized by exercising the function of evaluation / monitoring.

"Raw materials" of process management functions are: information and people. Information used to develop the main tool for management decisions, depending on the effectiveness of its quality management organization. "He who has information has power or supremacy".

The main features of a management process are:

- dynamism
- stability
- continuity
- repeatability

The **function** can be defined as a group of people responsible for the routing and the progress of an organization. The five functions of management process are prediction, organization, coordination, training - motivation, control - evaluation.

Forecast is all work processes which determine the main objectives of the company, resources and principal means necessary to achieve them.

Outcome prediction may materialize:

- Forecast (minimum 10 years)
- Plans / planning
- Programs.

Forecast answers the following:

- What can be made ?
- What can be achieved within the organization ?

Organization - defines all management processes which divides the work into subtasks and their corresponding tasks taking into account available resources and using them more effectively.

Coordination - is the whole process by which decisions and actions are synchronized staff organization. Coordination role in directing resources is that they are available when needed, the quantity and quality required to achieve objectives.

Coordination can be:

- Bilateral: manager - subordinate;
- Multilateral: manager - more subordinates.

Courses of action to achieve coordination function are:

- coordination of staff;
- coordinating the personnel policy of the company;
- coordination through meetings or conferences;
- coordinating the reports (balance sheet account profit / loss statements statistical)
- coordinating the instructions

Function **training - motivation** has two sides: the decision and training.

Decision defines all processes which change the nature and content of company resources and pursue its economic and social optimum.

Involvement is the foundation of reasoning.

For effective training is necessary for reasons to be:

- complex
- distinguished;
- gradual.

Control - assessment is the process of tracking all the company's performance; it is measured and compared with objectives and standards set out initially to eliminate deficiencies.

Control function - assessment has four stages:

- Evaluating the results;

- Comparing the results with standards;
- Identify the causes of disturbances;
- Correlation biases.

This work attempts to address the following main objectives:

- Presentation of main fund of knowledge which constitutes the content of modern management, knowledge gained during this course;
- Highlight the main elements of American and Japanese management viewed in terms of structural organization and human resources;
- Comparative analysis of U.S. and Japanese cultural phenomena.

Chapter 1 - AMERICAN MANAGEMENT

1.1. Introduction

Evolution of management in most countries was characterized by management of the USA which is the model most copied, including the methods, management techniques and case studies, which were and are subject to the concerns of specialists in this field.

In general business, USA is the most representative model in the world. American society has created a structure that encouraged companies to develop production and services, created a profit. Reinvestment of part of those profits has led to the strengthening of capitalism, which was the basis for the evolution of American society.

Management, as practical activity is influenced by the particularities of American culture, although this was strongly influenced by the cultures of Europe or the immigrants came.

Summarize the values of American life, they would be represented by:

- **Individualism**, which is explained primarily by the pursuit of self-interest, in any case, considering that the entire development of American society is constituted from the work;
 - The **trend of personal achievement**, which explains the American myth that anyone who works hard can achieve what he proposed;
 - **Devotion to work**, which underlies most of the wealth and welfare enjoyed by Americans, which explains the respect of people who work, des appreciation of a loose, relaxed rejection during working hours, considering the activity as a virtue;
 - **Pragmatism** characterizing any work, making the Americans to focus on efficiency, to have more than a short-term orientation in the correction of different ways of working, are oriented more towards practical solutions rather than to contemplation;
 - **Morality** and humanism make them more open to Americans, deep, honest, charitable, which explain the struggle to secure jobs, a minimum wage and helping those with problems;
 - **Freedom**, is one of the most significant values of American culture, resulting in rejection of unique solutions, the restraints, but with some problems of the women's movement type;

- **Equality**, which is found in the first constitutional proclamation denouncing slavery, the rights of primogeniture and property as security requirements of the right to vote, they promote equal opportunities and equal outcomes not because individuals are unequal physical and intellectual;

- **Patriotism**, the sense of loyalty and rejection states that do not resemble the USA;

- **Neutrality**, which explains the research orientation of American objective problems, rejecting emotions in the analysis of problems, separation of them in business;

- **Material comfort**, justified by the desire to purchase some items price: spacious houses, strong car, making trips with every comfort, for this first assessment of others.

These values combined have led to the rejection of what the Americans of any rigid dogma. They sought to remain flexible, open to challenges, courageous in taking risks, which created a favorable business climate to develop a management.

When speaking about business, people consider USA as an economic machine, where each individual has equal opportunity to thrive.

Another feature is the motivation for profit, which means the desire to pursue an economic activity with the purpose of profit. Profit is the central mechanism in the USA, most importantly, control the way people operate in an enterprise. Owners are motivated profit to increase capital investment, managers are motivated to profit because it is assessed according to their work. If these targets are profit-driven business commune all around the world, we can state that in the USA than in other countries, profit is the criterion of assessment of all economic activity.

With preferred orientation towards profit explains a number of decisions to limit or even breach a law, if the option chosen to achieve lower costs and higher profits. In such circumstances, U.S. firms looking to transfer some of the costs to the public, government bodies, the employees just to get an additional profit for its own interest. Other times, American companies have spent money to intervene, by policy, in some countries which have interests to favor certain political groups to bring economic benefits or to disadvantage certain political groups who were enemies of their own interests.

In general, the USA economy is known for large companies like General Motors, IBM, Ford so on, which have a large economic power and provide much of the jobs to people. But, over 95% of American businesses are small and medium enterprises, with a small number of employees, over half of those having less than 5 employees. If we add the fact that over 99% of annual start-ups are small American orientation becomes evident to such undertaking.

Small businesses have a number of benefits including: increased flexibility, constant lower costs, close more providers and beneficiaries, greater openness to new. They remain the first example of the American dream to assume the risks: Polaroid, Kodak, Mc Donald's or Apple Computer that have become big companies.

1.2 Types of organizational structures used in the USA

Structural organization of American companies is characterized by a high coefficient of individualism. Therefore, designing organizational structures is achieved by specifying in detail the objectives to be firm but also achieve each component. Job description detailing aims, functions, and hierarchical relationships of rule management. This system is found in military organization, hence the terminology of structural organization name as a unit, division, strategy, tactics.

In the USA meet the following types of functional organizational structure, the product, territorial matrix, and family network.

Functional Structure

In this type of structure sections or departments are organized by business functions or on the main areas of activities (production, finance, marketing, sales, and personnel, so on). They are led by an expert manager that subordinates the general manager or company president.

This structure belongs to those companies that manufacture a product or a product family and offers the following advantages:

- Managers of departments can use their specialized training to increase the efficiency of subordinate activities;
- Structure the items in the promotion manager of specialists in the field, simplifying the selection process and their training;
- Allows easy control of the management level.

Functional organizational structure has some disadvantages:

- Centralization of responsibility for profit only at the management level;
- Limit training of general managers from which to be promoted to higher level;
- Difficulties in coordinating the work of the senior management, it is more than making the business functions.

Despite these drawbacks, this structure is common among medium and large manufacturing companies a few products or providing a reduced range of services.

Territorial Structures

For this structure, companies operating in geographic areas where activities are organized divisions within which functional and operational departments. Sometimes this structure is combined with the other divisions or departments by organizing the business functions or products.

Advantages structure:

- Placing accountability at middle and lower levels of management;
- Put emphasis on the local market;
- Provides better coordination in the region;
- Favors obtaining economic benefits of local operations;
- It is a framework for training of general managers.

The structural disadvantages remember:

- Requires a large number of people with quality general managers, which means an additional financial burden from the enterprise;
- Additional costs to maintain the functional departments at central and local levels;

- Difficulties in organizing the management control level.

Territorial Structure practiced in large firms with business or processors.

Structure Matrix

This type of structure characterized promoters of companies, technical progress, which frequently carries projects to apply the results of scientific research.

In such a structure, in addition to class divisions specialized areas, collective organizing project led by a project manager. One such project involves the formation of a group of people who receive tasks to achieve a product or technologies and / or manufacture a product nonspecific company profile. In such circumstances, a person is subject to the same compartment in the driver's direct hierarchical part but the project manager.

Such a structure has the advantage that facilitates the deployment of two activities, the current and renewed the products or technologies but violates the principle of unity of decision and action.

Network-based Structure

This type of structure is a new form of structural failure in the last decades, characterized by creating a central unit (separate company), not manufacturing or commercial activities but is intended to coordinate the work of other specialized units in different areas (production, trade, services, etc.). For this, the central unit seeks to harmonize the contributions of specialized units to meet customer orders.

The central unit focuses on public relations and the conduct of specific activities such as writing materials, organization of business meetings, visits protocol work, nurturing friendships, so on. According to experts, this type of structure will expand in future business

Family Structure

Family structure is practiced in small businesses are family owned. Here is the owner and manager of the company and in many cases it participates and production activities.

Management practiced in such enterprises, including many elements such as informal especially in relations with subordinates. The feature set for small businesses services, fisheries, and agriculture.

Whatever type of business organization, in USA an important feature is that the functions of managers are classified as young and older people who may come from among the personnel of the company but also beyond.

An important role in structural organization have a front-line managers, those located at lower hierarchical levels are consulted on many issues of staff (recruitment). According to the managers under which new workers enter the person is very important, unlike Europe where employment is for the middle-level manager or higher.

Another feature of the structural organization of U.S. companies is the large share of highly skilled labor which leads to high labor productivity. This level can be explained both by high technical equipment but also higher education workers. Also, the structural organization is influenced by an accelerated computerization of American society in general.

1.3 Human resources in American enterprises

This management has been the Americans 'poor relation' of the management of an enterprise. For example, Harvard Business School, this problem was developed in the last 15 to 20 years, is far behind the issues raised by marketing, finance or other areas of management. The easement, business growth, increase their performance was seen in the past, as a result of technical endowment, technology used, technical factors are considered crucial to increase labor productivity.

Of late, the human factor was reconsidered due to demographic studies. According to the Wall Street Journal, working population growth rate will decrease in coming years which means that human resources are a strategic asset of the company. This reconsideration was due to the high cost of the current workforce in relation to the cost of other countries.

A general characteristic of human resources in USA is that it appeals to only the training of replacement staff for diversification and creation of new markets.

American organizations are engaged in three types of staff: first, that bears full responsibility in this area is the management level, i.e. forcing the chairman of the working environment. This together with the deputy staff and executives is responsible for setting objectives and policy. The second category is represented by all managers within the organization, from supervisors, department heads and other managers to implement the personnel policy. The third category, in charge of human resources is one that provides services, advice and sometimes control for other departments in the organization. Head of this department is considered as a member of senior management, he having an active role in making decisions, primarily in terms of human resources development strategy.

Hiring staff

Reduced regulations on employment in the USA determined that the employment and termination of employment are both frequent and rapid employee initiative and the organization's management. Americans have the habit of frequently change their workplace and home but looking for something new and better. If there is a certain loyalty, it is found at using the workforce. Investing in people in the USA is focused mainly on the selection of the best.

A feature of the employment process is the one they have supervisors to accept or reject a candidate recommended by the Human Resources Department, even if employment is centralized.

The first step in employment is the supervisor specifying the items to be real busy, accompanied by job description. After the necessary human resources department sent staff begins recruitment phase. Sources of recruitment may be represented by qualified employees who have left the schools, private agencies for employment, minority organizations and local service jobs.

Selection of candidates includes several phases: initial screening interview, completing the application, testing, physical examination, consulting references and interview for specific work to be performed. Initial screening interview is to identify whether the use of candidate according to his training and intelligence. By completing the application, the applicant shall provide information about him and test

his skills measured against other applicants. Physical examination is carried out on candidates likely to succeed and seeks to identify natural opportunities to perform their activities safely.

The references provided by candidates are meant to inform the company about the work of the past and the moral qualities of the candidate. Detailed interview is made in order to supplement and correct the information held in the previous stages. If a suitably qualified candidate for the job acceptance and sometimes there is a probationary period the supervisor decides whether it meets the post.

After the candidate has been admitted there is its integration in the organization. Integration program includes three elements:

- Human Resources Department will provide candidate information about employees, individually or in groups;
- The supervisor will inform the Department and will work station;
- After the first day of work will be done a new interview.

These steps can be taken in whole or in part, depending on the area where the organization operates, the level of qualifications of candidates, the importance of work, so on.

Training of staff

In the USA there is no legislation obliging companies to prepare staff, resulting in a wide variety of situations in preparation for problem jobs. Many companies do not allocate any budget for training while others, usually the larger ones, have special programs for staff training.

In many cases workers need additional training for the work they carried out, following some forms of training:

- **Apprenticeship**, used for activities that require a longer period of preparation in order to obtain specific skills level and requires that employee to work under the supervision of highly qualified persons, sometimes in conjunction with unions;
- **Preparation of outside employment** requires learning new ways of working in similar conditions of employment, but outside the department that will work;
- **Preparing to work** requires that the employee is directed by the supervisor or special instructions in the workshop or office in which his daily work;
- **Prepare for specialized schools**, with courses held outside the business.

Training of staff is a permanent task of the management company. But unlike other countries, the USA is not characterized by large investments by firms in training and staff may fluctuate due to high labor and low loyalty to the company. American organizations prefer to select and hire qualified personnel from abroad than to train with their expenses.

Revenue managers

Overall size of income is strongly influenced by short-term performance and in particular the return

This dependence profit causes managers to avoid investments in the medium or long term, to reduce research and development costs, to reduce costs of maintenance and repair equipment and human resource development.

Another feature of the income of the American companies is that they are the largest in the world. This high level is justified by a skilled professional and

management. A very high proportion of managers of large companies have training in management and even Ph.D., who are graduates of prestigious universities such as Harvard University.

Revenue directors of large companies (according to Greef Crystal's study published in Fortune magazine no. 6 / 1990) consist of: salary, bonuses, dividends and shares. The first three elements are established on the year and action is received, usually from three years in equal annual installments, they can not be sold until five years after receipt. The size of these revenues is influenced by several factors: company size, company performance, risk exposures intensity, length of post managers and company headquarters location.

Promoting staff

Promotion is the advancement of the employee in a better position with more responsibilities, which require high quality and ensure a higher status. In the company of USA promotion is based on qualities, level of training and staff seniority. American Management believes that the skills, qualities and preparedness must be the determining factor in promotion, while trade unions consider seniority as the basis for the promotion.

Young people are proving superior to older employees will be preferred for promotion since it is regarded as a promotion for those who develop their performing skills and superior work. Another feature is to encourage internal as well external. There are reluctant to promote individuals outside the organization if they are better prepared and had superior results in activity to a place in the new position.

Chapter 2 - JAPANESE MANAGEMENT

2.1. Introduction

After World War II economic picture in Japan was a consumption items with low price and low quality. After 70 years, Japan began to hold first place in Moto production, electronics, steel production and shipbuilding. From this moment "Japanese miracle" led to interest in business management in the country. This for that "American model" showed signs of weakness due to lower productivity, less creativity than leading sectors. In the early 80 could find that the Japanese political system became more stable and economic system is strengthening every year.

The business circle in western countries there is a community that views on economic success in Japan made so that they can be identified three ways:

The first is based on "cultural argument" on the specific values of Japan. This country is unique in the sense that if certain management practices are effective in Tokyo can not be applied in other countries.

The second view is based on "superman theory" that low income has created high levels only in the desire to be the best. As explained Japan's availability to make quality products to protect the interests of the workers, to engage in all activities that depend on efficiency and growth.

A third explanation and the most widespread among specialists is the "management system" which is perfectly adapted to Japanese cultural and socio-economic realities in Japan.

2.2. The role of technology in economic development of Japan

The importance of technology to modernize society and economic development is central. Immediately after the war productivity was low compared to that in the USA but after a few decades it has been reversed. This steep increase was because Japan had imported the top technology, mainly from USA to reduce the gap with western countries. Even today exists this practice.

Technology is seen as core Japanese model called "increased knowledge of industrial structure and forming the strategic management of the 80 years'. Recognition date technology and science as instruments of economic and industrial policy has resulted in the creation of governmental bodies such as Science and Technology Agency and by increasing the total costs of research - development of Japanese companies.

Technology policies are closely correlated with those in science, whose orientation is towards increasing international competitiveness. However, Japan is the main importer of foreign technology. It is known as the country with more capacity to copy and imitate foreign technologies than to develop new technologies. But while Japan is remarkable for the ability to disseminate this technology in all sectors and companies to implement faster and better than companies in Western countries.

Major Japanese trading companies (SOGOSHOSHA), in addition to the base and made permanent information on technologies used in some countries they do business.

One can appreciate that the Japanese model is not a simple process of borrowing and copying. Japanese technological offensive has only positive consequences, because it is oriented towards continuous improvement of standard of living by reducing prices for consumers.

For this, companies spend a larger part of their turnover for R & D than Western countries, backed by an informed and responsible government and a workforce well prepared and ready to accept new technologies. Then, organizational structures allow rapid introduction of new products in manufacturing and selling them.

2.3 Structural organization of Japanese firms

This is not only important in terms of the objectives but also the influence it has on employee behavior, Japanese society is known as an "organizational society".

In Western countries was the type of military organization. The Japanese business organization is the village's dominant values such as consensus, cooperation, harmony, discipline, gender, and group. Structural organization of Japanese companies has more informal elements of nature, being closely linked to family structure in the villages. In Japan the company is the employees while in the USA are a shareholder. Differences between old and new paradigms of organization theory are presented in the table.

The importance of technology	To optimize efficiency
People, as an extension of	Relationship man - machine

The importance of technology	To optimize efficiency
machine	
People generate costs	People the main resource
Maximizing individual tasks	Optimizing task group
External control (supervisors)	Self control
Hierarchical pyramid elongated	Hierarchical pyramid flattened
Competition	Cooperation
Alienation	Understanding
Purposes only organization	The goals of the organization and employees
Avoiding Risk	Innovation

Allocating staff take better account of age. The most senior official in the management of an enterprise, as president, he held vice (FUCU SHOCHO), executives (SENNU) and directors (Joma). Directors of the lower hierarchical levels, such as heads of divisions and heads of departments and accounting, marketing, linking top-level management and the medium, which Japanese companies have a very important role.

The board (JOMUKAI) is the power center of the organization greatly influence decision making. Mid-level management and heads of divisions have a number of responsibilities in the short-term plans, covering all aspects of the organization.

Japanese structural organization is characterized by the development and responsibilities of employees and job enrichment. Involving managers in production activities is much higher in Japanese firms than in Western countries. For example, design in machine building is integrated with the processing and marketing. Engineers working with Japanese companies to schools of assembly workers are paid very well though.

Employees involved in solving major problems, such as those relating to product quality, the suggestions they make. If western countries the emphasis is on quality suggestions, Japan important is the amount (a large number of ideas, good chance to find valuable ideas).

Following a study found that General Motors has 0.84 suggestions / employee / year which were applied while Toyota has 23% 17.9 suggestions / employee / year of which 90% were applied.

This registration system is part of the suggestions from the general organizational climate in which Japanese firms develop trust and communication between departments as well between managers and employees.

In conclusion, we can state that the Japanese management combines many structural features of U.S. companies with a specific philosophy which aims to integrate the individual in society. Quality circles represent a large operational network to collect proposals and ideas from the staff of enterprises. These circles mobilize and strengthen cohesion in work groups.

2.4 Human resources in Japanese companies

Analysis of human resources in Japanese companies must be made in terms of economic factors, institutional and educational. The economic terms have highlighted the influence of investment in staff training on growth and income organization. The incentive to invest is that employees are using more than one time in the organization (lifetime employment) and economic benefits resulting in higher labor productivity and reduced costs. The risk of such investments is the mobility of staff in Japanese companies is lower than that of USA.

Institutional factors can be internal - the rules governing relations between employees and company management, company policies in the preparation of staff and external - supply and demand in the labor market.

Educational factors concern the relationship between job characteristics (nature, performance, etc.), personal characteristics (level of education, need to self achievement so on) and experience.

Use of labor is not homogeneous, it is differentiated according to the industry, company size and geographic area.

The employment

Great companies practice "employment for life" but only for men, women and unskilled workers no benefit of this system. In fact the staff of a Japanese company is divided into three categories:

- Permanent staff usually employed for life and is composed of experts who form the elite company;
- Semi-permanent staff, which is composed of recruits to experimental work in the company;
- Temporary workers (seasonal) are employed for a period of time.

Life requires the hiring of workers to be able to work permanently in the undertaking, so desire and the employers mean providing a salary and a concern for employees and their families. If the employer does not behave as it is considered a serious deviation from the rules of social conduct, which means lower employee morale, union involvement, government agencies and pressure from the local public.

Advantages of this system:

- Create a framework for skilled labor, because the company is willing to devote large amounts of money for training and raising the qualification for staff that will work long into the enterprise;
- Lead to an efficient use of working time due to staff its attachment to the goals of the enterprise;
- Allows evaluation of wage growth (in employment - low wages, are convinced that in time they will increase);
- Lead to a favorable climate of employment, dominated by harmony and cooperation.

But this system has disadvantages:

- Difficulties in the appropriate staff to recruit staff due to the rigidity of the outside;

- Insufficient incentives to staff to raise skill levels because of safety on job retention;
- High labor costs;
- Pressures of staff for broadening the business activities to keep all personnel with negative effects on efficiency

In the context of Japanese labor is preferred over school. According to specialists lifetime employment system will disappear due to the following assumptions:

- Reduction of labor supply, details of schools can not meet demand;
- Fluctuations due to lower staff wages in large and medium enterprises;
- Access harder to seasonal adjustment which determines the labor requirements through layoffs and hiring;
- Acceleration of technical progress will lead to diminishing skills that require a long training;
- The emergence of individual's individualistic society, more willing to stink loyalty to the enterprise.

Under these conditions increased mobility especially among youth, leading to the idea that lifetime employment is one attribute in particular those older. Liberalization of capital, increasing the number of foreign companies in Japan, with various employment practices, will help to reduce the practice of lifetime employment.

Integrating new employees

Personnel selection is made in full by the Head Office staff based on consultation with various departments on certain specialties. On graduates of universities, their pools are invited to recommend a number of students for examinations. It covers: specialized tests, personality tests and English language test for those who work in technology. Those who pass this test are at an interview, followed by a personal research, which is a more complete than letters of recommendation from Western countries.

In the first two months of employment (April, May) new employees into a system integration that includes:

- Spiritual education, which starts from the premise that the proper functioning of the group depends on whether people who compose it. Domesticating nature can be achieved through Zen meditation exercises, visits to military bases in World War II or education in a particular center;
- Its actual integration that involves visits to factories, lectures on the organizational structure and company history;
- Establishment of "guardian" every employee, which will help to better understand the organization culture, company strategy and will guide you throughout the initiation.

Employee commitment to the company is still growing integration period, through various specific ways. Firms have hymns that are sung by all the departments of production, serving a glass of elders is another way of integration.

After ending the first course of general, new graduates leave the factories where they are assigned and where they are few periods of training (e.g. in

computers), then a few months of rotations on station. For managers are required two years of training in which they are regarded as apprentices. After this period they are employed in the lowest job driving the production planner.

Lately, managers without technical training courses for accounting and those with technical training instruction to the position of foreman.

Japanese companies pay

Income is defined according to the training and seniority. Everyone is paid monthly, and wages are called KYUYU, CHINGIN - traditionally unions and KYURYU for engineers.

Front pay is characteristic of small differences between those with higher education and those with average education, the criterion is seniority. Employees receive salary in addition to several additions, among which the most important are the first (bonuses), then increases to hard labor for dangerous work, for overtime. They get, also, additional premium depending on family status, low-interest loans and higher interest on sums invested in the company.

Managers have a budget of income and expenditure which is set annually. This budget is confidential, may be increased or decreased depending on the advantages it may have company. At retirement, an employee receives a special premium, substantial, determined according to its fidelity to the company.

Another feature is that is not negotiated salary increases, and this is against the ethics of companies. The wages of senior managers are kept constant, not public, and superior to subordinate shall keep on salary report - old.

On paid sick leave, everyone is treated equally, from general manager to the new production director.

There are several agreements with unions that established minimum wage employment, wages need to get 30 years for women and 40 years for men and limits on increases. Annually in April each employee receiving a salary increases.

Merit Pay is an additional payment amount equal to a percentage of base salary. This percentage varies depending on seniority, merit, preparation may exceed 100%.

Supplement level of preparedness is the compensation for the position held. The category includes the various other amounts to cover part of travel costs, allowances for family members, etc.

Chapter 3 – COMPARISON CULTURE

Organizational culture is "a lifestyle" which illustrates how the work is carried out and people treated in an organization.

Let us take an American and a Japanese organization to look at some aspects of similarity and difference between them in terms of organizational culture.

1. **Behavioral rules** are a form of manifestation of culture. In both organizations are habits to organize parties on weekends and holidays, the end of a number of years since the establishment of the company or certain events of privacy of employees in order to enhance the atmosphere within the organization.

In both organizations, which have a strong culture can be observed an intense process of "socialization" of employees, starting from how to make their selection by the way how to do reward or promotion. The success of Japanese companies in the world economy was due organizational culture also, exemplified by the direct relationship between performance of employees and managers in the organization's philosophy.

2. Each organization is defined by an **organizational culture model**, which means he has a personal system of organization and planning work, the exercise of authority, control, performance appraisal and remuneration.

American organization is an *organic type*, adapted to unstable environmental conditions in which there is a continuous adjustment and redefinition of individual tasks. The focus is more on hierarchy than on cooperation, which generates more than pursuing self-interest of employees.

Japanese organization is *mechanistic type*, adapted to operate in a stable environment. Problems and management tasks are broken down for each compartment. Emphasizing the process of listening and obedience to superiors allow installation of loyalty to the company. It's appreciated behaviors that show respect for hierarchy, procedures and standards.

3. **Range of power** - reflects the degree to which the culture encourages leaders to exercise power.

American Organization has a *long-range power*. This causes a multi-level pyramid structure in which power is centralized at the top. In this organization employees perceive a greater distance from the head. Decisions are taken only by management, which assumes the responsibility.

Japanese organization has *short-range power*. Power is decentralized and flattened pyramid, with a few head managers. Superiors and subordinates are considered colleagues and employees participating in decisions.

Schematically the two organizations are:

Long range of action (USA)	Short range of action (Japan)
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<ul style="list-style-type: none"> - High organizational pyramid - Centralization of decision - Large proportion of managers that oversees (high control) - Low skill level based - May officials appreciated than workers 	<ul style="list-style-type: none"> - Flattened organizational pyramid - Centralization of decision than - Small proportion of managers that oversees (low control) - High level of qualification - Indiscriminate treatment of officials and workers.
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In USA the company means shareholder while in the Japan is the employees.

4. **Avoiding uncertainty** - how the organization meet new situations.

The U.S. organization is a culture with *low uncertainty avoidance*. Thus people have a large opening to the changes, show flexibility and accept easily order or lack of clarity as very pragmatic approach to maintain or change existing rules. They are very receptive to new ideas, but less concerned with their implementation.

Japanese organization has a culture with *high uncertainty avoidance*. Management is careful to introduce a set of rules to address all possible situations. In this organization work processes are standardized. Employees have full confidence in the specialists.

Schematically the two organizations are:

Low uncertainty avoidance (USA)	Avoiding increased uncertainty (Japan)
<ul style="list-style-type: none"> - Organization and flexible procedures - Work less governed by rules and written procedures - Top managers concerned with strategy and decision making and risk taking - Motivating employees is an important factor - No importance is given to behavior and rituals 	<ul style="list-style-type: none"> - Strict organizational structure - Organization and standardized procedures - Activity governed by rules and written procedures - Managers and less concerned with details of the decision or risk-taking - Is important motivating employees - Importance to certain traditions

5. **Individualism** - indicates the extent to which the organization culture encourages individual issues in relation to the collective.

The American organization, with an individualistic culture, ties between people are less intense. Emphasis is placed on initiative, personal achievement. Link the individual with the organization is based on experience and professionalism against beneficiilor. Values are appreciated by employees' autonomy in decision making, challenging nature of work, personal fulfillment. The ideal is to lead people.

The Japanese organization, the type planning, work of employees is the second family. Relations between them are very strong and the problems are solved in moral perspectives. In exchange for loyalty, the full commitment, the organization provides protection. That performance is assessed to the team.

6. **Masculinity** - system approach to employees according to gender.

The Japanese organization, the male type, the focus is on performance. People spend more time at work, men benefit from the "job for life". Personal identity is confused and professional.

The American organization with a feminist culture, the emphasis is on quality of life. Differences between men and women's status are low. Managers must be equidistant.

7. All comparative culture can identify another 4 types of organizational:

- *Type power culture* where leadership is familiar type power provided by a handful of people - specific American organization;

- *Type role culture* where leadership is shared leadership and organization. Emphasis is placed on legality, and responsibility legitimate - Japanese specific organization;

- *Type product culture* where motivation and personal involvement are valued. It emphasized the enthusiasm and results - specific American organization;

- *Type culture medium* where people's contribution comes from the feeling of solidarity and duty. Labor relations are based on trust and mutual - Japanese specific organization.

8. Negotiating style

U.S. negotiating style is considered the most influential in the world. A negotiator will start negotiations with enthusiasm, seeking gain. Their strengths to manifest itself in the negotiation stage tenders. Advocates tactics "in their own advantage. Features of an American negotiator are:

- Exuberance;
- Professionalism;
- Ability to negotiate special offers;
- Interest in packaging and product presentation.

Japanese negotiators style is distinguished by:

- Special attention shown to reputation;
- A good specialization;
- Suspected to partners.

The most important to them is reputation. Japanese negotiator should be aware that negotiating with a person with the key role in that organization. Final understanding on both sides must be convenient or even possible to have improved their reputation depending on what they managed to obtain. Specialization will bring a lot of experts in the talks. This will lead to lengthy negotiations. Also be very suspicious of partners. For the success of the negotiations must be detained ten tips:

- Inspire confidence and strength;
- Ask whenever you do not understand;
- Using humor to mush by moments of tension;
- Propose to offer ideal commodity;
- Transaction compare with other previous agreements;
- Do not forget that you have a limited budget;
- You can convene mutual concessions;
- Be courteous, friendly, avoid times of conflict;
- Avoid using categorical expression;

- No intervention to the final bid to damage the reputation of one who has not done so.

CONCLUSIONS

Management is a profession which carries the following:

- Economic environment, social policy - characterized by restrictions and opportunities;
- Environmental culture, mentality, traditions.

Starting from these considerations, the American and Japanese management display a number of differences. This is due to the nature of organizational factors, human, cultural, so on.

1. Developed external models and especially the American, Japanese management has been imposed due to the application of management principles, perfectly adapted to the cultural and socio-economic realities in Japan. "Japanese miracle" of application management system explains the acquisition of Japanese management practices in some companies in USA.

2. In the USA meet several types of organizational structures as the business climate has created an enabling environment to develop performance management systems but also because many research findings.

Summing the values of American life, every employee has equal opportunities to succeed to accumulate large fortunes on their work. Central mechanism of motivation for each person performing an economic activity is profit. Getting it can be done including unlawful.

On the other hand, Japan has surpassed the stage of conservation of traditional structures by copying foreign models, including the U.S., with the particularity that the principles of organization have left the family structure. Japanese society values on consensus, cooperation, discipline, training needs, equality gave rise to the structural organization and management system.

3. Although the importance of technology to modernize society and economic development is recognized, however, it is treated differently in the two countries. In the USA, regarded as an economic machine, technology was seen as the decisive factor for development by increasing labor productivity and thus the competitiveness of enterprises to man. Human factor was reconsidered later, it passed first. In Japan, along with information technology is regarded as the core of the model underlying the strategic management.

4. And in terms of human resources different approaches:

- *On employment.* The sources of employment (USA) or personnel office of the company (Japan), staff employed through training and experience (USA) and the preparation and length of service (Japan). In both systems have a particular importance of first line managers who may accept or reject a job candidate.

- *On work.* There are differences between the two systems due to increased mobility (USA) and low (Japan) labor. Americans have the habit of frequently changing his job to another with greater advantages. In Japan there is a very stable employment, practicing the "lifetime employment".

- *The raising of the qualification system.* In principle the basic training of employees and managers, first line is the same in the two systems. The difference lies in the allocation of money to raise the skill levels of staff, very high in Japan and almost all in USA.

- *On wages.* In USA revenues are influenced by short-term profit gained. Growth depends mainly on training and wages can be negotiated. In Japan the main feature is the small differences between those with higher education and those with average education. Progressive and pay increases are not negotiable.

This paper has tried to form an image of management practiced in two of the most developed countries in the world, with a rich experience in research, experimentation and application of various systems, methods and management techniques, but by taking different routes.

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STRESS MANAGEMENT

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INTRODUCTION

The word stress comes from the Latin word “stringere”, which means to embrace, to injure, and that gave birth to French word “detresse” and to English word “stress”. The latter signifies the notion of compulsion, of force, of solicitation, and designates any aggression coming from the environment or any tensional mood created by that.

The first identification of stress as an occupational factor and hazard arose during World War I (1914–1918). A direct relationship was identified between prolonged exposure to military engagement and the resulting loss of sight, hearing, orientation, and reason. This was defined as “shell shock.” It was often accompanied by physical loss of strength and sickness, and compounded by revulsion at the conditions in the trenches.

The stress concept was introduced for the first time in the scientific language by Hans Selye (1907-1982), concept with who he revolutionized the medicine.

The “Affluent Worker” studies of the 1950s studies, carried out in the UK at car engineering and chemical factories identified high collective stress levels in production staff. This was reinforced by a lack of identity between workers and the company and any social interaction at the place of work.

A further contribution to overall understanding was made by the United States Police Service studies of the 1970s. These addressed general levels of stress, as well as the specific issues of conformity, belongingness, and identity.

CHAPTER I

I.1. Definitions

The human body is exposed everyday to different person, species, situations and stimuli. Some of the exposures are rewarding and certain others are hazardous. If the exposure is hazardous then the body prepares itself to face the situation - the reason being its 'Internal Homeostasis' and hence its normal functioning should not be affected. This response is called the 'Fight or Flight' response (when a person is exposed to a 'dangerous' situation his body needs more energy to face it - this extra energy is got by the 'Fight or Flight' response). This response is to make persons cope with the situation successfully.

- *stress* is the reaction people have to excessive pressures or other types of demand placed upon them - it arises when they worry that they can't cope.
- *stress* is the „wear and tear” that our minds and bodies experience as we attempt to cope with our continually changing environment.
- *stress* is people's response to any situations they find challenging, frightening or difficult.
- *stress* occurs when pressure is greater than the resource ($S = P > R$).
- *stress* is placed on anything that is given special emphasis or significance, especially where this leads to , or involves, psychological, emotional, and physical strain or tension.

Stressor = any event or situation that requires a non-routine change in adaptation or behavior.

I.2. Types of Stress

There are four main types of stress that people experience:

a. Eustress

Eustress is a type of short-term stress that provides immediate strength. Eustress arises at points of increased physical activity, enthusiasm, and creativity. Eustress is a positive stress that arises when motivation and inspiration are needed. It prepares the muscles, heart, and mind for the strength needed for whatever is about to occur can also apply to creative endeavors. A gymnast experiences eustress before a competition. When the body enters the 'fight or flight' response, it will experience eustress. The eustress prepares the body to fight with or flee from an imposing danger. This type of stress will cause the blood to pump to the major muscle groups, and will increase the heart rate and blood pressure to increase. If the event or danger passes, the body will eventually return to its normal state.

b. Distress

Distress is one of the negative types of stress. This is one of the types of stress that the mind and body undergoes when the normal routine is constantly adjusted and altered. The mind is not comfortable with this routine, and craves the familiarity of a common routine. There are actually two types of distress: acute stress and chronic stress.

Acute Stress

Acute stress is the type of stress that comes immediately with a change of routine. It is an intense type of stress, but it passes quickly. Acute stress is the body's way of getting a person to stand up and take inventory of what is going on, to make sure that everything is OK.

Chronic Stress

Chronic stress will occur if there is a constant change of routine for week after week. Chronic stress affects the body for a long period of time. This is the type of stress experienced by someone who constantly faces moves or job changes.

c. Hyperstress

Hyperstress is the type of negative stress that comes when a person is forced to undertake or undergo more than he or she can take. A stressful job that overworks an individual will cause that individual to face hyperstress.

A person who is experiencing hyperstress will often respond to even little stressors with huge emotional outbreaks. It is important for a person who thinks they might be experiencing hyperstress to take measures to reduce the stress in their lives, because hyperstress can lead to serious emotional and physical repercussions. When someone is hyperstressed, even little things can trigger a strong emotional response. A Wall Street trader is likely to experience hyperstress.

d. Hypostress

Hypostress stands in direct opposite to hyperstress. Hypostress is basically insufficient amount of stress. That is because hypostress is the type of stress experienced by a person who is constantly bored. Someone in an unchallenging job, such as a factory worker performing the same task over and over, will often experience hypostress. The effect of hypostress is feelings of restlessness and a lack of inspiration.

Other factors of stress

External factors:

- physical environment: noise, bright light, heat, confined spaces
- social interaction: rudeness, bossiness, aggressiveness by others, bullying
- organizational: rules, regulations, 'red-tape', deadlines
- major life events: birth, death, lost job, promotion, marital status change
- daily hassles: commuting, misplaced objects, mechanical breakdowns

Internal factors:

- lifestyle choices: caffeine, lack of sleep, overloaded schedule
- negative self-talk: pessimistic thinking, self criticism, over analyzing
- mind traps: unrealistic expectations, taking things personally, all or nothing thinking, exaggeration, rigid thinking
- personality traits: perfectionists, workaholics

Stress factors at work

- the drive for success – our society is driven by 'work', personal adequacy equates with professional success; our culture demands monetary success and professional status
- changing work patters – unemployment, redundancy, new technology affect emotional and physical security; there are no more jobs for life and more short-term contracts
- working conditions - physical and mental health is adversely affected by unpleasant working conditions, such as high noise levels, lighting, temperature and unsocial or excessive hours.

- overwork - stress may occur through an inability to cope with the technical or intellectual demands of a particular task. Circumstances such as long hours, unrealistic deadlines and frequent interruptions will compound this.
- under work - this may arise from boredom because there is not enough to do, or because a job is dull and repetitive.
- uncertainty – it is about the individuals work role - objectives, responsibilities, and expectations, and a lack of communication and feedback can result in confusion, helplessness, and stress.
- conflict - stress can arise from work the individual does not want to do or that conflicts with their personal, social and family values.
- responsibility - the greater the level of responsibility the greater the potential level of stress.
- relationships at work - good relationships with colleagues are crucial. Open discussion is essential to encourage positive relationships.
- changes at work - changes that alter psychological, physiological and behavioral routines such as promotion, retirement and redundancy are particularly stressful.

Symptoms of stress

- physical symptoms: sleep pattern changes, fatigue, digestion changes, loss of sexual drive, headaches, infections, dizziness, sweating and trembling, tingling hands and feet, breathlessness, palpitations, missed heartbeats
- mental symptoms: lack of concentration, memory lapses, difficulty in making decisions, confusions, panic attacks
- behavioral symptoms: appetite changes – too much or too little, eating disorders – anorexia or bulimia, increased intake of alcohol and other drugs, increased smoking, restlessness, fidgeting, nail biting, hypochondria
- emotional symptoms: bouts of depression, impatience, fits of rage, tearfulness, deterioration of personal hygiene and appearance

CHAPTER II DEALING WITH STRESS

Stress management starts with identifying the sources of stress in our life. This is not as easy as it sounds. The true sources of stress aren't always obvious, and it is all too easy to overlook the stress-inducing thoughts, feelings, and behaviors.

To identify our true sources of stress, we should look closely at our habits, attitude, and excuses:

- Do we explain away stress as temporary (“I just have a million things going on right now”) even though you can't remember the last time you took a breather?
- Do we define stress as an integral part of our work or home life (“Things are always crazy around here”) or as a part of your personality (“I have a lot of nervous energy, that's all”).

- Do we blame our stress on other people or outside events, or view it as entirely normal and unexceptional?

There are many healthy ways to manage and cope with stress, but they all require change. We can either change the situation or change our reaction. When deciding which option to choose, it is helpful to think of the four As:

Change the situation

- **A**void the stressor
- **A**lter the stressor

Change the reaction

- **A**dapt to the stressor
- **A**ccept the stressor

Since everyone has a unique response to stress, there is no “one size fits all” solution to managing it. No single method works for everyone or in every situation, so experiment with different techniques and strategies. Focus on what makes we feel calm and in control.

Stress management strategy #1: Avoid unnecessary stress

Not all stress can be avoided, and it is not healthy to avoid a situation that needs to be addressed. You may be surprised, however, by the number of stressors in your life that you can eliminate.

- **Learn how to say “no”** – Know your limits and stick to them. Whether in your personal or professional life, refuse to accept added responsibilities when you are close to reaching them. Taking on more than you can handle is a surefire recipe for stress.
- **Avoid people who stress you out** – If someone consistently causes stress in your life and you can not turn the relationship around, limit the amount of time you spend with that person or end the relationship entirely.
- **Take control of your environment** – If the evening news makes you anxious, turn the TV off. If traffic has got you tense, take a longer but less-traveled route. If going to the market is an unpleasant chore, do your grocery shopping online.
- **Avoid hot-button topics** – If you get upset over religion or politics, cross them off your conversation list. If you repeatedly argue about the same subject with the same people, stop bringing it up or excuse yourself when it is the topic of discussion.
- **Pare down your to-do list** – Analyze your schedule, responsibilities, and daily tasks. If you have got too much on your plate, distinguish between the “shoulds” and the “musts.” Drop tasks that are not necessary true to the bottom of the list or eliminate them entirely.

Stress management strategy #2: Alter the situation

If you ca not avoid a stressful situation, try to alter it. Figure out what you can do to change things so the problem does not present itself in the future. Often, this involves changing the way you communicate and operate in your daily life.

- **Express your feelings instead of bottling them up.** If something or someone is bothering you, communicate your concerns in an open and respectful way. If

you do not voice your feelings, resentment will build and the situation will likely remain the same.

- **Be willing to compromise.** When you ask someone to change their behavior, be willing to do the same. If you both are willing to bend at least a little, you will have a good chance of finding a happy middle ground.
- **Be more assertive.** Do not take a backseat in your own life. Deal with problems head on, doing your best to anticipate and prevent them. If you have got an exam to study for and your chatty roommate just got home, say up front that you only have five minutes to talk.
- **Manage your time better.** Poor time management can cause a lot of stress. When you are stretched too thin and running behind, it is hard to stay calm and focused. But if you plan ahead and make sure you do not overextend yourself, you can alter the amount of stress you are under.

Stress management strategy #3: Adapt to the stressor

If you can not change the stressor, change yourself. You can adapt to stressful situations and regain your sense of control by changing your expectations and attitude.

- **Reframe problems.** Try to view stressful situations from a more positive perspective. Rather than fuming about a traffic jam, look at it as an opportunity to pause and regroup, listen to your favorite radio station, or enjoy some alone time.
- **Look at the big picture.** Take perspective of the stressful situation. Ask yourself how important it will be in the long run. Will it matter in a month? A year? Is it really worth getting upset over? If the answer is no, focus your time and energy elsewhere.
- **Adjust your standards.** Perfectionism is a major source of avoidable stress. Stop setting yourself up for failure by demanding perfection. Set reasonable standards for yourself and others, and learn to be okay with “good enough.”
- **Focus on the positive.** When stress is getting you down, take a moment to reflect on all the things you appreciate in your life, including your own positive qualities and gifts. This simple strategy can help you keep things in perspective.

How you think can have a profound affect on your emotional and physical well-being. Each time you think a negative thought about yourself, your body reacts as if it were in the throes of a tension-filled situation. If you see good things about yourself, you are more likely to feel good; the reverse is also true. Eliminate words such as "always," "never," "should," and "must." These are telltale marks of self-defeating thoughts.

Source: National Victim Assistance Academy, U.S. Department of Justice

Stress management strategy #4: Accept the things you can not change

Some sources of stress are unavoidable. You can not prevent or change stressors such as the death of a loved one, a serious illness, or a national recession. In such

cases, the best way to cope with stress is to accept things as they are. Acceptance may be difficult, but in the long run, it is easier than railing against a situation you can not change.

- **Do not try to control the uncontrollable.** Many things in life are beyond our control - particularly the behavior of other people. Rather than stressing out over them, focus on the things you can control such as the way you choose to react to problems.
- **Look for the upside.** As the saying goes, “What doesn’t kill us makes us stronger.” When facing major challenges, try to look at them as opportunities for personal growth. If your own poor choices contributed to a stressful situation, reflect on them and learn from your mistakes.
- **Share your feelings.** Talk to a trusted friend or make an appointment with a therapist. Expressing what you are going through can be very cathartic, even if there is nothing you can do to alter the stressful situation.
- **Learn to forgive.** Accept the fact that we live in an imperfect world and that people make mistakes. Let go of anger and resentments. Free yourself from negative energy by forgiving and moving on.

Stress management strategy #5: Make time for fun and relaxation

Beyond a take-charge approach and a positive attitude, you can reduce stress in your life by nurturing yourself. If you regularly make time for fun and relaxation, you will be in a better place to handle life’s stressors when they inevitably come.

Healthy ways to relax and recharge

- Go for a walk.
- Spend time in nature.
- Call a good friend.
- Sweat out tension with a good workout.
- Write in your journal.
- Take a long bath.
- Light scented candles
- Savor a warm cup of coffee or tea.
- Play with a pet.
- Work in your garden.
- Get a massage.
- Curl up with a good book.
- Listen to music.
- Watch a comedy

Do not get so caught up in the hustle and bustle of life that you forget to take care of your own needs. Nurturing yourself is a necessity, not a luxury.

- **Set aside relaxation time.** Include rest and relaxation in your daily schedule. Do not allow other obligations to encroach. This is your time to take a break from all responsibilities and recharge your batteries.
- **Connect with others.** Spend time with positive people who enhance your life. A strong support system will buffer you from the negative effects of stress.
- **Do something you enjoy every day.** Make time for leisure activities that bring you joy, whether it be stargazing, playing the piano, or working on your bike.
- **Keep your sense of humor.** This includes the ability to laugh at yourself. The act of laughing helps your body fight stress in a number of ways.

You can control your stress levels with relaxation techniques that evoke the body's relaxation response, a state of restfulness that is the opposite of the stress response.

Stress management strategy #6: Adopt a healthy lifestyle

You can increase your resistance to stress by strengthening your physical health.

- **Exercise regularly.** Physical activity plays a key role in reducing and preventing the effects of stress. Make time for at least 30 minutes of exercise, three times per week. Nothing beats aerobic exercise for releasing pent-up stress and tension.
- **Eat a healthy diet.** Well-nourished bodies are better prepared to cope with stress, so be mindful of what you eat. Start your day right with breakfast, and keep your energy up and your mind clear with balanced, nutritious meals throughout the day.
- **Reduce caffeine and sugar.** The temporary "highs" caffeine and sugar provide often end in with a crash in mood and energy. By reducing the amount of coffee, soft drinks, chocolate, and sugar snacks in your diet, you will feel more relaxed and you will sleep better.
- **Avoid alcohol, cigarettes, and drugs.** Self-medicating with alcohol or drugs may provide an easy escape from stress, but the relief is only temporary. Do not avoid or mask the issue at hand; deal with problems head on and with a clear mind.
- **Get enough sleep.** Adequate sleep fuels your mind, as well as your body. Feeling tired will increase your stress because it may cause you to think irrationally.

CHAPTER III. STRESS IN THE ARMED FORCES

Research studies that examine the impact of combat and disasters on the emotional health of military personnel are clearly important. Unfortunately, very little research exists regarding the impact of the stress of routine military work on the mental health of military personnel.

It seems to be assumed that the stress of military life is attributable solely to such things as deployments overseas, exposure to combat, and the threat of bodily harm. The periodic permanent change of station, stationing of personnel overseas, and lack of control over duty assignments are just a few examples of the more mundane aspects of military life that may affect the mental health of its members.

According to Field Manual FM 22-51:

*“Control of stress is the commander’s responsibility at all echelons. The commander is aided in this responsibility by the noncommissioned officer (NCO) chain of support; the chaplaincy; unit medical personnel; general, principal, and special staff, and by specialized Army CSC (Combat Stress Control) units and mental health personnel. The word **control** is used with*

combat stress (rather than the word management) to emphasize the active steps which leaders, supporting medical personnel and individual soldiers must take to keep stress within an acceptable range. [...] Within common usage, however, and especially within Army usage, management has the connotation of being a somewhat detached, number-driven, higher echelon process rather than a direct, inspirational, and leadership-oriented process. Control of stress does not imply elimination of stress. Stress is one of the body's processes for dealing with uncertain changes and danger. Elimination of stress is both impossible and undesirable in the Army's peacetime or combat mission."

Potential sources of stress in the army

Environmental factors:

- posting to a place under field conditions, tough climatic conditions etc.
- technological uncertainty like induction of new armaments, equipments, machineries, techniques and inventions in military science
- computers, office automation and similar technological innovations

Organizational factors: pressure to avoid error, completion of task in limited time, work overload, demanding and insensitive contingent commanders, poor inter-personnel relationship, lack of support from colleagues.

Individual Factors: marital difficulties, family issues, economic problems, inherent personality characteristics, medical problems of relatives, etc.

Combat Stress

This is the complex and constantly changing result of all the stressors and stress processes inside the soldier as he performs the combat-related mission. At any given time in each soldier, stress is the result of the complex interaction of many mental and physical stressors.

Many stressors in a combat situation are due to deliberate enemy actions aimed at killing, wounding, or demoralizing soldiers and allies. Other stressors are due to the natural environment. Some of these stressors can be avoided or counteracted by wise command actions. Still other stressors are due to leader calculated or miscalculated choice, accepted in order to exert greater stress on the enemy. Sound leadership works to keep these within tolerable limits and prepares the troops mentally and physically to endure them. Some of the most potent stressors can be due to personal or organizational problems in the unit or on the home front.

The combat stress threat includes all those stressors (risk factors) which can cause soldiers to become stress casualties: battle fatigue, misconduct stress behaviors, post-traumatic stress disorder (PTSD).

A rough distinction can be made between those stressors which are "mental" and those which are "physical." A *mental stressor* would be one in which information is sent to the brain, with only indirect physical impact on the body. This information may place demands on and evoke reactions from either the perceptual and cognitive system, or the emotional systems in the brain, or from both. A *physical stressor* is one which has a direct, potentially harmful effect on the body. These stressors may be

external environmental conditions or the internal physical/physiologic demands required by or placed upon the human body. The physical stressors evoke specific “stress reflexes,” such as shivering and vasoconstriction (for cold), sweating and vasodilatation (for heat), or tension of the eardrum (for noise), and so forth. A soldier’s stress reflexes can counteract the damaging impact of the stressors up to a point but may be overwhelmed.

The distinction between mental and physical stressors is rarely obvious:

- Mental stressors can also produce some of the same stress reflexes nonspecifically (such as vasoconstriction, sweating, adrenaline release). These stress reflexes can markedly increase or decrease an individual’s vulnerability to specific physical stressors. Mental stressors presumably cause changes in the electrochemical (neurotransmitter) systems in the brain.
- Physical stressors can result in mental stress because they cause discomfort, impair performance, and provide information which poses a threat.
- Physical stressors can interfere directly with brain functioning and therefore with perceptual and cognitive mental abilities, thus increasing the stresses.
- Light, noise, discomfort, and anxiety-provoking information may interfere with sleep, which is essential to maintain brain efficiency and mental performance.

Physical Stressors	Mental Stressors
ENVIRONMENTAL	COGNITIVE
1.Heat, cold, or wetness 2.Vibration, noise, or blast 3.Hypoxia (insufficient oxygen), fumes, or poisons 4.Chemicals 5Directed-energy weapons/devices 6.Ionizing radiation 7.Infectious agents/diseases, skin irritants or corrosives, or physical work 8.Bright light, darkness, haze, and obscuration 9.Difficult or arduous terrain	1.Information: too much or too little sensory overload versus deprivation, ambiguity, uncertainty, isolation time, pressure versus waiting 2.Unpredictability 3.Rules of engagement or difficult judgments 4.Organizational dynamics 5.Hard choices versus no choices 6.Recognition of impaired functioning
Physiological	Emotional
1.Sleep deprivation 2.Dehydration 3.Malnutrition and poor hygiene 4.Muscular and aerobic fatigue 5.Impaired immune system 6.Overuse or underuse of muscles or organ systems 7.Illness or injury	1.Fear- and anxiety-producing threats (of injury, disease, pain, failure, loss, personal or mission failure) 2.Grief-producing losses (bereavement) 3.Resentment, anger- and rage-producing 4.Frustration, threat, loss, and guilt

Physical Stressors	Mental Stressors
	5. Boredom-producing inactivity 6. Conflicting motives (worries about home, divided loyalties) 7. Spiritual confrontation or temptation causing 8. Loss of faith 9. Interpersonal feelings
Note: The above stressors may act singly or interact with each other to be combat stressors.	

Stress behaviors in combat

a. Combat Stress Behaviors. Combat stress behavior is the generic term which covers the full range of behaviors in combat, from highly positive to totally negative.

b. Positive Combat Stress Behaviors. Positive combat stress behaviors include heightened alertness, strength, endurance, and tolerance to discomfort. Both the fight or flight stress response and the stage of resistance can produce positive combat stress behaviors when properly in tune. Examples of positive combat stress behaviors include:

- The strong personal trust, loyalty, and cohesiveness (called horizontal bonding) which develops among peers in a small military unit.
- The personal trust, loyalty, and cohesiveness (called vertical bonding) that develops between leaders and subordinates.
- The sense of pride and shared identity which soldiers develop with the unit's history and mission (this sense is called unit esprit de corps or simply esprit).

The above positive combat stress behaviors combine to form unit cohesion - the binding force that keeps soldiers together and performing the mission in spite of danger and death. The ultimate positive combat stress behaviors are acts of extreme courage and almost unbelievable strength. They may even involve deliberate self-sacrifice. Positive combat stress behaviors can be brought forth by sound military training, wise personnel policies, and good leadership. The results are behaviors which are often rewarded with praise and individual and/or unit recognition.

c. Misconduct Stress Behaviors. These range from minor breaches of unit orders or regulations to serious violations of the Military Justice and the Law of Land Warfare. As misconduct stress behaviors, they are most likely to occur in poorly trained, undisciplined soldiers. However, misconduct can also be committed by good and even heroic soldiers under extreme combat stress. In fact, misconduct stress behaviors can become the second edge of the double-edged sword of highly cohesive and proud units. Such units may come to consider themselves entitled to special privileges and as a result, relieve tension unlawfully when they stand-down from their combat mission. They may lapse into illegal revenge when a unit member is lost in combat. Such misconduct stress behaviors can be prevented by stress control measures, but once serious misconduct has occurred, soldiers must be punished to

prevent further erosion of discipline. Combat stress, even with heroic combat performance, cannot justify criminal misconduct. Combat stress may, however, constitute extenuating circumstances for minor (non-criminal) infractions in determining non-judicial punishment. Combat stress may also constitute an extenuating circumstance in the sentencing proceedings of a court-martial.

d. Battle Fatigue. Battle fatigue is also called combat stress reaction or combat fatigue. Fatigue by definition is the distress and impaired performance that comes from doing something (anything) too hard and/or too long. The term *battle fatigue* is applied to any combat stress reaction which is treated. All BF is treated (as all types of fatigue) with the four Rs:

Reassure of normality

Rest (respite from the work)

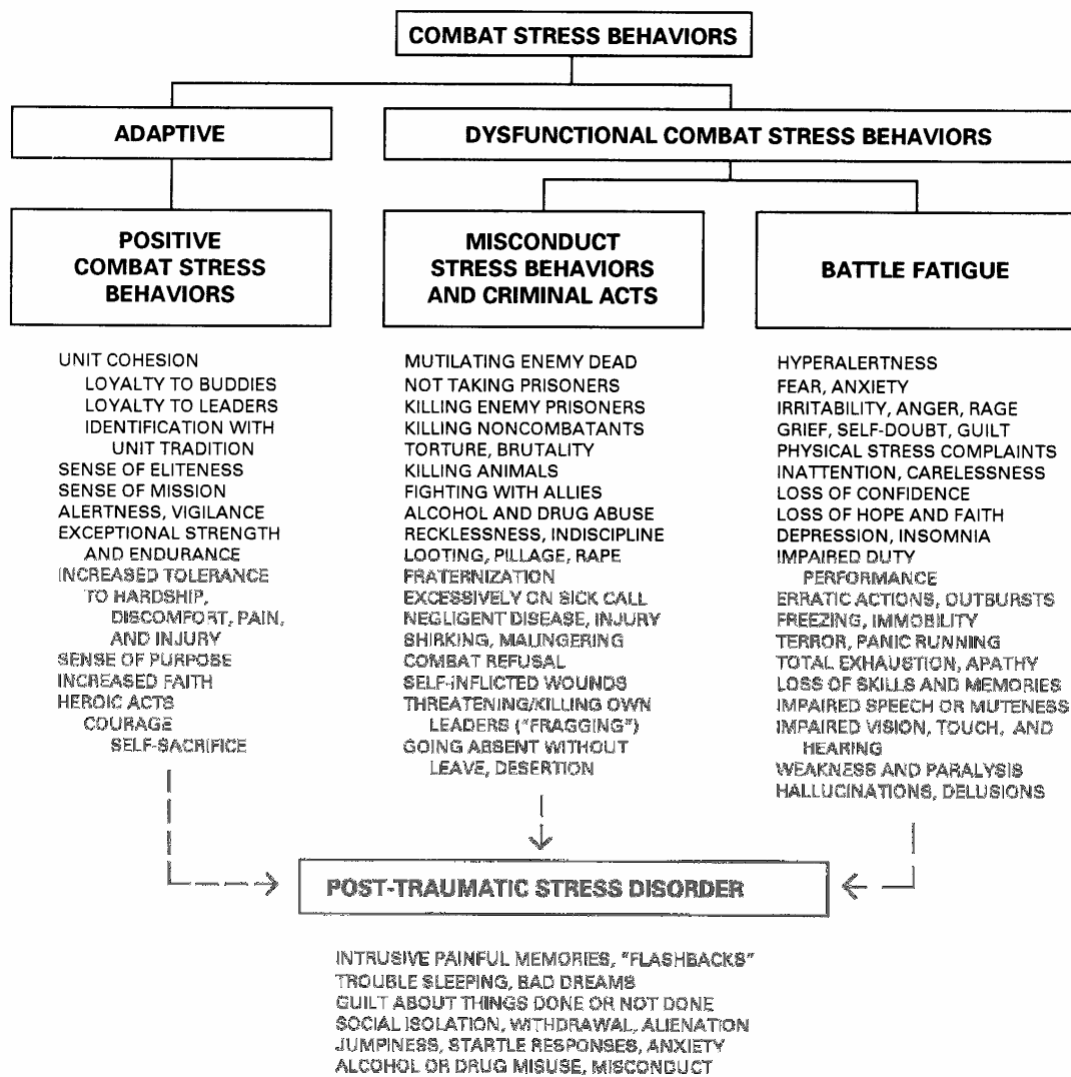
Replenish physiologic status

Restore confidence with activities

The BF behaviors which are listed near the top of the table below may accompany excellent combat performance, and are often found to some degree in all soldiers. These are normal, common signs of BF. Those behaviors that follow are listed in descending order to indicate progressively more serious warning signs. Warning signs deserve immediate attention by the leader, medic, or buddy to prevent potential harm to the soldier, others, or the mission. If the soldier responds quickly to helping actions, warning signs do not necessarily mean he must be relieved of duty or evacuated.

e. Overlapping of Combat Stress Behaviors. The distinction between positive combat stress behaviors, misconduct stress behaviors, and BF is not always clear - the three categories of combat stress behaviors may overlap. Soldiers with BF may show misconduct stress behaviors and vice versa. Soldiers who exemplify the positive combat stress behaviors may suffer symptoms of BF and may even be BF casualties before or after their performance of duty. Excellent combat soldiers may commit misconduct stress behaviors in reaction to the stressors of combat before, after, or during their otherwise exemplary performance. However, combat stress, even with good combat behaviors, does not excuse criminal acts.

f. Post-Traumatic Stress Disorders. Symptoms of post-traumatic stress are persistent or recurring stress responses after exposure to extremely distressing events. As with BF, post-traumatic stress symptoms can be normal/common signs or warning signs. It is normal for the survivor of one or more horrible events to have painful memories; to have anxiety (perhaps with jumpiness or being on guard); to feel guilt (over surviving or for real acts of omission or commission); and to dream unpleasant dreams about it. This becomes PTSD only when either the pain of the memories or the actions the person takes to escape the memories (such as substance abuse, avoidance of reminders, social estrangement, and withdrawal) interfere with occupational or personal life goals. The normal/common signs deserve routine preventive measures, such as talking out and working through the painful memories. The warning signs certainly deserve this attention, as self-aid, buddy-aid, and leader aid. Good preventive measures can head off true PTSD, which might not show up until years after the incident.



Combat stress management

Confidence in leaders. Leaders must demonstrate effective leadership to earn their sub-ordinates' loyalty and trust. Leaders are responsible for: committing the unit to missions commensurate with abilities; planning operations carefully and thoroughly; preparing the unit to accomplish the mission; leading and guiding the unit to mission accomplishment; showing consistent good leadership that convinces subordinates their leaders know best what should be done, how it should be done, who should do it, and how long the task should take.

Authority accompanies leadership beyond the automatic authority given by military rank and position. Authority and respect are earned based on confidence in a leader's ability to guide the unit to success.

Confidence in training. Training helps Service members develop the skills required to do their jobs. Confidence is the result of knowing they have received the best possible training for combat, and are fully prepared. This confidence results from the following: realistic training that ends with successful mastery; relevance of training to survival and success on the integrated battlefield; refresher and cross training; systematic individual and collective training.

Confidence in unit. Each Service member in a unit needs to become confident of the

other unit members' competence. Individuals must stay and train together to gain that personal trust. Unless absolutely necessary, teams should not be disbanded or scrambled. Subunits in the same larger unit should have the same Standing Operating Procedures and training standards, so members can fit in quickly if teams have to be cross-leveled or reorganized after casualties occur. Confidence in the unit leads to feelings of security, which in turn allows members to sleep and positively focus stress. In combat, the unit must receive each member's highest commitment to unit loyalty. Mission accomplishment is the unit's highest priority.

Confidence in equipment. Service members who learn to operate and maintain assigned equipment develop confidence in their ability to employ it. This, in combination with an individual's belief in his personal capabilities, raises overall confidence in fighting ability.

Cohesion and Morale. Good unit cohesion and morale offset the negative effects of combat stress. The foundation for any stress reduction program includes trust and confidence in the following: fellow service members; competence and fairness of the unit leaders; unit's technical abilities and military power; equipment; personal combat ability; sense of support from the civilian community; personal spiritual well-being.

Physical conditioning. A strong relationship exists between physical stamina and the ability to resist combat stress. Good physical conditioning has physical and psychological benefits. Rigorous physical conditioning helps protect against the stress of continuous operations. A regular program of physical fitness to increase aerobic endurance, muscular strength, and flexibility is essential to combat readiness. As physical conditioning improves, Service members feel better about themselves, have greater confidence in each other, and their stress is reduced. Unit training includes regular physical conditioning. This increases the members' tolerance to all types of stressors. The program is geared to the unit's combat mission, and exercises are tailored to the environment where the unit operates. The pace, length, and types of runs, road marches, and other activities are commensurate with the unit's need. Light infantry units need more demanding, longer road marches than maintenance units. Activities also include team athletics, which capitalize on cohesion-building aspects as well as physical benefits. The benefits of such a program include developing endurance through aerobic exercises, enhancing strength through weight training, and deprivation/physical stress training.

Family care. Service members entering combat with financial worries or family problems risk breaking down under the additional stress of combat. Even positive but unfinished changes on the home front, such as a recent marriage or parenthood, can distract the Service members' focus on combat missions with worries that they will not live to fulfill their new responsibilities at home. Leaders must be aware of this risk and assist members in handling personal matters before deployment. Pre-deployment and post-deployment family briefings should be conducted, and programs established to assist families before, during, and after deployment. When Service members know their families are cared for, they are better able to focus on their combat duties.

Coping with individual stress. Stress pushes the body to its limits and causes tension;

relaxation reverses this process. Coping with personal stress is essential. Stress-coping skills are incorporated into unit training early, and command emphasis is placed on practicing them. Service members receive a block of instruction on stress-coping techniques, then are given supervised time each duty day to practice them quietly. After 3 or 4 weeks of practice, most Service members relax easily and quickly, even under highly stressful conditions. They will be able to naturally control stomach fluttering, heart rate, blood pressure, and stress. The stress-coping exercises include deep breathing, muscle relaxation, and cognitive exercises. Deep breathing is the simplest to learn and practice; the others require longer instruction and more practice time.

Critical event debrief. A Critical Event Debrief (CED) is a structured group process designed to mitigate the impact of a critical event and to accelerate normal recovery of those personnel involved. The CED is normally conducted by a team composed of trained members, (medical officers, chaplains, mental health professionals, trained unit members). A CED's main value is to quickly restore unit cohesion and readiness to return to action, through clarifying what actually happened and clearing up harmful misperceptions and misunderstandings. It may also reduce the possibility of long term distress through sharing and acceptance of thoughts, feelings, and reactions related to the critical event. Ideally, CEDs are conducted 24 to 72 hours after the occurrence of the event, away from the scene and separate from any operational debriefing. The typical CED lasts from 2 to 3 hours. Situations that warrant a CED include: death of unit member; death or suffering of noncombatants (especially women and/or children); handling of the dead, management of carnage or the sight of devastation during disaster work; serious friendly fire incident; situation involving a serious error, injustice or atrocity; terrorist attack.

After action review. Although a CED would be warranted following such traumatic events as those listed, if access to CED trained professional team is not available, small-unit leaders can modify their After Action Review (AAR) to assist in identifying the level of stress reaction of unit members. The AAR or "hot wash" is a routine practice used by leaders to debrief post-mission operations. Accordingly, it provides a familiar, non-threatening forum for leaders to identify the levels of stress reaction experienced by the unit members. The leader's AAR may be sufficient to restore unit readiness for further action. It may also identify personnel who need immediate or later referral for chaplain or mental health/CSC help for combat stress-related symptoms.

Factors that increase the stress in the Romanian armed forces

In my opinion, we should consider both internal and external (TO, NATO, UNO, EU, and etc.) missions stress factors.

Internal (inside) stress factors:

- Never-ending transformation and reform which negatively affects organizational stability
- Inefficient human resources management which, in combination with the first factor, determines a poor or even a lack of personal career management (officers and NCOs in their late 40s are dismissed without having an

professional re-conversion program and, as the army can be considered a closed system where a lot of them have practically grown up, they can face serious social difficulties)

- Financial restrictions:
 - At the organizational level our army will not be able to respect the commitments to the alliances and to finish the major endowment programs (the army budget decreases from 2.38% in 2004 to less than 1.50% in 2009) which affects personnel's confidence in the system or even in their commanders
 - At the personal level, the diminution of the salaries creates family problems in day-by-day life (borrowings, tuition fees, etc.)
- Lack of confidence in subordinates – there many commanders who do not take in consideration a reliable point of view when it comes from a lower rank
- Obsolete equipment and technology

On mission stress factors:

- Prolonged missions in theatre of operations – when the war in Iraq ended in 2003 UK decided to rotate their troops every four months, but they discovered that they hadn't enough personnel and changed the rotation period to six months; at that point their human resources specialists said that was not healthy to have a six months tour without any break, so the British soldiers got a two weeks vacancy per tour
- Ambiguous Rules of Engagement (ROE) which can determine dangerous situations especially in armed conflicts
- Unconformity between the officers' rank and the position they are appointed to can generate embarrassing situations
- Unknowing the foreign language required in a certain HQ
- Unknowing the job description
- Precarious logistic support

CONCLUSIONS

Stress is a complicated web. It bothers everyone, from the cradle to the grave, from the womb to the tomb. It has a combined effect, on our body and on our mind. Those who have no jobs are stressed due to unemployment. And those who have jobs complain about day to day job stress. In the armed forces stress tends to acquire new dimensions. There may be varied reasons, such as time spent on traveling, low salary, harassment by the boss and lots of outstation tours etc. To secure relief is the normal expectation of any individual. Nobody wishes to live continuously under stress. But it should be noted that stress is entirely different from a challenging situation. Difficulties are not to be confused with stress. Stress is mainly our inability to cope up with a particular situation or a cluster of situations.

Stress varies in degree from individual to individual. So, the stress relief measures cannot be the same for all and the response for any particular situation varies.

Costs incurred by stress include the following:

- The cost of having staff off sick for stress-related injuries and illness.
- The cost of paying compensation to those who can demonstrate and prove that their lives have been damaged or ruined as the result of stress at work.
- Costs in reputation and, invariably, business losses as the result of publicity surrounding specific media coverage in cases of accident, disaster, bullying, victimization, harassment and discrimination. These costs include customers taking business elsewhere when able to do so because no-one likes to be associated with this kind of organization. Such organizations experience increased difficulties in recruiting and retaining high quality, expert staff, because nobody with any choice in the matter wishes to work for such a concern.
- Organization and managerial costs involved in investing and defending individual and collective complaints of stress, and in remedying and resolving these.
- Costs involved in having to manage, address and resolve related issues, for example, where staff have turned to drink and drugs as a relief from stress.
- Wider humanitarian concerns that bring costs with them. Known, believed and perceived stress-related illnesses and injuries cause general damage to workplace and human morale and motivation.

Stress management is set to become a primary strategic and operational concern for all organizations because of the direct relationship between decency and humanity, good employment practice, and successful business. Stress places a cost burden on organizations in all locations and sectors, and there is also a human price among those who work in stressful situations or suffer from stress-related injuries and illnesses.

This is reinforced in the European Union (EU) by legislation that requires an active responsibility for the health and well-being of employees. It includes specific attention to stress. While this form of social workplace legislation is a lesser concern elsewhere, the costs of managing individual cases and situations are nevertheless high.

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STRATEGIC MANAGEMENT AND ITS RELATIONSHIP TO MILITARY EFFECTIVENESS IN THE VIETNAM AND PERSIAN GULF WARS

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INTRODUCTION

Hugh Macmillan and Mahen Tampoe (2000) define strategic management in their *Strategic Management* book as "Ideas and actions to conceive and secure the future". It has been used widely in the civilian sector with success. Military leaders have used it since antiquity when the Greeks and Chinese defined it. The extent to which strategic management is used in the military determines the outcome of a war.

This research paper will discuss the military origins of strategy, the meaning and use of strategic management, the New Modernist Dimension and the use of strategic management in the Vietnam and Persian Gulf wars and its relationship to military effectiveness. Finally, a conclusion will be drawn.

THE MILITARY ORIGINS OF STRATEGY

The concept of strategy is an ancient one and originated in the study of success in war. The word strategy comes from the Greek "stratos" (army) and "agein" (to lead). The "strategos" in Athens was an elected general, a post created when Athens was at war with Persia in 506 B.C. The Greeks saw strategy setting as one of the responsibilities of a leader, a connection that continues in modern thinking. The Greeks also gave serious thought to what kind of person would be suitable to the role and how they should be trained. Interestingly, they concluded that intellectual skills, while essential for a good strategist, were not sufficient unless supported by practical learning gained from experience. (MacMillan and Tampoe).

At about the same time, and quite independently, the Chinese general Sun Tzu wrote about strategy in his book *The Art of War*, also relating closely to the duties of a leader. (MacMillan and Tampoe, 2000 p.17): "Only a brilliant ruler and an excellent leader, who is able to conduct their intelligence with superiority and cleverness, are certain to achieve great results. The entire force relies on his for every move. This is the essence of strategy".

Sun Tzu saw the aim of strategy as defeating the enemy by fighting as few battles as possible. He defines priorities for gaining advantage over an adversary. The highest priority is to foil the enemy's plots, second to ruin his alliances, third to attack his armies, and lowest of all to besiege his castles. In his view, strategy is as much about avoiding battles as it is about fighting them. Sun Tzu's book has sometimes

been used as a management text because of the relevance of its insights to business strategy. (MacMillan and Tampoe)

Perhaps the best-known military strategist of more recent history is Karl Von Clausewitz. One often-quoted sentence highlights an important paradox about strategy in that good strategies are inherently simple but hard to conceive: *“Thus, then, in Strategy everything is very simple, but not on that account very easy”*. (Von Clausewitz, *About War* 1993 p.23)

Von Clausewitz saw good strategies as difficult to conceive and even more difficult to implement so, that only very few people ever succeed as strategists: *“A Prince or General who knows exactly how to organize his war according to his object and means, who does neither too little nor too much, gives by that the greatest proof of his genius. But to follow that way straightforward, to carry out the plan without being obliged to deviate from it a thousand times by a thousand varying influences, requires besides great strength of character, great clearness and steadiness of mind, and out of a thousand men who are remarkable, some of mind, others for penetration, others again for boldness or strength of will, perhaps not one will combine in himself all those qualities which are required to raise a man above mediocrity in the career of a general.”* (Von Clausewitz, *About War* 1993 p.25)

Military thinking certainly has some relevance to business strategy. Its emphasis on winning, on the importance of leadership, and on taking action to achieve desired results is all themes, which resonate. On the other hand, strategy also has a political role.

Niccolo Machiavelli added a political dimension to the study of strategy. *The Prince* published in the early sixteenth century was notable for its detached observation of events. Francis Bacon said of Machiavelli (Joice and Woods 1996 cited Bacon,) *“He set forth openly and sincerely what men are wont to do and not what they ought to do”*. Machiavelli was also the earliest writer who concerned himself with the realities of implementing strategies. One particular example of this, quoted by Jay, is how to handle take-over. Machiavelli was, of course, writing about a prince taking control of a country. His advice was that it was necessary either to treat the powerful citizens well or to crush them so completely so that they could not retaliate.

Due to the importance of strategy, it became a science, which involved a lot of people working in different fields. They developed this science over the centuries, every one of them having his own contribution, which could be applied to others. Having discussed strategy, it's time to move on to strategic management.

THE MEANING AND THE USE OF STRATEGIC MANAGEMENT

One of the earliest definitions of strategy comes from the ancient Greek writer Xenophon (MacMillan and Tampoe 2000 cited Xenophon): *“Strategy knows the business you propose to carry out”*. He emphasizes the link between leadership and strategy formulation. He also saw strategy as a direct responsibility of those in charge, not as a spectator sport.

After military, another source of knowledge about strategy is provided by academics. Modern thinking on business strategy first evolved into a recognizable form in the 1960s in the USA. Writers such as Drucker, Chandler, Ansoff and Andrews studied the development of large successful American corporations before and during World War II. Their work set the scene for what is now usually referred to as the “classical school” of business strategy. The classical school saw direction setting as an important responsibility of top managers and believed that it could be separated from strategy implementation. Corporate thinkers in headquarters headed by the chief executive formulated the strategy; divisional management teams implemented it. The analogy with the general and his staff and field officers is clear so that the classical school seems to have its roots in the military model of strategy. One major addition to thinking was the introduction of economic goals as the driving objective of business.

The advantage of studying strategy as seen by practitioners is that they approach the issues of strategy from the perspective of practicing managers and the need to take action to solve a problem. The disadvantage is that the dilemma is different for each case and so the lesson may not be relevant to other situations.

Every case has an important role in the teaching of strategic management and each case describes a different context, with issues and dilemmas to be resolved.

Igor Ansoff offers a brief definition (1990 p.15): “*Strategy is a rule for making decision*”. He also distinguishes between policy and strategy. A policy is a general decision that is always made in the same way whenever the same circumstances arise. A strategy applies similar principles but allows different decisions as the circumstances differ.

More recently (and reflecting his perspective of management consultant), Michael de Kane-Silver (1997 p.22) suggests that “*strategy should have just two elements-future intent and sources of advantage*”. He is therefore restating the view that “*intent and strategy are inseparable*”. The word “*source of advantage*” has a similar meaning to capability but emphasizes that capabilities only have value when they meet the real needs of customers.

There are three major ways of thinking about strategic management described by McMilan and Tampoe in their book *Strategic Management*(p.43) as follows:

- Modernist school,
- Post modernist school,
- New modernist school.

These three paradigms are summarized in the next chart:

Dimensions	Modernist	Post modernist	New modernist
Top management role	Decision-making elite	Back successful initiatives by lower level managers	Responsible for intellectual leadership
Successful change	Programmable	Discoverable	Based on foresight and experiment

Dimensions	Modernist	Post modernist	New modernist
Expectations about those at lower levels	To be committed to proposals and to implement strategic plan	To show diversity, difference and spontaneity	To have their own agendas-but agendas which can be included
Attitude to planning	Planning is core activity	Proactive planning is impossible	Planning is emergent
Attitude to chance events	Need to plan for flexibility	Require chaotic action in response	Chance events can be opportunities
Organizational requirements	Operational management to be shaped by strategy	Anti-hierarchy culture-support for informality	Organizational readiness-commitment and competence-which have to be developed

(McMillan and Tampoe-Strategic management)

The New Modernist School- like framework is presented in the next words. The spirit of new modernism is probably best captured in Mintzberg's (1987) metaphor of strategic management as a "craft". This metaphor conjures up a picture of strategic management as a skilled activity in which the strategy is shaped by a strategist who knows or learns how to work with strategic situations. The following elements of the New Modernist School in the chart above need some explanation.

NEW MODERNIST DIMENSION

According to MacMillan and Tampoe in their Strategic Management book the New Modernist Dimension is characterized as follow:

Section 1 - The role of top management

Managers develop industry foresight, quietly construct strategies, nurture developments, experiment with strategic directions and at times wait for the opportune moment. Quinn (cited MacMillan and Tampoe) argued that "*strategies emerged as top managers handled events calling for urgent decisions in the context of limited knowledge and understanding*"

The nature of successful change

Successful change is not the result of rigid planning systems. Nor can a capacity to manage successfully be inferred from the mere fact of a business plan. Successful change is about learning from experiments. This learning by doing includes twisting out what customers want by experimenting with product and service concepts.

Expectations about others at lower levels

A new modernist does not expect others in the organization simply to play the role of implementers of the strategic direction set by the top manager. They expect others to have their own agendas. They are also, unlike their modernist counterparts,

reluctant to set a strategy and then think about the skills of those involved in implementing it. This may mean that plans are changed to take account of the people concerned and this may occur incrementally as knowledge of the people builds up.

Attitude to planing

In the new modernist paradigm, planning is not rigid but is based on foresight and experimentation. This combination of foresight and experimentation is a good definition of planning as an emergent process. Strategies emerge in response to events, which require urgent decisions. Full details of the plan are vague initially because of limited knowledge. They may also be kept vague and fluid in order to mobilize organizational commitment or avoid resistance.

Attitude to chance events

By definition, a precipitating event, which presses the new modernist strategist into a decision that helps their strategy emerge, has something of the character of chance event. The decision on how to handle the event must be made urgently and in that sense is unforeseen. This is the essentially opportunistic nature of the strategy. So, chance and strategy formulations are combined in new modernist planning with its special character as incrementalist decision making. In a sense, rigid planning of a modernist kind is made into incrementalist planning by the fact that a strategy is formed and implemented through chance events. Thus, Quinn (1999) insists, incrementalism is a purposeful, effective, proactive management technique for improving and integrating both the analytical and behavioral aspects of strategy formulation. New modernist planning is also incremental because of the experimental approach to learning, which is needed to build on the industry foresight.

Section 2 - Organizational requirements

The new modernist top manager always assumes that the organization will have to be developed in order to realize new strategy. This has two dimensions. First, organizational members need to be aware of accepting and committed to the strategy. Mintzberg (1987) suggests that strategic planning is a calculating style of management. Hamel and Prahal (1994) have stressed a moral interpretation of how leaders achieve this readiness and commitment. They have suggested three particular responsibilities for top management in this area. Top managers must establish a sense of purpose, identify key capability-building challenges and help employees understand their role in the pursuit of industry leadership. In contrast, a more political interpretation of the top managers, role may be suggested. According to this view, the top manager will be circumspect about what he has in mind, recognizing that explicit plans may arouse resistance or make it difficult to negotiate a new strategic direction. The political tactics of building this readiness will involve deploying incentives and persuasion to motivate commitment. The content of these tactics is difficult to specify, especially as many of the incentives are tied to size and structure of the organization.

The second dimension of achieving organizational readiness is the development of the capabilities or competencies needed, or more broadly, the resources. Hamel and Prahadal (1994) have stressed that this is a long-term and

critical aspect of getting an organization into a position to become an industrial leader. They have also suggested that strategic alliances with other companies can be used to learn specific skills needed for competence acquisition. Summing up, we see that top managers proceed incrementally because of limited knowledge and understanding. They do this by testing and experimenting with courses of action and organizational shifts. They also proceed incrementally with blending and shaping the strategy because of the need to build awareness, acceptance and commitment. Successful executives link together and bring order to a series of strategic processes and decisions that span many years (Quinn, 1991, p.104).

The New Modernist Dimension is the framework named to analyze two wars in which strategic management was applied in different ways and the outcome of wars demonstrated the importance of this issue.

THE USE OF STRATEGIC MANAGEMENT IN THE VIETNAM AND PERSIAN GULF WARS AND ITS EFFECTIVENESS

Section 1 - The Vietnam War

US involvement in Vietnam began during the administration of Dwight D. Eisenhower, who sent US military to South Vietnam. The numbers of troops increased, as the military position of the Saigon government became weaker. In 1957, Communist rebels (Viet Cong) began a campaign of terrorism in South Vietnam. They were supported by the government of North Vietnam and later by North Vietnamese troops. Their goal was to overthrow the anti-communist government in the South.

John F. Kennedy decided to commit American support troops to South Vietnam. Four thousand troops were sent in 1962. After John Kennedy was murdered, Vice President Lyndon Johnson served the last fourteen months of Kennedy's term. He then was elected to his own full term. It began in January 1965. Much of his time and energy would be taken up by the war in Vietnam. By early 1964, America had about 17,000 troops in Vietnam. The troops were there to advise and train the South Vietnamese military. Under President Lyndon B. Johnson, US intervention mushroomed both militarily and politically. Johnson asked for a resolution expressing U.S. determination to support freedom and protect peace in Southeast Asia. Congress after an apparent attack on US troops in the Gulf of Tonkin responded with the Tonkin Gulf Resolution, expressing support for "all necessary measures" the President might take to repel armed attacks against US forces and prevents further aggression.

Under the strategy developed by General William C. Westmoreland, Commander, U.S. Military Assistance Command, Vietnam, American divisions would seek out and destroy North Vietnamese and Viet Cong (South Vietnamese Communist) formations. Air power carried the war to the North, attacking both the wills of Hanoi's leaders to continue the fight and, to an increasing extent, their ability to do so. The list of targets expanded to include transportation, oil storage, and the nation's few industries. In theory, Westmoreland's strategy of search and destroy

would force the Communists to expend supplies and thus make the logistics establishment in North Vietnam all the more vulnerable to bombing.

In 1966, more than 200,000 troops were committed to Vietnam. The United States escalated its participation in the war to a peak of 543,000 troops in April 1969. American forces in Southeast Asia operated under some stringent restrictions, including being forbidden to invade enemy territory in North Vietnam and, for many years, likewise being barred from ground operations against enemy sanctuaries in bordering Laos and Cambodia. The "body count" of Vietcong killed was the centerpiece of the American approach to waging the war, conducted through search-and-destroy operations in remote jungle regions. By 1966, it became increasingly clear that this strategy of attrition was not working and could not work because of the enemy's capacity to replace losses far higher than those the allies were able to inflict.

The political challenge of the war stemmed from the belief of the rural Vietnamese that the Government of Vietnam would not stay long when it came into an area, that the Government was indifferent to the people's welfare, that the low-level officials were tools of the local rich, and that the Government was excessively corrupt from top to bottom. The American search-and-destroy military operations did not solve these problems, and were at best irrelevant to security in rural Vietnamese villages. At worst, indiscriminate aerial attacks and artillery fire exacted a toll on village allegiance to the Saigon government.

The individual services, for the most part, controlled their own air arms. The Army maintained control of its large helicopter fleet as organic air assets. Marines followed their traditional organizational path of assigning an Air Wing to each Marine division. The Navy maintained complete control of its air assets. Admiral Sharp, as Commander in Chief of Pacific Command (CINCPAC), implemented the Route Pack system for all air operations over North Vietnam. General Clay, the Pacific Air Forces (PACAF) commander, was assigned coordinating authority for deconflicting air operations, but he felt that the existing command arrangements (route packaging and assigning the air component only to the coordinating authority) did not provide a sound means to control the overall air effort.

The Route Pack system divided responsibility within North Vietnam into seven different geographic areas, with the Air Force and the Navy each receiving responsibility for portions of the route packs. Commander in Chief of Pacific Fleet (CINCPACFLT), the naval component of Pacific Command (PACOM), maintained control of carrier air assets. Even within the Air Force there was no single air commander. Seventh Air Force was responsible for Air Force air operations in Vietnam, while Thirteenth Air Force was responsible for Thailand, and Strategic Air Command (SAC) never relinquished command or control of its B-52 bombers.

The targeting process further complicated this patchwork of responsibility. Targets were selected in Washington by a small team on the joint staff and approved only at the presidential level. The result was a major misuse of air power. Air power application came to be simply the servicing of targets, with little regard for whether or not they were the "right" targets, and without an air campaign plan. Service parochialism dominated the air effort. Lacking a single responsible air commander, a clear set of objectives, and a common concept of operations, even the most skilled

operations of the separate components tended to work at cross-purposes and give respite to the enemy.

In December 1965, the United States again halted air attacks against North Vietnam and invited the North Vietnamese government to negotiate an end to the fighting. The North refused. Ho Chi Minh's conditions for peace were firm. He demanded an end to the bombing and a complete American withdrawal. Withdrawal would mean defeat for the South. It would mean that all of Vietnam would become Communist. President Johnson would not accept these terms. So he offered his own proposals. The most important was an immediate cease-fire. Neither side would compromise, however. And the fighting went on.

On 31 January 1968, combat erupted throughout the entire country in the Tet [Chinese-Asian New Year] Offensive. Thirty-six of 44 provincial capitals and 64 of 242 district towns were attacked. They even struck at the American embassy in the capital, Saigon. Once the shock and confusion wore off, most attacks were crushed in a few days. During those few days, however, the fighting was some of the most violent ever seen in South Vietnam. Fifty thousand Communist soldiers were killed during the Tet offensive. Fourteen thousand South Vietnamese soldiers were killed and two thousand American soldiers were killed. Thousands of Vietnamese civilians were killed, too.

Richard M. Nixon was elected on the claim that he had a "secret plan" for honorably disengaging American troops, which succeeded initially only in intensifying the conflict. This last phase of American involvement in South Vietnam was carried out under a broad policy called Vietnamization. Its main goal was to create strong, largely self-reliant South Vietnamese military forces. Vietnamization also meant the withdrawal of a half-million American soldiers.

By the spring of 1972, the Vietnam War was at low ebb. The 1968 Communist Tet Offensive had given way to a gradual winding down by mid-1969, and after the invasion of Cambodia in May 1970, there was little fighting in South Vietnam. Yet, while the United States was in the process of withdrawing its forces from a war that was becoming increasingly unpopular with its citizens, the North Vietnamese were rebuilding their forces in preparation for another massive offensive in hopes of overrunning the southern half of the divided country. In April 1972, heavily armed North Vietnamese divisions crossed into the South at several points, including from out of Cambodia.

Nixon resumed bombing of North Vietnam in response to the North Vietnamese 1972 Easter offensive and mined North Vietnamese ports and bombed Hanoi and Haiphong in late 1972. Such pressure was intended, at least in part, to force North Vietnam to sign an armistice. In early 1973, the United States, North and South Vietnam, and the Viet Cong signed an armistice. American military activities in Cambodia and Laos, which had continued after the cease-fire in South Vietnam, went into effect, ended in 1973 when Congress cut off funds. During the early months of 1974, the North Vietnamese army advanced from the north and west on the southern capital. They soon surrounded Saigon with an ever-tightening perimeter. Saigon fell to the Communists on 29 April 1975. On the morning of April 30, 1975, the last Marine boarded a CH-46 helicopter atop the American Embassy in Saigon

and took off eastward disappearing into the blue horizon. It was 21 years after the first advisors arrived in country, and nearly three years after the last combat troops withdrew.

The setback suffered by the United States in the Vietnam War was rooted in a failure of strategy. Indeed, perhaps no war in American history shows more clearly both the difficulties of making sound strategic judgments and the dire consequences of a lack of clear strategic vision. The Vietnam War thus provides a cautionary tale for American political and military decision-makers about the crucial importance of thinking clearly about strategy. By incorrectly relating military strategy to national policy and by improperly understanding the nature of the conflict, the United States exhausted itself against a secondary enemy in South Vietnam. The American failure in Vietnam also stemmed from trying to fight a traditional conventional war when the conflict's nature demanded a counterinsurgency effort. Top military commanders, unable to fathom the problem, refused to implement such a strategy despite evidence of its effectiveness.(John Pike 2000, Vietnam War).Lessons learned in the Vietnam War helped military to improve their skills in strategic management which was helpful in Gulf War.

Section 2 - The Persian Gulf War

The Iraqi attack began shortly after midnight on August 2 1990. About 150,000 Iraqi troops, many of them veterans of the Iran-Iraq War, easily overwhelmed the unprepared and inexperienced Kuwaiti forces, which numbered about 20,000. By dawn, Iraq had assumed control of Kuwait city, the capital, and was soon in complete control of the country. Hussein's political strategy was less clear than his military strategy. The Iraqis initially posed as liberators, hoping to appeal to Kuwaiti democrats who opposed the ruling Sabah monarchy. When this claim attracted neither Kuwaiti nor international support, it was dropped. In place of the Sabahs, most of who fled during the invasion, Iraq installed a puppet government.

The United Nations Security Council and the Arab League immediately condemned the Iraqi invasion. Four days later, the Security Council imposed an economic embargo on Iraq that prohibited nearly all trade with Iraq. Iraq responded to the sanctions by annexing Kuwait on August 8th, prompting the exiled Sabah family to call for a stronger international response. In October, Kuwait's rulers met with their democratic opponents in Jiddah, with the hope of uniting during the occupation. The Sabah family promised the democrats that if returned to Kuwait, they would restore constitutional rule and parliament (both of which had been suspended in 1986). In return, the democrats pledged to support the government in exile. The unified leadership proved useful in winning international support for an eviction of Iraq. Fewer than half of all Kuwaitis stayed in Kuwait through the occupation. Of those who stayed, some formed resistance organizations, but with little effect.

Beginning a week after the Iraqi takeover of Kuwait and continuing for several months, a large international force gathered in Saudi Arabia. The United States sent more than 400,000 troops, and more than 200,000 additional troops came from Saudi Arabia, the United Kingdom, France, Kuwait, Egypt, Syria, Senegal, Niger, Morocco,

Bangladesh, Pakistan, the United Arab Emirates, Qatar, Oman, and Bahrain. Other countries contributed ships, air forces, and medical units, including Canada, Italy, Argentina, Australia, Belgium, Denmark, Greece, Norway, Portugal, Spain, Czechoslovakia, New Zealand, the Netherlands, Poland, and South Korea. Still other countries made other contributions. Turkey allowed air bases on its territory to be used by coalition planes, and Japan and Germany gave financial support. The initial goal of the force was to prevent further Iraqi action, but most countries were aware the force might ultimately be used to drive Iraq from Kuwait.

On November 29, with coalition forces massing in Saudi Arabia and Iraq showing no signs of retreat, the UN Security Council passed a resolution to allow member states to “use all necessary means” to force Iraq from Kuwait if Iraq remained in the country after January 15, 1991. The Iraqis rejected the ultimatum. Soon after the vote, the United States agreed to a direct meeting between Secretary of State James Baker and Iraq’s foreign minister. The two sides met on January 9th. neither offered to compromise. The United States underscored the ultimatum, and the Iraqis refused to comply with it, even threatening to attack Israel. For the United States, the meeting was its way of showing the conflict could not be resolved through negotiation.

When the UN deadline of January 15th passed without an Iraqi withdrawal, a vast majority of coalition members joined in the decision to attack Iraq. A few members, such as Morocco, elected not to take part in the military strikes. In the early morning of January 17, 1991, coalition forces began a massive air attack on Iraqi targets.

The air assault had three goals: to attack Iraqi air defenses, to disrupt command and control, and to weaken ground forces in and around Kuwait. The coalition made swift progress against Iraq’s air defenses, giving the coalition almost uncontested control of the skies over Iraq and Kuwait. The second task, disrupting command and control, was larger and more difficult. It required attacks on the Iraqi electrical system, communications centers, roads and bridges, and other military and government targets. These targets were often located in civilian areas and were typically used by both civilians and the military. Although the coalition air forces often used very precise weapons, the attacks caused many civilian casualties and completely disrupted Iraqi civilian life. The third task, weakening Iraq’s ground forces, was larger still. The coalition used less sophisticated weaponry to strike Iraqi defensive positions in both Iraq and Kuwait, to destroy their equipment, and to undermine morale. After five and a half weeks of intense bombing and more than 100,000 flights by coalition planes, Iraq’s forces were severely damaged.

On February 24th, the coalition launched its long-anticipated land offensive. The bulk of the attack was in southwestern Iraq, where coalition forces first moved north, then turned east toward the Iraqi port of Al Basra. This maneuver surrounded Kuwait, encircling the Iraqi forces there and in southern Iraq, and allowed coalition forces (mainly Arab) to move up the coast and take Kuwait city. Some Iraqi units resisted, but the coalition offensive advanced more quickly than anticipated. Thousands of Iraqi troops surrendered. Others deserted. Iraq then focused its efforts on withdrawing its elite units and sabotaging Kuwaiti infrastructure and industry.

Many oil wells were set on fire, creating huge oil lakes, thick black smoke, and other environmental damage. Two days after the ground war began; Iraq announced it was leaving Kuwait.

On February 28th, with the collapse of Iraqi resistance and the recapture of Kuwait (thereby fulfilling the coalition's stated goals) the coalition declared a cease-fire. The land war had lasted precisely 100 hours. The cease-fire came shortly before coalition forces would have surrounded Iraqi forces. On March 2nd, the UN Security Council issued a resolution laying down the conditions for the cease-fire, which were accepted by Iraq in a meeting of military commanders on March 3rd. More extensive aims, such as overthrowing the Iraqi government or destroying Iraqi forces, did not have the support of all coalition members. Most Arab members, for example, believed the war was fought to restore one Arab country and not to destroy another. The United States also worried that extending the goal would have involved them in endless fighting.

The end of the fighting left some key issues unresolved, including UN sanctions against Iraq, which did not end with the war. On April 2nd, 1991, the Security Council laid out strict demands for ending the sanctions: Iraq would have to accept liability for damages, destroy its chemical and biological weapons and ballistic missiles, forego any nuclear weapons programs, and accept international inspection to ensure these conditions were met. If Iraq complied with these and other resolutions, the UN would discuss removing the sanctions. Iraq resisted, claiming that its withdrawal from Kuwait was sufficient compliance. (Microsoft Encyclopedia Encarta 2000-The Persian Gulf War)

Many Western observers believed the victory was hollow because Saddam Hussein was still in power. At first, when Hussein was greatly weakened, Western powers believed a rebellion might succeed in overthrowing him. Meanwhile, potential rebels within Iraq believed they might receive international help if they rebelled. But when the Shiite population of southern Iraq rebelled shortly after the cease-fire, they were greeted not with international help, but with Iraqi military forces returning from the southern front. It quickly became clear that the rebels would receive no international help, although several governments gave them verbal support. Under the terms of the cease-fire, which established "no-fly zones" in the north and south, Iraqis could not attack the Shiites with airplanes, but could use helicopters, which they did to great effect. Spontaneous and loosely organized, the rebellion was crushed almost as quickly as it arose.

The US was prepared and ended the war with a victory. US intelligence had notched up the American coalition a few weeks prior to Operation Desert Storm (US News & World Report). The US General Schwarzkopf first led F-117 stealth bombers through Iraq to clear the way for more conventional fighter planes. With these he was able to heavily damage Saddam's defenses from the air using smart-bomb technology. Preparing for a ground war, Saddam dug in his defenses. *"By digging in his armor, Saddam 'threw away' any offensive advantage, and reduced his tanks to little more than pillboxes,"* said military historian Bryan Perret. Schwarzkopf was able to fool Saddam and take him from behind. This surprise sweeping maneuver outflanked the enemy, and "slammed the door" on any retreat. After a 100-hour

ground battle, and 150 allied casualties, the war was over. Saddam had lost almost everything, but the allies made the mistake of not completing what they started.((Jim Marshal-The Mistakes of The Gulf War 1998)

According to the New Modernist Dimension one could say that the outcome of wars were the result of strategic management usage.

In the first case, it could be said that US lost the Vietnam War due to a lack of foresight of situations and experimenting new procedures during the war without knowing it. Top commanders had their own agendas, but then was not a link between them. Also their agendas were not a part of a general plan. The chance events were not considered opportunities so they did not exploit them. This combination was, finally, lethal for the US Military Forces involved in this war.

In the second case, it could be said that US top commanders gave to us a strategic management lesson. All New Modernist Dimensions were carefully respected so that the result was an expected one in terms of the strategic management. The leadership was selected from the experienced officers, veterans of Vietnam War. Troops were trained in the similar conditions in Nevada Desert. Branches had their own agendas included in the general plan. Planning emerged from field situations. Chance events were opportunities, which was very well exploited and organizational requirements was well accomplished. It could be a good reason for the military to maintain a tied link with other fields, which could be a good source of information or comparison.

CONCLUSION

During ancient times, strategy became one of the major issues, which was developed to win in wars. Great philosophers of antiquity, like Xenophon and Sun Tzu, stated the first rules of strategy. After that, strategy was developed in various fields like politics, economics, and industry, so in our days has become a science, which could be applied to all areas of activity. There are some thinking schools presented in this paper and one, The New Modernist School, was selected as a framework to analyze two wars in terms of how the strategic management was used.

The paper presented the military origins of strategy, meaning and use of strategic management, The New Modernist Dimension and, the use of strategic management in the Vietnam and Persian Gulf wars.

Looking for the universal applicability of the strategic management, it becomes easy to understand why the military has to pay more attention to others who have the same preoccupations in this area. Respecting the basic rules of strategic management could be a strong background to influence the outcome of a war.

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THE REVIEW OF THE NATO DEFENCE PLANNING PROCESS. IMPLICATIONS ON THE ROMANIAN DEFENCE PLANNING

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INTRODUCTION

The previous review of the NATO Defence Planning Process, completed on 2004, introduced a ten-year planning period with the aim to facilitate the use of a step-by-step approach to overcome the Alliance shortfalls and to better support the national long-term planning and acquisition cycles. A four-year planning cycle with four-year elements (Political Guidance and Force Goals) and bi-annual elements (Defence Reviews) was adopted and the use of Reinvestment Goals was meant to better support the defence reform and transformation process of the Nations and of the Alliance as a whole. A greater emphasis was placed on a capability-based approach in the process of deriving the Minimum Military Requirement and formulating the Force Goals addressed to Nations³⁶.

On June 2008, the defence ministers of the Allied Nations tasked the Executive Working Group (Reinforced)³⁷ to conduct a review of the NATO Defence Planning Process. The existing defence planning processes are the result of evolutionary development. The capability development is the outcome of their functioning within each of the distinct domains; however each domain exists within its own “stovepipe” and the capability development is not conducted in a holistic approach. Moreover, the deficiencies in providing forces and capabilities for the ongoing operations, a complex process involving a large number of structures and the difficulty of incorporating the lessons learned, led Nations to express the desire for a further review of the NATO Defence Planning Process with the aim to integrate, to the extent possible, all the various strands of the capability development. An evolving comprehensive approach and opportunities for increased coherence of capability development with European Union and partner nations with a view to avoiding unnecessary duplication are elements of this review.

The review of the NATO Defence Planning Process was conducted during three phases which were completed on October 2008, April 2009 and the last one on June 2009.

³⁶ This is an unclassified document and all the information herein has been extracted from unclassified reference documents, both NATO and national.

³⁷ EWG(R).

I. OVERVIEW OF THE DEFENCE PLANNING PROCESS

I.1. Definition, aim, main elements

In accordance with AAP-42 edition 1 (2007), NATO Glossary of Standardization Terms and Definitions, the defence planning is “The political and military process used by nations to provide the capabilities needed to meet their defence commitments. Note: NATO defence planning takes into account the political, economic, technological and military factors that influence the development of capabilities to implement the Alliance strategy.” This definition was agreed by the Terminology Panel of the NATO Committee for Standardisation (NCSTP). But when it was forwarded to the Military Committee Terminology Conference for inclusion in AAP-6 (the NATO Glossary of Terms and Definitions), it was rejected. Several nations wanted to change it, in different ways, and SHAPE suggested that both the words “defence” and “planning” were well understood and that there was little to be gained by developing an agreed definition.³⁸

The aim of defence planning is to provide a framework within which national and NATO defence-related planning can be harmonized so as to meet the Alliance's agreed requirements in the most effective way. In other words, defence planning seeks to ensure that the Alliance has the necessary range of forces that are interoperable and adequately prepared, equipped, trained and supported as well as the associated military and non-military capabilities to undertake the Alliance's full spectrum of missions in accordance with the Strategic Concept. As such, it covers both NATO's own capabilities and those of Allied countries.³⁹ The process has to focus on medium and longer term capability development, while at the same time remaining responsive to unanticipated requirements arising from current operations.

NATO defence planning could address some non-military capabilities and expertise which go beyond the primary expertise of military structures to achieve the desired result on a NATO-led operation and to support the necessary synergy between the various actors. It could also address non-military capabilities and expertise to complement the military support to stabilisation operations and reconstruction efforts. These non-military capabilities could be sought from existing and planned means in national inventories of those nations that are willing to make them available. In addition, contracting civil assets could be used by nations, as appropriate, to temporarily meet or overcome capability shortfalls (e.g. strategic lift). However, NATO has no requirement to develop capabilities strictly for civilian purposes.

The NATO Defence Planning Process consists of five main functions or steps which are generally sequential and cyclical in nature, although the frequency of the individual functional activities may vary and the function of facilitating implementation is a continuous activity:

1. establish political guidance;

³⁸ Defence and Force Planning in Historical Perspective: NATO as a Case Study by Holger Pfeiffer, 2007 (Holger Pfeiffer is former Deputy Assistant Secretary General for Defence Policy and Planning of NATO).

³⁹ http://www.nato.int/cps/en/natolive/topics_49202.htm#framework

2. determine requirements;
3. apportion requirements and set targets;
4. facilitate implementation; and
5. review results.

Any of these elements can be conducted out-of-cycle, or at intermediate intervals, if deemed necessary.

Within the first step, the political guidance provides the overall aims and objectives to be met by the Alliance within the framework of the defence planning process. It clearly defines the ambition level: what the Alliance should be able to do in broad qualitative and in quantitative capability terms as well as the associated priorities.

During the second step, a comprehensive and detailed analysis will be conducted to identify the capabilities required to achieve that ambition level and to steer capability development efforts of Allies and within NATO.

Next is the function of apportioning requirements to nations and setting targets for them, on the basis of fair burden sharing and reasonable challenge. These targets can be met either individually or by using a multinational approach and some targets or target elements can be assigned for collective implementation (i.e. NATO common-funded).

Facilitation implementation, the fourth function, is a continuous activity. It seeks to acquire the capabilities required by the Alliance by monitoring and encouraging national implementation by facilitation and supporting multinational implementation and by executing collective implementation.

The fifth function, review results, examines the degree to which the aims and objectives set out in the NATO political guidance and the associated targets have been met. It also seeks to assess the ability of NATO to meet its ambitions and offers feed-back and direction for the defence planning process and its associated activities for the next cycle and /of any necessary mid-term and out-of cycle actions.

All these steps/functions will be covered in detail within the second chapter, “Functions of the Defence Planning Process”.

I.2. Structures and their responsibilities

The structures/bodies involved in the NATO Defence Planning Process are the EWG(R), the NATO Defence Planning Staff Team and the Military Committee (MC). Their responsibilities are explained in the following paragraphs.

The EWG(R) will be responsible, on behalf of the NAC, DPC and NPG⁴⁰, for the development of defence planning-related policy and the overall coordination and direction of the NATO Defence Planning Process activities. The EWG(R) is expected to present holistic, integrated advice to the NAC, DPC and NPG, taking into account all the relevant aspects, including military factors and ensuring coherence of planning and capability development efforts throughout the defence planning process. Although the EWG(R) will not be placed between the NAC, DPC and NPG and other

⁴⁰ North Atlantic Council, Defence Planning Committee and the Nuclear Planning Group.

senior committees, it will serve as the central body to oversee the work of the NATO bodies and committees responsible for the planning domains, providing feedback and, as required, defence planning process-related direction to them. It will have no responsibilities or involvement in activities pursued by other committees which lie beyond the scope of the NATO Defence Planning Process. These planning domains include the traditionally recognised seven defence planning disciplines (armaments, C3, civil emergency, force, logistics, resources and nuclear) plus the air defence, air traffic management, intelligence, military medical, research and technology, and standardisation communities. The EWG(R) will be responsible for the following tasks on behalf of the NAC, DPC and NPG⁴¹:

1. Prepare political guidance for defence planning.
2. Note a synopsis of the Minimum Capability Requirements, including a summary of the priority shortfall areas identified by the SCs⁴² believed to offer the greatest potential to improve Alliance mission effectiveness and interoperability in the short, medium and long term.
3. Assign lead responsibility for resolving specific capability shortfalls to applicable planning domains.
4. Finalise capability targets for individual Allies and the targets to be implemented by using common funding.
5. Conduct periodic reviews of Alliance capabilities, including efforts to resolve capability shortfalls.
6. Provide reports and advice to the NAC, DPC and NPG on defence planning and capability development efforts, including those made to satisfy lessons learned.
7. Address general capability-related policy issues.
8. Coordinate and, where applicable, direct the activities of the relevant committees/bodies in the context of the defence planning process.
9. Be responsive to capability-related requirements emanating from/identified in the context of operations and cooperation with partners.

The EWG(R) will be chaired by the Deputy Secretary General, who has the authority to delegate chairmanship or invite a co-chairman. Thus, the committee can be chaired or co-chaired by the relevant Assistant Secretary General(s), the Deputy Chairman of the Military Committee and/or the Director of the International Military Staff, as appropriate. In view of the politico-military nature of the work and given that most issues would have various aspects, and in order to ensure that the relevant expertise would be available, nations will have, as a general rule, two seats at the table.

The NATO Defence Planning Staff Team will provide the necessary staff support. This team is not a standing organisation, but will be task-organised as required by drawing on civilian and military expertise from within the different NATO staffs and planning domains. The management of and responsibility for the output or product to be developed will remain with the NATO entity which is

⁴¹ Outline Model for a NATO Defence Planning Process, phase 2, PO(2009)0042.

⁴² Strategic Commands, i.e. Allied Command Operations (ACO) and Allied Command Transformation (ACT).

responsible for a specific part of the work in accordance with the provisions set out in the documents describing the new and revised NATO Defence Planning Process.

In order to coordinate the composition and work of the Defence Planning Staff Team and to align and de-conflict staff efforts related to defence capability delivery across the various planning domains and between the various staffs, an internal coordination mechanism will be established under the authority of the Secretary General.

The Military Committee (MC) is engaged in the work of almost all planning domains. The MC will provide separate, collective and agreed military advice. Military aspects will be covered throughout the process, through participation of national military representatives and NATO Military Authorities (NMA) staffs in the EWG(R), Senior NMA staff representation in the internal coordination mechanism, and through MNA staff involvement in the Defence Planning Staff Team. The MC will retain its right to provide advice during the development of the political guidance. After the political guidance is finalised, the MC could provide one set of supplementary guidance consistent with the political guidance to the SCs on the conduct of their work during the remainder of the process. Parallel to the EWG(R)'s examination of country assessments, the MC, based on the SCs Suitability and Risk Assessment, should continue to develop its Suitability and Risk Assessment in the military suitability of the plans and the risks associated with them in relation to the political guidance, including the Level of Ambition. In view of the special role of the MC vis-à-vis the NAC/DPC/NPG, the MC will retain its right to offer independent military advice to them.⁴³

II. Functions of the Defence Planning Process

II.1. Step/Function 1 – establish political guidance

The purpose of this step is to develop a single unified political guidance document for defence planning which sets out the overall aims and objectives to be met by the Alliance. It translates guidance from higher strategic policy documents, in sufficiently detailed direction to guide the defence planning efforts of the various planning domains both in nations and in NATO towards determination of the required capabilities. This guidance contains information currently set out in the Strategic Concept 1999 and in the Comprehensive Political Guidance 2006. As a result of that unified political guidance, the requirement for separate additional political guidance documents for defence planning will be prevented.

The political guidance should reflect the political, military, economic, legal, civil and technological factors which could impact on the development of the required capabilities. It will aim at defining, among others, the number, scale and nature of the operations the Alliance should be able to conduct in the future (the Level of Ambition), associated priorities and timelines as well as the requisite qualitative capability requirements to support this ambition as a means to better steer

⁴³ Outline Model for a NATO Defence Planning Process, phase 2, PO(2009)0042.

the capability development efforts of Allies and within NATO. The political guidance will be developed taking into account that the majority of capabilities sought by the Alliance are and will be provided by individual nations. The political guidance will be reviewed at least every four years.

The EWG(R) is responsible for preparing the political guidance. The first draft will be developed by the Defence Planning Staff Team taking into account initial inputs which may be provided to the EWG(R) by NATO bodies and committees responsible for the various planning domains. This draft will be forwarded to the EWG(R) for further development by nations. Once the draft guidance is sufficiently mature, the EWG(R) will forward it to the NAC/DPC/NPG for submission to and approval by Ministers and endorsement by Heads of State and Government.

II.2. Step/Function 2 – determine requirements

The SCs, taking into account any guidance deemed necessary from the MC consistent with the political guidance, identify the complete set of capabilities considered necessary to meet the quantitative and qualitative ambitions set out in the political guidance for defence planning through a structured, comprehensive, transparent and traceable process, which used analytical support tools and relevant NATO expert analysis. The output of this analysis is a single set of requirements to support the planning efforts of all planning domains. The process uses, among others, NATO agreed intelligence, results from previous planning cycles, including responses to the NATO Capability Survey, established conceptual analyses and lessons learned, in particular from operations, as well as from exercises and other activities.

The SCs are responsible for the identification of the requirements and the associated shortfalls but each of the planning domains will join in the analysis, and they will be represented at the appropriate level throughout this step. Their active engagement throughout the analysis will assist the SCs in providing a sound framework for further work, which, ultimately, needs to be usable by each planning domain. The complete requirements determination will be conducted every four years, although a mechanism for out-of-cycle adjustments, mid-point revisions or updated will be provide to ensure flexibility.

The SCs will provide sufficient transparency and rationale in response to the Nations' strong interest in how the requirements have been developed and understanding the rationale underlying those requirements, because the results will be translated into targets addressed to them. Nations will be invited to observe the key milestone and decision points and they will be briefed before, during and after the analysis.

After the single set of required capabilities, the Minimum Capability Requirements⁴⁴ is determined, the SCs will conduct a comparison between these and

⁴⁴ The complete set of capabilities, needed by the Alliance to meet its Level of Ambition and other agreed objectives set out in political guidance will constitute the Minimum Capability Requirements, formerly referred to as Minimum Military Requirements. They will also cover other areas such as LTCRs and interoperability requirements. The Minimum Capability Requirements will be made available to Nations.

the existing and planned national, multinational and NATO owned capabilities potentially available for Alliance operations, and identify the resulting shortfalls in required capabilities which prevent the Alliance from meeting its Level of Ambition. This complete set of shortfalls form a subset of the Minimum Capability Requirements and will be used by the SCs to derive a set of priority shortfall areas taking into account the risks associated with each shortfall. The comparison will also identify overall generic surpluses against the Minimum Capability Requirements.

A synopsis of the Minimum Capability Requirements, including a summary of the priority shortfall areas identified by the SCs, will be presented by the Defence Planning Staff Team and discussed at the EWG(R) for notation and subsequently be used to assist in the development of targets. The MC will also be briefed and have an opportunity to note the product.

II.3. Step/Function 3 – apportionment of requirements and setting of targets

The target setting initially apportions the overall Set of Minimum Capability Requirements to nations in the form of target packages. The apportionment is conducted respecting the principles of fair burden sharing and reasonable challenge. The development of targets to be implemented by using common funding will also be included. This step in the process is conducted every four years but there is the possibility for the introduction of out-of-cycle targets in response to the needs of the Alliance and individual Allies. The option of a full revision or an update at the mid-term point will be retained to react to a change in the security environment or a change in political guidance.

The Defence Planning Staff Team, initially led by the SCs and incorporating the appropriate subject matter expertise from the planning domains, will develop targets for existing and planned capabilities against the Minimum Capability Requirements and will consolidate them in the draft target packages together with their associated priorities and timelines. Targets should be expressed in capability terms and be flexible enough to allow national as well as multinational implementation.

Following notation of the synopsis of the Minimum Capability Requirements, the Defence Planning Staff Team develops preliminary courses of action to address the priority shortfall areas or shortfall elements. Initial possible solutions to overcome the shortfalls through national, multi-national, collective efforts or a combination, are identified. These initial proposals, to the extent they require national consent, will be forwarded for approval at the EWG(R), particularly in the case of suggestions concerning lead responsibilities and proposals for multinational and collective efforts.

Each draft comprehensive package for Allies (addressing national and multinational efforts) will first be forwarded to the relevant nation to seek national views on acceptance of the targets and be further clarified with the nation concerned during a meeting. In case a nation agrees to all draft targets and it or the NATO staffs seek no additional clarification on its targets the envisioned meeting may be cancelled. During this phase, the Defence Planning Staff Team will also take account of information on the specific circumstances and priorities of the nation concerned

with the aim to further refine the package of NATO targets and to provide advice on what constitutes a reasonable challenge for that nation.

Following discussions with nations, leadership of the Defence Planning Staff Team will be transferred from the SCs to the IS. The Defence Planning Staff Team will further refine the individual draft target packages and provide advice on tailoring the packages in line with the principle of reasonable challenge. The packages will be forwarded to Allies with a recommendation of what targets should be dropped to respect the principle of reasonable challenge. Allies will review these packages during a series of multilateral examinations. In case individual nations contest any targets in their draft package, Allies will have the opportunity during these multilateral examinations to test the nation's objections against the principles of reasonable challenge and fair burden sharing and either accede to the nation's request or insist that the target(s) remain(s) in the relevant packages. During the multilateral examinations, the working practice of consensus-minus-one will be continued.⁴⁵

The Defence Planning Staff Team will also develop draft targets for implementation using NATO funds. These proposals for collective targets will be forwarded for review to the Senior Resource Board (SRB) which will report back to the EWG(R) on its deliberations.

The agreed packages (national packages of targets and targets to be implemented by using common funds), together with a Summary Report on the targets as a whole, will subsequently be forwarded to the NAC/DPC/NPG for submission to Defence Ministers for adoption. The summary will include an assessment of the potential risk associated with the total of targets which had been removed from the initial packages in which all requirements were apportioned and the possible impact on the delivery of the Alliance's Level of Ambition.

II.4. Step/Function 4 – facilitating implementation

This step assists national efforts and facilitates multinational and collective efforts to satisfy agreed targets and priorities with a view to the coherent and timely delivery of the capabilities sought by agreed target packages. The arrangements set out in this step will focus on addressing the most important capability shortfalls, particularly by encouraging national implementation, facilitating and supporting multinational implementation and executing collective (common-funded) acquisition of the capabilities required by the Alliance. National implementation of standardisation products developed to improve interoperability will also be facilitated. Unlike other steps in the process, this step/function is continuous in nature.¹⁰

The delivery of Allied capabilities will require a continual assessment of progress across planning domains and the EWG(R) will decide which specific capability development efforts will be monitored in detail. The Defence Planning Staff Team will identify further actions to be taken, including solution development, will conduct planning activities and develop proposals for allocating lead

⁴⁵ Outline Model for a NATO Defence Planning Process, phase 2, PO(2009)0042.

responsibilities where this has not already been done, will offer suggestions for multinational solutions, as appropriate, and will identify the need for remedial action if necessary. Any actions which fall within the competence of the NATO staffs will be coordinated through an internal coordination mechanism. The Defence Planning Staff Team will provide advice on defence structures and capability development to individual Allies upon request.

The EWG(R) will regularly develop factual reports for the NAC/DPC/NPG as well as for Defence Ministers on the progress made to facilitate additional directions at the highest political level aimed at overcoming the most important capability shortfalls in a timely manner. As a minimum, Defence Ministers will receive an annual report as envisioned under the next step.

II.5. Step/Function 5 – review results

The NATO Capability Review scrutinises and assesses Allies' defence and financial plans as well as collective efforts with a view to providing an overall assessment of the degree to which the combined Alliance forces and capabilities are able to meet the political guidance, including the NATO Level of Ambition. In addition, the NATO Capability Review provides a key mechanism for generating feedback, any associated recommendations, and input to the next cycle. Capability reviews will be carried out every two years to assess the degree to which individual nations and NATO bodies responsible for implementing commonly funded projects are meeting their respective NATO targets and individual nations are contributing to an equitable sharing of the roles, risks and responsibilities.⁴⁶

The review process begins with the development of the NATO Capabilities Survey, which seeks information on national plans and policies, including on Allies' efforts (national, multinational and collective) to address their targets. It also seeks information on the national inventory of military forces and associated capabilities, any relevant non-military capabilities potentially available for Alliance operations, and national financial plans.¹¹ The SRB will provide a report on targets to be implemented by using common funds. The NATO Capabilities Survey is developed and approved for release by the EWG(R) and since the national responses will cover all planning domains, inputs from other appropriate bodies and staffs are taking into account in developing the survey.

The Defence Planning Staff Team will conduct a preliminary analysis and produce draft assessments for each Ally based on the Allies' responses and the SRB progress report. These assessments consist of an appreciation of the national plans, the forces and capabilities available to fulfil the full range of Alliance missions, contributions to ongoing operations and the NRF, the ability to meet the targets and the available resources for the existing plans. The assessments will include a brief statement by the SCs on the impact of the national plans on the ability of SACEUR to conduct his missions. This statement will not be subject to any review of approval process by any NATO committee.

⁴⁶ Outline Model for a NATO Defence Planning Process, phase 2, PO(2009)0042.

The draft assessment will be circulated to the nation concerned and a discussion between the national authorities and the Defence Planning Staff Team will be conducted in the national capital or at NATO Headquarters or by using teleconferencing services in order to ensure that the information in the draft assessment is correct, areas that require clarifications are addressed and to seek any additional information necessary to complete the draft assessment. Following these meetings, the draft assessments are revised and submitted to the EWG(R) for review and approval during a series of multilateral examinations where the working practice of consensus-minus-one will be continued.

Based on the Strategic Commanders Suitability and Risk Assessment, the MC will develop the Military Committee Suitability and Risk Assessment on the military suitability of the plans and the degree of military risk associated with them in relation to Political Guidance for defence planning, including the Level of Ambition.

Using the country assessments and the Military Committee Suitability and Risk Assessment, the EWG(R) prepares a NATO Capabilities Report, highlighting individual and collective progress on capability development as it relates to NATO's Level of Ambition. The report will also provide an assessment of any associated risks, including risks associated with non-apportioned capability requirements. The report should also contain further direction to steer capability development. The NATO Capabilities Report, with the approved assessments as annexes, will be forwarded through the NAC/DPC/NPG to Defence Ministers for endorsement.

In intermediate years, the EWG(R) will develop a NATO Capabilities Progress Update, focussing on progress and/or impediments in overcoming the most important capability shortfalls. The Progress Update will be based on information generated by the planning domains, other capability-related bodies and the relevant staffs, in particular as a result of the monitoring function envisioned in the previous step/function. Once agreed by the EWG(R), the NATO Capabilities Progress Update will be forwarded through the NAC/DPC/NPG to Defence Ministers for endorsement.⁴⁷

Nations are expected to notify the other nations in advance (prior to final decisions) of any significant changes in their defence structures.

III. IMPLICATIONS ON THE ROMANIAN DEFENCE PLANNING

This chapter does not have the intention to describe the Romanian Defence Planning System but only to point out its main elements and the interactions with the NATO Defence Planning System mechanisms and their impact on the national defence planning.

The Romanian Defence Planning is conducted in accordance with the provisions of the Law on Defence Planning – the law 473/2004. This law stipulates that the national defence planning is an essential component of the Romanian defence policy and it consists of complex activities and measures meant to promote the national interests and to define and fulfil the defence-related national security

⁴⁷ Outline Model for a NATO Defence Planning Process, phase 2, PO(2009)0042.

objectives. The national defence planning process includes the programmes, actions and measures initiated by Romania to contribute to security and collective defence within the Alliance and within the EU, to continue and enhance the bilateral and multilateral military cooperation and to meet its commitments to other international organisations, agreements and conventions.

Diagram 1, on the next page, translates into a graphical format the provisions of the Law 473/2004 concerning the main elements of the Defence Planning Process and their functional interactions and relations.

The diagram clearly depicts that the main NATO documents directing the NATO Defence Planning Process are used to provide inputs into the main elements of the national defence planning process. Thus, the Defence White Paper, with 4 years validity, is developed by the Ministry of National Defence on the basis of the National Defence Strategy, the Government Programme and the NATO Strategic Concept. Next, based on the Defence White Paper, National Defence Strategy and NATO Political Guidance, the Ministry of National Defence drafts the Military Strategy. And last, but not least, the minister of national defence develops the Defence Planning Guidance based on the Defence White Paper and several relevant NATO defence planning documents among which NATO Strategic Concept and NATO Political Guidance are included. Going further, the remaining elements of the national defence planning process, the defence Operational Plans and the Armed Forces' Programmes, receive indirect inputs from defence planning related NATO documents through the Military Strategy and the Defence Planning Guidance.

It is obvious that given the functional relations between the above mentioned NATO documents and the Romanian Defence Planning structural elements, implications are to be expected following changes or updates of the Alliance's Defence Planning System.

At this point it is worth mentioning that from its inception, the Romanian Defence Planning System was harmonised with the Alliance's Defence Planning System at two tiers:

- the first is the incorporation of the main provisions of NATO defence planning related documents into the national defence planning at all levels and stages; and
- the second is the temporal alignment of the two defence planning systems.

Currently, the temporal alignment has become partial because the Defence Planning Guidance looks at a six years time frame while the NATO defence planning period is ten years. The reason is that at the time the Defence Planning Guidance was introduced as a main tool of the national defence planning, the NATO defence planning period used to be six years. It is unlikely that for the next future the six years time frame will be increased to ten years. This difference is not a problem because, although the Armed Forces Programmes are designed for a six years timeframe, the implementation plans for the Force Goals/Targets are developed with provisions for the ten years NATO planning period. Additionally, it is not possible to synchronise the national main documents with the Allied main documents.

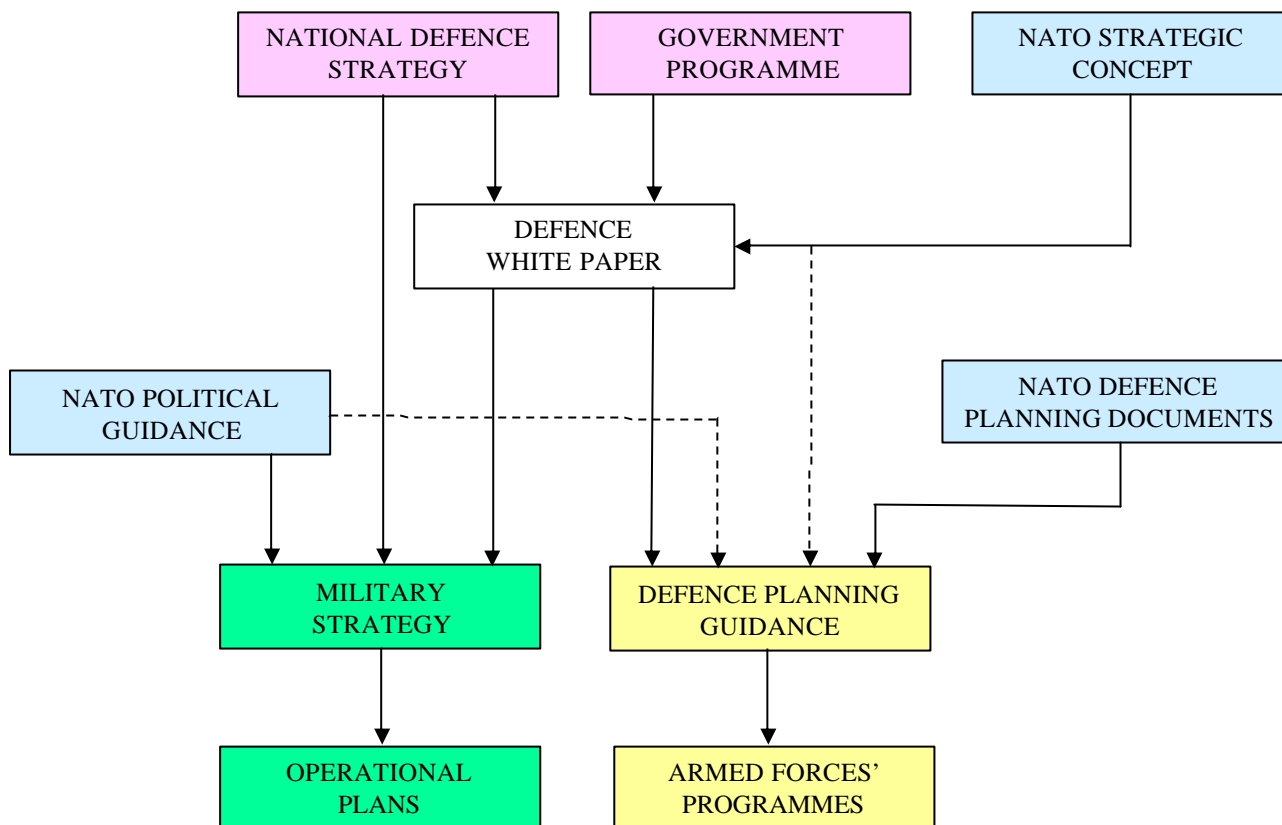


Diagram 1: Elements of the National Defence Planning System and the associated functional relations, according to the Law 473/2004.

The national documents are issued in relation with the election years, when the government and the president are requested to produce new main defence planning documents, and the election years are not synchronised with the years when the Allied main documents are published. This is also not a problem because the new national main documents will be in line with the provisions of NATO documents that are in force at the time of their approval.

The result of this analysis is twofold: firstly, given the manner the Romanian Defence Planning System was created to closely interact at all levels and during all stages with the NATO Defence Planning System, updates and changes in the Alliance's Defence Policy will be mirrored in the Romanian defence planning documents. This is a normal and expected course of action for a member of the Alliance and is not directly related to the latest review of the NATO Defence Planning System. The Defence Policy of the Alliance is periodically updated and adapted to the realities of the strategic security environment and the national defence planning system takes into account the latest developments of this policy.

Secondly, changes or updates of the internal mechanism of the NATO Defence Planning System do not have a direct influence on the national defence planning, as long as these changes do not considerably modify the manner the Alliance interacts with the Nations in terms of defence planning. Of course, all the new elements, such as, for instance, the enhanced opportunities to develop capabilities using a multinational approach, must be known and their implementation observed and

supported if and as requested by the Alliance, but they do not impact on the regular functioning of the national defence planning mechanisms as they are described by the current national laws and regulations.

Finally, although this paper did not concentrate on the analysis of the Romanian Defence Planning System itself, as a matter of opinion, I would like to mention that the next update/review of this system should take into account that according to the Law 473/2004 there is no relation what so ever between the Military Strategy on one hand and the Defence Planning Guidance and the Armed Forces' Programmes on the other hand. In my view, both the planning guidance and the programmes should be developed based on the Military Strategy which plays a critical role in the process of deriving the necessary forces and capabilities, in accordance with the national strategic security interests and objectives and with the capability requirements addressed by the Alliance.

CONCLUSION

The new NATO Defence Planning Process and the associated methodologies developed by the EWG(R) have the potential to improve the synergy between all activities related to the development and delivery of forces and capabilities which are interoperable and adequately prepared to undertake the Alliance's full spectrum of missions. A single unified political guidance document for defence planning which sets out the overall aims and objectives to be met by the Alliance will be developed.

The updated mechanisms are thought to be flexible enough in order to involve all planning domains aiming at eliminating the duplication of efforts and thus increasing the overall efficiency. Avoiding unnecessary duplication is the desired outcome of an evolving comprehensive approach and opportunities for increased coherence of capability development with European Union and partner nations.

The new NATO Defence Planning Process will be able to better assist nations in their efforts to develop the necessary forces and capabilities, providing transparency and offering enhanced possibilities for effective multinational solutions. Moreover, it has the potential to engage military and non-military aspects in a more cohesive manner throughout the process. Comprehensive target packages including national targets, targets to be implemented by using common funds and targets seeking to eliminate the shortfalls will be addressed to nations.

Continuous assistance to the national, multinational and collective efforts to satisfy agreed targets and priorities with a view to the coherent and timely delivery of the capabilities sought by agreed target packages will be provided.

A continual assessment of progress across planning domains with a focus on addressing the most important capability shortfalls will be conducted. The EWG(R) will decide which specific capability development efforts will be monitored in detail with a view to provide support and effective solutions.

A transition and implementation plan was developed to direct and coordinate the transition to the new NATO Defence Planning Process.

The Romanian Defence Planning System will not be critically affected by the new NATO Defence Planning Process but nevertheless it will continue to adapt to the new NATO political guidance and the evolving mechanisms of the Alliance, always trying to timely deliver interoperable forces and capabilities as sought by the agreed target package.

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HOST NATION SUPPORT PLANNING PROCES AS RESOURCES MANAGEMENT TOOL FOR MULTINATIONAL JOINT OPERATIONS

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INTRODUCTION

The new logistic and operational conceptions and capabilities specific to deployable forces and expeditionary operations require the transformation of the classic operational context and enable the forward deterrence, through small-sized forces and backup. Operations Iraqi Freedom and Enduring Freedom have already shown the importance of the increase in command readiness, as well as the terrible impact the network and force dispersal can have on the rapid force projection and the rising efficiency in the conditions of the modern battlefield. In the new context, in order to achieve the desired kinetic or non-kinetic effects, some realities from the theatre of operations indicate that the allied forces and coalitions will preponderantly use packages of forces and capabilities rigorously configured to meet the operational requirements. This will contribute to increasing the efficiency of operations and the flexibility and adaptability of command as well as to pronouncedly evening out command and control hierarchies.

Sustainability of these forces in theatre of operations is achieved by operating in day by day actions with the multinational logistic concept. The main objective of this concept, in order to realize the logistic support, is flexibility. It is known that finally the responsibility for logistic support belongs to each troupe contributing nation to that specific operation⁴⁸. But in the last years a new trend leads to the necessity to make this responsibility collective. In this collective responsibility are involved equally the logistic capabilities of each troupe contributing nation and the allied or coalition logistic capabilities as well⁴⁹.

In order to make the logistic support efficient in any circumstances, NATO rely on a number of logistic concepts and structures which demonstrated in time the ability to respond to a great diversity of requests in the field of combat service support. These logistic concepts and structures are:

- National Logistics;
- National Support Element - NSE;
- Host Nation Support - HNS;
- Resources in the JOA;

⁴⁸ *** NATO Handbook, 1110 Brussels, 2001;

⁴⁹ *** NATO Handbook, 1110 Brussels, 2006;

- Logistic Lead Nation - LLN;
- Mutual Support Agreements - MSA;
- Logistic Role Specialization Nation - LRSN;
- Multinational Integrated Logistic / Medical Support Units - MILUs or MIMUs;
- Third Party Logistic Support Services - TPLSS.⁵⁰

In any NATO operation the purpose of the Host Nation Support concept is to provide effective support to the Joint Force Commanders. Also, very important is to achieve efficiencies and economies of scale through the best use of a host nation's available resources. Because of the NATO's mobile and flexible multinational forces HNS concept should provide a flexible support framework in order to enable the deployment and the sustainability in the theatre. Such support is dependent on cooperation and coordination between NATO and national authorities and the establishment of HNS arrangements based upon the best use of available host nation resources. Very important to put into practice is a flexible but focused generic approach to the HNS planning.

I. HNS DEFINITION AND WHAT CAN BE PROVIDED

HNS represents the civil and military assistance rendered in peace, emergencies, crisis, and conflict by a Host Nation - HN to allied forces and organizations, which are located on, operating in or transiting through the HN's territory⁵¹.

HNS from civilian resources can provide Sending Nations - SN forces with supplies and equipment that may be more readily acquired locally than through the SN support system. Host nationals are familiar with local customs, facilities, equipment, and other resources. Thus, HN personnel are likely to be more able to provide some forms of support than SN personnel. This support may range from agricultural and dairy products to locally crafted products and locally produced repair parts.

HNS to SN forces from military resources can include the efforts of transportation units, decontamination units, casualty evacuation, and security and other units. These HN units may be organized into HNS commands to act as central coordinators for HNS requirements and assignments. In some cases, an HN may develop units specifically designed to support SN forces. For example, these HN units may provide traffic control and convoy escort. Or HN guard companies may provide installation security. Truck companies may be used for cargo and troop transportation. And repair units may provide maintenance support. The force commander determines the functional types of support needed. The scope of such support is limited only by the availability of resources and by the ability to reach an agreement concerning its use.

⁵⁰ *** Allied Joint Logistic Doctrine AJP-4(A), 2003;

⁵¹ *** MC 334/1 NATO Principles and Policies for Host Nation Support

II. HNS PLANNING PROCES

To be effective, HNS must be planned and coordinated well in advance. There must be firm understandings and commitments. HNS is theatre and situation-dependent. The form and degree of support that is needed depends on headquarters with whom the HNS components work.

II.1. HNS planning in the integrated process of operational planning

Logistics planning is integral part of Defense planning. Defense planning in turn consists of two planning systems – the Defense Planning Process (DPP) for NATO nations and the Partnership for Peace (PfP) Planning and Review Process (PARP) for PfP nations. While defense planning aims to ensure that NATO-led operations are supported by appropriate force structures and capabilities, operational planning aims at preparing NATO to execute those missions. Overall, logistic planning provides a significant input to both defense and operational planning. HNS planning, as an integral part of logistic planning, plays an important part in both defense and operational planning.

In support of defense planning, HNS planning may be used to identify HNS capabilities that nations may make available to support NATO operations, thereby reducing the overall force structure requirement. The development of Standing HNS Memorandum of Understanding - MOU with NATO and PfP nations can be considered as supporting defense planning because it puts into place the political framework upon which follow on HNSA can later be developed to support operational planning.

In support of operational planning, HNS planning identifies the HNS requirements for Contingency Operation Plans - COP, non Article 5, Crisis Response Operations - CRO or exercises, and seeks to secure support from the HNS to the maximum extent possible.

Long term HNS planning should be undertaken to ensure that Standing HNS MOU, are developed by the Strategic Command - SC with NATO and PfP countries to complement general defense planning work. Once planning commences for a specific operation, exercise or COP, then the Standing HNS MOU is applicable for all missions. If a Standing HNS MOU does not exist, then other documents should be reviewed for applicability. It is important for HNS planning to be fully integrated with the logistics planning process. Planning for the HNS portion of the overall logistics concept for an operation requires good co-ordination between the NATO planners, HN and SN throughout the series of logistic planning conferences which precede the operation. Non-NATO SN should take part in the planning process at the earliest possible stage in order to permit them to identify their HNS requirements to the HN and NATO Commander. Co-operation by all participants will allow HNS planning to proceed in concert with the operational plan.

II.2. Stages and results of the HNS Planning Process

HNS planning process is part of the logistic planning and when is fulfilled properly could influence the size, the structure and the way in which the logistic support is performed for the forces in the theatre of operations. In order to conduct a successful HNS planning process it has to take into consideration the principles that governed this activity: responsibility, proper supply, authority, cooperation, coordination, economy, visibility and reimbursement⁵². The HNS planning process is developed through a series of stages that have, at the end precise results in terms of specific documents and/or activities.

Stage 1: Submission of HNS Request and Development of the MOU. First priority must be given to examining existing MOU or similar arrangements to determine their applicability for the operation/exercise/contingency planning requirement in question. If necessary, additions or subsequent improvements are to be negotiated.

The Memorandum of Understanding - MOU is the foundation document in the HNS planning process. The MOU represents the formal establishment of the overarching principles for provision of HNS between the SC, the SN and the HN and establishes the basis for follow-on HNS documents. The HNS MOU is usually signed by the Strategic Commands. However, this authority may be delegated to a subordinate NATO Commander by a written delegation of authority. In order to save time and resources the SC should develop Standing MOU with potential HN(s). Standing MOU will remove the requirement for specific HNS MOU to be developed for each operation/exercise.

The SC will draft a HNS Request - REQ as soon as the need to conduct an operation or exercise is known. This will happen regardless of whether or not there is a Standing HNS MOU in place. The HNS REQ will summarise the need for HNS and outline the scope of the desired arrangement. A less formal form and notification of the HNS REQ may be adopted for crisis operations and minor exercises, where either economy of effort or time constraints render a full written request impractical. The HN will study the HNS REQ and should respond.

The MOU will be negotiated by the SC or the designated NATO Commander and HN authorities. The designated NATO Commander will notify identified SN and appropriate NATO HQ that MOU negotiations have been initiated for a specific operation/exercise. The SC will approve and sign the MOU.

Following signature, participating SN must be invited by the NATO Commander to accede to the MOU. Until this element of the process has been completed, only the HN and SC are committed to comply with the MOU. A SN's Note of Accession - NOA indicates the SN's willingness to join into the MOU and to fully accept its provisions. Statement of Intent - SOI, which should contain their reservations. In this case, the HN should either sign the SOI to confirm its willingness to accept the reservations, or otherwise indicate its reluctance.

⁵² *** MC 334/1 NATO Principles and Policies for Host Nation Support

Should any SN desire not to participate in the streamlined approach to MOU development, by providing a NOA or SOI, it may negotiate with the HN for development or use of a separate bilateral arrangement. In such circumstances, the HN should notify the NATO Commander of such separately negotiated arrangements.

The products of Stage 1 are: HNS REQ, the MOU and the NOA/SOI from each of the identified SN.

Stage 2 - Development of the Concept of Requirements – COR.

A Concept of Requirements - COR addresses broad functional support requirements (land, air, maritime, security, transportation, communications, facilities, etc). It provides the HN with a list of the required types of support, but does not yet furnish details regarding the timing and quantity of that support.

At the Initial Logistic Planning Conference - ILPC the NATO Commander will direct NATO formations and SN to develop outline COR. Where the detailed requirements are known in advance, the Statement of Requirements - SOR format may be used for the COR.

As authorized by the HN, the logistics staffs of the relevant NATO unit Commanders and SN will conduct preliminary reconnaissance within the HN as required, to produce their COR and submit them to the HN copied to NATO Commander.

The HN will identify any obvious shortfalls against the COR and discuss these with the appropriate NATO Commander and SN.

The product of Stage 2 is the COR which should provide the HN with a clear idea of the scope and scale of support, building on the information presented in the HNS REQ. In this respect, the COR(s) should be viewed as key documents in a continued effort to clarify actual HNS requirements.

Stage 3 - Development of the Technical Arrangement (TA) for Provision of Host Nation Support.

A Technical Arrangement - TA will be developed to amplify the concept and procedures for the provision of HNS common to all participants. Generally once the MOU has been concluded, the NATO Commander and the HN will establish a Joint HNS Steering Committee - JHNSSC to develop the necessary amplifying arrangements regarding HNS. A JHNSSC should be established in any event no later than the conclusion of the Main Logistic Planning Conference - MLPC. The JHNSSC is co-chaired by the NATO Commander and the HN. The JHNSSC should include representation from the NATO Commander's staff, identified SN(s), and any other relevant HN military and civil departments. Outline Terms of Reference – TOR for the JHNSSC are as follows:

- to determine HNS requirements and the need if any, to merge the activities of Stages 3 to 5 of the HNS planning process;
- to collectively discuss the TA, including its annexes;
- to be responsible for co-ordinating planning undertaken by JHNSSC sub-committees and to provide guidance and policy advice to those directly responsible for development of joint Implementation Arrangements – JIA;
- to monitor the progress of planning, in particular, regarding identification of SOR, development of JIA(s), and to provide direction as required;

- to identify courses of action for issues that cannot be resolved by the JHNSSC or any sub-committees formed and that may require action to be taken by other agencies, by SN, NATO Commands or HN.

For sizeable HNS planning tasks, it may be beneficial for the JHNSSC to form sub-committees to address elements of the task within functional areas. For example, related sub-committees may best address the approach to JIA development for each of the Land/Amphibious, Air and Maritime domains for a given Operation Plan. These sub-committees, which may be associated with JIA development, will normally be called Joint Implementation Committees – JIC. To address overarching matters for example as fuels, transportation and medical, Special Advisory Groups - SAG, may also be formed to provide input on these functional aspects to all the JIC(s), as required.

For some small and medium level exercises, it may be considered unnecessary to convene a JHNSSC.

The final product is a TA, with associated annexes. These annexes will focus on how the HN proposes to meet NATO and SN's requirements, as well as the general procedures and arrangements for effecting this. The TA should not duplicate information in other documents, such as the MOU, OPORD/EXOPORD, etc. Irrespective of whether or not the TA is discussed and finalized collectively (through the JHNSSC), it is signed bilaterally between the HN and the NATO Commander. The signature will be at Operational Level for NATO and in accordance with national protocols for the HN.

Following signature of a bilateral NATO/HN Technical Arrangement, the HN should invite SN to accede to the TA through a Note of Accession - NOA. SN may also provide a Statement of Intent - SOI with reservation to the HN with a copy to the NATO Commander. The SN may also develop separate TA with the HN.

Stage 4 - Development of the Statement of Requirements – SOR.

Once SN and NATO force contributions have been identified, and as far as practicable in parallel with the development of the TA, it will be important for the designated NATO Commander to work closely with the HN and SN, and where appropriate the JHNSSC, to determine the SOR. These SOR take the planning process from the generic to the specific, in that they require identification of the forces to be supported. Identification of SN and NATO forces is a prerequisite for proceeding with this stage. Economy of effort and the needs of all the SN scheduled to deploy to a given location are important factors, which need to be accounted for when determining HNS resource allocation. To this end, any site surveys conducted for the purpose of clarifying detailed SOR and the ability of the local bases/camps etc to support the NATO formation and/or SN forces should be conducted on a combined and joint basis.

Following the Final Logistic Planning Conference - FLPC and once SN have confirmed their troop contributions and final destinations, the designated NATO Commander in co-ordination with SN will confirm with the HN the number and location of site surveys, which need to be conducted in order to refine SOR and develop JIA. The designated NATO Commander and the HN will then construct a draft programme of site surveys to be notified to the SN(s). This programme will be

developed on the basis of ensuring wherever possible that site surveys are conducted on a combined joint basis. The designated NATO Commander will next issue a calling notice inviting SN to participate in the site surveys.

During each site survey, the designated NATO Commander and SN will coordinate their detailed SOR with the support required to be provided by the HN. The SOR(s) information will form an essential component of the final stage in the planning process and the development of the JIA. SN personnel deploying on site surveys should complete the SOR using the specific template and checklists. This detail should be incorporated into the annexes of the template JIA, at Annex I. In respect of specific service components completion of different questionnaires and SOR will be necessary.

Unit SOR should be drafted at the lowest appropriate level so as to include all HNS requirements needed by the unit. Unit SOR will be drafted by phases of the operation. Where a unit's support requirements do not change, as the operation transitions from one phase to the next then a single, multi-phase SOR will be sufficient. The designated NATO Commander and HN will identify possible shortfalls and advise the SN as appropriate.

The final product of this stage will be a set of SOR from each SN and NATO formation deploying to the HN. The SOR format will be used as the basis for development of the Annexes to the JIA outlining the HNS to be provided or they may be annexed to the TA when JIA are not produced.

Stage 5 - Development of the Joint Implementation Arrangement – JIA.

During this final stage, JIA may be prepared. In some cases particularly for small or medium level exercises, it may not be necessary to produce a JIA. The SOR would then stand-alone or be annexed to the TA. If a JIA is produced, planning is decentralized and will be conducted in one of two ways:

- a) Under the immediate direction of one or more JIC, as appropriate, which are themselves established by, and operate under the direction of, the JHNSSC. This is more likely to be the approach adopted for contingency planning.
- b) With the HN, in conjunction with the SN and with the support of the JHNSSC. This is more likely to be the approach adopted for exercises and operations, where time constraints preclude establishment of the more methodical approach synonymous with the previous option.

The JIA will include financial obligations, in this case serving as the fundamental “contract” between the HN and SN/designated NATO Commander for provision of specific HNS. Consequently they are signed on a bilateral basis even though they may have been developed collectively. In respect of general provisions, each SN/designated NATO Commander may sign on a collective signature page, indicating their acceptance. In respect of specific provisions each SN/designated NATO Commander may sign on a bilateral basis.

As the JIA will detail the financial obligations and impose requirements on the HN, the SN and the designated NATO Commander, the signature level should be consistent with the authority required by each to make such arrangements.

The JIA detail the forces to be supported. The following steps are involved in developing JIA(s):

1) Once the detailed SOR have been updated following the site surveys, the SN and HN representatives should complete the JIA, identifying and clarifying any HN procedures and factors. This should be undertaken in such a way as to produce a combined JIA for the site, with each SN's requirements and the HN's ability to meet those requirements, including the detailed terms of provision, being clearly stated.

2) The JHNSSC, or where this is not formed, the designated NATO Commander, will confirm with the HN the arrangements and level for signature of the JIA.

The final product of this stage will be a set of JIA. JIA are contracts that obligate the signatories financially and to provide resources. They must detail costs and how support requirements will be provided to forces. Signatures by appropriate NATO Commanders/SN and the HN will be required prior to implementation. JIA will normally be published as stand-alone documents. In some circumstances, the TA may also include annexes which include the products of this stage of the HNS process and which are specific to SN. Annexes may be structured in one of two ways: functionally, for example with separate annexes for classes of supply (transportation, accommodation, etc.) or composite, for example with separate all-encompassing annexes for each phase of a force's anticipated operation.

CONCLUSIONS

Based on my personal experience I would say that in order to be effective, HNS must be planned and coordinated well in advance. There must be firm understandings and commitments. HNS is theatre and situation-dependent. The form and degree of support that is needed depends on headquarters with whom the HNS components work. They available depends on resources of the coordinate all HNS aspects of operation or exercise. This geographical area and/or prior agreements include support from civilian resources and support from military resources. In any national Armed Forces is essential to have some staff elements well prepared for planning the all necessary aspects and to provide interface with HNS. To accomplish this, teams for liaison with the HN authorities should be prepared and keep available in time. These elements or teams may be collocated with HN territorial or use of HN resources like services, facilities, gendarme forces or may be located at different headquarters.

Another important aspect is the team component during the negotiations of any kind of HNS that could be provided. When a large scale operation or exercise is in discussion, a proper logistic support should be planned. A good approach for HNS Planning process is determined by a team of specialist for negotiation. Is very important for this team to has in its component a logistician, a finance and budget specialist, a contracting officer and a legal adviser.

Also the limited visibility and limited understanding of the extent and types of services being provided by contractors should be avoided. The lack of visibility over the types and numbers of contractors limits the contract oversight that can be provided and hampers the Force Commander's ability to maintain accountability of contractors. Without this visibility there is no assurance that Force Commanders

understand the full extent of their operational support, life support, and force protection responsibilities to contractors, and there is no way to assure that contractors do not receive services they are not entitled to receive. Additionally, without this visibility Force Commanders cannot develop a complete picture of the extent to which they are reliant on contractors to perform their missions and build this reliance into their risk assessments.

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FINANCIAL MANAGEMENT ACCOUNTING ORGANIZATION IN THE MINISTRY OF NATIONAL DEFENSE

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INTRODUCTION

We live in a world in which they occur tsunamis, earthquakes, volcanoes in eruption, devastating hurricanes, tornadoes, floods, high rises in water levels, floods. Witnessing powerless to solar storms, global warming, melting glaciers, raising ocean.

And while sadly note lessening of energy and water resources, increasing economic disparities, deepening fault between rich and poor, unconventional war, resurgence of violence, underground economy, drug trafficking, the flesh and weapons, terrorism.

The socio-economic level, and beyond, we record a growing phenomenon of globalization. Globalization has a strong impact on civil society. Thus, as the first increase, the second radicalizeaza their work against it and is strengthening its trend of setting up their own structures at regional and global.

Currently, globalization is one of the terms frequently used in normal speech, the speeches of politicians, the news circulated in and through the media. Although, initially, globalization was seen as an economic issue, now it is more complex, highlighting the multiple dimensions: ethical, cultural, military, political, informational. In addition, globalization of the entire spectrum of activities, from economic, financial, social, cultural, military-strategic to organic. But equally, it entails a globalization of risks and threats.

In conclusion, globalization is a complex and multidimensional phenomenon that affects, in one way or another, all human activity.

We relied on these facts to the theme of the paper can not ignore these realities, which influence and financial resources allocated to the armed defense of a country, whether part of a collective system or security code or their tackle the social need.

Scientific approach taken by this paper on "ORGANIZATION FINANCIAL MANAGEMENT ACCOUNTING IN THE MINISTRY OF NATIONAL DEFENSE" is an area of great current interest to the military component and the public domain.

1. ORGANIZATION FINANCIAL MANAGEMENT ACCOUNTING IN THE MINISTRY OF NATIONAL DEFENSE

Achieving fundamental management - performance - requires a special responsibility in managing all categories of resources, namely human resources, information, material, financial, etc..

Managing financial resources belonging to financial and accounting management.

1.1. COORDINATES MANAGEMENT REFORM AT PRESENT ACCOUNTING

Financial accounting management accounting is inextricably linked to science and art is the generation, use and management of financial and economic resources of the economic entity but also is the instrument of measurement, evaluation, knowledge and control of the results of the work.

1.1.1. The main objectives of financial accounting management

On the basis of study and experience we consider that the main objectives of financial accounting management are:

- a) providing timely and within the approved budgets of financial means necessary to achieve the objectives set out planning guidelines;
- b) use of funds and material goods in accordance with the laws in force and removal of all forms of waste;
- c) continuous strengthening of the discipline plan, contractual, financial and pets;
- d) establishment of a strict accounting of assets;
- e) organization and practice of internal control performance;
- f) organization and practice of systematic preventive financial control and demanding;
- g) development of the entire personnel management responsibility for material and financial means.

Activity accounts of M.o.N.D. as information system, consists of a set of complex, study, analysis, and regulatory rules, programs and plans, records and reports that ensure:

1. actual size of the volume of financial means necessary to achieve the objectives and tasks;
2. optimize the allocation of funds in the plan authorizing loans, equity, objectives, tasks and programs;
3. creation and use, by law, the funds of their own income;
4. deflection term at the destination, the amounts due the state budget and special budgets;
5. making the efficiency of all domestic and international settlements;
6. establishing the volume of investment and financing under regulations;

7. use efficiently its legal and financial means, regardless of its source;
8. accounting for economic and financial operations;
9. control use of the funds and the achievement of financial indicators and programs on all stages of economic and financial circuit;
10. operational information and regular officer, management *M.o.N.D.* and institutions and bodies outside the ministry under the conditions laid down by laws.

Accounts of military activity, the integrated system, grouping information and data used in the following subsystems (subtasks) main financial planning, budget implementation, maintenance and operations funds, domestic and international settlements, pay personnel, establish and pensions military and social rights, economic agents *M.o.N.D.* coordination, monitoring and implementation of monetary claims, liabilities, damages, insurance, financial control, accounting for economic and financial operations, balance sheet and accounts of the; inventory, assessment and revaluation of property, property management, training specialists, etc..

Loads of information system activity accounts is done mainly through:

1. direct operations carried out directly in structures accounts (financial transactions themselves on the financing and carrying costs, settlements, payments and receipts, etc..)
2. verification of all documents prepared by specialized departments which recorded the movements of economic factors that are recorded in the accounts;
3. chronological and systematic recording the monetary expression of all financial and economic transactions;
4. Asset Management control;
5. its processing of accounts structures, as well as those provided by specialized departments or from other sources to determine the results and current and periodic reporting.

Inputs and outputs data (information), the information system and business accounts of *M.o.D.* from the following sources:

1. activities taking place in each Authorizing Officer;
2. relations with higher hierarchical echelon and subordinate structures or distributed for financial assurance;
3. activities taking place outside the officer with the state treasury units, banking facilities, business, international organizations and bodies, legal persons or individuals, etc..;
4. relationship with Financial Accounting.

Financial planning, the subsystem of the business accounts, is a set of complex, study, analysis, action plans, programs and other works that ensure:

a) sizing the real needs of financial means for a certain period of time (under the provisions of law of public finances) to achieve the objectives and tasks set by the planning guidelines;

b) determining the appropriate legal standards, the need for material goods and services, rational organization of technical and material supply and consumption of goods and services;

c) determination based on the studies and analyzes economic and technical efficiency of the required funds for capital expenditures;

d) the steady increase of their income to finance expenses;

e) increasing efficiency in the reduction of the volume of expenditure of the monies requested from the state budget;

f) monitoring, control, update and preliminary budget implementation to ensure continuous material balance, financial and currency.

Financial planning starts with the elaboration of prognosis and end transmission for execution of the approved budget. Financial planning work are embodied in the budgets, schedules and substantiation.

The budget is the basic instrument of economic and financial activity management, analysis and control and ensure financial balance. This includes the extent to which loans can be made strictly related to business expenses each Authorizing Officer of the Army, and revenues and expenditures of these institutions and activities funded in whole or part of their income.

Programs are prepared mainly by the authorizing officer to finance actions or series of actions, which are associated with specific objectives and indicators of results and efficiency. They are accompanied by annual performance estimate which must include: actions, associated costs, objectives, results and projections for future years.

Substantiations are documents costing objectives and proposed missions. They form the basis for determining the required funds to carry out programs.

Financing costs shall ensure the following sources:

1. Full of the state budget, state social insurance budget, the budgets of special funds, as appropriate;
2. from own revenues and transfers (grants) given by the state budget, state social insurance budget, special funds budgets;
3. full of own revenues.

Implementation of the budget, the subsystem is, all operations of application, sharing, openness, steering, removal, blocking, modification and use of budgetary appropriations for expenditure each financial year.

The application of credits and opening credits are in compliance with laws on carrying costs. *Allocation of credits* is made only within the approved budget of each authorizing officer (program director).

Deflection, withdrawal, and change the budget appropriations are *blocking* operations can be performed, where justified, subject to the laws in force during budget implementation, within budget appropriations approved for the budget year.

Officer steering budgetary classification between the subdivisions are the responsibility of each main fund for its budget and budgets of subordinate institutions and can carry up to 10% of the budget to the provisions of Chapter Chief Authorizing Officer, with at least one month before commitment. steering credits are allowed from the III quarter of the budget year.

At this point the Chief Authorizing Officer finance officers are 9 secondary and tertiary 9 officers and the *M.o.N.D.* are over 350 officers by. Scheme to finance them is detailed in *Annex I*.

Budgetary expenditure in the budget execution go through the following phases: *commitment, validation, authorization and payment*.

Budget implementation is based on the principle of separation of powers people who have the status of authorizing officer, the duties of persons having the quality of accounting. Specific operations employment, liquidation and ordonantarii costs are the responsibility of officers and departments shall be based on expert opinions, if they have received preventive financial control visa under the law. Pay to ensure the chief financial accounting compartment within available funds, based on documentary evidence.

Accounting, the subsystem of the business accounts of the army, is to follow a systematic and continuing through reflection and generalization of data, how to implement the budget and the results obtained, in order to take appropriate measures to provide improved activity in individual authorizing officer.

In defining the three basic subsystems of the business accounts, it can be concluded that the planning and execution is a close inter-and accounts gives any information which they operate. During implementation of changes and updated budgets and designing the data used in execution. Therefore, these three basic subsystems of financial and accounting management can not be separated and performed within the same structure.

Optimum operation of the three subsystems can be achieved if they consider other components that we present below.

Disbursements are payment transactions made by each officer of the credit to: the state budget, state social insurance budget, health insurance fund, the unemployment fund, special funds, businesses and companies, international organizations, its staff, and treasury units banks and other institutions, individuals and legal entities.

Staff salaries, the subsystem of the business accounts, is the body of studies and work aimed at is running:

- a) to ensure continued growth of living standards of military and civilian personnel through regular and systematic increase soldelor / salaries;
- b) payment in full and on time soldelor / wages and other entitlements due the military and civil personnel;
- c) planning the wage bill and opened the necessary budgetary appropriations payment of money.

Military pension subsystem includes information on:

- a) setting the state military pensions;
- b) determining entitlements due war veterans, war widows;
- c) establishing allowances for politically persecuted persons and reparative benefits for the heroes of the Revolution and their descendants;
- d) payment of pensions and allowances provided by aid regulations;
- e) making and sending the destination detention of pension and other social;
- f) address requests, proposals and complaints of pensioners;

g) improving social protection and regulatory provisions concerning the rules of the pension and other social rights.

Operations consist of *cash* receipts and cash payments, which is performed in each authorizing officer.

Tracking and achieving monetary claims financial accounting management component is to ensure the integrity of assets managed, or rebuild it.

The claim is entitled to claim the military unit under the law, its enforcement by the debtor (trader, legal person or natural person) of a patrimonial obligations. The claims cover the amount of money or material goods. When, at maturity, the debtor does not honor its payment obligations, military units can make use of means of tracking provided by law, including enforcement.

Executive orders can be as acts of state, judicial or administrative proceedings and documents prepared by natural or legal persons between the parties or unilaterally, as payment commitments in writing contracts for sale etc.. Making claims are made by non-cash settlement (cash, bank), retaining the balance (wages) and other entitlements, attachment or other methods prescribed by law.

An important role in reconstruction of heritage, is the recovery of civil damages payable as a result of accidents caused by staff *M.o.N.D.* third parties. This is done to the Chief Authorizing Officer of the Directorate. For the protection of heritage located in the management *M.o.N.D.* and ensure its integrity, is to hold its security system of goods and people.

Preventive financial control is the systematic verification of project operations in terms of:

- a) - legality and regularity;
- b) - classification within approved budgetary commitments under the law.

Preventive financial control is organized and exercised in the following forms:

- a) - own preventive financial control;
- b) - delegated preventive financial control, the controllers delegates MEF

Public institutions are required to organize their own preventive financial control and record commitments in financial accounting compartment.

Own preventive financial control is exercised by the accounting officer by his own preventive financial control *visa*. Depending on the volume and complexity of accounting officer may authorize, with the approval officer, and other subordinated to pursue their own preventive financial control, specifying the limits of empowerment. Authorizing officers (heads of public institutions) are required to establish projects controlled preventive financial transactions, documents and their circulation in compliance with laws.

Exercise the function of authorizing officer is incompatible with the function Chief Accountant - Accountant.

In *M.o.N.D.* people who manage public funds or public property are required *to achieve sound financial management by ensuring the legality, regularity of economics, efficiency and effectiveness in the use of public funds and managing public assets*. The sphere of their own preventive financial control within all military units whose commanders (heads) were attributed to the quality of authorizing officer.

Framework guidance draft their own preventive financial controlled operations are regulated by order of the Minister.

Based on this, each military entity (Authorizing Officer) must determine the specific projects of their own preventive financial operations controlled, appropriate evidence, the circuit their goals to be pursued, departments and personnel involved, their responsibilities, the legal and the maximum time in which to be executed and check the visa.

Specific framework is developed by the accounting officer and approved by the authorizing officer. At the *M.o.N.D.* Head Directorate carries its own preventive financial control for all projects and operations documents to be approved by the Defense Minister as the chief officer.

Delegated preventive financial control is organized and exercised under the law, the Ministry of Public Finance, by controlling the delegates to the Chief Authorizing Officer and other organizational structures of the ministry, whose commanders (chiefs) have the status of Instructing Secondary officer.

Controllers delegates are appointed by order of Minister of Public Finance.

Both within their own preventive financial control and delegated preventive financial control, the person (s) the right to exercise preventive control target has (have) the right and obligation to refuse the visa in all cases, after verification that the project considers the operation does not meet the conditions of legality, regularity and employment within budgetary commitments.

Visa refusal must be justified in writing in all cases. To achieve good financial management is essential to highlight internal control. We appreciate that, because of the diversity of control, from the ante-factum to the post-facto and implementation of internal audit, etc., *Internal control* has been passed into the background and giving us the full weight.

In our opinion, after the preventive control, internal control creates accountability and responsibility, and management information must be verifiable, complete, always adaptable to the desired and easily accessible in real time.

Internal control provides reasonable safety that the activities, decisions are "under control" and thus contribute to the achievement of the entity. Internal control framework must ensure a reasonable certainty the overall objective. To achieve this general objective is assigned permanent objectives of internal control, which can be grouped into: security assets, quality of information, such directives, value for money.

Internal control is, in our opinion, the following general objectives:

a) - Output at an appropriate level of quality, the functions of public institutions, established in accordance with their mission in terms of regularity, efficiency, economy and efficiency;

b) - to protect public funds against losses due to error, waste, abuse or fraud;

c) - respect the law, regulations and management decisions;

d) - development and maintenance of systems for collecting, storing, processing, updating and dissemination of data and financial information and management, as well as public information systems and procedures, making regular reports.

The head of the public institution shall ensure the preparation, approval, implementation and improvement of organizational structures, detailed regulations, procedures and assessment criteria to meet the general requirements and specific internal control.

After we highlighted the major subfields and links between them, to add training specialists and international relations, we conclude, as we also suggested that I realized the full picture of financial accounting management in MoD (Annex2).

1.1.2. Financial management and accounting in connection with restructuring modernization of the Armed Forces

Romanian Army passing through the most complex period in modern and contemporary history, marked by strong adherence to the Alliance of the world, but also the constant search for better establishment and effective forms of organization and operation, to enable rapid adaptation to missions and requirements of social order and the new risks and challenges due to unprecedented development of human society, characteristics of the evolving system.

Continuing the good cooperation between the basic structures acting in the economic field, to ensure combat forces what they need to fulfill their respective missions, both in peace and crisis / war in various theaters of operations or places of displacement, Directorate complex restructuring effort involved in the Romanian Army and the position of structure design. With specialists in all military echelons and reporting system and information required, the financial and accounting management structures can provide a permanent and timely picture of the state military body in terms of needs and consumption of material and financial resources .

However, the financial and accounting management are complex processes and ensure continuous, which pursue the objective of efficient administration of the property was in management (administration) *M.o.N.D.*

To be able to respond effectively to new requirements, determined mainly by our membership of NATO, financial management accounting should provide combat forces the ability to acquire and maintain a substantial combat power in different regions of the world, as required by collective defense and effective financial support to theater operations.

Financing the participation of the armed forces in missions outside the Romanian state run according to the methodology established by order of the Minister prepared by Directorate.

Accounting of material and money to organize and lead according to Romanian law and specific rules established by *M.o.N.D.* material goods destroyed, damaged or lost during mission execution, is deducted from the accounts according to legal provisions. Those of material goods which bring the country cost more than their price can be donated to the State in which they are. Donation and their removal from the accounts shall be approved by Government decision.

To ensure the supply of material goods and services needed to accomplish the mission in the area of operations to empower staff in these tasks to contract and to make payments in foreign currency, according to legal provisions and local usage. In

order execution services may commit, under contract, people in the area of displacement, with payment of amounts negotiated with the national law and local regulations.

Payment of financial obligations in foreign currency shall be accepted in the area, in cash or foreign currency accounts, open bank units. Value in lei of expenditure in foreign currency shall be updated in light of changing exchange rate RON / EUR established by the National Bank of Romania on the date of payment.

Romania will have to participate for all member countries to the common expenses for:

1. financing of the International Secretariat, International Military Staff and agencies of the military committee;
2. financing of peace support operations;
3. financing costs for power airborne remote monitoring and control of NATO (supported only by some Member States);
4. financing costs arising from the NATO program of investment in security (they are divided by type of participation of each State to the Alliance's integrated command device).

The cost-sharing formulas for must correspond to the 'ability to pay "of each country. NATO's military budget is made up largely of funding for defense ministers of NATO member countries. This budget is established and implemented under the supervision of the Committee for the military budget and cover operating costs and maintenance and equipment costs related to international military structure (Military Committee, the International Military Staff, NATO strategic commands, control systems, control and information related agencies for research and development, purchasing and logistics, force airborne remote monitoring and control of NATO). We want to emphasize that an action of great interest in the future is the implementation of NATO Standardization Agreement (STANAG) in financial accounting.

Overall NATO Standardization Agreement (STANAG) is the document that countries give their consent on the adoption of equipment, ammunition, supplies and stores, as well as operational procedures, logistical and administrative, military identical or similar. The NATO STANAG structure managing sites is the Agency for Standardization.

After content standards are classified into: a) Operational b) administrative, c) materials. Financial standards are part of the administrative standards, along with human resources and environmental protection.

The following are the financial 6 STANAG sites:

1. STANAG 6002 on rules and procedures for management training and funding assistance;
2. STANAG 6003 on rules and procedures for establishment and operation of joint training facilities;
3. STANAG 6007 on rules and procedures for providing financial support in NATO;
4. STANAG 6012 the financial rules and procedures about the use of polygons and other training facilities;

5. STANAG 6019 the financial rules and procedures for providing support to NATO's PfP countries;
6. STANAG 6020 is reflected in financial terms and definitions.

In principle STANAG development sites is the proposal of the working groups formed by fields of activity, with representatives of member countries. Typically, the foundation and development of draft STANAG's, have regard to those areas and activities, following repeated experience requires the establishment of general rules, uniform and acceptable to all partners.

Periodically NATO standardization agreements submitted for review and updating as it appeared that in reality the world is constantly changing and therefore, at 3-4 years, these documents are reviewed in whole or in part.

STANAG financial sites are provided in *Appendix No.3*.

CONCLUSIONS AND PROPOSALS

1. Financial accounting management in public institutions has a rich history, a considerable length. Currently faces new challenges of international bodies such a profile, by implementing specific standards.

Full-Romanian economic higher education, public institutions and specialized magazines will have meant, further, provide specialized training in financial management accounting in the public domain, to work efficiently and to understand, protect and support national interests in relations with bodies European and international professional and government.

2. DFC of known, especially after 1990, significant changes that have allowed and will allow and continue to become compatible, the structural report and act with the corresponding structures in other armies of NATO member states.

3. Thanks to improved regulatory framework in recent years, DFC has clearly defined goals, coherent action, focused on areas crucial to the restructuring required military body.

4. Along with restructuring the ministry, has become resize STANAG-sized structures and implementation, so that financial and accounting transactions between Romania and NATO military to take place in as good condition, both in peace and in times of crisis.

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GLOSSARY OF TERMS AND DEFINITIONS

Budget - the document which are provided and approved annual revenue and expenditure or, where appropriate, only the amount, depending on the system of financing military units;

Financial accounting department - the organizational structure of the military unit, which is organized in budget execution (service, office, slot);

Preventive financial control - activities which verify the legality and regularity of transactions on behalf of public funds or public property, before approving them;

Budget appropriations - the amount approved in the budget, representing the maximum limit by which you can order and make payments during the budget year for commitments entered into during the year and / or from the previous year for multiannual operations, that can engage, the order and make payments the budget for other actions;

Budget execution - revenue collection activity budget and for paying the costs approved in the budget;

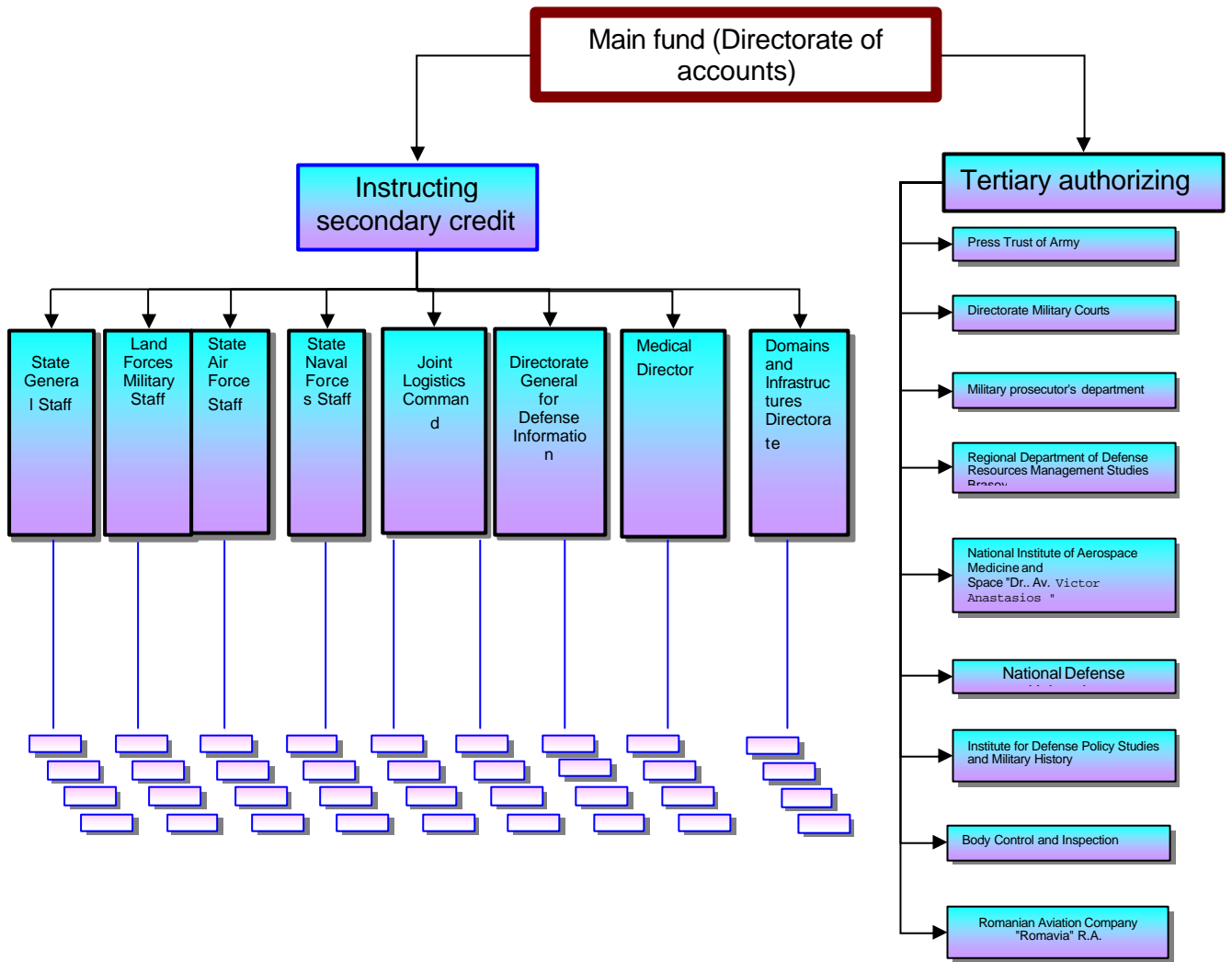
Financial year - the same budget year which is drafted, approved, implemented and reported the budget;

Authorizing officer - the person empowered by law or by delegation, by law, to order and approve transactions;

Financial Planning - all complex activities, actions, plans, programs, studies and other works that ensure sizing real needs of financial means in the short and medium to increase the effectiveness of expenditure necessary to achieve goals;

Program - an action or a coherent set of actions designed to achieve a goal or a set of defined objectives and indicators established by the program are assessing the results to be obtained within the funding approved.

MINISTRY OF FINANCE



FINANCIAL STANAG
USED NATO member countries

STANAG 6002 establishes the principles of financial management and training assistance. It applies when training assistance is provided by NATO countries and other countries is to reduce training costs. This cost reduction is made, in particular, by using the barter method, participating nations agreed on mutual exchange of goods and services.

STANAG 6003 is to provide means for establishing and operating the joint training facilities. This STANAG is applied when two or more NATO countries agrees to establish joint training facilities. STANAG's are not used in the training assistance provided by another NATO member nation (in this case applies STANAG 6002).

This STANAG deleted construction of facilities which already exist in one of the countries, saving the big money would be spent on new investment, the same way and with similar or identical purpose.

STANAG 6007 shows how to calculate and offset support by a NATO member country to another country which is part of that alliance.

It establishes general rules for repayment in kind or by paying the support. Principles and procedures are based on reciprocity and are designed to reduce costs and administrative efforts of the NATO countries.

The basic principle of this STANAG is "payment in kind" to services or goods provided by the host nation. To be easily applied in one of the Annexes to the Agreement are set out the elements exchanged in kind.

STANAG 6012 is intended to establish principles and rules for calculating and recording costs for using the nation of training polygons belonging to other nations. These principles are used in the forecast cost of missions to include the budgets of nations.

This STANAG Member can be in a position to use common principles agreed upon in advance, which solves the necessary grounding costing budgets NATO countries.

STANAG 6019 establishes general procedures for payment based on the principle of reimbursement of services provided by PfP countries and NATO countries.

STANAG 6020 contains a glossary of some 300 financial terms and definitions of general and specific, which is used in NATO. It is designed to reduce or eliminate misunderstandings between nations about the use and interpretation of financial terms that are found in other standards. At its foundation and development of DFC representatives participated as part of Group Training, Financial Subgroup (NTG / FSG). Until promulgation of the STANAG by the NATO Standardization Agency, the drafting group worked for almost 10 years.

MAXIMIZING SAFETY IN PERFORMANCE WITH VIRTUALLY NO COSTS

CC. Iulian PATILEA

Scientific coordinator: *Professor COL. Vasile POPA*

HISTORY

Air Force represent, most probably, the most expensive and valuable asset of a nation. Maintaining the air force in perfect shape during peace time is one of the most difficult tasks of the commanders and politicians. General John P. Jumper, chief of staff, USA, told the employees of the Air Force in December 2002 that “the service can’t tolerate nor to maintain this loose level”. From fly safety point of view, year 2000 was the best ever for USAF. Record of the previous three years was not so good – 2002 even worse. The higher rate of accidents in 2002 was with 30 percent bigger than 2000. Safety affects the image that USAF has over the enemy witch turns into an political issue.

In the year 2004 (until august) US Navy has lost 24 aircrafts, witch generated 1 billion dollars loses, paid by the American contributors.

For USAF figures are almost the same. Since 1993 until 2002 USAF had:

- one man lost every 3.5 days;
- 243 aircraft crashed;
- One class A accident every 15 days;
- A total of 10.6 billion dollars accident costs;
- A total of 2.9 million dollars accident costs per day;
- Almost an wing (24 airplane) was destroyed each year;
- Average cost per year 623 million \$;

Main cause of these accidents was human error. During 1993 – 2002, USAF lost 85 airplane and suffered 18 death in accidents due to failures of the mechanical system. In the same period, human error caused the loss of 127 airplane and the death of 244 personnel.

Accidents caused by human error are known as CFIT (Controlled Flight Into Terrain) and stand for pilots that loose control of the aircraft during flight, mid air collision, etc. The same frightening situation is recorded also for other Air Forces: Royal Air Force has lost 9 aircraft in 2002 and 6 in 2003. Indian Air Force lost 147 aircraft and 63 pilots between 1991 and 1996.

It is obvious that the most significant factor regarding accidents in air force is related with human factor.

So why those situations are not prevented? Human error is the result of the difficulties in managing complex procedures which imply a great variety of resources, money, abilities, assets, tasks and training, in a changeable environment with an intense human implication.

Between 1998 and 1999, Israeli Air Force reached a point where the rate of accidents and damages was intolerable from political and economical point of view. This situation led to the introduction of the ORM (Operational Risk Management) for squadrons of the IAF and the result was impressive: human factor as the cause of the accident was reduced to ZERO. IAF solution, although impressive, is not unique. Another example of successful campaign was achieved by Taiwan Air Force through a very strict safety program.

PROBLEM

Flying in general and military flight in particular is a risky business. It implies a wide variety of risk factors that can cause accidents. Although, an air force must achieve complex missions on the regular bases in order to be permanently prepared for crisis situations even by risking its airplanes and crews. The main problem is how to maintain in the same time combat readiness at a high level (require risky missions) but also a low rate of accidents.

REGULATIONS

Regulations are number one mean of increasing fly safety. This is the response through military and civilian aviation is fighting against failure and accidents. Through out the world there are various types of regulations. Those include resting hours, mission training, communications, technical training, etc. Regulations are the result of tragedies and lesson learned during short and bladed history of the aviation.

In many cases an accident is caused because of the unintentional braking of regulations. Further more, regulations are unable to eliminate all the risks in military Air Force. Commercial aviation is continuously trying to eliminate all hazardous situations by using regulations to limit tasks. This situation does not apply for military air force. Military air force training is taking place in a dynamic and complex environment implying dangerous situations, most of them unplanned and unpredictable. Therefore regulations are unable to cover all the risks of the military aviation.

That is the reason why the existence of a DSS (Decision Support System), able to monitor operational management of a flying unit (department/squadron) in real time, can alert commanders when an unintentional braking of regulations is taking place preventing accidents.

ORM – OPERATIONAL RISK MANAGEMENT

Experience proved that regulations are impossible to be applied in all situations encountered in military aviation and can harm the efficiency of the flying training and

combat readiness level. This gap can be filled by using a new approach of this issue in accordance with unpredictable situations. This approach consists in a proper risk management for all kind of missions, gathering of all risk factors analyze each one of them and evaluating results.

There are specific risk factors for every type of mission. The attempt to consider all of these factors when a decision must be taken is a hard job. Evaluation on the spot is impossible.

ORM (Operational Risk Management) approach usually reveals risky flying situations. Even when all regulations are respected, general situation can have a certain degree of risk.

A good real time ORM search hazardous situations and warns those that take decisions, when able to identify examples and situations that are in accordance with regulations apparently. For example:

- A young pilot associated with an aircraft with divergent history;
- Two leaders flying in the same formation;
- A change of crew just before mission;
- A pilot that recently did not train is send on a mission in bad weather.

These situations are frequent and can not be monitored constantly by the commander or planner. There are many changes residing from various sources that affect flying. Those include maintenance, loading and unloading armament, meteorology, tower, schedule office, medical center, and many more. All this factors are permanently updated changing flying environment.

EDUCATION

Maj. Gen. Kenneth W. Hess defines safety in the next quote: “Risk management is a way of thinking, not a program. That requires anticipation of the events in order to prevent accidents. And we are part of the accident prevention business”.

How can an Air Base commander transmit his policy and his restrictions regarding fly safety 24 hours per day, 7 days a week and 365 days per year? Again, only DSS (Decision Support System) can succeed this task.

TEAM DECISION MAKING UNDER PRESSURE

Most recent researches in decision making by a team under pressure suggests that a good communication between team members is the key for ensuring safety and good performance. Mr. Morrison reached to following conclusions after a research in naval environment:

A research is described involving eight Navy's teams, expert in tactical decision making, witch initially did not used DSS system. After using DSS prototype it was observed that communication in clarifying tactical situation dropped significantly but threats were identified earlier and as a result an increased number of defensive decision were made. Those results suggest that DSS prototype eased the

understanding of the tactical situation for the commanders leading to a bigger confidence, less difficulty in work and higher performance.

An analysis of decision making over a team under pressure led by Kathleen M. Kowalski – Trakofler and Charles Vaught revealed the following:

Those that takes emergency decisions must analyze and process huge amount of information, which sometimes is incomplete or wrong and the process is taking place under strict time restraints ...

.... The study of army commanders revealed the fact that teams with superior performance has only one critical common characteristic: they adapt and adjust easily to the most various requirements. Teams were able to maintain performance using only a third part from initial time frame and the way of communication has changed. Initially team responded to the specific requirements of the commanders. Once the time pressure increasing they did not expected for specific requirements but they provided to commanders selected information considered to be useful.

In the same research Morrison comments are:

... You can conclude that efficient changes in communication procedures imply changes for team members by regularly anticipation of others need and offering information not yet required which minimize disrupting and defines high plans living some space for flexibility for those in the first line...

... Owners of aircraft, nuclear facilities or similar, operates in extreme hazard conditions with a small rate of potentially failure.

To conclude, a good communication, systemized crucial data transmission, education, regulations monitor and ORM can lead to a huge improvement in fly safety without affecting operational performance and combat readiness.

THE XV-OMS SOLUTION (XVionics – OPERATE MANAGEMENT SYSTEM)

XVionics, Inc., headquartered in Vienna, Va., is a leading global provider of integrated, combat-proven Enterprise Resource Planning and Operations Management Systems supporting Wing and Squadron level air operations. XVionics provides state-of-the-art, real-time decision support systems that improve the accuracy, effectiveness and efficiency of military aviation organizations operating in complex, intense and chaotic environments around the world. XVionics has more than a decade of experience in aviation and applying technology in intense environments. The company has an unparalleled track record of delivering results in high intensity operations around the world, including Air Force Wing and Squadron operations (XV-OMS), and Medical Operating Rooms and ER's (MD-OMS). XVionics is the only provider of fully integrated and comprehensive, combat-proven unit-level battlefield operations management systems with virtually no development or deployment risks. As a result, XVionics enables its customers to maximize efficiencies and minimize losses.

MARKET FOCUS

- **Air Force Squadrons:** In addition to supporting all Israeli Air Force unit-level (Wing and Squadron) operations, XV-OMS has also been purchased by another NATO air force and is presently being deployed across 10 F-16 fighter squadrons. More than 2500 Squadron-level organizations around the world can benefit from XV-OMS and the enhanced safety and efficiency it provides.
- **Other Military Operations:** Naval ships and submarines, ground forces and unmanned aerial vehicles (UAVs) comprise other military domains where comprehensive decision support for mission planning, execution and support are required.
- **Command-Level Decision Support:** Force-level organizations to require an XV-OMS-type system to support higher-level military command and control (C2) operations. The complexity of C2 operations support requirements varies widely. The modular, interoperable nature of XV-OMS makes it scalable to meet these diverse customer needs.
- **Homeland Security:** There are more than 300 major U.S. federal and state homeland security and emergency response facilities, and several hundred smaller state and local facilities that require a decision support system to coordinate crisis management, communications, dispatch, reporting and decision making among police, fire and EMT personnel. XVionics is developing and testing an XV-OMS variant, HLS-OMS, to address this growing market opportunity.
- **Health Care:** An XV-OMS variant known as MD-OMS is presently deployed in a number of Israeli and Western European hospitals, where it has increased patient throughput, streamlined administrative functions, shortened response times and reduced operating costs. There are more than 10,000 hospitals in the United States, Canada and Western Europe. Constrained health care budgets and increasing implementation of IT systems for patient treatment and hospital administration create a conducive environment for a robust and flexible decision support tool such as XV-OMS.

XV-OMS, as complete solution, offer the operating unit (department, squadron) all the characteristics and aptitudes necessary for managing and minimizing risks and for strict appliance of regulations.

XV-OMS has the following characteristics that led directly to a drop of risk in flying activity:

STRICT REGULATIONS APPLIANCE

Assure regulations monitor and as a result prevention or early warning about actions that break the regulations. Regulations monitor by the system derive from force level, types of aircraft and policies regarding missions. Bypassing authority is defined in policy and, in the same time controlled by system administration.

ORM (OPERATIONAL RISK MANAGEMENT)

This patterns are created by the user using offline “Factory”. When XV-ORS is loaded system assure real time risk monitor at the individual level of resources and also mission monitor. The manager that uses ORM with an user is able to see not only global levels of risk but also it’s components at the object level. Therefore it is able to adjust those factors to optimize solution.

DATA ACCESS, COOPERATION, WORKING PROCESS AND TEAM SUPPORT

The design of XV – ORS assure the support of all this problems. System, as complete solution for operational management of one department or squadron, eases previous characteristics. That contributes significantly in improving safety.

RESOURCES MANAGEMENT – DECISION SUPPORT

Those means, used to allocate aircraft and crews, assist managers in selecting the right resources for each mission, considering a wide range of multi-dimensional factors.

STRICT REGULATIONS APPLIANCE

Regulations can be enforced by the system in several ways. First and most important is to follow operational logic defined when the system is formed. For example: regulations regarding aptitudes and qualifying are automatically applied by assuring that the quality of resources (crew or aircraft) match with mission requirements. System achieves permanently this job: verifies if one part of the equation matches the other and warns immediately the user if resource abilities are not in accordance with mission needs.

Breaking the regulations from time point of view is also monitored by the system. System warns immediately the user if regulations are ignored. For example: late delivery of the plane for mission due to maintenance issues is prevented by flying order. The same situation is in the case of late designation of the crew for a certain mission.

System follows regulations braking and authority bypass; if necessary it provides information about “who, when and why”.

System also provides support for specific definition of regulations through a searching monitor engine that verifies every system transaction in order to visualize if contains information related to a specific regulation and warns the user about regulation braking by the user itself. The user might then abort the action using another method witch is in accordance with the regulation or may ignore the warning and proceed. An example of specific regulation is: instructor Joe cannot fly with more trained pilots Frank, Jim or Danny.

Every regulation defines a braking level showing if the regulation can be ignored and if yes by which functional role. Every role has a braking level also. Every time someone ignores a regulation and the user bypass system's alarm, those two levels are compared (Braking and user that allows it) in order to identify if the user can proceed over specific level of braking.

ORM (Operational Risk Management)

XV – AMS permanently computes the operational risk level for all flying activities administrated by the system. XV – AMS completes this ORM by using ORM module implemented. ORM is recalibrated and adjusted in real time manner with every system transaction. That eases those who take decisions a strict monitor of the hazard hierarchy in every mission component.

ORM is based on a hazard hierarchy model defined by a user (organization). This model is defined offline in order to enhance all policies and management knowledge regarding risks, used at the organization level. After that it is loaded in the system for use. System may compute simultaneously multiple risk patterns (models). That makes possible for different functional roles the use of several risk patterns (models). For example: an officer that operates will use a risk model for operations but a maintenance chief will use a risk model specific for maintenance.

XV – OMS represent a complete solution that manages all areas of expertise of an unit and offer the chance for each XV – OMS administrated unit to be a model for an operational risk pattern. ORM models can be used in each unit and affects flying safety. Example: personal data of the pilot (age, career flying hours, etc), qualifications, flying conditions, weather, environment conditions, operational information, aircraft history, maintenance history, etc.

COOPERATION AND INFORMATION TRANSMISSION

XV – OMS is a management system that supports entire working process from unit and between units, cooperation between employees inside operational unit (squadron, department and unit) that people needs to use in order to achieve task. System gathers information and transmits them to other systems as a consequence of the activity and not as a separate process. Stored data are immediately spread through the system and allocated according to specific requirements of the users. Data access is the base of cooperation and working process management.

XV – OMS bring all the functional roles in flying management & on line maintenance of operations in one management system suited for individual roles and also for the entire process. XV – OMS offer selected information gather and support for each user in managing resources, regulations, changes and risks at every step of a task or process.

XV – OMS provides also warnings of the changes and process approval. The monitor of the entire unit and warnings in case of vital information exchange draw attention to any interested user. The system follows also the approval of selected activities. Each role can monitor and alert when one (or more) of the roles are not

answering to pre-generated changes. This system is the base of cooperation for an interactive operational management.

EDUCATION

Commanders at all levels can implement their policy, safety measures and instructions through XV – OMS and can enjoy an automated monitor of their appliance inside unit. Permanent or temporary policies like types of missions, restrictions for crews etc, can be rapidly implemented and monitored.

SOLUTIONS

XVionics, Inc., the world's leading provider of combat proven real-time Enterprise Resource Planning and Decision Support Systems for intense-warfare environments is introducing the latest version of its software suite XV-OMS 3.0. This is a state-of-the-art, third generation C2 unit-level ERP system for networked battlefield operations. XV-OMS 3.0 COTS delivers the most comprehensive set of decision-support systems available to air force Wing and Squadrons, providing the capability to manage and mitigate risks, enforce standards and improve safety. The software suite is the only fully qualified system to be the core of C2 unit-level operations. XV-OMS' ability to manage the unexpected within very complex, intense or chaotic environments is unique. Its modular suite of information management, decision support and reporting tools uses flexible neural network-based software to provide a user-configurable/customizable problem-solving capability for high-intensity operations.

An early version of XV-OMS is currently being deployed as the core operation management system for all 35 squadrons of the Israeli Air Force – one of the most effective air forces in the world. It has reduced annual squadron operating costs by nearly 25%, increased operational and combat efficiency by 125% (more sorties with the same aircraft and personnel resources), and dramatically improved squadron safety.

XV-OMS 3.0 allows multiple distributed users to input, receive, integrate and manage information from discrete sources both inside and outside the system to support critical real-time decision-making. Rule-based support functions enable management and command-level personnel to evaluate alternatives, assess risks and make decisions, while providing traceable authorization and reporting across all levels of the decision process. XVionics is currently planning deployments with six other countries to support squadron, wing and higher echelon C2 applications.

OPERATIONS MANAGEMENT

XV-OMS provides a battle-proven capability to operations management personnel to schedule and optimize the resources needed to execute air operations in both training and combat. Aircraft, aircrews, maintenance personnel and equipment, operational tasks and supporting functions are managed in a highly integrated, collaborative environment. XV-OMS comprises an expert system that protects

against human error in this complex, intense scheduling environment resulting in marked improvements in efficiency and safety.

MISSION PLANNING

XV-OMS 3.0 now includes a Mission Planning capability for aircrews to complete ingress, detailed route, weapons delivery and egress plans while taking into account weather and threat weapons systems. The system also assists in deconfliction through mission optimization and a 3D mission rehearsal capability. The Mission Planning modules are fully integrated with XV-OMS' other operations and risk management functions.

FLIGHT OPERATIONS SUPPORT

XV-OMS provides a completely integrated capability so aircrews can be briefed, conduct mission rehearsals and debrief in a structured manner. The briefing modules produce cockpit usable data including mapping products and kneeboard cards, while the debrief modules help track performance data, mission effectiveness and safety related events. These modules are completely integrated with the Operations Management, Mission Planning, Risk Management and Training modules.

FLEET MANAGEMENT

XV-OMS provides an enhanced capability to operations management, maintenance and flight-line personnel who are charged with scheduling the availability, movement and assignment of individual aircraft. XV-OMS manages aircraft configuration, external loads, ordnance and mounted systems. The systems also ensure inspections, discrepancies and special maintenance is managed effectively, adding to the safety and efficiency of the entire operation. Ultimately, XV-OMS provides cost savings through the effective allocation of these physical assets.

TRAINING AND PERSONNEL

XV-OMS includes a well-integrated capability to create, optimize and maintain training program information supporting both individual qualifications and unit readiness. Training programs can be highly standardized or individualized, making the XV-OMS adaptable to the unit's mission, operational environment and commander's intent. XV-OMS' training modules are completely integrated with the Operations Management, Flight Operations and Risk Management modules.

MAINTENANCE AND LOGISTICS

XV-OMS provides enhanced capabilities to manage maintenance control, maintenance operations and logistics at the wing and squadron-level. Inspections, discrepancies, airframe-specifics, power plant-specific and maintenance scheduling information are integrated to provide intuitive visibility into the status of the unit's resources, posture and readiness. XV-OMS has been integrated into the depot-level maintenance, logistics and parts control systems offering a system-level view into the status of the unit's physical assets.

RISK AND SAFETY

XV-OMS provides a robust Operational Risk Management (ORM) capability that details and quantifies the types, sources and level of risk based on the complete information corresponding to a specific mission. The ORM modules consider the individual pilot's qualifications and experience and aircraft maintenance history, as well as external factors such as weather, environmental conditions and the nature of the mission. The ORM modules comprise a decision support system that allowed a diverse set of information to be collated and displayed intuitively, allowing commanders and operations personnel to understand the sources and nature of the risks associated with a specific mission. XV-OMS provides the capability to set and enforce safety standards and manage risk in a pragmatic way.

MISCELLANEOUS

XV-OMS includes interfaces to external systems and support activities providing a fully integrated operational capability based on the specific needs of the unit. XV-OMS' software architecture allows rapid customization and development to meet the needs of legacy as well as developmental programs.

SUMMARY

Air Force cannot tolerate the costs of the lost assets. Most of the accidents are caused by human errors. Researches around the world reveals that human errors (both crews and maintenance teams) are the main cause for more than 50% of the accidents and assets loose. Investigations explain that the accidents could be prevented and people's lives saved if:

- Regulations would have been applied more rigorously;
- An sequence of errors would have been stopped;
- Right person was located in the right aircraft at the right time;
- Qualified specialists for maintenance would made their job right;
- Commanders and officers would have all relevant information in a visible manner before an event.

XV-OMS as an OMS part offers specific solutions for all problems related with risk management and regulation appliance.

Safety improvements brought by XV – OMS applies also for the most important economical factor: ROI (Return on Investment).

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RELEASES OTHER THAN ATTACK (ROTA) MANAGEMENT

LTC Stelian RADULESCU

Scientific coordinator: *LTC Daniel SORA*

INTRODUCTION

In peacetime and during any types of military operations ROTA events can have a direct impact, both on the troops and the conduct of operations

Commanders from all echelons should be aware of the danger coming from the Low Level Radiation (LLR) and the releases of Toxic Industrial Chemicals (TIC). In such situations CBRN Defence specialists and structures offer the primary support and advice to the commanders in hazard management actions.

Commanders will be advised on the safe distances from the objectives with ROTA risk and informed about the potential effects of an apparently minor incident. They will understand the danger of depleted uranium ammunition and armour in case of destruction and will properly coordinate the avoidance and protective measure, effectively engaging the specialized structures.

During the peace time, but not only, the military CBRN Defence structures will play a major role to support the civilian authorities in case of emergencies caused by chemical and nuclear accidents and/or incidents, in cooperation with other special structures, especially those from General Inspectorate for Emergency Situations.

The present Graduating Paper covers a topical area, connected to the biggest threats of this century, coming from the proliferation of CBRN agents with dual use and the risk of intentionally generation of different CBRN events, with potential devastating effects.

I. ROTA EVENTS – CLASIFICATION, DESCRIPTION, EFFECTS

ROTA is the abbreviation used in NATO to define very briefly a CBRN (chemical, biological, radiological and nuclear) environment, deliberately or accidentally created by any means, other than the authorized use by a State of Weapons of Mass Destruction (WMD). The NATO doctrines, manuals and STANAGs present two separate classes of ROTA events namely those produced by toxic industrial chemicals (TIC) and those involving low level radiation (LLR) corresponding to what is known as "chemical accident" and "nuclear accident".

I.1. Toxic Industrial Chemical (TIC)

Toxic Industrial Chemical is the generic term for toxic compounds in solid, liquid, gas or aerosol state. They can be used or stored for industrial, commercial, medical, military, use. More specifically, TIC releases are emissions of chemical compounds in the atmosphere, deliberately or accidentally, which can become dangerous to people and forces acting in the area. Risk exposure to TIC does not refer just to a single substance in a mixture, but also to the risk of exposure to different compounds resulting from explosions, fires and other industrial chemicals used in production.

Toxic industrial chemicals are considered those substances that, due to the physical, chemical and biochemical properties, in low concentrations, cause poisoning of humans and animals at long distances, exceeding the limits of the source facility/installation and create contaminated areas that may include entire cities. Among hazardous chemicals, the following categories of substances are more relevant:

a) substances with an irritant, caustic and choking-asphyxiation effect, such as ammonia, chlorine, nitric acid, hydrogen fluoride, sulphur oxides, nitrogen oxides, phosgene, carbon dioxide;

b) substances with general toxicity, such as hydrogen sulphide, hydrogen cyanide, sulphur dioxide, oxides of phosphorus, phosphorus oxychloride, phosphine.

To the military, the most dangerous toxic effect is caused by inhalation of TIC vapours. Vapour concentration may be particularly high in the immediate vicinity of the place of emission to the atmosphere, and in that area, the oxygen concentration can be reduced, usually below the survival conditions. Toxic vapour may have also a specific density greater than air, forming a layer at the surface, from where it will channel along the low land areas such as valleys.. Also, vapour easily penetrate shelters and persist for a long time in dangerous concentrations in buildings, woods or other places where there is a poor air circulation.

The transports of hazardous materials are dangerous vectors, which by chance, negligence or deliberate actions can produce sometimes incommensurable effects, in the short, medium and long term, with a particularly adverse impact on personnel and environment

I.2. Low Level Radiation (LLR)

Low-Level Radiation is defined as radiation dose rates that are above natural background radiation resulting from any human activity or product, other than those produced by a deliberate detonation of a nuclear weapon in wartime.

Low-Level Radiation can have as a source of generation, the equipment (installations, facilities) that have radioactive components, the transport of radioactive materials, terrorist attacks involving radioactive emissions, projectiles and armour with depleted uranium and radioactive waste

LLR is a risk with long term consequences on the health of living beings. Absorbed doses from these exposures are higher than those natural, with values up to 70 cGy. The first consequence of exposure may be cancer, several years after exposure. Other effects that can occur are birth defects and genetic mutations, with

the associated consequences, psychological and social. LLR risks may come from alpha, beta, gamma radiation and neutrons.

Sources of risk are:

- a) civil nuclear facilities;
- b) industrial and medical facilities;
- c) radiological weapons;
- d) emissions from nuclear weapons;
- e) military equipment;
- f) depleted uranium.

The causes of an accident with radioactive sources are various: finding a source of radioactive contamination, source missing (lost or stolen), source shielding damaged, fire involving radioactive sources, dispersion of alpha emitters; accident during the transport of radioactive sources; accident involving nuclear or radiological devices (eg research reactor, neutron generator, particle accelerator, etc..).

II. TIC HAZARD MANAGEMENT. THE EMPLOYMENT OF CBRN DEFENCE STRUCTURES TO MANAGE THE HAZARD

II.1. Directions for Hazard Exposure Limitation

For TIC hazard management is fundamental to know general directions applicable in case of personnel exposure to known TIC:

a) general principles for deliberate exposure of personnel to the TIC is to keep exposure to "a level as low as reasonably achievable", ALARA;

b) control exposure measures should reflect the needs to balance the protection of each individual and the requirements / needs for action (mission) in extreme situations (saving lives or emergency situations);

c) planning and coordinating the execution of military operations should begin with the Intelligence Preparation of the Battlefield (IPB); all potential risks must be identified in a common effort involving intelligence assets, CBRN reconnaissance, CIMIC operations, reach-back capabilities, deployable CBRN analytical laboratories and Warning and Reporting Systems.

d) at all levels of command all information channels must be kept open in order to obtain timely inputs concerning the existence and condition of TIC, commanders must consider whether potential enemy or belligerents may use the threat of TIC release to increase tension or to create tactical advantages, maintaining a high level of information security should not affect access to useful information for the allied forces;

e) if TIC were identified, commanders must ensure that subordinate formations and units have been informed and aware about potential threats and limitations imposed by NBC protective equipment, NBC specialists have an important role in advising commanders in such situations ;

f) all units operating in the TIC hazard area shall be provided with special equipment described in STANAG 2909 and STANAG 2353 and trained according with the requirements of STANAG 2150

Fundamental principles of CBRN defence that dictates avoiding possible risks, protection and contamination expansion control applies to the TIC hazard with following difference: military NBC defence equipment offers little or no protection against SCTI and lack adequate equipment for detection, identification and decontamination of specific TIC; the challenge which must deal with commanders is to avoid all known or likely hazards, thereby eliminating all unjustifiable risks.

However, CBRN defence structures enjoy a significant advantage over other structures, concerning training and equipment but the real limits in such situations should be considered.

II.2. Hazard Avoidance

Area evacuation - the most important in cases of massive TIC emission is early warning and rapid evacuation. Commanders and staff must understand that the best defence to TIC releases is to ensure the rapid and safe evacuation, taking into account the wind direction. Military standard filter cartridges provide varying levels of acceptable protection against most TICs (depending on concentration, exposure duration, type of emission). The full protection against TIC can not be guaranteed; military NBCIPE (Individual Protection Equipment) will be used only during the evacuation of hazard area. Some TIC, delivered in high concentrations can replace oxygen and respiratory protective equipment are thus totally ineffective. All forces must be aware of the limited capabilities of the EPINBC regarding protection against TIC. **CBRN defence structures** provide the necessary data to determine locations / directions of evacuation and may enter into the composition of rescue-evacuation detachments.

Intelligence - before entering the area of operation to obtain information on TIC (existing / suspected) is a priority, this information will be obtained from local authorities or intelligence/specialist structures. These structures will make all efforts to obtain all relevant information on installations using TIC (production / storage), the type and quantities of toxic industrial substances. The experts in scientific research and experts in conventions / treaties concerning chemical weapons should be consulted. There is the possibility that local authorities (economic facilities) have their own system of monitoring installations using TICs, keeping accurate records.

All installations with the releasing risk in a large areas will be identified and monitored by the CBRN reconnaissance units so that operational forces will prepare plans (procedures) for managing the risks and take avoidance measures.

Estimated distance of safety - the possibility of TIC danger is much higher than for chemical warfare agents because many states, by ratifying the Chemical Weapons Convention, explicitly renounced to the possession and use of chemical weapons. Yet these countries have a sufficiently developed chemical industry, which pose a potential high risk. In contrast to chemical warfare agents, many TICs are flammable

or explosive. These features increase the level of danger of TICs and it is therefore essential to know all the specific characteristics for the safety distance estimate.

The records kept by civilian institutions/authorities concerning the TICs may provide necessary information to prevent hazards. Safety distance will be calculated / estimated based on local meteorological situation and storage conditions of chemical compounds. The forecast of correct TIC hazards will be obtained using special manual or automated procedures. In their absence can be used safety distances given in the Appendix no.1.

Exclusion zones for TIC -For intact chemical installations- Force Commander will order the exclusive safety zone around the plant, according to intelligence and technical assessments. If the source location is known and no past emissions are recorded, the commander will establish three distinct zones with a radius of **1 km (Interdiction Zone)**, **5 km (Temporary Disposal Avoidance)** and **10 km (Permanent Disposal Avoidance)**

- In case of TIC release - The commander must ensure that all forces were evacuated from the area and will be established an area of 5 km radius, prohibiting the deployment and manoeuvre until the forecast of hazardous area is made. Only units with effective protection equipment against TIC may remain in the hazardous zone, if necessary.

Exceptions - commanders may make exceptions to the rule only after a thorough reconnaissance and a complete evaluation made by experts.

TIC hazards prognosis - will run using the procedures according to NATO manual ATP-45. As an additional precaution, commanders will try to not have units to less than 10km from the centre of the hazard zone. **NBCWRS** (Warning and Reporting System) has the main role in forecasting the TIC hazards.

TIC warning and reporting – will be conducted using ROTA messages in the format shown in ATP-45, cap.2. As in the previous case, NBCWRS elements have the main role in this component of hazard avoidance

TIC reconnaissance and monitoring - initially, when an event is ROTA suspected, reconnaissance operations will be conducted to determine whether there is a potential TIC release. It is preferable that the reconnaissance / surveillance to run with special means (like aviation or Unmanned Aerial Vehicles - UAV) in order to avoid the hazard for personnel.

Ground Monitoring is to be performed using standard procedures according to STANAG 2112 "NBC Reconnaissance", using specific detection identification/equipment for TICs,. NBC reconnaissance team will determine only the outer limit of the contaminated area and must enter the TIC hazard area only if equipped with protective equipment designed to meet such threats.

NBC defence staff from all HQs will continuously update the list of all the confirmed, suspected or potential TIC hazard objectives in their area of responsibility.

II.3. Force Protection

Commanders will ensure that their forces operate in areas contaminated with TICs only if the operational situation requires. In this case, commanders will ensure that appropriate measures were taken to protect personnel. ***Overall force protection during the evacuation of contaminated areas*** –includes eye and respiratory ways protection and skin protection. Military protective equipment designed for chemical warfare agents are partially efficient for TIC and should be used accordingly.

Forces protection for teams acting near or within TIC contaminated areas - these forces are usually (but not exclusively) intended for CBRN reconnaissance or saving the personnel. For respiratory ways and eye protection will be used only specific types of equipment. In extreme cases (lack of oxygen or too much concentration of TIC), Self-Contained Breathing Apparatus will be used. For skin protection the specialist teams will use protective equipment with characteristics more closely resembling those of authorized / certified equipment to avoid contact with TIC in vapour or liquid form.

II.4. Medical Considerations

Prevention of additional exposure will be assured by removing affected personnel from hazard area. The evacuation will be ordered to a location on high ground where the wind blows towards the source of TIC. Respiratory protective equipment may be removed and treatment procedures will be used (according to Table 3).

Effects on the eyes will be removed by careful and continued washing with drops of clean water at least 10-15 minutes. Ideal would be to use medical saline solutions (1 liter each eye).

Contamination may cause burns or skin absorption of chemical agents. To avoid TIC contact with skin the protective equipment and/or clothing should be removed carefully and waterlogged. All chemical compounds observed to have reached the skin should be immediately removed. Washing with soap and water is effective for removing skin contamination. Skin burns due to contamination by TIC will be cleaned, disinfected and covered) with sterile dressings to prevent the infection.

Toxic gases produce a strong respiratory irritation. In all cases rapid movement to areas with clean air is essential. If symptoms of poisoning appeared / persist, affected person should receive medical treatment and be monitored by trained personnel (medical training). Inhalation of irritant gases can be followed by pulmonary edema between 8 and 24 hours after exposure even without immediate specific respiratory symptoms or general state of body weakness. If respiratory stop has already occurred should be applied artificial breathing and emergency evacuation under medical care. Wounded person should remain under observation to prevent respiratory complications, pulmonary edema, etc

II.5. Contamination Control

Control of TIC contamination spreading– TIC releases can have significant effects on the environment. The commanders and forces must strive to minimize any spread of contamination. NBC defence units are involved in preventing the spread of contamination by employing NBC reconnaissance and RBC decontamination subunits.

Decontamination - after completing operations in the TIC contaminated area, all equipment must be sorted and the contaminated items must be packed in plastic bags and sent for destruction /neutralization. For personnel decontamination will use large quantities of water and soap. **RBC decontamination subunits** provide an alternative to decontamination, particularly for personnel decontamination.

III. LLR HAZARD MANAGEMENT. THE EMPLOYMENT OF CBRN DEFENCE STRUCTURES TO MANAGE THE HAZARD

III.1. LLR Hazard Exposure Limitation

Control exposure measures will reflect the need to balance between concern for individuals taking into account both the immediate and long-term effects to health on the one hand and military objectives that involves life-threatening activities, on the other hand. Therefore when planning or operating with a LLR threat, commanders must be able to make balanced and informed decisions with regard to the current operational requirements and responsibility for the subordinates' health

Basic principle for deliberate exposure of personnel to the LLR is to keep exposure to "a level as low as reasonably achievable", ALARA;

Appendix no. 2 is a guide for LLR exposures. It outlines the categories of exposure and related dose.

Although partial body irradiation with gamma rays and skin irradiation with beta particles can not be measured accurately in the field, individual doses can be estimated for operational purposes. Depending on the type and form of radioactive material and spreading form, the sum of internal and external dose may be much higher than external dose recorded by dosimeter. Therefore, skin protection and respiratory protection should be considered when hazard analysis determines that there is a potential risk of exceeding the established limits.

III.2. Measures/actions Before Deployment

Before deployment, the specialist staff will conduct an informative assessment of the area of operations and the troops will perform a specific training to address identified hazards. Hazard management capabilities will be evaluated and appropriate contingency plan should be developed to answer the most likely risks.

This plan should include:

a) the nature and extent of the likely risk identified including a description of possible scenarios for accidents / incidents;

b) identification of RADIAC type detection equipment immediately available in the area of operations and therefore, what LLR hazards may be detected; should be considered that most military units may have only limited capability to detect / measure alpha radiation and neutrons and low levels of beta and gamma radiation.

c) immediate response actions appropriate to the identified / expected conditions (including operational exposure guide);

d) information on the natural level of radiation in the area of operations;

e) the available means to ensure early detection and warning;

f) identification of other specific types of equipment needed (including radiation monitors, spectrometers, decontamination and medical devices);

g) opportunities for access to national and NATO technical advice and support;

h) arrangements for procurement of new equipment and personnel (under STANAG 4590 - Sampling and Identification of Radiological Agents - SIRA)

i) information and training of personnel.

III.3. Hazard Avoidance

While in the area of operations, commanders must avoid exposure of their troops to LLR by taking the following measures:

a) continuous updating of information on potentially dangerous areas;

b) consider the host country's nuclear facilities and possible radioactive sources,

c) ensure that radioactive release sites are identified and marked, restrict and closely control entry into areas marked with warning signs;

e) treat with caution all waste storage sites and other places suspected of a possible danger until to be proven safe;

III.4. Response Actions/Measures to LLR Events

Once a potential radiological hazard is identified, the following measures (the order depends on the specific situation) should be taken:

a) establish an optimal level of personal protection;

b) if the situation allows, evacuation of nonessential military personnel from the area of release/ from the supposed point of origin or, if not known, from the place where the first significant increase in radiation (two times) was detected, taking into account the ongoing operations, radiological data and weather conditions (eg evacuation in areas where dose rates are lower than 0.0002 CGY / h; in the absence of specific guidance or under pressure, a quick evacuation to a distance of 1 km in the direction of the wind would be a feasible solution;

c) reporting the hazard using the format of NBC 1 ROTA report according to ATP 45;

d) execution of an initial reconnaissance using the available equipment;

e) reporting reconnaissance data using the format of NBC4 / 5 reports / ATP 45;

f) controlling access to the area;

- g) informing the local civil authorities;
- h) application of operational guide for exposure to radiation;
- i) request expert advice
- j) call monitoring teams composed of specialists;
- k) identification of the personnel exposed to radiation and registration of exposure;
- l) permanent monitoring of staff exposure to avoid an exposure higher than established limits.

III.5. Health Monitoring

Risks related to LLR long-term effects are cumulative, generated by total absorbed dose. It is necessary to maintain records of doses received by those exposed to LLR and commanders must take into account the individual dose (remaining) when planning future operations with LLR exposure risk.

After the operation, a long-term health monitoring will be necessary for the personnel who have been exposed to LLR. This should be done in accordance with national regulations. It also may be necessary to assess the internal dose after redeployment phase / repatriation.

III.6. Protective Measures in Case of Nuclear Accident

Given the scale and gravity of the effects of a nuclear accident, should consider listing general protective measures, which, while not related strictly to military, can be very useful for the commanders who have their forces or act in areas that involve such risks. The main protective measures are:

- a) informing those factors with established tasks for protection and intervention to a nuclear accident;
- b) warning of personnel from nuclear hazard area;
- c) controlling and monitoring of environmental radioactivity and measurement of radiation dose received by personnel;
- d) occupation of established shelters;
- e) use of individual protection equipment;
- f) applying protective measures to goods and water;

During the time of the accident, following measures are taken by the personnel after the warning signal:

- a) extinguish the fires;
- b) switch off the gas and water;
- c) unplug the electrical devices that may cause fire;
- d) close the doors and windows;
- e) keep operating the CIS system to the highest parameters and switch on radios/ TVs;
- f) increase the individual protection level;
- g) go to the established shelter;

During lair aging, the personnel is required to remain in the shelter, not to open doors or windows, to listen to communications from intervention agencies, to limit to the minimum the leaving the place of housing, not to consume unprotected food, water, to prepare for possible evacuations.

IV.7. The Employment of CBRN Defence Structures to Manage the LLR Hazard

CBRN defence structures play a central role in LLR hazard management especially in Crisis Response Operations, outside the national territory. When we refer to CBRN defence structure, we include CBRN defence officers/cells from operation branch of various echelons, commanders of CBRN defence units / sub-unit involved in advising the Force Commanders, elements of NBC Warning and Reporting System (NBCWRS), different CBRN defence units / subunits, CBRN reconnaissance teams within the composition of mixed EOD-NBC teams and CBRN defence structures that temporarily enter in the composition of different task forces made up for action in emergencies caused by LLR events.

CBRN defence structures are among the few trained and (partially) equipped military structures to participate in managing such situations. For this reason, these structures are involved in all stages of LLR hazard management, from preparation of operations / pre-event stage, continuing with more important involvement during the occurrence of the incident/accident and in post-incident phase.

CONCLUSIONS

The present paper refers to a vast and complex domain which cannot be covered in several pages, therefore the intention has been to point out the relevant aspects of military involvement in solving dangerous and unusual situations.

During the peace time, on the national territory or in crisis response operations overseas the CBRN defence structure should be considered as key elements in the management of such risks and be prepared and equipped accordingly; the current endowment of specialist units is far below to the requested standards.

Romanian NBC Warning and Reporting System, with its specialist surveillance, warning, analysis, prognosis and reporting elements, is one of the principal components of ROTA Hazards Management System; however the system does not cover the entire national territory and could affect the overall efficiency of NATO CBRN surveillance network.

The recent military operations have highlighted the need and efficiency of mixed EOD-NBC teams for both reconnaissance of facilities suspected of being used for activities involving the use of radioactive materials and for reconnaissance in areas in which depleted uranium shells were heavily used or armored vehicles incorporating this material were destroyed; an equal importance should be shown to both specialist capabilities and a common training is mandatory.

General Inspectorate for Emergency Situations has the primary role in addressing the ROTA hazards on the national territory but they rely heavily on

military assets, including in the contingency plans different military capabilities without taking into consideration the military commitments to NATO and consequent rotation cycle.

The latest pandemic flu has shown how unprepared is the civilian sector when facing major challenges even when early warnings are received; it is easy to imagine the impact of a major ROTA incident/accident especially in a dens populated area if the overall management system is not reconsidered, starting with the responsibilities and endowment.

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Appendix No 1

INITIAL SAFETY DISTANCES FOR TICs

Compus chimic	Cantitate	Ziua	Noaptea
Chlorine	> 100t	2km	5km
Phosgene	> 50t	2km	5km
Ammonia	> 500t	2km	5km
Hydrogen cyanide in hot climate zones	> 50t	2km	5km
Hydrogen sulphide	> 50t	2km	5km
Methyl isocyanate	> 50t	2km	5km
Hydrogen cyanide in cold climate zones	> 50t	1km	2,5km
Acid fluoride	> 100t	1km	2,5km
Sulfur trioxide	> 50t	1km	2,5km
Nitrogen trioxide	> 50t	1km	2,5km
Hydrochloric acid (gas)	> 50t	1km	2,5km
Ammonia	> 100t	1km	2,5km
Bromine	> 50t	1km	2,5km
Sulfur dioxide	> 50t	1km	2,5km
Acrylonitrile	> 50t	1km	2,5km

Appendix no. 2

OPERATIONAL EXPOSURE (TO LLR) GUIDE

Cumulated Total Dose	Radiation Exposure category	Recommended Measures/Actions
0 la 0,05 cGy	0	Routine monitoring
0,05 la 0,5 cGy	1A	+Individual dose record
0,5 la 5 cGy	1B	+ Radioactivity surveillance + Establish priority tasks + Dose control as part of operation
5 la 10 cGy	1C	+Update surveillance +Priority tasks only
10 la 25 cGy	1D	+Priority tasks only + Medical evaluation recommended when returning in base
25 la 70 cGy	1E	+Priority tasks only +Medical evaluation remandatory when returning in base

OFFSET AGREEMENTS IN DEFENSE PROCUREMENT

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INTRODUCTION

Offsets are a global phenomenon, required and offered for many purposes, and unlikely to abate in the foreseeable future. Hence, while addressing offset on the EU level, cognisance will need to be taken of the global practice of offset and in particular the involvement of third parties and their effect on European industry competitiveness⁵³.

Offset agreements appear to be common in large defense sales of aircraft, radars, and other electronic systems, to foreign governments. In fact, it appears that offset agreements are the norm in such transactions. In a typical offset arrangement, the buying country requires the selling firm to provide economic offsets or compensation for having purchased the particular foreign-made system or items. The offsets may include purchases by the selling firm from the buying nations, as well as marketing assistance for, investments in, or technology transfers to the buying nation. The seller may also agree to produce a portion of the product in the buyer's country. The value of the offsets expected by the buying nations frequently equals the value of the original defense purchases, and the time required to fulfill the offset commitments may easily exceed the delivery time for the purchased defense equipment.

A buying country may face a situation where an excessively large pool of unemployed labor exists in the country, or a significant percentage of its workforce is in low-skilled industries. Either case may justify some form of government action. Stimulative macroeconomic policy, elimination of the minimum wage, or a reduction in barriers that hinder the mobility of labor, might address the first situation. A subsidy program targeting certain industries could be used to increase employment in high-skilled areas, thus addressing the second case. Political constraints may prevent the use of some of these actions. Thus, a government might seek other ways to address the labor market problem, and an offset agreement might be part of the solution⁵⁴.

Through an offset arrangement, the buying government can increase its exports and thus stimulate employment. In particular, the government can require the selling firm to agree to buy products produced in the buying country, or to establish certain co-production and subcontracting relationships with local firms. The buying

⁵³ European Defence Agency - The Code of Conduct on Offsets, Brussels, 24 October 2008

⁵⁴ http://findarticles.com/p/articles/mi_m0JZX/is_3_10/ai_109353417/pg_2/?tag=content;coll

government can, therefore, ensure that certain components or tasks associated with desired high-tech skills be produced in its local economy, thus not only increasing employment in general but increasing the skill level of a portion of the workforce.

The use of offsets could be viewed, in an economic setting, as a form of government intervention in response to a distortion in the local labor market. Due to political constraints these factors may be well entrenched in the nation, and perhaps the offsets package is a second-best method of addressing the distortion in the labor market; the first best being removal of the distortion itself. In the case where there is a lack of high-skilled employment opportunities, the government's use of offsets could be in lieu of, say, a politically-charged direct subsidy to selected high-technology firms to encourage employment in those industries.

In the offset negotiations, the buying government can request that the selling firm build a production facility in the buying country or use its influence to encourage other domestic firms, such as subcontractors, to do so.

In this way, the buying government sees an increase in capital investment, without the political problems associated with a direct subsidy scheme. Since the selling firm must recoup the cost of the possible sub-optimal investment decisions by increasing the price of the defense equipment, the offsets arrangement may be viewed as an indirect subsidy scheme. The buyer pays a higher price for the defense item, but receives the desired investment activity.

A government's use of offsets can also be viewed as a reaction to the existence of asymmetric information. First, many of the major defense firms have well developed worldwide marketing networks and expertise, while the nations buying their products lack the extensive marketing skills needed to promote their own countries' exports. Second, most of the buying nations of defense items have a need to increase their technological bases, while the firms selling them defense items are leaders in a variety of technologies. Both of these cases represent situations of asymmetric information; the sellers possess information that the buying nations desire, that is, marketing expertise and state-of-the-art technologies.

1. OFFSET AGREEMENT

Section 1 - Definition

Using the dictionaries, **offset** can be defined as *an agent, element, or thing that balances, counteracts, or compensates for something else*⁵⁵, or *something that counterbalances or compensates for something else*⁵⁶.

Offset operations – a set of economic compensations used in the commercial international practice under the name of offset operations, as a condition for procuring products, works and services from the external market, in the field of defence, public order and national security⁵⁷.

Defense offset agreements are legal trade practices in Aerospace and Defense Industry. These commercial practices do not need state regulations, but since the

⁵⁵ The American Heritage Dictionary of the English Language, Fourth Edition, 2000

⁵⁶ Collins English Dictionary – Complete and Unabridged, 6th Edition 2003

⁵⁷ Romania Government Decision No. 459/2006

purchasers are mostly Defense Departments of sovereign nations, many countries have offset laws, public regulations or alternatively, formal internal offset policies. The international names for these *commercial practices connected to weapons trade* are various: *industrial compensations, industrial cooperation, offsets, balances, juste retour* or equilibrium, to define mechanisms more complex than counter-trade. Counter-trade can also be considered one of the many forms of defense offset, to compensate a Purchasing Country⁵⁸.

The main difference between a generic offset and counter-trade - both common practices in the international defense trade - is the involvement of money; in counter-trade goods are paid through barter or other mechanisms without the exchange of money, while in other defense offsets money is the measure and the medium of exchange.

An unbiased definition of these trade practices is arduous, but one may generally assume that offsets are additional compensations given to a buyer by a seller. The word offset means something “set off against something else so as to counterbalance it.” Offset is “anything that counterbalances, compensates, or makes up for something else: a set off.”⁵⁹

Defense offsets are forms of equilibrium that want to go beyond the exchange of money for defense materials, i. e., additional *compensations*, “additional weight” on buyer's scale-dish. The usage of the word *cooperation* (industrial cooperation) to speak about defense offsets is suggesting something more than balance, and precisely the notion of *profit sharing* among the trade partners, a splitting of the benefits. In any case, the words and the definitions of defense offsets that are used by countries or scholars, include almost always a pre-comprehension, i.e., economic and political theories behind them.

An **offset agreement** is an agreement between two parties whereby a supplier agrees to buy products from the party to whom it is selling, in order to win the buyer's custom and offset the buyer's outlay. Generally the seller is a foreign company and the buyer is a government that stipulates that the seller must then agree to buy products from companies within their country⁶⁰. Often, the aim of this process is to even-up a country's balance of trade⁶¹. This is frequently an integral part of international defense contracts⁶².

The U.S. Government's definition of offset agreement is the most crucial, since the U.S. aerospace and defense industry is exporting the majority of the world's weapons, and therefore engaged in the majority of world's offsets. In U.S. there is even a Commerce Department Division, the Bureau of Industry and Security (BIS), that deals specifically with U.S. defense offset agreements with foreign nations as main subset of U.S. industrial security. BIS - whose main task is protecting U.S. security from the point of view of export of high technology, fostering commercially U.S. foreign policy, and U.S. economic interests - deals with U.S. aerospace and

⁵⁸ Counter-trade is an indirect offset. As a general introduction to the topic see J. Brauer -J. P. Dunne *Arms Trade Offsets and Development*, 2005 (Martin, 1996, Udis and Maskus, 1991)

⁵⁹ Oxford Dictionary, 2nd Editions, Clarendon Press, 1989

⁶⁰ <http://www.wisegeek.com/what-is-an-offset-agreement.htm>

⁶¹ <http://www.ndia.org>

⁶² http://www.acq.osd.mil/dpap/cpic/ic/offsets_of_foreign_military_sales.html

defense companies that export to foreign countries defense products, systems or services, by way of the “offset agreements,” that is those sale's collateral or additional agreements requested by purchasers. BIS defines offsets as “mandatory compensations required by foreign governments when purchasing weapon systems and services.”⁶³ U.S. Government underlines the compulsory aspect of this trade practice, since United States with other weapons exporting countries, such as Germany and France, opposes offsets as forms of protectionism and harmful transgressions of free market rules. These governments frown on offset agreements, consider them to be both market distorting and inefficient.

In a less one-sided definition of offsets, more in line with the majority of world countries, and not so much connected with the seller's point of view, offset can be defined as **compensation** for major sales/purchases of weapons, somewhat an attempt to **share** profits connected with the weapon industry trade. In 2008 the Brazilian Minister of Strategic Affairs - speaking of a major defense purchase by his country- highlighted this key point: “We will not simply be buyers or clients, but partners⁶⁴. The competition by different companies “in offering comparable weapons to a country” is also on the level of “sharing” or “partnership,” with the purchaser.

Section 2 - Offset as marketing tool

In weapons trade defense contractors are fully aware that offsets are powerful marketing tools to motivate the purchase, by showing and giving additional advantages for the purchasing country besides investing on military equipments⁶⁵. The U.S. defense industry position seems to be more practical, and somewhat quietly nonaligned with U.S. Government economic or political assessment of defense offsets. Generally speaking, one can understand offsets as a widespread sale technique. As such, they are not restricted to weapons sale, they belong to commerce in itself, in the same way that rebates or price-pack deals, or loyalty rewards programs do. Understanding “defense offsets” as part of a sales technique, helps to curb the justified yet excessive emphasis on their mandatory nature. To simplify this sales-mechanism is to compare it to a “quasi-offset” proposal in retail offers on some TV commercials. As some commercial offers on TV go: “If you buy this mattress at the incredible price of 500 Euro, instead of its market price of 900 Euro (discount of 40%) we will also add two pillows, a blanket, a fashionable night lamps, 5 books and a splendid silver pen.” The primary commercial offer is the mattress, but the seller includes a side offer, to motivate the purchase: two pillows, a blanket, one fashionable night-lamp, 5 books and 1 pen. At the discounted price of the mattress the buyer will get them all, that is, the mattress + the additional “gifts,” for 500 Euro only. Such commercial offer is not as simple as a mattress off-the shelf, but complex: primary offer (Envelope A) and secondary offer (Envelope B). The seller says to the

⁶³http://www.bis.doc.gov/defenseindustrialbaseprograms/osies/offsets/13th_report_to_congress.pdf
Appendix E, p. 30

⁶⁴ <http://www.nowpublic.com/world/brazil-rebuild-its-weapons-industry>

⁶⁵ Lloyd J. Dumas, *Do offsets mitigate or magnify the military burden?* in J. Brauer - J.P. Dunne, *Arms Trade and Economic Development. Theory, Policy, and Cases in Arms Trade Offset* London-New York, 2004

buyer: “for 500 Euro I will give you a mattress of the value of 900 Euro, plus a group of things related or not related to the mattress, whose total value is an additional 700 Euro. To make it short, the buyer, according to the seller, gets a total value of 1500 Euro by paying only 500 Euro, and the buyer gets much more than the mattress, which was the primary need. Paradoxical as it may appear, someone could buy a mattress because he wants a nightstand and a pen. Often defense offsets are more motivating than the primary defense acquisition, for personal or political reasons. This may seem irrational, but it is part of commerce. If one adds the prevalent political aspect in spending huge public funds in modern weapons, then the motivating significance of defense offsets could not be underestimated in contemporary decision processes of democracies. Prime defense contractors are well aware of offsets power in the psychologies of democracies. As anyone can understand, the seller will include the cost of the “Envelope B,” that is of the offset and an added value for the purchaser, in its total cost. In other words, the client will pay for the offset, it is not a “free lunch.”⁶⁶ But key question is: to which extent the offset proposal is a factor in the consideration of defense contractor’s tender during the evaluation and the decision procedures? The universe of this defense niche of offsets trade is sophisticated and less innocuous than commonly believed. In 2000 Daniel Pearl wrote an article about the universe of offsets: “could the sale of U.S. weapons in the Persian Gulf help an oil concern unload gasoline stations in Europe? Yes, under the new logic of international arms deals.”⁶⁷ Pearl describes the new-found world of indirect offsets:

“For decades, countries that buy weapons have imposed “offset” requirements on their suppliers that keep some of the economic benefits of the deal at home. Now, defense contractors are moving toward more exotic plans to satisfy their growing offset obligations. Many deals have no relationship to the weapons being sold, and a few have only a tenuous connection to the country that is buying.”⁶⁸

The market size of the international offset business is related to the size of the international weapon export in the world. According to SIPRI in 2007 there were 51 billion USD of weapons export, - an approximate value because it is open source, and not all weapons deals can be or are open source information. All included, one can very roughly estimated the actual value of this world offset business between 5 and 10 billion USD per year. However, both the “credit value” and the leverage effects of offsets (beneficial and/or adverse effects) is much higher and more extensive.

⁶⁶ J. Brauer and J.P. Dunne, Arms Trade and Economic Development. Theory, policy, and cases in arms trade offsets. Routledge, Abingdon - New York 2004

⁶⁷ Offset Requirements Of Defense Deals Often Have Little To Do With Purchaser -- By Daniel Pearl – Staff Reporter of the Wall Street Journal

⁶⁸ See above

2. TYPES OF OFFSET

The most common distinction in offset proposals is between direct and indirect offset⁶⁹. **Direct offset** is a side agreement that has to do with the main product/service that is bought/sold, that is military equipment, systems, or services. They may be also called military offsets. **Indirect offsets** are a side agreements that are not directly related to the product/service that is bought/sold. Most people refer to such category of offsets as civilian offsets, though there are many indirect offsets that are not civilian offsets.

Section 1 - Direct offset

Direct offset is when the compensation offered to the buyer is directly related to the initial transaction. For example, a buyer of military equipment may be given the right to produce a component or related technology in the buyer's country. The right is usually for a limited period.

As an example of a defense offset proposal we could describe an hypothetical case of Nation **P** (Purchaser) buying from a Defense Company **S** (Seller, of Nation **S**) 300 tanks⁷⁰. The total sale contract is 400 million USD and Nation **P** (Purchaser) requests 120 % of offset. Defense Company **S** (Seller) is obliged to fulfill an offsets equal to 120% of the sale contract, that is 480 million USD. Nation **P** agrees with Company **S** (Seller) a list of specific offset deals and programs to fulfill the agreed total obligation. The offset agreement includes both *direct* and *indirect* offsets.

Nation **P** also assigns a **credit value** for each **typology of offsets** offered by Company **S**. The “credit value” for the offset obligations is not the “actual value,” but it is the “actual value” by a **multiplier**, that expresses the degree of interest on Nation **P** (Purchaser) in the proposed offsets. In other words, something deemed very valuable by Nation **P** will have a high multiplier that expresses the importance and the value to Nation **P** of that type of offset. The multiplier (for instance 2, or 5, or 7) translates Nation **P**'s attached value into the “credit value,” that eventually counts for the fulfillment of sum the agreed sum of 480 million USD (120% of offset); it is evident that with no multipliers a 120% offset would be a nonsense. Most of the offset packages are divided into direct and indirect offsets. Here is a hypothetical complex offset offer, divided into direct and indirect offsets in Nation **P**.

Co-production: Nation **P** chooses one of more local companies to manufacture some components of the tanks, such as turrets and some of the internal components. The “actual value” of the components is 70 millions dollars. Nation **P** assigns a multiplier of 3 since this develops capabilities of its military industrial base and creates jobs in Nation **P**. The total “credit value” for the fulfillment of the overall offset obligation is $70 \text{ mill} \times 3 = 210 \text{ million}$.

⁶⁹ <http://www.eda.europa.eu/studiesprojects.aspx?directorate=Industry%20and%20Market>, p.3

⁷⁰ U.S. Bureau for Industry and Security Annual Report 2007, p. 136.



Figure 1: Direct Offsets - military and related to the production of the Company S tanks.

Section 2 - Indirect offset

Indirect offset is when the supplier is expected to purchase goods from the buyer, which are unrelated to the initial product being supplied. These could include raw materials, agricultural commodities or other products.

Foreign Direct Investments: Company S makes investments in 5 (defense or non-defense) companies in Nation P; The total value of the investments is 14.5 million dollars and the multiplier is 4, high multiplier, since Nation P suffers of a chronic lack of Foreign Direct Investments; that makes a credit value for Company S of 58 million.

Technology Transfer: Company S provides water desalination technologies to one Nation P company. This technology is particularly appreciated by Nation P. Its actual value is 20 million dollars, but the “credit value” is 7 times the actual value, that is 140 millions dollar.

Export Assistance and Marketing: Company S provides commercial assistance to market the products and services of a Nation P's company in a difficult market, such as, for instance the Middle East. The assistance is offered for 8 years, at the value of 3 million dollars per year. Nation P considers this assistance to export as important to create new revenue streams and jobs for its company, and sets a multiplier of 3. Credit Value 72 million. (Since Company S is not an expert on marketing and export assistance may hire a specialist company to subcontract the job. Such a subcontractor is also known as “offset fulfiller”).

Nation P controls not only the supply of the military systems or service, but also the implementation of the offsets according to the agreement and contract. This control is within the Minister of Defense and/or Ministry of Economy or Finance, or Ministry Industry and Trade. Often arms importing nations establish special agencies for the supervision of the defense offsets.

One of the ways to legally compensate for the high-price purchase of military equipment or systems is to offer services, investments, counter-trade and/or co-production as offsets.

For instance, Greek companies produce part of the Lockheed C-130 that they bought from U.S.. The Greek co-production is a U.S. direct offset. Or, in a form of offset involving three countries, Portugal is in charge of the maintenance of Kuwaiti Lockheed's airplanes. This is a Portuguese “direct” offset, since Portugal bought the same planes, and it is partner in charge for their maintenance⁷¹.

The most common types of direct/indirect offsets are:

Direct Offset	Direct Or Indirect	Indirect Offset
Co-production	Technology Transfer	Export Assistance
Subcontracts	Training	Purchases
	Licensed Production	Offset Swapping (compensation of offsets' obligation through reciprocal abatements)
	Foreign Direct Investment, Credit Assistance and Financing	

Section 3 - Offset certificates, penalties, confidentiality clauses, pre-offset activities

Offsets are of various temporal lengths. They may be planned to last for 1 or 2 years, but 8-10 years plan are very common. Clients (sovereign countries) have in place mechanisms to control their implementations, and to certificate milestone accomplishments in their offset programs. An **offset supervision authority certifies** the advancement in the offset completion in percentages, issuing offset certificates⁷². These certificates may be issued to prime contractors fulfilling their offset agreement, but also to offset fulfillers, that have subcontracted the job from prime contractors and registered as such in the foreign countries. When there are multipliers, such certificates express the percentage of completion in “credit value” (“actual value” X multiplier). Offset fulfillers redeems the offsets certificates through contracts or subcontracts with the prime contractor. More recently, given the importance and the growth of offset practices around the world, offset fulfillers can “sell” their certificates to prime contractors other than their initial one, as long as they have national offset commissions authorizations. In this profitable niche of defense industry made by offset specialists, lawyers and companies - there is also a “currency” and a “trade” of offset certificates.

Like in any contract, there are forms of **penalty** for failing to complete offset obligations. Many nations have rigid systems of penalties, including the use of bank guarantees, while other nations believe in a continued negotiations that are based on

⁷¹ Belgian Policy of *Industrial Compensation* <http://economie.fgov.be/>

⁷² Keri Smith JDIN Reporter Offsets in Europe: A matter for debate Jane's Defence Weekly - November 28, 2007

“the best effort” clauses. The list incentives and penalties for offset is no different from many other systems of procurement, with two notable exceptions:

1) In the offset business there are two contracts proceeding in parallel, i.e. primary (A) and side (B) contract:

- A) The supply of defense equipment/services from the Defense Company to the Client (Foreign State), according to contractual specification (quality, quantity, time, etc)
- B) The offsets progress as monitored by the same Client (Foreign State), but most of by a different State entity, according to contractual offset agreement (quality, quantity, time, etc.).

These two contracts impact on each other, and problems with one can affect the other. However, since most offsets today are not “direct,” this may create confusions and distortions, especially because of “indirect offsets.”

In direct offsets contracts there are legitimate **clauses of confidentiality**, that in several countries may even assume value of official classification, up to secret of state. In European Union States, however, extending state secret classifications to indirect offsets - that have nothing to do with military or state security - is and it is considered an abuse. For instance, classifying an offset not-related to state security or military preparedness - such as indirect and civilian offsets in pharmaceutical research, environmental technologies or export assistance of any non-military/security products - leads not only to major market distortions but also to possibly unpunished corruption protected by baseless secrecy.

Pre-offset activities are allowed and welcomed by several countries; they are like offsets without certainties to obtain “credit value”. These activities are straight marketing activities, similar to lobbying, to promote specific defense purchases. These pre-offset activities must be registered as such with national authorities. Often pre-offset activities will receive certificates, after a sale. Defense companies include them in the marketing budget, but after the sale, these offsets go into their offset budgets, and count toward offset fulfillment⁷³. The pre-offsets arena is also the delicate and problematic field of sale-facilitators and, precisely because the client is a state, this must be monitored with additional care, since this field is prone to abuse and outright corruption.

⁷³ Ann Markusen, *The Arms Trade as Illiberal Trade*, Conference on Defense Offsets, Cape Town, South Africa, September 24-6, 2002. Ann Markusen, Senior Fellow at the *Council on Foreign Relations*, directed also a 2 years long “Study Group on the Arms Trade and the Transnationalization of the Defense Industry: Economic versus Security Drivers” in 1998-2000: http://www.cfr.org/project/207/study_group_on_the_arms_trade_and_the_transnationalization_of_the_defense_industry.html

3. Offset around the world

In this chapter are presented details, regulations and offsets policies for United States of America, European Union and particularly Romania.

For more details, in the Annex A is a cursory survey on some countries' offset policies. It does not enter into details, and basically it gives:

- 1) the legal base for the offset;
- 2) the purchase threshold above which there is a requests for offset;
- 3) the requested “quantity” of offset by the country in terms of percentages of the contract value;
- 4) the applied multipliers, that qualify (“quality”) through a number the appreciations of a certain type of offsets (the “Credit Value” of an offset is the “Actual Value” by the multiplier)
- 5) remarks or specific information, including the websites of the National Offset activities.

Section 1 - U.S. Position on Defense Offsets

U.S. is by far the largest exporter of weapons in the world, U.S. companies have more than 60% of publicly known arms sales in the world in 2007. The U.S. Government officially declares the use of offsets as unfair practices, imposed by buyers, and is also trying to shape a political coalition of other arms exporter countries to support the U.S.’s official anti-offset position.

The primary concern of the U.S. about **direct offset** is keeping a complete and self-sufficient industrial base for its military capabilities, since an erosion of such domestic industrial base is or may be taking place due to military (direct or indirect) offsets, such as co-production and technology transfers. The trans-nationalization of the U.S. defense industrial base is caused also by direct offsets, and this is considered a threat to national security. In U.S. there is also a more sophisticated and free market opinion on the issue of the dislocation of less advanced military components to allied countries, that is, a kind of re-visitation of the U.S. Defense Industry transformation due to the internationalization of the main U.S. Defense companies. This opinion opposes to the protectionist simplification that any dislocation of defense industrial manufacturing capabilities to other countries is a potential threat. A second connected concern is that direct offset, technology transfer, and high-tech indirect offset may help potential U.S. enemies to build a military capability to attack U.S. or U.S. interests around the world.

Both of the above concerns are real and justified, but not very realistic. The U.S. is so far advanced militarily when compared to the rest of the world that it is not reasonable thinking that direct offsets may create a threat against U.S. security, or at least, a threat that is more dangerous than the very American made exported weapons may pose to U.S. national security. Weapons export and connected military offsets are closely monitored by the Defense Department (on the military side) and by the State Department (on the political side) and by U.S. Congress.

The most delicate and convincing issue is U.S. “economic security.” Economy (Competition) and War (Defense) do not follow the same principles and methods, in spite of many useful analogies and significant synergies, and this is especially true in U.S. Commerce Department, through BIS, monitors U.S. offsets specifically from the point of view of the **adverse effects on U.S. economy**, and reporting yearly to U.S. Congress. To be sure, the most realistic concern is about the potential loss of jobs in U.S.⁷⁴ The effects of almost all requested offsets by purchasing countries are the increase of turnover of the offset involved activities and the creation more jobs. An exemplification: if the sales of Lockheed Martin planes requires the offset financing of defense components manufacturing companies in Romania, these Romanian companies would subtract a piece of the market from U.S. companies, and therefore indirectly would cause a loss of jobs in U.S.. The argument follows the protectionist view that a factory in U.S. closes because another similar factory opened in Romania or Japan. From the buyer's point of view, offsets are supposed to be a form of “economic policy” and state intervention. However, from a strict free trade point of view the creation of wealth (production and turnovers as well jobs) in other countries is not detrimental to commercial Republics like U.S., on the contrary, it increases their purchasing power to buy U.S. defense products⁷⁵.

The matter of indirect offsets, and specifically civilian offset, poses other types of problems and serious economic concerns. Generally speaking **indirect offsets** do not affect U.S. national security. But if indirect offsets, such as marketing or financing of foreign competitors of U.S. companies, help competitors to grow internationally, or even in the U.S. domestic markets, the problem of the adverse effects of indirect offsets on U.S. economy becomes real. The interaction of defense indirect offsets with non-military U.S. business is substantial, given the amount of offset obligations of U.S. toward competing economies.

Since offsets are increasingly complex, the prime contractor may hire subcontractors to fulfill its contractual obligations. While the liability for the offsets stays with the prime contractor, the job can be executed by a subcontractor, or an offset fulfiller.

In addition, the establishment of new companies in “offset” venture capital, in “offset” marketing assistance: offset fulfillers that provide their services to the defense and aerospace industry. There is even a U.S. Association of those who work in defense offsets niche sector, the *Defense Industry Offset Association*, or DIOA. One of the main purposes of this association, established in 1985, is to promote U.S. Defense Industry in the world through a strong support of professionalism in offsets implementations, and promoting business while abiding with the complexity of different national legislations as well as with Foreign Corrupt Practices Act and OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions⁷⁶.

⁷⁴ “Defense offsets: Are they taking away our jobs?” Hearing before the Subcommittee on Criminal Justice, Drug Policy, and Human Resources of the Committee on Government Reform House of Representatives – 106 Congress - first session - June 29, 1999 - Serial no. 106-114

⁷⁵ J. Brauer-JP Donne, *Arms Trade*

⁷⁶ Security Assistance Management Manual (SAMM) DoD 5105, Ch 5, pag 247, Figure C5.F14. Offset Certificate <http://www.dsca.mil/samm/Chapter%2005%20-%20FMS%20Case%20Development.pdf>

For the U.S., there are two main ways to sell weapons to a foreign country. The first is referred to as **Direct Commercial Sale** and it is a “company to government” sale. The second way is referred to as **Foreign Military Sales**, that is a “government to government” sale.

A **Direct Commercial Sale** is highly supervised by U.S. Government and even by the U.S. Congress, in spite of its free market appearance. The arms trade because of its connection with national security is never free from strict government supervision. For a sale to a foreign Country's Defense Department, a U.S. defense firm must be licensed, it is checked by the Defense Department and by the State Department, and, in the case of relevant sales, even authorized or vetoed by U.S. Congress. Direct Commercial Sales are highly regulated because of security, political, and commercial reasons. Even from the point of view of indirect and non-military offset agreements, U.S. Defense companies and their subcontractors (offset fulfillers) must present detailed report of their offset activities to the Commerce Department, Bureau of Industry and Security (BIS)⁷⁷.

Foreign Military Sales are indirect sales of weapons produced by one or more U.S. contractors through an agency of the Department of Defense, the Defense Security Cooperation Agency, DSCA. In a way, DSCA acts as Prime Contractor's “agent” in promoting and selling U.S. made weapons to foreign Countries. The known FMS disadvantage is that DSCA adds to the final sale price a small percentage for its own administrative costs; the advantage is that some free training with U.S. Armed Forces for joint international operations⁷⁸. In this type of sale, however, there are two important aspects in regards to the offset business.

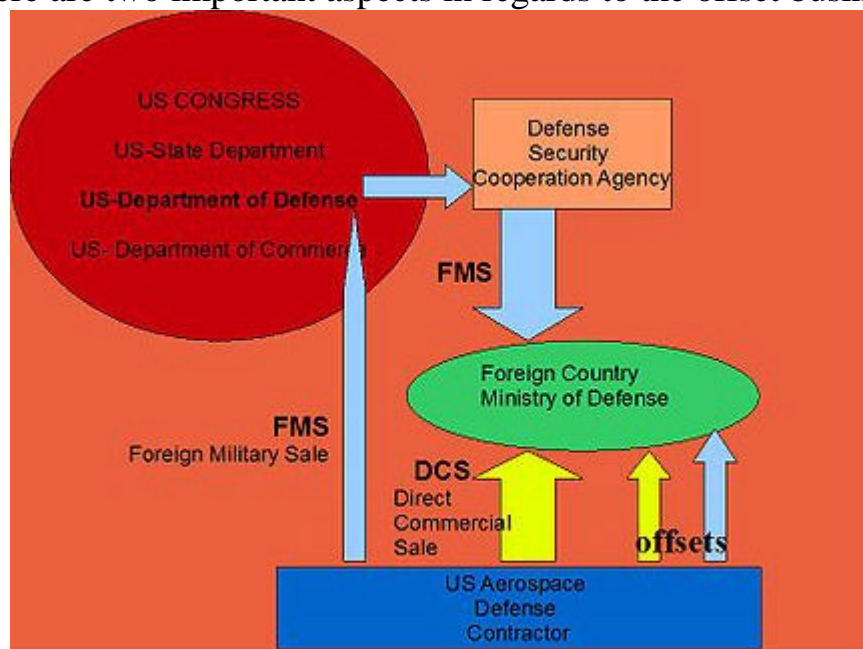


Figure 2. Offsets under FMS and DCS programmes

⁷⁷ <http://www.dsca.mil/programs/biz-ops/factsbook/FactsBook07.pdf>

⁷⁸ U.S. Defense Department – Defense Security Cooperation Agency: “Strength through Cooperation. The FMS Advantage: Frequently Asked Questions About Foreign Military Sales” 400E9889-04B9-18B52A.publication

Since 1990, under a specific directive by President George Bush, no U.S. Federal Agency or U.S. Government employee can be involved in the offset business. To each press release about an FMS (or of any documents regarding a FMS), there is a standard disclaimer: “There are no known offset agreements proposed in connection with this (potential) sale.”⁷⁹ The cost of the offset is not even itemized in the FMS offer, and if the client wants to discuss or simply to know the cost of the offset, the client must speak directly with the Contractor and not with DSCA.

U.S. funds assigned by **United States Foreign Military Financing** (FMF) that may be connected with Foreign Military Sales (FMS) cannot be used for any type of offsets.

While widely practiced, some, such as the US government, consider such agreements to be “market distorting and inefficient”. On April 16, 1990, a US Presidential Policy statement was released, stating that “the decision whether to engage in offsets [...] resides with the companies involved” and that “no agency of the U.S. Government shall encourage, enter directly into, or commit U.S. firms to any offset arrangement in connection with the sale of defense goods or services for foreign governments.”⁸⁰

Section 2 - EU position on Defense Offsets

The most recent common *European Union* quasi-agreement on defense offsets is *The Code of Conduct on Offsets*⁸¹, signed by all EU countries (with the exception of Romania) in October 2008. The primary purpose of the voluntary and non-binding code is to promote a *European Defense Technological and Industrial Base*, (EDTIB) and to outline a road map to arrive to a complete elimination of offset practices in the “domestic” EU market. In other words, to open to competitive bids the EU Defense and Security market, that is, to overcome competition restrictions of EU Treaties of *Rome and Amsterdam*, art. 296. The ideal goal is “competition in the EU Defense Market” and “Government-to-Government off-the-shelf sales.” The realistic target is humbler, though: to self-restrain and limit the offset quantity to 100% of the contract value.

The Code of Conduct on Offsets sets out a framework for evolving offsets, whilst ensuring the right balance between developing the EDTIB and the need to achieve a level playing field in the European and global defense market. This voluntary, non-legally binding Code of Conduct on offsets applies to all compensation practices required as a condition of purchase or resulting from a purchase of defense goods or defense services. It is therefore an integral part of the European Defense Agency’s Regime to encourage competition in the European Defense Equipment Market and it also encompasses Government-to-Government off-the-shelf defense sales.

Within the framework of EU law, the subscribing Member States (sMS) commit themselves to implement this Code on the basis of the following principles:

⁷⁹ http://www.dsca.mil/PressReleases/36-b/2006/Saudi%20Arabia_06-36.pdf

⁸⁰ http://www.acq.osd.mil/dpap/cpic/ic/offsets_of_foreign_military_sales.html

⁸¹ <http://www.eda.europa.eu/offsets/>

Procurement in the defense market remains different than procurement in purely commercial markets and is strongly influenced by political considerations that affect the level playing field.

In a perfectly functioning market offset would not exist. Nevertheless, EU recognizes that today's defense market is not perfect. Therefore, as a first step, EU have to develop and implement measures to both mitigate any adverse effects of offset in our collective effort towards developing a fair and competitive EDEM and to use offsets mainly to help shape the aspired EDTIB of the future.

The effects of offset on EDEM and EDTIB should not be considered in isolation. There are other, not offset related, practices distorting the European and global defense market and influencing the development of the EDTIB that need to be addressed by the Agency and pMS through various work-strands.

Offsets will be used to help develop industrial capabilities that are competent, competitive and capability driven. Therefore, offsets will help shape the aspired EDTIB of the future, notably by facilitating the development of globally competitive Centers of Excellence and avoiding unnecessary duplication.

Offsets should, wherever possible, contribute to developing depth and diversity of the European defense related supplier base, in particular by supporting the full involvement of SMEs and non-traditional suppliers in the EDTIB. Evolving use of offsets by the sMS will help ensure the right balance between developing the aspired EDTIB and the need to achieve the level playing field in the EDEM.

The actual situation in EU is described in details in a study on defense offsets in the Union countries commissioned by the European Defense Agency and published in 2007.⁸² According to this study the volume of EU offset agreements in 2006 was above 4-5 billions euro. The distribution of these offsets is as shown in the following diagram:

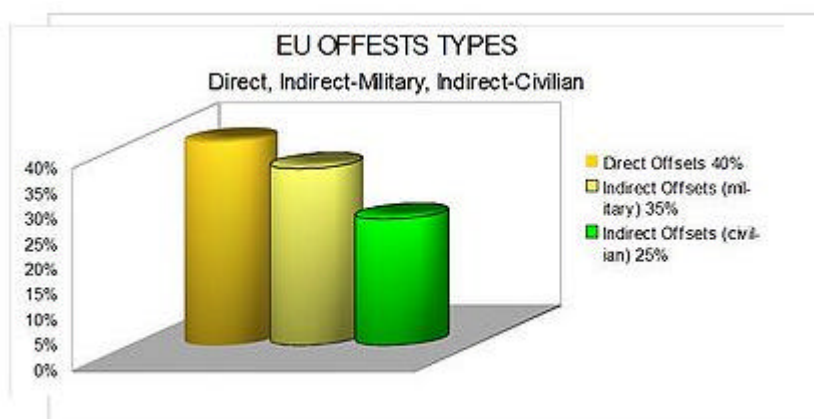


Figure 3: Distribution of offsets agreements in EU in 2006

European policy on offsets is still regulated by the Treaty establishing the European Community. Art. 223 of the **Treaty of Rome** (1958), and article 296 of the EU **Treaty of Amsterdam** (1999) exclude and protect National State weapons production/trade from competition rules of the common European market. In spite of

⁸² <http://www.eda.europa.eu/studiesprojects.aspx?directorate=Industry%20and%20Market>

four decades of European history these two articles are practically identical. Today the hinge of EU policy on offsets is still the same article, that is **Art. 296 of the Amsterdam Treaty**. This article preserves the national right to the secret of state related to its own security and military production and procurement.

This is the relevant part of **Article 296**:

1. The provisions of this Treaty shall not preclude the application of the following rules: [...]

(b) any Member State may take such measures as it considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions and war material; such measures shall not adversely affect the conditions of competition in the common market regarding products which are not intended for specifically military purposes."

The first part of the article states that European Union has no authority over national states policies and decisions over their defense/security choices. In other words, EU has no saying about domestic preference for homemade planes or tanks, or for preferred military offsets choice. The second part, however, asserts a shared principle by all EU states regarding the non military/indirect offsets, that is, EU reserves its right to supervise and regulate indirect-non-military offset effects, so that they do not "adversely affect the condition of competition" in the internal common EU market.

Any civilian-indirect-offset has distortion effects in the common market, and this distortion is amplified by the ignorance about specific offset agreements outside the circle of defense contractors and national authorities⁸³. U.S started monitoring offsets adverse effects in United States when a small paper-making equipments company in Wisconsin (*Beloit Corporation*) got in trouble without understanding that the reason was an hidden cause, that is, an indirect offset by *Northrop* (now *Northrop Grumman*) with the Finnish Ministry of Defense. Only a concerned Wisconsin politician, Sen. Russell D. Feingold, discovered the real reasons in 1992, after being informed that a supply of about 50 million USD to the small Wisconsin company was moved to a Finnish company (*Valmet Corporation*) as part of an offset deal with the Finnish Government. This U.S. story brought to light the issue of the impact of confidential agreements by defense companies on U.S. non military business, in some instances with devastating effects.

Feingold's discovery is enlightening for the EU common market as well, where interference and even devastating impacts on EU business and companies are allowed and reinforced by an unjustified national attitudes on confidentiality or secrecy on indirect, non military, offset deals.

Section 3 - Romania's regulations in Defense Offsets

⁸³ L. Sigal, *The Changing Dynamics of U.S. Defense Spending*, Praeger Publishers, Westport (CT), 1999, p. 200-1. See also Ann Markusen, *The Arms Trade as Illiberal Trade*, Conference on Defense Offsets, Cape Town, South Africa, September 24-6, 2002, *The Hidden Injuries of Privileged Trade*

The main regulation is the Emergency Government Ordinance No. 189/2002, Regarding the Offset Operations related to the Procurement Contracts for Defence, Public Order and National Security Needs.

This Ordinance set up the principles, the general framework and procedures for performing the offset operations, consisting in economic compensations established through the procurement contract as a condition for goods, works and services procurements on the international market in the field of defense, public order and national security, on condition that these procurements exceeds, individually or cumulated, **3 million euros**.

The offset obligation value must be at least 80% of the procurement contract value. The increase or decrease of the procurement contract value attracts the corresponding modification of the offset obligation value, the occurred modifications being in writing, by mutual agreement of the parties.

According with the provisions of this Ordinance, offset operations includes direct and indirect offset operations, defined as follow:

Direct offset operations - the participation of Romanian economic agents at the production of equipment, engineering, technology, materials, and products object of the procurement contract, or to the supply of services, contributing to the implementation and exploitation in good conditions of the procured equipment and products. Direct offset operations can be performed under the following types:

- production under license – the production of equipment, engineering, technology, materials, products or supplying services based on the transfer of technical information from the contractor to the Romanian economic agents;
- subcontracting – the form of offset under which a Romanian economic operator manufactures a part or a component of the equipment, product or service that is object of the procurement contract and/or provides services contributing to the implementation and/or utilization in good conditions of the procured equipments, products or services;
- procurement of end products - the type of offset under which the contractor undertakes, in order to fulfill its offset obligation, to buy from the Romanian economic agents, products or services obtained with the equipment, engineering, technology, products, materials delivered;
- transfer of technology – the transfer of knowledge, technical assistance or other activities related to the technological transfer, allowing the achieving of new capabilities or increasing the competitiveness of the spare parts and components;
- marketing assistance – promotion activities of the products, works or services provided by the Romanian economic operators, also applicable for the accomplishment of the object of the procurement contract, on third markets;
- financial assistance – activities connected to the delivery or the support for obtaining funds for a Romanian economic operator, in view of its participation for the accomplishment of the object of the procurement contract;
- other activities connected to the product, the service or the work purchased, such as: research and development cooperation, new investments, establishing joint ventures, assistance for creating new jobs, assistance for the small and medium companies;

- donation of equipment, tools, test stands, spare parts and sub-assemblies for achieving or maintaining the products contracted in Romania or allowing the maintenance, exploitation and/or development of the object of the procurement contract;
- donation of simulators for training the contracting authorities personnel, as well as providing free training courses to the contracting authorities personnel, as well as to the local economic operators;
- investments – participations for establishing or increasing the share capital of a commercial company, Romanian legal entity, achieving, also during the privatization process, from a Romanian natural or legal entity, of shares to a commercial company, Romanian legal entity, which produces and supplies, as main object of activity, products or services related to the object of the procurement contract and the integration into production of the said products or services, with the condition that the level of participation is not lower than the quota that assures at least the position of significant shareholder, in accordance with the law and potential demands of the contracting authorities or the Agency;

Indirect offset operations – economic compensations that are not related to the equipment, engineering, technology, materials, products or services that are object of the procurement contract. The indirect offset operations may be achieved under the following forms:

- sales on the external markets of Romanian economy products and services that are not related to the object of the procurement contract;
- marketing assistance - activities that support the Romanian economic operators in entering the external markets;
- financial assistance –activities related to providing or supporting the Romanian economic operator for obtaining funds, with the purpose of selling on the external market;
- other activities in fields that are not related to the product, service or work procured, such as: transfer of technology and know-how, cooperation in the research and development field, new investments, establishing joint-ventures, assistance in creating new jobs, assistance for small and medium enterprises;
- investments – participation in establishing or increasing the share capital of a commercial company, Romanian legal entity, achieving, as well as during the privatization process, from a Romanian natural or legal entity, of shares to a commercial company, Romanian legal entity, under the condition that the level of participation is not lower than the quota that assures at least the position of significant shareholder, in accordance with the law and the potential requirements of the Agency;

National Authority is the Agency for Offsetting Special Technique Procurements, founded by **The Government Decision No. 1814/2005** – which is an autonomous public institution, legal entity, coordinated by the Prime-Minister, having as object of activity the application of the procedures stipulated in the Emergency Government Ordinance, No. 189/2002 in order to perform the offset operations.

The Agency has the following main attributions:

- a) the submission for Government approval of the priority domains benefiting from the performance of the offset operations and of the values of the offset multipliers, resulted as a consequence of the analysis of the development priorities in Romania; submission for Government approval of the conditions for commitment, acceptance, performance and crediting, as well as the restrictions, the quotas and the limitations applicable for the offset operations, the pre-offset operations and the offset credits transfer;
- b) cooperation with the Ministry of Foreign Affairs with a view to promote abroad the provisions of the present Emergency Government Ordinance;
- c) monitoring the transactions where the offset operations can be taken into consideration;
- d) providing information to the contractors, regarding the legal procedures in force, for concluding the offset agreements and the execution of the offset obligations, by complying with the legislation regarding classified information;
- e) cooperation with the contracting authorities, in order to assure a good correlation between the provisions of the procurement contract and those of the offset agreements;
- f) establishing the procedures for the performance of the offset operations and all its related documents;
- g) assistance provided to the potential contractors, in order to identify opportunities for executing the offset obligations;
- h) establishing, maintaining and continuous updating a database regarding the Romanian economic agents, the Romanian products and services which,
- i) according to the priority domains for the development of Romania, may benefit of offset programs;
- j) analyzing the documents submitted by the contractor and calculating the value of the actual credit;
- k) analyzing the quarterly and annual reports and any other documents related to the offset operations submitted by the contractors, and elaborating synthesis based upon them, drawing up the necessary measures for the identified situations, sending notifications to the contractor regarding the fulfillment/non fulfillment of the offset obligations
- l) evaluation, at the end of the offset period, of the level of accomplishment of the offset obligation;
- m) establishing an annual report regarding its own activity, including the ways and measures for achieving the proposed objectives, report presented to the Prime-Minister for approval;

The offset operations shall be performed only after their prior acceptance and approval by the Agency, following the provisions of the **Government Decision No. 459/2006** for the Approval of the Methodological Norms for Applying the Emergency Government Ordinance No. 189/2002 regarding the Offset Operations Related to the Procurement Contracts for Defence, Public Order and National Security Needs.

Other important regulation is also **Government Decision No. 955/2006** for the Approval of the Priority Domains that may Benefit of Offset Operations and their

Classification through Offset Multipliers and the Modification of the Methodological Norms for Applying the Emergency Government Ordinance No. 189/2002 regarding the Offset Operations Related to the Procurement Contracts for Defence, Public Order and National Security Needs.

The most known offset operation in the last period, is the acquisition of two frigates for ROU Navy. Talking about this transaction, mr. Teodor Melescanu - the former ministry of defense, said: “The Industrial Offset Programme, part of the Acquisition Agreement of the two frigates provides, as is known, for the company BAE Systems to do a compensation operations package in a percentage of 100% of the total value of the acquisition. Most of the offset-related commitments refer to indirect compensation operations (80% - 90%) and are managed by the Ministry of Economy and Finance. The main objectives of these operations focus on the Romanian defense and aero-space industry. Direct compensation operations represent 10% - 20% of the total value of the commitments and are to be managed by us, at the Ministry of Defense, through the Romtehnica Company and refer to activities/equipment related to the maintenance process. The off-set programme was foreseen, according to the documents, for a period of five years from the date of entry into force of the agreement, namely 26 March 2003. This contract expired in March 2008, without BAE Systems to have expressed the wish for an immediate extension of the off-set agreement”⁸⁴.

I. Steps, timing and activities in an offset transaction

According to the Romanian regulations, the following steps and activities will be performed in order to complete an offset transaction. When the regulations impose, time limits must be respected.

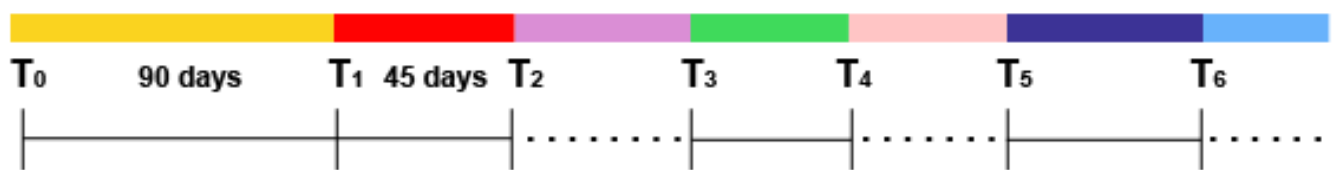


Figure 4 – Steps and timing in offset transactions.

T0 - Signing the Procurement Contract

T1 - Signing the Offset Agreement

- Within 90 days from the Procurement Contract’s signing date ;
- The offset obligation becomes effective at the moment of the Procurement Contract signing and the execution of the offset obligation starts effectively at this time.

T1 - Yearly Fulfillment Schedule and Offset Programs

⁸⁴ Teodor Melescanu in <http://www.curierulnational.ro/In%20brief/2008-09-24/Frigate+business:+BAE+sunk+offset+agreement>

- Yearly Fulfilment Scheduled Offset Programs submitting – at the moment of signing the Offset Agreement. That binds the Contractor to the yearly fulfilment of its offset obligation.

T2 - Letter of Good Performance Bank Guarantee

- Bank Guarantee value – minimum 10% of the offset obligation value, issued within 45 days from signing the Offset Agreement, progressively reduced so that at any time it covers minimum 10% of the remaining unfulfilled offset obligation value.

T3 - Presenting the Eligible Transaction Request (ETR)

- Issuance of the ETR – prior to the performance of each proposed transaction
- Statement of the Romanian beneficiary – the Romanian beneficiary acknowledges that the transaction shall be an offset transaction
- Presentation of the Eligible Entity – appointed by the Contractor to perform offset transactions in its behalf
- Statement of the eligible entity – stating that it acknowledges that the transaction shall be an offset transaction

T4 - Letter of approval or rejection of the ETR

- The Agency shall analyse the proposed transaction through: the parties involved, the category and description of the transaction, the benefit estimated to be brought to the Romanian economy, implementation phases, estimated annual offset transaction values etc
- Issuance of the approval or rejection letter – the Agency shall inform the Contractor of its approval or rejection of the proposed transaction after the analysis of the ETR
- Justifying documents – in case of approval of the ETR, the letter shall indicate in an annex the documents to be presented by the Contractor when submitting the Crediting Request

T5 - Presenting the Crediting Request (CR)

- The Contractor requests crediting of an offset transaction after the performance of the offset transaction as per the approved ETR, in whole or in part. Relevant documents must be submitted together with the CR

T6 - Crediting

- Analysing the CR – the Agency examines the CR and the relevant justifying documents for establishing the effective value of the offset transaction and the offset transaction value to be credited
- Crediting date – is the date of submission of the accurate CR together with a complete set of justifying documents

CONCLUSIONS

Transactions involving large defense purchases from international companies by foreign governments most often involve offset agreements between the selling firms and the buying governments.

Policymakers in the buying nations can use the offset agreements to address a variety of economic and political issues within the buying countries. The desired effects identified are: labor market corrections, promotion of capital investment, support for strategic industries, adjustments for asymmetric information, reduction of risk and uncertainty, alternative sources of financing, and political support for defense purchases. In some of these situations, the use of offsets appears to be an alternative form of commercial policy, replacing a more direct form of intervention.

Recently provided information from industry appears to validate the work done in the past. The changes in the defense environment over the past two decades do not seem to have changed the motives behind the use of offsets.

According to comments from industry officials, the frequency of the use of offsets, as well as the size of the offset requirements (as a percentage of the transaction value) both appear to have risen.

Offsets are a reality of the existing competitive nature of the marketplace. Understanding the economic incentives leading to their use is helpful to industry and military officials.

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List of Countries Offset Policies

Country	The legal base for the offset	Organisation in charge for offset activities	The purchase threshold	Offset in percentages of the contract value	The applied multipliers	Website of the National Offset activities	Remarks
Australia	N/A	Department of Defense (Defense Material Organization)	5 millions of Australian Dollars	N/A	1 to 6	http://www.defence.gov.au/dmo/	Does not accept indirect offsets, unless such offsets brings benefits to the Australian Defense Industry
Austria	N/A	Federal Ministry of Economic Affairs and Labor	Minimum 726.000 Euro	100%, up to 200% (and sometimes even more)	Up to 10	http://www.bmwfj.gv.at/EN/	
Belgium	Royal Decree (6/2/1999, and modified-6/12/2001)	Ministry of Economic Affairs	11 million Euro or less	Min 100%	N/A	http://mineco.fgov.be/organization_market/index_en.htm	Three forms of offsets: direct, semi-direct, and indirect
Brazil	N/A	N/A	Between 1 million and 5 million USD	Above 5 million USD is 100%.	Between 1 and 4	N/A	Separate offset policies under Armed Forces categories.

Bulgaria	Public Procurement Law 2004, revised in 2009	The Agency for Information, Technology and Communications (SAITC)	N/A	110% of the contract value	Between 1 and 3	http://www.mee.government.bg/eng/offsetp/offsetp/docs.html	Permanent Inter-Ministerial Council of Special Purpose Public Procurement to approve offset agreements	
Canada	1986 policy, modified in 1994	Ministry of Industry	100 million Canadian Dollars	100% of the contract value	Maximum 5	http://strategis.ic.ca/epic/internet/inadad.nsf/en/ad03662e/html		
Czech Republic	Government Resolution 9 - 2005	The Ministry of Trade and Industry	Minimum CZK 500 million	Minimum 100%	Not used	N/A	Minimum 20% of direct offset	
Denmark	Industrial Cooperation policy issued in 2005	Ministry of Defense	DKK 25 million	Minimum 100%	Not used	N/A	Trilateral agreement with UK and The Netherlands	
Estonia	No offset Law	N/A					Particularly interested in counter-trade	
Finland	No offset Law	Ministry of Defense & others	EUR 10 million	Minimum 100%	Between 0.3 and 3.0	N/A		
France	No offset Law	Ministry of Economic Affairs and in the Ministry of Defense	France is almost completely independent on its own military needs, and it has a minimal amount of weapon procurements from foreign countries					
Germany	N/A	Federal Ministry of Defense and The Federal Office of Defense Technology and Procurement	N/A	100%	N/A	http://www.bwb.org http://www.monch.com	German official position is that offset arrangements are economically counterproductive in defense trade	

Greece	Procurement Law, 3433/2006	Ministry of National Defense	EUR10 million	Between 80 and 120%.	1 to 10	http://www.mod.mil.gr	Greece does not accept indirect offsets
Hungary	Government Decree 228/2004	Ministry for National Development and Economy	HUF1 billion (3.5 Mil Euro)	Minimum 100%	Up to 15	http://www.nfgm.gov.hu/feladataink/kulgazd/ellentetelezes	The confidentiality clause on offsets is essentially commercial
Japan	No formal offset policy	Japan Defense Agency	N/A			http://www.mod.go.jp/e/index.html	
India	Defense Procurement Procedure in 2006, revised in 2008	N/A	3 billion RS (65 mil USD)	30% of offset	Not clear	N/A	Also accepted subcontract in outsourced services
Israel	N/A	Ministry of Industry, Trade and Labor	100.000 USD	Minimum 30%	1 to 2	http://www.moital.gov.il/CmsTamat	
Italy	No public law, just ad-hoc policies	The National Armament Directorate	5 million Euro	Minimum 70%	Max. 3	There is no website or web-page for a nameless offset program, the closest would be the Minister of Defense website, http://www.difesa.it	
Kuwait	Guidelines published in 2007	National Offset Company	KD 3m or KD 10m for civilian contracts	35%	N/A	http://www.kuwaitnoc.com	Fundamental changes after 2007
Lithuania	Resolution No. 918/03	The Ministry of Economy	About 1.5 million eur	Minimum 100%	1 to 5	http://www.ukmin.lt/en/industry/compensation	
The Netherlands	N/A	The Ministry of Economic Affairs	EUR 5 million	Minimum 100%	1 to 5	http://www.cmp.ez.nl http://www.ez.nl/dsresource?objectid=163139&type=PDF	
Norway	N/A	Ministry of Defense	NOK 50 million, (about 5.5 Million Euro)	100%	1 to 5	http://www.regjeringen.no/en/dep/fd/Documents/Handbooks-and-brochures/2004/norwegian-defence-procurement.html?id=419462	
Poland	Offset Law issued in 1999	Ministry of Economy	5 million Euro	100%	2 to 5	http://www.mg.gov.pl/English/ECONOMY/Offset	
Portugal	Decree-Law 153/2006 and 154/2006	The Permanent Commission on Offsets	10 million Euro	100%	1 to 5	N/A	
Qatar	No official policy	Ministry of Defense	N/A	N/A	N/A	N/A	

Romania	Law 336/2007	Ministry of National Defense and an Agency for Special Offset Techniques	5 million Euro	Min. 80%	Up to 5	http://www.acats.gov.ro/index_en	Only EU country that did not sign the EU Code of Conduct on Offsets (July 2009)
Saudi Arabia	N/A	Minister of Defense	107 million USD	35%	N/A	http://www.sagja.sa	UK and France have established bilateral offset program with Saudi Arabia
Slovakia	N/A	Ministry of Economy	130.000 Euro	100%	Higher for direct offset	http://www.economy.gov.sk	
Slovenia	N/A	Ministry of Defense	500.000 Euro	100%	Up to 7	http://www.mors.si/?id=home&L=1	
South Korea	Offset policy published in 2008	Defense Acquisition Program Administration	10 million USD	Min. 30%	1 to 6	N/A	
Spain	Not public	Ministry of Defense	N/A	100%	2 to 5	http://www.isdefe.es	
Sweden	Offset policy issued 1999	Ministry of Defense	10 million Euro	100%	For 30% of total value	http://www.sweden.gov.se/sb/d/2060	
Switzerland	N/A	Federal Department of Defence, Civil Protection and Sport	15 million Swiss Francs	100%	Between 2 and 3	http://www.ar.admin.ch/internet/armasuisse/en/home.html	
Turkey	Offset Directive issued in 2007	The Minister of Defense	5 million USD	Min 50%	Between 1 and 6	http://www.ssm.gov.tr	The offset fulfillment time is 2 years
United Arab Emirates	Sophisticated criteria	United Arab Emirates Offset Program Bureau	N/A	60%	N/A	http://www.offset.ae	
United Kingdom	No official Policy	The Department of Defense	10 million GBP	100%	NO	http://www.dso.uktradeinvest.gov.uk/ip.htm	
United States	The U.S. is formally against offsets. U.S. is the only country that prohibits U.S. government officials and employees, as well as Government agencies, to get involved in any offset business. Many countries consider the Buy American Act an equivalent, for practical purposes, to offset policies of other countries. Partners or defense subcontractors of U.S. prime contractors of U.S. Government are subjected to Buy American Act						

THE INTERCULTURAL AND THE MILITARY ORGANIZATION

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INTRODUCTION

Cultural identity is the (feeling of) identity of a group or culture, or of an individual as far as he is influenced by his belonging to a group or culture. Cultural identity is similar to and has overlaps with, but is not synonymous with, *identity politics*. Cultures can be different not only between continents or nations, but also within the same company or even family.

The following paragraph tries to underline the differences between cultures in terms of specific perceptions:

- In Arabic countries the odors (of condiments, coffee etc.) are often perceived in more differentiated ways than in, for example, North America.
- In Asian countries the conception of time is rather past-oriented (ancestors, values), in Latin American countries as well as southern European countries, rather present-oriented, and in western Europe as well as North America rather future-oriented (achieving goals).

Behavior and gestures:

- Showing the thumb held upwards in the Americas, especially Brazil and the United States, means "everything's ok", while it is understood in some Islamic countries as a rude sexual sign.
- "Everything ok" is shown in western European countries, especially between pilots and divers, with the sign of the thumb and forefinger forming an "O". This sign means in Japan "now we may talk about money", in southern France the contrary ("nothing, without any value"), in some Latin American countries, Eastern Europe and Russia it is an indecent sexual sign.
- Laughing is connoted in most countries with happiness - in Japan it is often a sign of confusion, insecurity and embarrassment.
- If invited to dinner, in some Asian countries and Central America it is well-mannered to leave right after the dinner: the ones who don't leave may indicate they have not eaten enough. In the Indian sub-continent, Europe, South America, and North American countries this is considered rude, indicating that the guest only wanted to eat but wouldn't enjoy the company with the hosts.

- In Mediterranean European countries, Latin America, and Sub-Saharan Africa, it is normal, or at least widely tolerated, to arrive half an hour late for a dinner invitation, whereas in Germany and in the United States this would be considered very rude.

- In Africa, Arab cultures, and certain countries in South America (not in Brazil), saying to a female friend one has not seen for a while that she has put on weight means she is physically healthier than before and had a nice holiday, whereas this would be considered an insult in India, Europe, North America and Australia.

- In African, South American and Mediterranean cultures, talking and laughing loudly in the streets and public places is widely accepted, whereas in some Asian cultures it is considered rude and may be seen as a mark of self-centeredness or attention-seeking.

Various states have intercultural policies which seek to encourage the socialization of citizens of different origins. These policies are often used as an instrument to fight racism, overcome prejudice and misunderstanding of others. The term socialization is used by sociologists, social psychologists and educationalists to refer to the process of learning one culture and how to live within it. Interculturalism is the philosophy of exchanges between cultural groups within a society.

I. INTERCULTURALITY

Any culture is, basically, multicultural and builds itself thanks to the contact between various communities of life which bring their ways of thinking, to feel and act. It is obvious that the cultural exchanges do not produce all the same effects nor consequences. There are not cultures better or worse than of others. In certain contexts, each one of cultures can to have impression to find in situation of discrimination, but if we accept that there is no hierarchy between them, we recognize that all the cultures are worthy deserve the respect of the others there, on the same level. That means, in addition, that the only manner of correctly including/understanding another culture, it is to interpret its demonstrations in agreement with its own cultural criteria.

I.1 What is Interculturalism?

Interculturalism is the interaction between cultures, exchange and communication where the individual recognizes and accepts the reciprocity of the other's culture. The prefix 'inter' suggests interaction, sharing, complementarities, recognition of the culture of the other without it being divided between other cultures or the culture of the host country, also called the norm culture. In other words, interculturality can be seen as a way of being, a view of the world and other people, a kind of egalitarian relationship between human beings and peoples - it is the opposite of ethnocentrism. Interculturality is bringing multiculturalism a step further.

I.2 Interculturality versus Multiculturality

Today, we can say that many societies across the world are multicultural. Migration, movement of people as well as immigration have reshaped the society. Multiculturalism aims to be a response to the reality of today's society. It takes into

account new cultures without however making real bridges between the host /norm culture and the new culture brought in by new citizens. Multiculturalism principles and policies have, up to now, focused on:

- State recognition of the cultural plurality which exists at the heart of society.
- The reduction of the obstacles that hinder the social participation of marginalized cultural groups.
- Support for the reproduction of cultures.

To some extent, multiculturalism is an addition of different cultural particularities without a real coherence between the parts of a highly fragmented whole. The question therefore is: Is the model of multiculturalism, which was born in the 19th century, still an appropriate model in a world where everybody is searching for values and codes which allow them to ensure good relations with others and with society?

I.3 Interculturality's Modus Operandi

The intercultural approach is commonly marked by three stages:

1. Decentralization: Taking a more distant view of oneself, trying to define one's frames of reference as an individual with a culture and sub-cultures blended together in one's personal development. Through this reflection on oneself, realizing what is relative about one's observations and making sense of one's reading references.

2. Penetration of the other's system: Getting out of oneself to see things from the Other's perspective. It is an attitude of opening up, a personal effort of inquiry.

3. Negotiation: Finding the necessary minimum compromise and understanding to avoid confrontation. More concretely, interculturality can happen in two major ways in order to ensure the learning of the realities of one's culture and not just conceptions and discourses regarding the culture of the other:

- Intercultural learning: meeting the other in order to improve communication and encourage learning and understanding of the other's culture.
- Exchanges with the country of origin: to establish joint training between actors from the country of origin and from the host country.

An inherent openness to be exposed to the culture of the "other" is required. Thus, interculturalism breeds dialogue, in order to be able to look for commonalities between that element of one's culture and the culture of the other.

Interculturality seeks to enhance fusion by looking for commonalities. Hence, a new world culture is constructed based on the fusion of all commonalities of cultures. The differences that remain make up the subcultures of the world.

That should not prevent us from exerting our right to criticism: it is good, however not to precipitate and try to include/understand all symbolic system complexity of many cultural practices. It is a question of trying to moderate the inevitable ethnocentrism which makes us interpret the cultural practices which are strange for us, starting from criteria of our own culture.

III. NATO AS A MULTICULTURAL ORGANIZATION

III.1 Multinationality

The North Atlantic Treaty Organization, as the only multinational, intercontinental structure, represents, maybe, a perfect example of multi- and interculturality. The 28 member countries have succeeded to properly find ways in defining common policies, building up interoperability, exchanging experiences and conducting joint operations.

The Alliance Strategic Concept, chapter “The Evolving Strategic Environment” paragraph 12, says: “The Alliance operates in an environment of continuing change..... Developments in recent years have been generally positive, but uncertainties and risks remain which can develop into acute crises. Within this evolving context, NATO has played an essential part in strengthening Euro-Atlantic security since the end of the Cold War. Its growing political role; its increased political and military partnership, cooperation and dialogue with other states, including with Russia, Ukraine and Mediterranean Dialogue countries; its continuing openness to the accession of new members; its collaboration with other international organisations; its commitment, exemplified in the Balkans, to conflict prevention and crisis management, including through peace support operations: all reflect its determination to shape its security environment and enhance the peace and stability of the Euro-Atlantic area.”

Considering the multinationality and multiculturalism of the Alliance, we can see an organization which has found the proper tools in dealing with the cultural competence requirements I mentioned above: sensitivity and self-consciousness, the understanding of other behaviors and ways of thinking as well as the ability to express one’s own point of view in a transparent way with the aim to be understood and respected by staying flexible where this is possible, and being clear where this is necessary.

The organization obviously develops cultural exchanges both in terms of its internal business (e.g. 28 national representatives working together in the command structure and in the international and international military staff), and within the three major cooperation programs (Partnership for Peace, Mediterranean Dialogue and Istanbul Cooperation Initiative).

It is worth mentioning the fact that this “mixture” comprises a large group of cultural differences.

Multinational operations represent, together with the day-by-day business and the conduct of partnerships, the main mission of the organization. Creating personal bonds among so many national militaries, ensuring a common understanding of the way things must be done and ensuring compatibility and interoperability in operation execution represent a major issue. Between military contingents involved in multinational operations, there often exist basic organizational and cultural differences, such as the ways in which personnel are treated, the parameters within which people must work, and the very function and structure of the military organization. For this paper, when I refer to military operations, I shall actually refer

to peace-support operations, which represent the largest majority of operations the Alliance is involved in. Obviously, there are other important military operations conducted by NATO (ISAF, Operation Ocean Shield and Operation Active Endeavour), but the principles of multinationality and cross-culturality discussed through this paper applies to these operations, too.



The management of human resources within each respective organization is often dependent on national norms and practices, as well as the unique history, tradition and modus operandi of the military forces themselves. These factors influence the way that things are done within any given national organization, the rules and regulations that are enforced, normal or expected patterns of behavior, and even the structure of the organization. The net result of these differences may be marked discrepancies between partners involved in international operations in terms of personnel policies, services and programs, doctrine, and operational functioning. Such differences could potentially hinder the success of the mission and directly or indirectly impact operational effectiveness. Yet, it has been proven that the militaries can properly do their job during the operations.

III.2 The management of the external relations

The management of the external relations deals with how a military organization relates to external agencies, friendly or hostile. This is generally governed by the prevailing doctrine. Establishing parameters within which the organization can operate, the appropriate structure, the function of personnel, and the scope of action of those in command and those receiving orders, constitutes the basic military organizational doctrine. Put more succinctly, military doctrine is what we believe about the best way to conduct military affairs.

While some militaries do not have explicit formal doctrine, these guidelines are more frequently being developed and promoted among militaries. This has been due, at least in part, to the need to retain political control of militaries when operating out of country. Where these doctrines conflict between nations, serious challenges are presented to commanders in negotiating and coordinating collaborative efforts.

The source of these differences can be due to basic national and cultural influences. Furthermore, while military doctrine should be an evolving set of ideas

designed to help responding to changing situations, it may be the case that while some nations actively review and reassess their military doctrine, others do not.

What can be accomplished, however, is the development of protocols and common procedures. Doctrine, standardization and political consensus characterize alliances. What is important to mention is that, for any given multinational operation, in the field of the peace-support operations mainly, one area of doctrine that has been highlighted as of pivotal importance is the Rules of Engagement (ROE).

It is in this area in particular that national political interests directly intervene in the conduct of international deployments: ROE are directives to military forces and individuals that define the circumstances, conditions, degree, and manner in which force or actions may or may not be applied....The commander needs to reconcile differences as much as possible to develop and implement simple ROE that can be tailored by member forces to their national policies.

For military personnel, the need to have ROE that suit the situation is of paramount importance. However, national differences in the definition of a given situation, political considerations, and other factors often contrive to make for a confusing array of ROE. In coordinating efforts of a multinational operation, such disarray can impose serious problems and issues of safety. However, even at the national level, contingents find their ROE changed.

III.3 The transfer of cultural experience

The transfer of cultural experience represents an important challenge, both prior starting an operation, and during its execution, between the rotational contingents. While clearly there are some similarities between Bosnia and Herzegovina and Kosovo, on the one hand, and Afghanistan, on the other, there are at least as many differences. The notion, therefore, that experiences from the Balkans are automatically transferable to Afghanistan, or even that in important ways all predominantly Muslim countries are governed by the same rules is naive at best and potentially dangerous at worst. Despite this, not everyone present recognised the potential impact of cultural and religious issues on the task ahead.

Perhaps such attitudes should not come as a surprise, given the nature of NATO's new peace-support operations and the speed with which the Alliance has been transforming in recent years. The shift of focus from preparing for war-fighting in Europe to peace-support missions, including humanitarian, peacekeeping and peace-making tasks, in places as far away as Afghanistan and Iraq, could hardly be greater. The demands are very different and, to operate effectively in a peace-support situation, soldiers and officers require additional skills and specialist knowledge.

The new operations are so-called "three-block" missions. A soldier serving in Afghanistan may have to perform police-like tasks as part of a peacekeeping patrol. He may then become involved in humanitarian activities. And later, he may be engaged in a lethal exchange of fire, all in the course of the same day. Soldiers need to be equally proficient in all these tasks. Moreover, they themselves are expected to operate in multinational formations.

III.4 Culture's impact

Culture's impact can be huge and not always in support of the allied troops. Cultural and religious issues influence peace-support operations in two ways. Firstly, the soldiers in multinational formations themselves come from a variety of cultural backgrounds and must manage their differences to work together effectively. Secondly, soldiers must tailor their operating styles to local circumstances to maintain good relations with the local population.

Successful cooperation among soldiers from NATO countries is often taken for granted since these individuals are assumed to share the same basic values and may even have some prior experience of training together. However, academic research suggests that cultural and religious differences can lead to strained relations and decreased mission effectiveness. Indeed, recent research examining cooperation between Dutch and German troops in Afghanistan by Sjo Soeters and René Moelker of the Royal Netherlands Military Academy in Breda indicated that, despite minimal perceived cultural differences, the working relationship proved problematic at times. This was in contrast to smooth Dutch-German cooperation both at the German/Netherlands Corps' joint headquarters in Münster, Germany, and on deployment in Kosovo. Suffice it to say that cultural interoperability in multinational formations is not straightforward.

Despite this, culture is rarely a major consideration in a commander's pre-deployment preparations. There is, after all, no obvious example of mission failure as a result of cultural differences. However, diverging expectations, attitudes and ways of thinking can lead to tension and friction among soldiers of different nationalities. Moreover, lack of trust or, worse still, the loss of trust between peacekeepers from different countries may limit a commanding officer's options and cause him to hesitate to order actions, even though he judges them appropriate. General Klaus Reinhardt, the second KFOR commander, considered himself as much a diplomat in Kosovo as a military commander. Moreover, bridging and overcoming differences within his own team took up a great deal of his time.

In addition to technical and tactical issues involving different rules of engagement and national caveats, more fundamental notions of how peacekeeping should be carried out may lead to friction among allies. What is considered appropriate behaviour for troops from one "peacekeeping culture" might not be for others. Even something as seemingly mundane as the wearing of armour and dark sunglasses is interpreted in different ways by soldiers from different countries. Some feel that such attire unnecessarily intimidates the local population, thereby generating an air of hostility that, in turn, increases the risks faced by all peacekeepers.

An essential part of the mission success is to build up constructive relationships with the local population. Gaining local people's understanding and support is often vital. A breakdown in relations with the local population can, of course, be fatal to any operation. Peacekeepers are, after all, dependent to a large extent on the goodwill and cooperation of the local population for their own safety and their ability to perform their duties. As a result, avoiding offence is paramount. But without expertise in local cultures and religions, it is impossible to draw up

effective guidelines concerning issues such as patrolling during festivities, entering places of worship, setting up roadblocks and searching women. Moreover, for fear of causing offence, commanders may unnecessarily limit their options and avoid the course of action that makes most sense from a purely military point of view.

At the mission rehearsal exercises for Afghanistan, a common view expressed by officers was that Afghanistan was an extremely backward country, both technically and culturally. Some who had already visited Afghanistan on reconnaissance trips compared it to "going back in time a couple of hundred years". While these views are understandable given the limited time the officers had to learn about Afghanistan, lack of insight into local life and empathy with the population may contribute to avoidable errors of judgement. Indeed, peace-support operations have seen the emergence of the strategic corporal, who, by making a mistake while on patrol or elsewhere, risks undermining the entire mission.

In an extreme case in Somalia, lack of knowledge of local culture and customs on the part of Canadian peacekeepers, in combination with a range of other factors, contributed to a number of incidents of abuse. This culminated in the torturing to death of Shidane Arone, a 16-year-old boy, in 1993. When this incident came to light, a parliamentary enquiry was launched, which commissioned wide-ranging studies of both the events themselves and the circumstances in which the peacekeepers were operating, including a socio-cultural inquiry by Donna Winslow, now of the Free University of Amsterdam. In its wake, the Canadian Airborne Regiment was disbanded and a wide-ranging reform process set in train, with the result that cultural awareness has moved much higher up the agenda.

In other instances of excessive behaviour by peacekeepers in Rwanda, Bosnia and Herzegovina, and, most notoriously, at Abu Ghraib prison in Iraq, the troops involved had received little or no cultural-awareness training. This obvious shortfall, therefore, almost certainly contributed to the development of prejudice towards the local population and eventually to their dehumanisation. Moreover, the consequences of what may be isolated instances of abuse are magnified when brought under the glare of international media, a trend that will only increase in the future.

III.5 Cultural interoperability

Cultural interoperability is another approach to the describing the functionality of the Alliance. The importance of interoperability has long been recognised. Indeed, NATO has launched a variety of programmes and set up offices, committees and working groups to deal with standardisation. To date, however, this has been an exclusively technical exercise, and has not included cultural interoperability, whether the cooperation of forces on a cultural level or cultural awareness of local circumstances.

To be sure, the importance of culture and religion in peace-support operations is increasingly recognised, though generally at a national rather than an Alliance level. Troop-contributing nations are responsible for preparing their soldiers for missions, and many have already incorporated cultural-awareness training into the deployment preparations for their contingents. Moreover, Mission Rehearsal

Exercises organised by NATO Headquarters to prepare soldiers for deployment are also now frequently incorporating some cultural-awareness training into the programme. But these are all ad hoc initiatives.

Considerations of culture do not currently form a standard part of NATO's planning, training, and operational procedures. There is no Alliance doctrine that makes such training obligatory, nor any doctrine that deals with any cultural or religious issues in the context of operations. Specific policies towards local cultural and religious matters are left to the commander's discretion with the result that different commanders can interpret in different ways what "respect for local culture" entails. Since what is good for Turkish troops, may not be for Norwegians, a measure of freedom of interpretation is appropriate. However, the absence of central guidance may be symptomatic of wider shortfalls.

In addition to running operations in Afghanistan and Iraq, NATO is currently intensifying its Mediterranean Dialogue with seven countries in the wider Mediterranean region and seeking to forge stronger cooperative relations with the broader Middle East through its Istanbul Cooperation Initiative. Yet, at present, NATO Headquarters in Brussels has no Arabists, Farsi speakers, Islamic experts or anthropologists. To take forward and make a success of so ambitious a political agenda, it will surely be necessary to recruit specialists with linguistic, cultural and area expertise.

III.6 Civil-military cooperation

Civil-military cooperation (CIMIC) is the relationship of interaction, cooperation, and coordination, mutual support, joint planning, and constant exchange of information at all levels between military forces, civilian organizations, agencies, and inter-theater civil influences needed to achieve an effective response in the full range of operations.

Increasingly in both peacekeeping and peacemaking operations, military commanders have become more cognizant of the need to ensure smooth relations between the military and civilians directly or indirectly involved in operations. The fact that the initial decision to participate or not in a given mission is one determined by politicians, who in most cases are sensitive to public opinion, means that commanders must be concerned with civil-military relations to a degree that has certainly not been the case in the past.

Not only must forces deal with the local civilian population and do so in a way that militaries have not done in the past, they must also deal with non-governmental organizations (NGOs) and the media.

In today's multinational interventions, it is becoming harder to say where the military mission ends and the humanitarian mission begins. For this reason, militaries are as likely now to be trying to win the peace as they are to win the war. What that has meant in real terms is that contingents must now engage in rebuilding economies, ensuring conditions for the development of new political and social structures, and become involved with local populations to win hearts and minds.

The interaction between NGOs and the military has not always gone smoothly. Five areas have been identified as giving rise to tension:

- organizational culture,
- tasks and ways of accomplishing them,
- definitions of success,
- ability to exert influence, and
- control of resources.

Perhaps the key differentiator and source of tension between NGOs and the military is the very different culture prevalent in both organizational types. Among other things NGOs tend to have flatter, more decentralized structures. Their *raison d'être* is the alleviation of suffering through community involvement and reconstruction.

Militaries, on the other hand, are typically seen by others in a theater of operations as there to wage war, which certainly was their primary or only role in the past. Their engagement with locals tended to be at best superficial and fleeting, often one of avoidance rather than contact. While this has changed due to the nature of changing operations, the organizational cultural factors such as beliefs, attitudes and behaviors that came with this former type of interaction may still persist within some militaries.

Traditional stereotypes and views take a long time to change. This has certainly been the case with those prevalent among militaries concerning NGOs and vice versa. Some NGO representatives interviewed saw the military as “Boys with toys, rigid, authoritarian, conservative, impatient, arrogant, civilian phobic, homophobic, and excessively security conscious”.

As part of another study, the same author notes that in interviewing battalion commanders, the view of NGOs was equally unflattering. In this case, they saw these organizations as “Children of the 60s, flaky do-gooders, permissive, unpunctual, obstructionist, anarchic, undisciplined, self-righteous, and anti-military”. Added to these observations, the ABCA Coalition Handbook (2001) identifies other common perceptions including the military’s view that NGOs cannot speak with one voice and lack discipline. These groups in turn may view the military as politically compromised and lacking in understanding of the local cultural context.

CONCLUSION

The bringing together of people from a wide range of nations and cultural backgrounds to achieve a common goal is fraught with many dangers and pitfalls.

Critical to the success of multinational military operations is a clear understanding of the varying cultural backgrounds of national contingents. Existing research suggests a host of different ways in which cultural differences may impact missions and jeopardize the successful completion of operations. This paper has attempted to identify some of the major intercultural factors that may affect multinational military operations, as described in the literature pertaining to this area.

Cultural-awareness training should become a standard and integral part of preparations for all NATO peace-support operations. Indeed, all relevant policymakers should be given courses on cultural and religious affairs as they affect

their work in the same way that they are given computer courses. To achieve this, NATO needs to establish minimum training standards for all troops participating in NATO-led operations in exactly the same way that it determines minimum levels of technical interoperability. And NATO should certify the training. This is work that could be undertaken by the Alliance's various educational facilities as well as CIMIC Groups North and South.

In the coming years and decades, NATO is likely to remain engaged in peace-support operations and new missions in places of which it has, at the moment, little knowledge or expertise. Since it will be involved in crisis management and peace-building for the long haul, cultural preparations for such operations should form an important element of the Alliance's transformation. Indeed, a transformation of attitudes must underpin the entire transformation process.

Not only must commanders understand the cultural differences between contingents, this cultural sensitivity has to go deeper and be fully embraced by all members of a contingent. The fact that troops from the varying nations work side by side, and may even take orders from officers belonging to other contingents, makes it even more critical to the success of the operation that military personnel be cognizant of the differences in beliefs, values and attitudes of other allied personnel.

The same process that may be involved in raising cultural awareness among troops can also assist in combating harmful, preconceived stereotypes. Working alongside personnel from other countries, often in dangerous situations, means that troops in multinational coalitions must be able to trust each other. Frequently national or racial stereotypes can hinder the building of such trust. Preconceived notions that people from one nation are lazy, drunk, or unethical can seriously endanger the mission and the lives of deployed personnel and the local population whom they are seeking to protect.

For commanders, the need to treat people equitably is made more difficult when individual national contingents have their own culturally determined codes of conduct and rewards and punishments. Comparing situations across deployed forces may exacerbate tensions between groups, create dissatisfaction among some contingents, and perhaps lead to issues that may undermine mission effectiveness. Such experiences may also influence the decision of those who have been deployed as to whether to remain in the forces or leave on return to their homelands. The impact of cultural issues relating to multinational operations, therefore, can go beyond the deployment itself and affect retention and recruitment of new personnel.

Indigenous populations in the areas of conflict can belong to cultural groups that are unfamiliar to troops from international coalitions. The need for cultural sensitivity among peacekeepers and peacemakers is all the more critical if they are to become part of the solution rather than part of the problem. This is even more important for those situations where members of a contingent belong to ethnic groups that are similar or sympathetic to one or more of the indigenous populations and so may not be seen as impartial.

It would appear that in some circumstances, the greater the frequency of interaction between contingents and militaries from different backgrounds, the greater the likelihood that relationships will develop fostering trust and confidence

between personnel. Multinational training operations can play a useful role in identifying possible problematic areas, highlighting cultural difficulties, and pointing to possible solutions that can be used in the field. Such operations can be costly and difficult to organize given the constraints and demands on most militaries. However, the net result can be smoother operations that achieve successful outcomes and create greater group cohesion. The impact of a successful operation on the increased propensity of militaries to engage in future operations would also appear to be a benefit of such pre-deployment preparations.

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CHANGE OF CULTURE - A MAJOR STEP FOR ORGANIZATION'S CHANGE

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INTRODUCTION

Many researchers have suggested models for change which seek to embrace culture change within organizations (corporate culture), while others have alluded to issues of change across (national) cultural boundaries. Most models, however, can be criticised for two principal and recurring reasons: (i) they tend to underestimate the difficulty involved in achieving or sustaining the change, and (ii) they tend to want to discard the current situation in favour of a new future, thus throwing out the best of what already exists.

After an extended period of research over many years and developing dilemma theory with Hampden-Turner (1992), the authors have come to a different view based on extensive evidence collected across the world from a large number of diverse organisations.

The authors believe that changing an organisation's culture is a contradiction in terms. This is because cultures act to preserve themselves and to protect their own living existence. So rather than seeing change as a 'thing' opposing continuity, the authors see it as a difference. The authors believe organisations seek change to preserve the company, profitability, and market share and core competence. The reason for changing certain aspects is to avoid changing in other respects.

In short, organisations must reconcile change with continuity in order to preserve an evolving identity.

But established models for change then develop a change strategy based on transforming the organisation from the current to an ideal culture. In contrast, this approach considers the contrast between these extremes. All organizations need stability and change, tradition and innovation, public and private interest, planning and laissez-faire, order and freedom, growth and decay. These are the opposites that leaders wrestle with and put tensions into their world, sharpen their sensitivities and increase their self-awareness. The problem of changing from the 'current' to the 'ideal' situation cannot be 'solved' in the sense of being eliminated but can be wisely transcended.

Successful leaders get surges of energy from the fusing of these opposites. Thus these differences that generate tensions are the source of a series of dilemmas. Managing change in this methodology is therefore about reconciling these dilemmas.

In this way, the limitations of current change models can be overcome because this methodology is neither simply throwing away the past nor seeking to change a well-embedded, resistant, self-preserving corporate culture.

1. CULTURE

1.1 Theoretical approach

A formal definition of culture is a “pattern of shared basic assumptions, learned by members of an organization or group in solving their external problems of survival in the environment and internal problems of integration. Culture is considered the glue of an organization. It is the collective attitudes, beliefs, symbols, and behaviors of the organization’s members. Simply put, culture is “the way things are done here.” Cultures develop over time. They are expressed in the myths and stories that become important to retell, and are embodied in the language of the organization. Over time, beliefs and assumptions develop to act as filters, regulating the flow of information in the environment.

1.2 Organizational culture

Basically, organizational culture is the personality of the organization. Culture is comprised of the assumptions, values, norms and tangible signs (artifacts) of organization members and their behaviors. Members of an organization soon come to sense the particular culture of an organization. Culture is one of those terms that are difficult to express distinctly, but everyone knows it when they sense it. For example, the culture of a large, for-profit corporation is quite different than that of a hospital which is quite different than that of a university. We can tell the culture of an organization by looking at the arrangement of furniture, what they brag about, what members wear, etc., similar to what you can use to get a feeling about someone's personality.

1.3 Defining organizational culture. Manifestations of organizational culture

Gh. Gh. Ionescu describes organizational culture as the personality of an organization, extrapolating the notion of personality from an individual level to an organizational one.

Two important aspects have to be taken into account in defining the notion of organizational culture: the first refers to the fact that culture is a perception, perceived not on an individual level, but within the organization. Thus we can notice the tendency of individuals to describe culture according to their own education standards and depending on the level on which they stand within the company. The second aspect refers to culture’s characteristic of being a descriptive notion, because organizational culture is interested in the way in which the members perceive the organization and the way in which culture has a rather descriptive function than an assessing one.

Romanian literature in the field admits the difficulty of defining organizational culture, fact that is also emphasized in foreign literature, which has tried to define and

delimitate it many times. Among the definitions of organizational culture, we can enumerate the following:

- “a coherent and dominant set of shared values (by the members of the organization”, induced by symbolical means”;
- “symbols, beliefs and patterns of behavior, experienced, produced and recreated by people who dedicate their energy and work to an organization. It is expressed in the projection of the organization and of work, in the created manifestations of culture and in the services the organization offers”;
- “a pattern of fundamental assumptions a group invented, discovered or developed, by learning to overcome external adapting and internal integration problems, assumptions that have functioned rather well so that they are considered valid and transmitted to new members, as the right way to perceive, think and feel about these issues”;
- “a system of values, beliefs and habits shared within an organization, that interact with the formal structure in order to produce behavioral norms”;
- “the whole set of values, beliefs, aspirations, expectations and behaviors shaped in time within the organization, which prevails within it and conditions directly and indirectly its function and efficiency”;
- “the whole set of artificial products, values and ground concepts, of ways of thinking and behaving, generally accepted within an organization, as common action ground”;
- “a system of values, assumptions, beliefs and norms shared by the members of an organization, which unites them”;

From the definitions above, we can infer the way in which organizational culture manifests itself within an organization (company). Organizational culture manifests itself in values, symbols, statuses, jargon, physical environment, heroes, traditions, histories, histories and myths, rituals and ceremonies and they can be classified into:

- visible manifestations (physical environment, rituals, ceremonies, myths, heroes) for example the influences of a mother-culture on a subsidiary;
- invisible manifestations (conceptions, beliefs, values, norms) – for example the influence of national culture on the organizational culture of a foreign branch.

Schematically, the manifestations of organizational culture can be represented in the following way:

Table1: Manifestations of organizational culture.

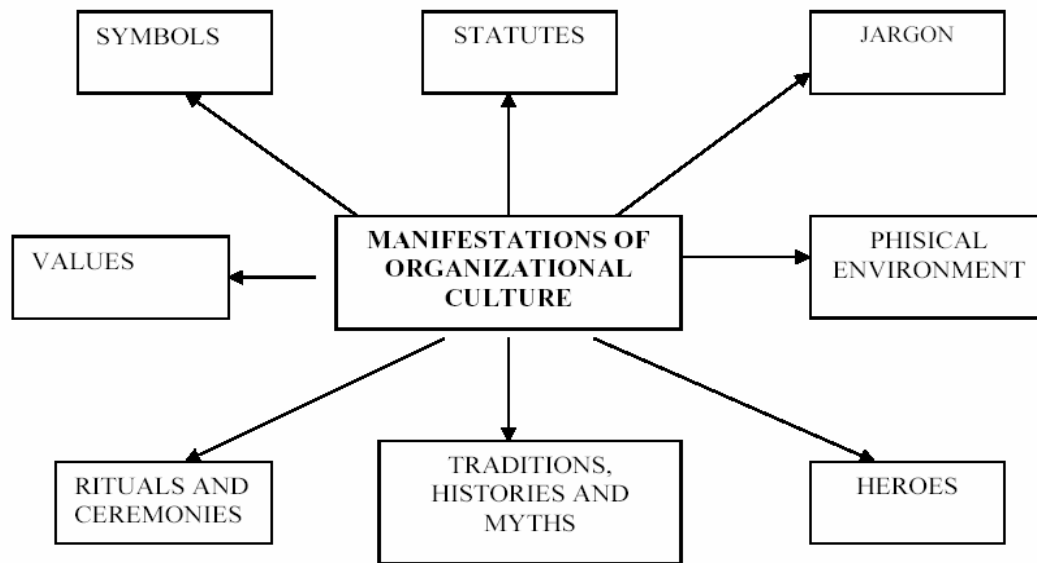


Fig. 1 Manifestation of culture - Source: Gh.Gh. Ionescu, A. Toma, 2001.

By analyzing this scheme, we can determine the elements that make up organizational culture.

- **Values**, in the opinion of most experts, represent the essence of organizational culture.
- Cultural **symbols** are meant for promoting certain values within the organization and for expressing ideas. The high reputation some firms earn in the economic environment determines the fact that the name of the company itself becomes a symbol.
- **Statuses** refer to the position and acknowledgement an individual has within the organization. People with higher statuses tend to have greater influence within the company.
- **Jargon** refers to a certain type of language the personnel in the company uses in daily activity. The jargon within a company is not unique, its diversity stands in the different vocabulary that various professional categories within the organization use.
- **Physical environment** refers to the way in which the offices and the production areas are placed and equipped. The physical environment may suggest many characteristics of the company: the company's desire of reputation may be suggested by the luxurious design of the offices, participative style may be suggested by oval or round desks or tables etc.
- **The heroes** of the company offer models to which persons can aspire. Heroes come from company promoters, managers and employees and they are formed within the company.
- **Traditions, histories and myths.** Within a company traditions may take many shapes: a certain way of dressing, organizing events etc. if traditions are to be found in relatively young companies, histories and myths can only

be found in devoted firms. Myth denotes a type of organizational history, whose level of acceptance and retention is very high among the employees.

- **Rituals and ceremonies.** Rituals and ceremonies are to be usually found on the religious level. Within a company rituals consist of planned actions, with a dramatic appearance, through which certain values are invested with a cultural expression. Rituals are paid higher attention in companies with powerful cultures, where managers seek to bring people near and encourage a creative thinking environment.

Organizational culture is one of the most significant factors of competitiveness of the economic organization. Together with the knowledge level of the personnel and the value of the brand, it forms the intangible active of the organization.

1.4 Characteristics and influences of organizational culture

Organizational culture differentiates from the other cultures through the following characteristics:

- Organizational culture has a history. Even if some aspects change in time, most of the behavioral and value means are passed on from one generation to another;
- Organizational culture is social, as it is not shaped due to only one person (even if that is the company's promoter). Organizational culture is subject to alterations from all the social elements within it;
- Organizational culture regulates company members' behavior. It consists of directory principles, norm of behavior, norms of conduct etc that are meant to influence team work;
- Organizational culture has to be flexible. A rigid culture will not be able to successfully intervene if ethical or conflict issues appear among the members of the organization.

Starting from the characteristics of organizational culture, we can shape the ways this can influence the members of the organization. Not all cults have the same influence on the group's individuals. Gh. Gh. Ionescu argues that the power of organizational culture (that is if it is strong or weak, or in between) depends mainly on factors like: the size of the organization, its age, the fluctuation of the employees and the intensity with which organizational culture was initiated.

Smaller companies usually have a more homogenous culture as compared to larger ones, where subcultures appear more visibly. Subcultures might have different levels of dependence towards organizational culture. A very powerful subculture might cause difficulties in finalizing a project, indecision and lack of initiative. On the other hand, a less dependent culture might encourage the company's members to become more preoccupied with finding opportunities and solving problems rapidly.

1.5 Economic organizational culture values

The reality of the socio-economic life imposes the granting of a major importance to the following organizational culture values:

- The **labor cult**. Unfortunately, this value hasn't been encountered in Romanian organizations before 1989. This situation can be remediated through: personal development programs able to reflect the abovementioned value, the creation and implementation of a reward system based on individual achievements, a clear communication from the managerial team regarding the expected achievements, an example on the side of the managerial team concerning the importance of the labor cult within the company.
- The **quality cult**. "Employees should be remunerated for what they do well, not for everything they do" – is one of the slogans of quality management.
- **Innovation and improvement**. The human resource of the organization should be open to innovation and improvement so that it assures the development and progress of the firm.
- **Adaptability**. We live in a society in which the only certainty is change.

In consequence, the employees of the organization must adapt to the new conditions imposed by the market. Adaptability is a value which facilitates the long term success of the organization.

1.6 Types of Culture

There are different types of culture just like there are different types of personality. Researcher Jeffrey Sonnenfeld identified the following four types of cultures:

a. Academy Culture

Employees are highly skilled and tend to stay in the organization, while working their way up the ranks. Examples are universities, hospitals, large corporations, etc.

b. Baseball Team Culture

Employees are "free agents" who have highly prized skills. They are in high demand and can rather easily get jobs elsewhere. This type of culture exists in fast-paced, high-risk organizations, such as investment banking, advertising, etc.

c. Club Culture

The most important requirement for employees in this culture is to fit into the group. Usually employees start at the bottom and stay with the organization. The organization promotes from within and highly values seniority. Examples are the military, some law firms, etc.

d. Fortress Culture

Employees don't know if they'll be laid off or not. These organizations often undergo massive reorganization. There are many opportunities for those with timely, specialized skills. Examples are savings and loans, large car companies, etc.

1.7 Why is culture important?

In today's organization, culture is taken for granted as a management issue. Managers, employees, and executives all want to understand where their organization is going and that their efforts contribute to its success. An organization's individual identities are cultivated by internally identified heroes, shared common values, and recognized rituals and symbols. When organizations do this well, align their culture

with their strategic direction and operate out of a set of shared values, they become unstoppable. They are much more able to achieve business results rapidly and effectively. In addition, when a strong culture exists, employees are often more productive - they do not need to wonder what their next step in any given situation. They also tend to feel better about their work, confident that their work on any given day is important to the success of their organization.

2. ORGANIZATION CHANGE

2.1. Need for change

Change is pervasive in our society and a fact of life in organizations (Goodfellow 1985). Where does the impetus for change come from? The simple answer is that the impetus to change comes from the environment. Effective strategic leaders understand that change in the strategic environment is a continuous process.

By environment, we can mean the internal organizational environment, but more often, we are talking about the external environment. Organizations are awash in the external environment, and a sea change in the environment (e.g., the rifled musket, steam-driven warships, the jet engine, the Age of Information) can cause an unresponsive organization to founder. A part of strategic leadership is understanding when environmental change implies a need for organizational change and when it does not. Making internal changes to accommodate external change is reactive, and strategic leadership should be proactive. This is where a well-crafted, well-managed strategic vision can help balance reactive and proactive changes.

Change is about survival. Change is especially necessary in organizations that wish to prosper in a volatile, uncertain, complex, and ambiguous environment. If changes rocking the external environment were *temporary*, the slow and uncertain pace at which organizations change would matter less. But, the reverse is true. Powerful forces in the environment are pressuring public and private organizations to alter *permanently* existing structures, policies, and practices (Bolman & Deal, 1991).

2.2. Pressure for change

- Globalization is one example of pressure to change. Globalization creates the challenge of building cohesion and common purpose in the face of cultural and organizational differences. All of this is complex because many of the variables in the equation are not under the control of the leaders who are creating the vision for change.

- Peace is another example of pressure to change. Peace necessitates, at least in the minds of some people, the need for reduction in the size of military forces. With smaller military forces comes the need for increased capabilities because the number and diversity of missions has increased.

- Information technology. Information technology facilitates structural decentralization and downsizing. People must develop new skills. Power often shifts from centralized functions to operating units.

- Demographic changes in the population are creating enormous pressure for change in organization. Structural responses to demographic diversity include

policies and programs like equal opportunity and affirmative action. Friction and conflict develops between demographic groups.

- In the private sector, deregulation has created major structural changes in some industries. People in the workforce can sense that they can be cut loose without warning. And, deregulation results in the need for the redefinition of organizational mission and culture.

Change is absolutely necessary for the survival of individuals and organizations.

2.3. What is change?

Organizational change is about making alterations to the organization's purpose, culture, structure, and processes in response to seen or anticipated changes in the environment. Strategic management of change is all about identifying and embedding in the organization those changes that will ensure the long-term survival of the organization.

Change can be thought of as a condition and a process. Change as a condition describes what is happening in the environment; it is part of the reality we must accept. Change as a condition may profoundly influence our organization, but it takes place externally and we have little control over it.

Change as a process is what we foster internally in response to changes in the environment. It is the leadership and management actions we take to change the organization.

2.4 Types of change

2.4.1 Planned or unplanned

Change can be planned or unplanned. Both can be good, both can be bad. Unplanned change just happens in reaction to unseen or unanticipated influences. Often, it is difficult to tell where the change came from and how it was initiated. Paradoxically, planned change is all about maintaining the organization's relevancy in the face of environmental pressures.

2.4.2 Tactical or strategic

Tactical change occurs in the short-term and, more often than not, is short-lived. "Fad-surfing" is a sure symptom of tactical change. In the face of changes in the environment, many leaders often reach out and grasp the "fad du jour". Then the next day, they grasp at the next "fad du jour," whip-sawing the organization with inconsistent messages and inconsequential behavior. This attempt to manage change is a sure sign that the leaders do not understand the environment, the organization, or both.

Strategic change is about leveraging vision to get at fundamental aspects of the organization, including the organization's direction and its culture. Strategic change is about forging organizational robustness in the face of environmental pressures. Hence, an accurate and insightful view of the current reality is as important as a clear vision. Robustness is the timely capacity to anticipate and adapt to environmental change in order to maintain competitive advantage.

2.4.3 Evolutionary or revolutionary.

It can take place gradually within an existing paradigm, or it can be a dramatic shift to an entirely new paradigm. In addition to being gradual, evolutionary change usually is linear, and sequential. The downside of evolutionary change is that it is predictable. Competitors can figure out what your organization is doing and where it is going.

Revolutionary change is about transforming the organization. The revolution can be small or it can be sweeping.

2.5. Effects of change

Within the domain of human behavior we can anticipate the effects of change. Four main effects are salient: self-confidence, confusion, loss, and conflict.

Change can cause people to feel incompetent, needy, and powerless, in short, to lose self-confidence. It is essential for the people in the organization to be involved in planning and executing change, to have opportunities to develop new skills required by the change, and to depend on psychological support mechanisms put in place before, during, and after the change is implemented.

Change can create confusion throughout the organization. Change alters the clarity and stability of roles and relationships, often creating chaos. This requires realigning and renegotiating formal patterns of relationships and policies.

By definition, change creates loss and therefore generates interpersonal conflict. Change can create loss of meaning and purpose. People form attachments to symbols and in symbolic activity. When the attachments are severed, people experience difficulty in letting go of old attachments. Avoiding or smoothing over these issues drives *conflict* underground, where it can fester and boil over. The psychological wounds that come with change require the creation of arenas where issues can be dealt with that may require symbolic healing (Bolman & Deal 1991).

2.6. Resistance to change

- Is a normal human trait
- Is a function of personality
- Depends on perceived effects
- Depends on whether or not it is imposed from the outside

Periodic information briefings about the status of the change should figure prominently in the plan for change. This serves to slow down the grinding of the rumor mill.

One way to decrease resistance is to plan for and allow people to participate in decisions which affect them. Participation in decision making gives people a sense of involvement and increases the probability of commitment to change. Scheduling change is another way to overcome resistance. If people know when they are no longer required to do things one way and are expected to move to a new way of doing things, they tend to waste less effort, experience less frustration and stress, and tend to be less resistant. Another critical factor to overcoming resistance is support from the top. It is important that the strategic leaders in the organization demonstrate their

commitment to change by being spokes-persons for the change, by providing incentives for change, and by embodying the change.

One way to guarantee resistance is to announce an immediate and unexpected change. This provides a shock wave in the thinking of people who are part of the organization. In the minds of those people, the shock wave often takes the form of "They're trying to keep something from us" or "They don't have a clue about what they're doing." This leads to embarrassment and loss of face on the part of the leader and the followers. This takes us beyond resistance to the question of why change often fails (Goodfellow 1985).

3. MANAGE CHANGE ACROSS CULTURE

3.1. The impact of culture

Why is culture so important to an organization? Edgar Schein, an MIT Professor of Management and author of *Organizational Culture and Leadership: A Dynamic View*, suggests that an organization's culture develops to help it cope with its environment. Today, organizational leaders are confronted with many complex issues during their attempts to generate organizational achievement in VUCA environments. A leader's success will depend, to a great extent, upon understanding organizational culture.

Schein contends that many of the problems confronting leaders can be traced to their inability to analyze and evaluate organizational cultures. Many leaders, when trying to implement new strategies or a strategic plan leading to a new vision, will discover that their strategies will fail if they are inconsistent with the organization's culture. Difficulties with organizational transformations arise from failures to analyze an organization's existing culture.

3.2. The Need for Culture Change

A primary reason for the failure of so many efforts to improve organizational effectiveness is that, whereas the tools and techniques may be present and the change strategy implemented with vigor, failure occurs because the fundamental culture of the organization remains the same. As evidence, consider the studies by Cameron and his colleagues (Cameron, Freeman, & Mishra, 1991; Cameron, 1992; Cameron, 1995) in which empirical studies were conducted in more than 100 organizations that had engaged in TQM and downsizing as strategies for enhancing effectiveness. When TQM and downsizing were implemented independent of a culture change, they were unsuccessful. When the culture of these organizations was an explicit target of change, so that the TQM and/or downsizing initiatives were a part of an overall culture change effort, they were successful. Organizational effectiveness increased.

Culture change was the key. This dependence of organizational improvement on culture change is due to the fact that when the values, orientations, definitions, and goals stay constant, even when procedures and strategies are altered, the organization returns quickly to the status quo. Modifying organizational culture, in other words, is a key to the successful implementation of major improvement strategies.

3.2. The process of culture change

3.2.1. Normative Systems Culture Change Process

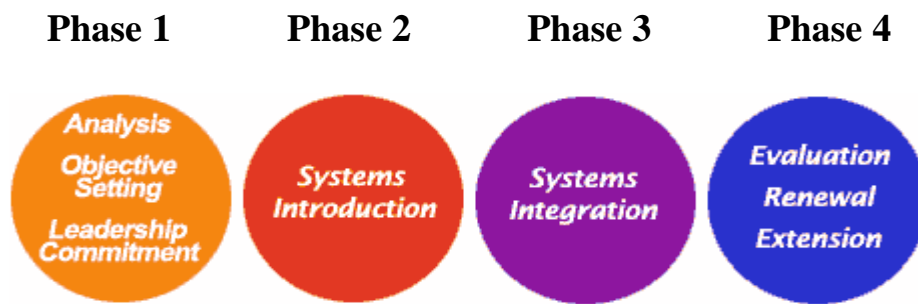


Fig. 2 Normative system culture change process.

- First phase, Analysis and Objective Setting, is dedicated to analyzing and preparing the soil.
- Phase II, Systems Introduction, plants the seed of change.
- Third phase, Systems Integration, is the cultural equivalent of adding fertilizer and water so that the plant takes root and flourishes.
- Fourth phase, Evaluation, Renewal and Extension, is similar to harvesting the crop and gathering new seed for the next planting

Phase I: Analysis, Objective Setting and Leadership Commitment

The first phase of project development establishes a clear picture of the current situation sets specific measurable objectives and commits leaders to a vision for change. Phase I activities provide the groundwork for the broad-scale introduction and integration of the change process. The analysis covers three broad categories of information -performance, programmatic and cultural:

- Performance Analysis
- Programmatic Analysis
- Cultural Analysis



Fig.3 Elements of Culture.

- Values
- Norms
- Organizational Support Systems: (1) modeling; (2) recruitment and selection; (3) orientation; (4) training; (5) rewards and recognition; (6) confrontation; (7)

communication systems; (8) relationships and interactions; (9) symbols, myths and rituals; and (10) allocation of resources.

- Peer Support
- Climate



Figure 4 - Climate.

- **Leadership Commitment**

Obtaining leadership commitment is a key element in Phase I of Normative Systems. Some level of leadership commitment is often apparent before the cultural analysis begins.

Phase II: Systems Introduction

In Phase II, the seed of a new cultural ideas are planted in the minds of the members of the culture. Employees at all levels are informed about the initiative and asked to participate.

Members of the culture should be given an opportunity to develop a change plan. In order to facilitate this planning process, participants are made aware of what is being done to bring about sustained change

Phase III: Systems Integration

In Phase III, the new cultural practices are nurtured. Individual change is supported by cultural touch points. To assure success, change takes place on multiple levels. The Systems Integration phase focuses on individual self-help, peer support, organizational support and leadership development.

Phase IV: Ongoing Evaluation, Renewal and Extension

The fourth phase of project development is both an ending and a beginning. An ending because Phase I performance, programmatic and cultural measures are repeated for evaluation purposes. And an ending because successes are celebrated. Phase IV also represents a beginning in that new performance, programmatic and cultural objectives are established. Phase IV efforts must provide sufficient opportunity to celebrate accomplishments.

4. MILITARY CULTURE

4.1. QinetiQ model.

Trompenaars and Turner (1993) developed the QinetiQ model of organizational culture (Bradley, Mylle, Strickland, Walker, & Wooddisse, 2002). The model provides another conceptual framework to understand organizational culture, which again is made up of three layers (see Figure 5).

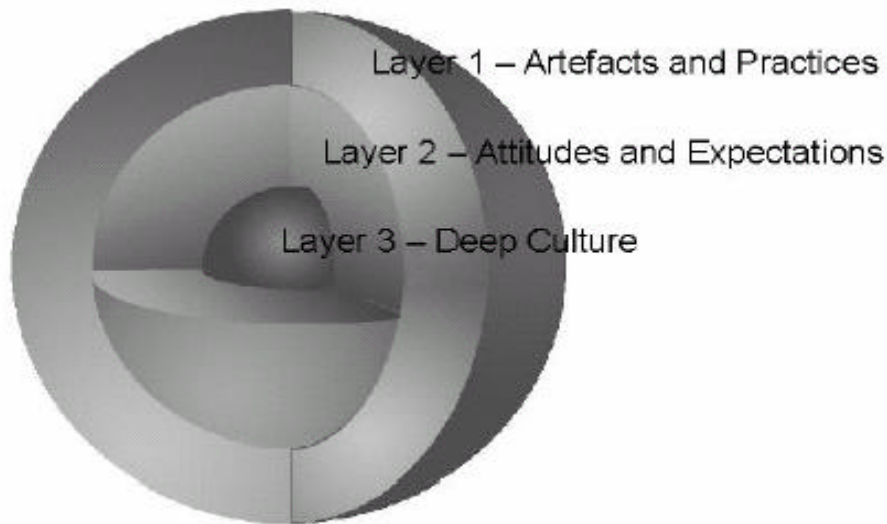


Figure 5: Conceptual Framework for Organizational Culture (Trompenaars & Turner, 1993).

4.1.1. Layer One – Artifacts and Practices. This is the observable behavior and tangibles of an organization. This includes such things as groupings, hierarchy, and uniform. Processes and procedures can be thought of as Layer One. Essentially, the surface layer is easily changed and easily adapted by the people in the organization. It represents the explicit culture.

4.1.2. Layer Two – Attitudes and Expectations. These are the attitudes and expectations that make individuals feel that Layer One is right. It is more conceptual than tangible, and consists of doctrine, customs, and traditional practices. It represents those truths held by the organization, which resist change but which can be adapted in time.

4.1.3. Layer Three – Deep Structure. This is the source and structure from where attitudes and expectations are generated. It is difficult to attribute specifics to this layer, but it may consist of such things as the relationship between command and subordination. Essentially, this inner layer represents basic assumptions that have underpinned the culture of military forces for centuries. This is the layer of implicit culture.

The value of this model as suggested by its proponent is that it provides insight into the management of change. Changing Layer One is relatively easy as long as Layer Two and Layer Three remain unchanged.

Changing Layer Two is very difficult and takes time and new leadership. Changing Layer Three will be very difficult but not impossible. In some cases a change to Layer One may, on the face of it, be very sensible or insignificant, yet may affect a much deeper cultural instinct or value.

4.2. Culture in Romanian Armed Forces

4.2.1. Impact of national culture

The cultural portrait of the military organization is not anything else than the result of the impact of the national cultural specific on the value, attitude and behaviour patterns in the military organisational environment. The impact of national

culture on organisations should be neither overemphasized nor ignored. The cultural characteristics of the environment in which individuals educate, train and live work like constraints and influence the organisation functioning.

4.2.1.1. Four dimensions analysis - general

Using the conceptual framework and the investigation methodology by Hofstede, in 2005, in our country, a comparative study regarding Romania and other countries was conducted by the Gallup Organization. Cultural dimensions were assessed on a scale having values from 0 to 100, and three classes of interpretation: 0-40 – low level; 41-60 – medium level; 61-100 – high level (table 1).

	Power Distance	Uncertainty Avoidance	Individualism/Collectivism	Masculinity/Femininity
Romania - poll 2005 -	70	61	49	39

Table 1.

The conclusions are the following:

- Romania signals the need to have authoritarian leaders, centralized decisions, and the members wants to follow the rules established by the leaders
- Romania is highly anxious about the future and prefers the certitude of today to the incertitude of tomorrow
- Romania is a collectivist society Collectivism, opposed to individualism, is not one of the characteristics of modern Romanian society.
- Romania is a feminine country, namely the members of the society seek for a collaborative environment and ask for the members of the society to support them.

4.2.1.2. Four dimensions analysis – military

Therefore, the characteristics of the Romanian military organizational culture, bearing the hallmark of the national culture, are also reflected in the military behavior at the workplace:

- In military structures, “*power distance*”, as an indicator of individual differentiation, is, certainly, high. This dimension, which reflects the way the members of the military organization acknowledge and accept the precisely delimited hierarchy of functions and ranks, the decisional and executive levels, as well as the authority, results in differences among individuals as far as their behavior is concerned.
- The “*uncertainty avoidance*” level is also high in the military structures. It is reflected in the fact that, as far as behavior is concerned, military structures are characterised by strict behavioral rules, which determines the anxiety derived from ambiguity and uncertainty to be mitigated and to generate great tolerance towards the pluralism of ideas. Analysing the basic features of collectivism, the very strong feeling of belonging to a group, the personal identity, given by the self-perception of the individual inclusion in the group, we may appreciate that the military organization is a strongly collectivist structure.
- From the perspective of the “*masculinity/femininity*” axis assessment, the military domain is especially defined by competition relations that provide military

organisations with the attribute of masculinity, not only as far as the members belonging to the gender are concerned. A special importance is attached to ego-psychological needs, recognition, achievement, challenge, although many of the characteristics of feminine societies, such as good capacity to relate in society, cooperation, agreeable climate etc. may favor military structures functioning.

Therefore, military behaviour is strongly intentional, determined, combatant, contrasting with the behavioral characteristics of the Romanian civil society.

4.3. Forces Downsizing

4.3.1. Economic downsizing

The strategy consists simply in cutting back on workforce (economic downsizing). Above all it is focused on personnel cutbacks and produces short-term effects (e.g., personnel costs' reduction, sometimes dramatically). As practices one can mention: hire freezing, financial incentives for voluntary departs or early retirement, outplacement, redundancies.

This strategy is often applied on the whole structure, touches all the functions on a non-discriminatory basis and it is very rapid. There is a strong incertitude on who is going to leave, in which financial conditions and in which moment.

4.3.2. Structural downsizing

The aim is to redesign the structure and work procedures than to cutback employment. It is a middle-term strategy for eliminating or regrouping of functions, the suppression of hierarchical levels, divisions and even products.

The cultural downsizing consists of a veritable systemic mutation within the organization. It adds a cultural dimension. It is a matter in this case of modifying the organisational norms and values. As tools to reach these, there are: continuous improving of activities and actions, innovating, elimination of hidden costs, personnel implication or even the questioning on the former values of the organisation.

The downsizing aims rather to redefine the size of the organisation on other basis than to reduce the size of the organisation. If it touches strong cultural behaviours concerning the change, this type of strategy cannot be efficient in short time. It only can produce beneficial effects in long term.

5. CONCLUSIONS

The main reason changing organizational culture is so difficult is that it resides in the dark, unexamined recesses of the corporate mind. The unexamined assumptions that make up the organizational culture have not been questioned in years.

We know that most organizational culture change efforts fail. We know that organizational culture changes that succeed only do so after a frustrating uphill-battle against the status quo. We know that powerful organizational members have a vested interest in maintaining the status quo.

So, the question is this: Should an organization spend its limited resources (time, energy, and money) to change the organization's culture? The answer is "yes." Let me explain. Organizational culture change is necessary to support almost all organizational change efforts (strategic, structural, or process). Organizational change efforts will fail if organizational culture remains fundamentally the same. The effectiveness of organizational change efforts requires embedding improvement strategies in the organizational culture. Changes in procedures remain superficial and short-lived unless there are fundamental changes in values, ways of thinking, and approaches to problem solving. The resisting forces will simply renew their efforts to re-establish the old status quo.

Organizational cultural change can be slow and frustrating, but the benefits can include dramatically improved organizational performance.

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CONCEPT - DEVELOPMENT - STRATEGIC COMMUNICATION

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I. EXECUTIVE SUMMARY

In this work, I would like to highlight how US re-examining the past, managed to develop strategies to meet the challenge of implementing military transformation, being on the way to expand the four principal elements: people, process, organization, and technology taking into consideration the war environment in Iraqi and Afghanistan.

As a result of the efforts of the actors mentioned bellow, a new concept was developed: strategic communication.

Strategic communication is an integral part of current war fighting and reconstruction efforts in the Middle East, and in particular is woven into the fabric that is Multi-National Force Iraq(MNF-I). The MNF-I strategic communication initiatives and processes work in concert to support each of its lines of operation (LOO): political, diplomatic, economic and security. On a daily basis, MNF-I communications proactively promote Iraqi political, economic and security progress; refute inaccurate and misleading media coverage; and help the Government of Iraq develop strategic communication capabilities for itself.

In 2007, MNF-I instituted sweeping changes in its approach to the conduct of strategic communication. This study attempts to capture lessons and best practices documenting the significant improvements that emerged from the institution of these changes. Four key findings emerged from the study analysis:

The development of coherent, aligned and responsive messages was significantly improved. An aggressive strategic communication analysis and assessment process enabled success.

The right mix and placement of knowledgeable, experienced and trained personnel greatly accelerated the success of MNF-I strategic communication efforts. Although DOD strategic communication policy and doctrine is evolving, the joint community must continue to refine its understanding of the impact of strategic communication on joint operation and capture this understanding in joint doctrine.

The MNF-I commander's focus on strategic communication and its critical role in supporting MNF-I LOOs translated into both a comprehensive and coherent campaign plan and a much more attuned and educated staff to execute that plan. The increased focus ultimately resulted in significantly improved, aligned and responsive

messages to a myriad of audiences whose understanding of those messages was critical to progress overall.

In mid-2007, the Operation Iraqi Freedom (OIF) Joint Campaign Plan was revised and designated strategic communication a critical enabler of operations. To ensure desired effects were achieved, a flexible, responsive and methodical approach was needed to monitor, measure, analyze and assess strategic communication. MNF-I asked for an in depth review by an on-site inspection team in order to establish a comprehensive, well integrated communication strategy and operational framework to better support the overarching MNF-I Campaign Plan. Accepting the team's recommendations, MNF-I expended significant energy and resources to enhance its strategic communication assessment process and capability. The products developed from the assessment efforts helped maintain a higher level of situational awareness and provided direct support to MNF-I and US Mission –Iraq (USM-I) senior leaders for daily decision –making.

The number the concern raised by the 2007 inspection team was that MNF-I lacked the necessary personnel with communications-related knowledge, skills and experience.

Based on this concern, the MNF-I commander immediately requested that the US Navy Chief of Information (CHINFO), a one –star flag officer, lead development of the new MNF-I communications initiatives. This flag officer had been a member of the 2007 inspection team and was intimately familiar with the challenges associated with the environment and the necessary actions required to catapult the division forward. The new experienced leadership and the addition of other personnel with communications-related skill sets, including analysis and assessment skills, directly contributed to the MNF-I strategic communication improvements observed over past year.

The importance of strategic communication has only recently been fully recognized within DOD and therefore relevant policy and doctrine are still evolving. Doctrine does exist for each of the major military capabilities that contribute to strategic communication (public affairs, defense support to public diplomacy and information operations), however, there is minimal doctrine that expands upon and describes the integration and synchronization of these capabilities and their potential impact on joint operations. Many of the recent strategic communication activities and efforts, both successes and failures, have shed light on potential organizational constructs, processes and technology- related solutions that can assist commanders in developing strategic communication programs.

These advances must be captured in policy and doctrine.

II. STUDY BACKGROUND

In the early years of operation Iraqi Freedom (2003-2006), the US Joint Forces Command (USJFCOM) Joint Center for Operational Analysis (JCOA) and other observers identified a void in strategic communication and its supporting capabilities. An overarching communication strategy, dedicated communication resources, and a recognized authority were all missing. The opinion at the time was that these problems-coupled with many other issues-significantly undermine the overall effectiveness of US government efforts in Iraq.

In 2007, leadership focus on the role of strategic communication and applications of its principles within MNF-I led to significant improvements. In May 2007, MNF-I asked for in –depth review of its strategic communication practices by on site inspection team in order to establish a comprehensive well integrated communication strategy and operational framework to better support the overarching MNF-I Campaign Plan. The inspection team consisted of the deputy public affairs officers from each Service, the US DOD’s senior military visual information officer, and USJFCOM’s Deputy Director for Strategic Communication. This team of senior public affairs officers recommended more than 30 specific changes. MNF-I leadership accepted and incorporated most of the recommendation into its operations during the June 2007 to August 2007 time frame. The 2007 inspection galvanized thought on strategic communication, and supported the application of additional resources to the organization’s communication activities.

In February 2008, as a result of the improvements being observed by MNF-I leadership, the MNF-I Chief of Staff requested that USJFCOM help them identify MNF-I strategic communication best practices and to consider potential doctrine, organization, training, materiel, leadership and education, personnel, and facilitates (DOTMLPF) implications. In April 2008, a study team consisting of USJFCOM Deputy Director for Strategic Communication and a Joint Public Affairs Support Element (JPASE) Team Chief deployed to Iraq for two weeks. The team observed MNF-I staff operations on a daily basis and collected documents for review. In addition, the team conducted one-on-one interviews with 32 people working in the MNF-I Strategic Effects Communication Division (renamed MNF-I/CJ9 Strategic Communication Division in August 2008) in area of Information Operations, intelligence, assessment, visual information, and public affairs. The interviews also included discussions with MNF-I Commanding General and Chief of Staff, as well as one US Embassy representative. Upon completion of the data collection effort, the USJFCOM Deputy Director for Strategic Communication developed an MNF-I Communication Division best practices brief and shared those best practices and DOTMLPF implications to a wide range of DOD customers.

JCOA reviewed the brief and felt that the recent successes in MNF-I Strategic Communication needed to be further documented and shared with other combatant commands and joint task forces. As a result, this JCOA paper builds upon the foundation laid by the USJFCOM Deputy Director for Strategic Communication and presents a further look at the key elements of this good new story.

III. STUDY ASSUMPTIONS

Strategic communication is described in a multitude of ways by different segments of the US government and partner organizations. Despite disagreements on definition even within DOD, there is now a doctrinal definition that depicts strategic communication as:

“Focused US government efforts to understand and engage key audience to create, strengthen, or preserve conditions favorable for the advancement of US government interests, policies, and objectives through the use of coordinated programs, plans, themes, messages, and products synchronized with the actions of all instruments of national power”.

The 2008 strategic communication study team approached their review of MNF-I with this definition in mind.

The study team used three critical assumptions to frame their interviews and analysis of findings. The assumptions were based on observations and opinions developed from media coverage of OIF activities, review of internal DOD documents, and conversations with MNF-I Strategic Communication Division personnel.

The first study team assumption was that positive change had taken place in the information environment. According to the USJFCOM Deputy Director for Strategic Communication “The US and the Coalition were absolutely making a difference and having an impact with getting their word out. Images were coming out that we wanted released. Information was coming out in a very timely way we wanted to release. We were breaking new ground regularly with using the adversary’s words against him...and the adversary’s actions against him...supported by evidence.”

The second assumption of the study team was a belief that the MNF-I Commanding General (CG) was personally committed to strategic communication as an integral part of his leadership and operations. This assumption was based on the important role that strategic communication had in the Joint Campaign Plan. It was also based upon the increased CG focus on strategic communication in his daily battle update assessments.

The third assumption was that Iraqi government officials had begun to take a more active approach to their public speaking roles. This assumption was based on knowledge that personnel from the Prime Minister’s Office, the Ministry of Defense, and the Ministry of Interior were participating in news events, whereas previously they were simply present and did not take on speaking roles.

IV. MNF-I STRATEGIC COMMUNICATION ENVIRONMENT

In order to understand the context of this study, it is important to briefly describe the communication environment within which MNF-I operated. There were three dominant themes that characterized this environment.

First, MNF-I operated within an extremely complex irregular warfare, counterinsurgency environment that included a myriad of good, bad, and neutral players. These players comprised a wide mix of political, religious, and tribal groups,

regional and international actors, al-Qaeda and associated movements (AQAM), and other violent militias and insurgents.

Second, the environment included an enemy, AQAM, that actively waged communication warfare using advanced global technologies. AQAM considering winning the war of ideas to be a precondition for victory in Jihad. As explained by Ayman al-Zahiri: "More than half this battle is taking place in the battlefield of the media...we are in a media battle race for the hearts and mind of our ummah." The overarching purpose of AQAM's strategic communication efforts, therefore, was to increase the number of recruits willing to directly engage in violent acts, as well as garner additional general support for their cause. This enemy's approach to strategic communication was that its actions were the message, espousing a mindset of "What I do is what I say." Often, the messages were built on exploitation of religious and cultural themes that resonated with the targeted populace.

And third, the environment included advances in technology made over the last two decades that led to a revolution in media capabilities. The viral nature of electronic media, coupled with the growing proliferation of electronic communication devices, meant that almost every action or operation that could be witnessed could also be recorded, distributed, manipulated, and distorted. Individual actions were amplified. In military situations, small, tactical actions could be viewed globally and take on strategic significance.

The characterizations mentioned above, combined with a predominantly hostile Iraqi and Pan-Arab media and International/ Western media that was focused primarily on security and political failures, created an extremely challenging strategic communication environment. The situation demanded that people directly involved in MNF-I and USM-I leadership roles clearly understand the ways in which strategic communication could support decision-making and the achievement of campaign goals and objectives.

V. CRITICAL FINDINGS OF MNF-I STRATEGIC COMMUNICATION

1. Coherent Message Development, Message Alignment, and Responsiveness

As described in David Galula's *Counterinsurgency Warfare*, it is critical that a counterinsurgency effort have a coherent message or "counter cause" that is more acceptable to the primary impacted populace than the insurgent's cause. The OIF Joint Campaign Plan developed by MNF-I and USM-I was consistent with that thinking. It included a coherent, comprehensive strategic communication plan whose sole purpose was to support the MNF-I political, economic, diplomatic, and security lines of operation (LOOs). As described earlier, the development of strategic communication messages in the MNF-I operating environment was a complicated process. The strategic communication plan therefore included multiple tasks, themes, and messages across a spectrum of public affairs, public diplomacy, and information operations for each specific population segment (for example: Sunni, Kurd, Shi'a, AQAM, Coalition, etc.). The plan served as the foundation that allowed MNF-I and

USM-I to improve communication activities in order to reinforce message alignment across the large, diverse stakeholder environment.

It is clear that bad news will happen during war. As MNF-I commander General David Petraeus said on many occasions during daily operational update meetings, "Even if you put lipstick on a pig, it is still a pig". The commander's philosophy was to be first with the truth. What does this mean? The guidance was two-fold. First, continually develop accurate messages aligned with the MNF-I strategic communication plan for use in speaking opportunities and aggressively pursue the incorporation of these accurate messages into the Western, Iraqi and Pan-Arab media outlets. Second, emphasize the need for consistency and persistence in communicating through multiple tools and venues. Portions of the commander's guidance are highlighted below:

Be first with the truth. *Get accurate information of significant activities to the chain of command, to Iraqi leaders, and to the press as soon as is possible. Beat the insurgents, extremists, and criminals to the headlines, and the pre-empt rumors. Integrity is critical to this fight. Don't put lipstick on pigs. Acknowledge setbacks and failures and then state what we've learned and how we'll respond. Hold the press (and ourselves) accountable for accuracy, characterization, and context. Avoid spin and let facts speak for themselves. Challenge enemy disinformation. Turn of enemies' bankrupt message, extremist ideologies, oppressive practices, and indiscriminate violence against them.*

Fight the information war relentlessly. *Realize that we are in struggle for legitimacy that in the end will be won or lost in the perception of the Iraqi people. Every action taken by the enemy and United States has implications in the public arena. Develop and sustain a narrative that works and continually drive the themes home through all forms of media.*

The strategic communication study team observed that the MNF-I CG took personal interest in a responsibility for MNF-I strategic communication. The commander provided his intent during the daily battle meeting and twice weekly at the Strategic Effects Communication Division meetings. With this, the team found that the commander willingly accepted a higher level of risk in order to ensure timely release of information. The Strategic Communication Division developed daily battle update assessment (BUA) slides to not only inform the staff on the current media environment, but more importantly, to prompt discussion and obtain guidance from the CG. This process provided direct and instantaneous feedback to all senior leadership and developed opportunities to reinforce the messaging with other MNF-I staff and partners.

According to the former MNF-I Analysis and Assessment Branch chief, all MNF-I senior leaders were required to attend the daily updates or review the published notes from the updates. This requirement helped ensure that all those who might be interviewed by the media, participate in a press conference, or engage in another venue, could speak on the same topics and carry the same message.

With his ability and authority to release information rapidly, MNF-I closely coordinated with the Assistant Secretary Of Defense for Public Affairs and focused on US media needs and production schedules. This cooperation supported the MNF-I

Media Operations Center (MOC), Office of the Secretary of Defense media briefings, and continually generated an expanded pool of military speakers on key operational topics. The MOC was a core component of the media relations process and was designed to foster real time news monitoring and translation capabilities associated with the release of information, as well as monitoring the news coverage across print, television, radio and web- based outlets. A challenge for the MOC, as noted by the MNF-I Communication Division, was the capability to maintain 24/7 operations with senior-level duty officers. Additionally, media translation capabilities continued to remain problematic.

The close interaction among MNF-I partners stimulated message alignment. MNF-I emphasized an integrated, decentralized, and proactive approach to key leader engagement amongst MNF-I, USM-I, and major subordinate commands. This approach was used to engage with US government agency partners including the US Embassy, Department of States and others. For example, the US Ambassador to Iraq and MNF-I commander enjoyed a close working relationship which permeated the two organizations communications divisions. The MNF-I communications division assigned liaison officers to the USM-I public affairs team where the members shared planning, execution, and assessment resources. In addition, MNF-I supported host nation leaders from the Ministry of Interior, the Ministry Of Defense, and the Prime Minister's office in order to help them build their own communications initiatives. For the host nation relationship, US liaison officers provided communications support through common language, interpretation, culture, and experiences that facilitated building long term relationships and shared understanding of issues. With this, MNF-I actively facilitated what it called "key leader engagements" to build relationships with local Iraqi leaders and Coalition military members. These activities reinforced the value of aligning communication messages among partners as a way to develop, pursue, and sustain local and regional projects that advances stability.

An underlying premise behind the commander's directive to "Be first with the truth" and "Fight the information war relentlessly" was to ultimately improve responsiveness on issues and incidents, and beat the enemy to headlines in order to pre-empt rumors. The guidance helped overcome the always present institutional resistance to release bad news and avoid simply promoting a drumbeat of good news stories. From the study team's observations, a critical validation of the commander's directive was that there was no sign of attempts to suppress or spin stories, and the staff appeared to take a proactive position with information release on a broad spectrum of operational activities. The MOC provided immediate actionable information through real time monitoring, translation, and connection to operating forces. The communications team aggressively engaged media outlets for corrections and clarifications several times a day.

Information, including visual information products and storyboards, was given to media representatives in an expedited way. The staff invested significant resources and effort to continuously challenge enemy disinformation campaigns and to turn the disinformation against them. From 2007 to 2008, the MNF-I Strategic Communications division emphasized two main practices to combat misinformation and disinformation. First, the communication team used an expanded media

monitoring process to rapidly identify erroneous media coverage. Their proactive approach enabled rapid contact with media outlets for accurate, real-time information. The analysis and assessment branch reported that the communication team was able to reduce the time it took to address erroneous information with a given media outlet by four hours. The response time went from 5.2 hours in September 2007 to 1.2 hours in March 2008. Second, the communications team aggressively conducted news conferences and prepared news releases for broad distribution to Western, Iraqi, and Pan-Arab media outlets. A challenge they continued to have according to the assessment and analysis branch, was that the Pan-Arab outlets were not always open to making corrections and clarifications about information. Despite this obstacle, the analysis and assessment branch reported overall noticeable improvement between September 2007 and March 2008.

Another key element of the MNF-I Communication Division's ability to be first with the truth and fight the information war relentlessly was the Combined Press Information Center (CPIC). The MOC's rapid response was anchored by the CPIC's persistent support to the engagement with Western and Pan Arab media. If the MOC was a clearinghouse for the real time release of cleared information, the CPIC was the one-stop shop for support to journalists. Co-located with American Forces Network Iraq and often providing mutual support the CPIC provided a large press briefing facility with simultaneous translation capability and satellite uplink, support to embedded journalists to include transportation and accommodations, and the media credentialing center. CPIC personnel also supported an auxiliary studio in the Embassy Annex, provided media escort within the International Zone and to media events throughout Iraq, and supervised an additional team of Arabic media monitors which captured Arabic newspaper and radio coverage. Together, these elements of the Communication Division provided the CG with a full spectrum of strategic communication tools and capabilities.

2. Aggressive Strategic Communication Analysis and Assessment Process

The biggest requirement is to see how facts on the ground, reality, and media portrayal are aligned for the LOO. If one misaligned, then things quickly fall out of balance for the LOO.

Analysis and Assessment Branch Chief, MNF-I

Within the Communication Division, a dedicated analysis and assessment branch implemented new methods and processes in order to provide MNF-I and USM-I senior leaders continuous feedback on the impact and effectiveness of specific strategic communication activities. The depth of qualitative and quantitative research allowed for products that increased situational awareness and directly supported the senior leaders in their daily decision-making.

MNF-I worked closely with the USM-I public affairs section and other elements to conduct and analyze a variety of data. The former Analysis and Assessment Branch chief reported that the MNF-I Communication Division "partnered operations research analysts, media analysts, and cultural experts to create

innovative methods and practices to provide USM-I and MNF-I senior leaders with timely media situational awareness “

This partnership instituted assessment methods used to measure the extent to which strategic communication efforts were achieving desired effects across seven main areas: an understanding of the Iraqi and Pan-Arab media, media penetration of key themes, alignment of key messages, Iraqi perceptions, prevalence of misinformation and disinformation in media stories, resonance of news conferences, key themes and messages, and effect of embedded reporters. A brief summary of each these areas is included bellow:

2.1. Iraqi and Pan-Arab media.

This assessment sought to gain a better understanding of the primary sources from which the Iraqi populace obtained their news. The purpose was to understand the medium itself, and to determine the presence or absence of bias towards a particular audience. Media sources were categorized as pro-Government of Iraq (GOI), pro-Shia, pro-Sunni, pro-Kurd, anti-Coalition, or “no known bias “. With this, a database was created of more than 160 different Iraqi and Pan-Arab media sources and, by May 2008 contained over 15.000 references. This searchable database allowed the MNF-I and USM-I organizations an archival capability to discern trends, key themes, and messaging.

2.2. Media and key themes.

This effort involved the categorization and analysis of media stories linked to the primary themes of political, economic, diplomatic, and security. This analysis allowed MNF-I and partners to assess and share information on broad trends over time in Iraqi, Pan-Arab, and Western media coverage. A main benefit for working in partnership with various agencies for the monitoring, analysis, and assessment of media coverage was the reduction in duplication efforts. For example, MNF-I reported that after streamlining the way in which various media outlets were monitoring by specific agencies, they experienced a 41 % reduction in redundancy of effort from May 2007 to May 2008.

2.3. Alignment of key messages.

This efforts involved the daily capture, categorization, and sharing of key quotes from MNF-I , USM –I , and GOI senior leaders. On a weekly basis, the most significant key quotes were consolidated and disseminated to help frame events and highlight specific key messages that should be reinforced in media engagements. The Assessment and Analysis Branch also kept an historical record of these key quotes and messages to make it easier to identify major changes or shifts in messaging.

2.4. Iraqi perceptions.

This effort included a monthly analysis of the key themes and messages that appeared in Western, Iraqi, and Pan-Arab media; comparing those messages to facts on the ground; and examining Iraqi perceptions from polls conducted by outside agencies. Although polling in Iraq was problematic and the resulting data often not

reliable, the trends over time were important to provide perspective. Additionally, the conduct of specific focus groups of Iraqi citizens allowed for insights not provided by polling data.

2.5. Managing erroneous stories.

This effort assessed the two primary methods used by the communication division to diminish the effect and proliferation of erroneous stories transmitted by the media. The first method used real-time monitoring capability of the MOC to rapidly identify an erroneous story, and then to quickly contact the source and provide clarifying information. The second method involved using timely and effective press releases from MNF-I . These press releases provided major media outlets with notification of breaking, newsworthy events that included factual information vetted through operational channels. These efforts significantly reduced the amount of time an erroneous story resonated within the media and additionally helped to curtail misinformation and disinformation opportunities.

For example, the branch reported a reduction in the length of time erroneous stories remained in media outlets from September 2007 to March 2008 and that the average time went from 3.2 days of coverage to 2.1 days of coverage.

2.6. Resonance of key themes and messages.

This effort involved a monthly analysis of MNF-I press conferences, press releases, battlefield circulations, interviews, and roundtables to determine which themes and messages resonated in the media. The focus of the analysis helped determine if MNF-I's desired themes and messages were effective with target audiences.

2.7. Effect of embedded reporters.

A significant number of embedded reporters continued to provide a "boots on the ground" perspective of OIF. For Example, in March 2008 there were 42 embedded reporters who produced 68 stories in major Western media and 892 stories in regional Western media. MNF-I believed that, for the most part, embedded reporters gave readers an excellent first hand perspective and a strong dose of realism of what military members experience and feel.

The methods described above provided MNF-I leadership with better situational awareness and unbiased, accurate information for decision making. These strategic communications analysis and assessment initiatives, which existed at no other location within DOD, are believed worthy of further study and evaluation.

3. Knowledgeable, Experienced, Multidisciplinary Staff

As discussed above, the number one concern raised by the 2007 on-site inspection team was that MNF-I personnel lacked the necessary levels of communications-related knowledge, skills, and experience. Based on this concern, the MNF-I CG immediately requested that the Navy Chief of Information (CHINFO), a one-star flag officer, lead development of the new MNF-I communications initiatives. Because CHINFO had been part of the 2007 inspection team, he was intimately familiar with the challenges associated with the environment and the actions required to catapult the division forward. This new, experienced leadership,

combined with the recommendations from the 2007 on-site inspection team, accelerated the MNF-I Strategic Effects Communication Division transformation. The division grew to comprise experts from public affairs, visual information, intelligence, special operations, and assessment.

MNF-I determined that deliberate identification and placement of qualified personnel were imperative if the overarching effort was to succeed. Key experienced officers were selected to lead each of the strategic Effects Communication Division areas, to include a Navy O-6 intelligence officer connected to the intelligence network, an Air Force O-6 with special operations forces experience, and an Army Operations Research & Systems Analysis (ORSA) O-6 as lead for the assessment branch.

These officers' prior experiences and connections significantly improved situational awareness and allowed the communication division to be much more proactive in terms of public affairs and media release activities.

There was a better understanding of the potential strategic communication impact that specific tactical operations could produce communication division personnel noted that message alignment, responsiveness, and overall coordination between tactical operations and strategic communication activities was much improved.

As a result, great strides were made in using assessment products of strategic communications activities to support the MNF-I LOOs and leadership decision-making.

In addition to regular staffing positions, MNF-I used specific contract support for unique skills and expertise. For example, contract support enabled media monitoring and assessment, key leader engagement activities, message penetration, and message alignment. Contractors served in a number of positions, including interpreters, polling experts, and political experts.

The study team considered all of the aforementioned personnel initiative primary reasons for the recent surge (2007-2008) in MNF-I strategic communication success.

4. Evolving Department of Defense Policy and Doctrine

During the last decade, strategic communication has become a prominent topic of discussion and research. Significant attention began with the Defense Science Board (DSB) report on Managed Information Dissemination in October 2001, followed by two additional reports by DSB task Force on Strategic Communication dated September 2004 and January 2008. The Quadrennial Defense Review and associated Strategic Communication Roadmap documented specific recommendations. Each of these documents challenged DOD thinking on its communications approach and called for renewal of focus.

MNF-I success in the area of strategic communication provided DOD with applicable processes to help policy and doctrine evolve. During 2007 and 2008, several important guiding documents were developed with MNF-I as an example or model. These include the Principles of Strategic Communication and the Commander's Handbook for Strategic Integrating Concept which is scheduled for

release soon. These documents reflect DOD's doctrinal definition of strategic communication; they focus on the operational level with some references to the national strategic level. The documents provide commanders and their staff with the ideas for adopting a strategic communication mindset and operational framework.

The Principles of Strategic Communication, disseminated in August 2008, and promoted by the Principle Deputy Assistant Secretary of Defense for Public Affairs, provided key descriptors to guide joint commanders and their staffs in establishing or refining a more strategic approach to their communication program.

The principles are:

- Leadership-Driven-Leaders must lead communications processes
- Credible-Appreciate that perceptions of truthfulness and respect is vital
- Understanding-Embrace deep comprehension of others
- Dialogue-Encourage multi-faceted exchange of ideas
- Pervasive-Acknowledge every action sends a message
- Unity of effort-Integrate and coordinate
- Result-Based-Encourage to tie to desired end state
- Responsive-Be attuned to the right audience, the message, time, place
- Continuous-Facilitate analysis, planning, execution, and assessment

From a broad perspective, strategic communication is a relatively new concept and DOD policy and joint doctrine are at the beginning stages of development and understanding. The pace of this development has recently increased with the aforementioned publication of the Principles of Strategic Communication and the Commander's Handbook for Strategic Integrating Concept. While doctrine does exist for each of the major military capabilities that contribute to strategic communication (public affairs, defense support to public diplomacy, information operations, and psychological operations), there is minimal joint doctrine that describes the integration and synchronization of these capabilities and their significant impact on joint operations. Many of the recent strategic communication activities and efforts, both successes and failures, have shed light on potential organizational constructs, processes, and technology-related solutions that can assist commanders in developing strategic communication programs. These advances must be captured in policy and doctrine.

VI. CONCLUSIONS

In early 2007, MNF-I changed its understanding of strategic communication and proactively implemented a multi-faceted program addressing the unique communication needs for its operational environment. The Strategic Effects Communication Division steered its activities based on the imperative to embrace and respond to the situational contexts in which MNF-I found itself. The MNF-I commander took ownership and ultimate responsibility for strategic communications activities in order to support the objectives and goals of each and every campaign LOO.

Critical factors enabling success within the unique communication environment included the combination of multi-disciplinary, knowledgeable, and experienced senior leaders and operators, in conjunction with a strong assessment and analysis function. These elements of the strategic communications effort reflect an evolving definition and understanding of what strategic communication is and is not, and ways to engage at the joint operational level.

For MNF-I, this meant confronting subtle, as well as obvious, challenges associated with its dynamic political, economic, and military operational environment.

Although significant progress has been made in the overall communications assessment process, the ability to capture accurate and timely data on the level of influence that MNF-I and USM-I communication efforts have on Iraqi population perception, attitudes remains difficult undertaking. Because numerous factors influence perception, it is arguably an impossible task to correlate communications-related activity to actions taken or attitudes influenced. These factors compound the complexity of the strategic communication environment and MNF-I efforts to enhance its confidence in the best way to apply resources to its multi-faceted communications program.

The study findings indicate that skill sets and experience are vital for a program's success. MNF-I made progress in matching skills and experience with particular communications-related jobs; however, more work is needed to detail requirements, positions, and desired skill and experience so that qualified people can be identified and assigned. This is particularly important to MNF-I operational environment which relied on the recruitment and placement of individual augmentees to fill open position.

Lastly, strategic communication is a relatively new concept and DOD policy and joint doctrine are still evolving. To bolster recent efforts such as the development of the Commander's Handbook for Strategic Communication and other publications, the joint community needs to publish strategic communication policy and further to expand joint doctrine. Many of the recent strategic communication activities and efforts, both successes and failures, have shed significant light on potential organizational constructs, processes, and technology-related solutions that can greatly assist commanders. These lessons support the importance of offering commanders realistic and relevant information about the capabilities required for a comprehensive program that effectively integrates strategic communication as a core aspect of successful operations.

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FUNCTIONAL STABILITY AND SECURITY OF THE ROMANIAN ARMED FORCES C4ISR SYSTEM

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INTRODUCTION

The world is going through a period of fundamental transformation in various sizes with an extraordinary speed. Changes in security environment and in modern physiognomy of combat actions by introducing new technology, smart weapons systems and platforms, of advanced sensors and digitization of the modern battle space are some elements that have profoundly changed the physiognomy of the military conflict in the XXI century.

Reducing staff numbers and military budgets, restructuring, reorganization, transformation, state of the art technique, professionalization, appearance of new risks and threats, increasing the share of military operations other than war leads to changing the concept of carrying military actions, appearance of new strategies, doctrines and new approaches concerning the forces training.

Digitization of modern battle space, modeling and simulation of combat actions, winning the information war, the network centric warfare are the goals of great powers with special effects on the appearance and evolution of the current conflicts.

Technology is rapidly disseminating the power to individuals and outside organizations and nations ready to use. This mode of change is both an important opportunity and a challenge for systems requirements definition and implementation of command, control, communications, computers, information, surveillance and reconnaissance (C4ISR).

1. C4ISR SYSTEM AVAILABILITY

To meet the challenges of various types of military actions and to ensure the functions incumbent, Romanian Armed Forces C4ISR system should be designed and structured to be stable in operation and to ensure the security of information circulating within it, as a fundamental condition to accomplish specific missions. Stable continuous and secure operation of the C4ISR systems of the modern battle space is a primary requirement for successful military actions. C4ISR systems stability can be achieved only through measures to optimize the organizational

structure but requires planning and implementation of a complex organizational, technical and software measures that ensure continuous and safe operation of the subsystems in terms of action or permanent threats of destabilizing external and / or domestic factors nature.

Determination of specific measures to ensure system stability requires addressing several issues, relatively distinct, including: continuity of command and control and ability to lead, reliable technical resources used and operational structures, sustainability of systems and elements of structure, stability to jamming and electromagnetic disturbances, equipment and elements of structure mobility.

Continuity of command and control processes is the system ability to exercise a permanent leadership on the subordinated force or has the tactical control to fulfill specific missions. This should be done at any stage of decision making and during the preparation and conduct of military actions, day and night, from the command posts, with the possibility of immediate takeover of the leadership of any specified place in the established order.

Reliability is the ability of machinery and software components to function properly without failure, a longer period of time and depends on the parameters of operation safety of each device, the structure adopted and the quality of the means equipping the system. Reliability of the C4ISR systems is ensured by designing subsystems and equipment in assemblies, so they have a low rate of disruptions in service, to allow implementation of error correction techniques and to provide opportunities for counter attacks.

In some documents it is estimated that communications reliability is identified by specific indicators, such as hardware and software reliability.

Hardware reliability refers to the components of the technical networks, as defined by the reliability of equipment used for fitting C4ISR system. This can be assessed according to the probability of operation without failure $P_f(t)$, the average operating time without fault T_m and the average time to restore functioning effectively T_r . In reality the occurrence of faults and equipment proper functioning are incompatible events, the probabilistic terms, can be expressed by the relationship between the probability of operation without failure $P_f(t)$ and probability of failure $P_d(t)$, as follows: $P_f(t) + P_d(t) = 1$.

Software reliability is defined as the probability that a program / product to function without error in a narrowly defined period and expresses the quality of services that used software products is produced both in the technical networks and for each machinery taken as a separate entity.

The main parameters of software reliability assessment are⁸⁶:

- probability of software errors in a given time, $R_s(t)$;
- mean time between software errors, T_m ;
- software error intensity (rate) in a specific time, $Z_s(t)$.

Systems and structural elements *sustainability* is their property to keep the ability to perform the functions provided, when dynamic changes in working conditions and deliberate action on the elements of their opponent in all C4ISR

⁸⁶ Catuneanu, V., Bacifarov, I., *Fiabilitatea sistemelor de telecomunicatii*, Editura Militara, Bucuresti, 1975, p.29.

system are produced, in specific time and limits. The main parameters that quantitatively sustainability can be assessed are: the probability of neutralization or destruction of the opponent by warfare, the likelihood of maintaining functional characteristics of the system components, the degree of neutralization (losses average level) of system elements (communications, computers and information).

Jamming and electromagnetic disturbance stability define the capacity of lines and means of communications, sensors and equipment to gather information that uses the electromagnetic waves as propagation environment, to work continuously and uninterrupted and to ensure timely and accurate transmission of information taking into consideration the existence of disturbing factors with the accidental action, internal and external, intentional interference executed by the opponent (paramilitary structures) or as a cause of electromagnetic waves propagation conditions change by modifying the structure of the ionosphere.

C4ISR system *mobility* characterizes the components capacity to be installed, moved in short time, and quickly changing its structure, in accordance with dynamics and character of military actions conducted by the various structures, to ensure information flows required to perform specific tasks.

One of the most important parameters of reliability is the availability of specific system / equipment.

Availability expresses the ratio of time when a service is operational compared to when is no longer available for any reason and is defined as the probability of a C4ISR system component to be functional and be able to provide services required when necessary. As the case of reliability, availability can be analyzed both at the component / subsystem level or to the C4ISR system level as a whole, and for a specific service provided by the system. C4ISR system *Availability (A)* is assessed as a function of two variables, expressing the percentage of the average time elapsed between two successive failures Tm and the average recovery of operational status and TmR can be calculated by the relationship:

$$\frac{Tm}{Tm + TmR} A = (\%) \quad (1.1)$$

Based on calculations made in this way we can identify solutions to improve the availability, using components more reliable (with a higher Tm) or improving procedures for maintenance (organizational, material stocks and personnel) in order to reduce the average time for restart the service of the component or system (TmR).

When referring to a service or C4ISR system the overall Availability is calculated from the amount of availability of individual components contained in the service or the operation of the global system. System / service is considered available when all the components involved are available, which means normally that the amount of system Availability is less than the one of the parts. Overall availability can be divided proportionately between capability elements (using a top-down approach) or can be calculated from the Availability of individual items (bottom up).

Individual items Availability values are determined from the value of availability known for certain individual items, taking into consideration the need to ensure global default value.

Starting from an Availability required value of 98% for a C4ISR system and considering that any failure or denial of service can be remedied in up to 4 hours, a 98% Availability can be ensured when the average time of occurrence of a new incident is 8.16 days according to:

$$T_m = 4 \times \frac{T_{mR} \times A}{1-A} = \frac{0,98}{1-0,98} = 196 \text{ hours} = 8,16 \text{ days} \quad (1.2)$$

To have a clear vision of how to ensure the availability of the system, it assumes that it must provide at least four basic services (voice, data, access to at least one server for information services, video teleconferencing) and to satisfy the minimum requirements of functionality.

Table 1.1 presents a list of values associated with user field components for T_m , T_{mR} and A taking into consideration the components necessary to provide voice communications service.

Table 1.1

Main element for service delivery	T_m (h)	T_{mR} (h)	Availability (A)
ISDN Phone	25.000	0,2	0,9999
Distribution boxes + cable	5.000	0,5	0,9999
Communications centers + fiber optic	40.000	5	0,9998
PABX	20.000	10	0,9995
Capacity management equipment	40.000	10	0,9997
System external infrastructure	5.000	10	0,9980
Management	20.000	1	0,9999

Based on values expressed in this table, that the availability to provide system voice communications for end user resulting from the multiplication of A values expressed namely:

$$A_{\text{voice}} = A_{\text{ph.}} \times A_{\text{distr. boxes}} \times \dots \times A_{\text{mgmt.}} = 0,9969 \quad (1.3)$$

Attainment of expressed values leads to ensure the desired stability of the system state. These can be obtained through a series of measures relating to:

- provide circuits redundancy / supplement for communications subsystems / computer networks that provides extensive networks support, and for standard equipment, duplication or securing components;
- use of stiffened equipment solutions at low coefficient T_m at the level of individual items;
- achievement of efficient logistic flow, providing the necessary expertise to enable in very short time and the specific components necessary to reduce T_{mR} and

system maintenance activities must be conducted according to projections that determine the time that might eliminate deficiencies or incidents affecting the assurance of a functional service. Thus, the average repair of faults for the entire system, subsystems, subassemblies or components isolated must be less than 60 minutes, and 95% of repairs relating to modular deployable / transportable must take place in 30 minutes;

- reliability and general availability of C4ISR system so that, through specific activities (such as managerial, technical and logistical), any services become unavailable to be restored within 30 seconds;
- ensuring a high degree of standardization and interchangeability between the mechanical and electrical subsystems, subassemblies and components, both within the defined network configuration centers in C4ISR system infrastructure, and between them, allowing replacement of defective components without requiring electrical and mechanical adjustments;
- the new hardware items, subsequent versions of software and firmware updates should not affect interoperability of services and applications implemented in the current system, and also, should not require reorganization of logistics support system.

Assurance of stability and availability in the C4ISR system is a key objective for the whole lifecycle of its overall capacity, which influence the requirements definition stage, the concept of use, design, manufacturing, development, testing and experimentation, planning and entry into service until its replacement.

2. TRANSMISSION CAPACITY OF THE STRATEGIC INFORMATION NETWORK

Information is the main resource and a key instrument in facilitating the exercise of command. Effective and efficient information management is a critical success factor in achieving the objectives set for the mission accomplishment.

Information management objectives are⁸⁷:

- support in achieving information superiority in a distributed environment network enabled;
- support effective and efficient use of information resources to conduct missions;
- support in identifying and preserving information as the permanent value of an organization.

Information is a global resource and at organizational level must be controlled and organized throughout its life cycle and effectively used as an element of support for mission execution, consultation, decision-making processes and the development of operational requirements. Information should be used by weighing the "responsibility to share" and the principle of "need to know" to facilitate the appropriate access to it, optimize distribution and reuse through eliminating duplication, ensuring secret protection in accordance with legal and security directives.

⁸⁷ *Primary Directive Information Management*, International Military Staff, NATO HQ, Brussels, 2008, p.1-5.

The conduct of modern war, mainly information, required to achieve new C4ISR systems to be able to provide optimal conditions for transmission of large volumes of information presented in various forms (voice, facsimile, data, images and video).

The general characteristics required for communications and information systems organization are⁸⁸:

- ensuring sufficient support communications centers and radiorelay with various options for routing traffic to provide established communications services under the conditions that are put out of service up 50% of centers and main lines;
- technical equipment should be concentrated in support communications centers and mobile networks distributed throughout the area of interest;
- provision of voice, facsimile, data and low speed video transmission and communications for friend-foe identification and global positioning in battle space;
- ensuring the flexibility of resources and the possibility of their deployment according to the situation;
- transmissions security should be done line by line through bulk encryption, multi-channel, duplex, on the trunk with 256, 512, 1024, 2048 Kbps or greater streams, EUROCOM standards and security between terminals connected through single channel, will be provided according with national requirements or based on bilateral agreements between NATO member countries.
- connection between subscribers is established automatically, without requiring knowledge of their disposal sites;
- transmission and digital signals switch (Delta modulation) between support communications centers on 16 Kbps channel speed;
- trunk main group will be composed of 16 channels (16 x 16 Kbps = 256 Kbps) and for international needs is allowed to form other main groups composed of multiple modules (512, 1024, 2048 Kbps, etc.);
- service channels for system management are encrypted in accordance with EUROCOM standards;
- adopted communications structure should provide equipment and personnel protection against any physical attack.

Information flows have maximum value in communications support networks and networks in the command posts. In the C4ISR communications support network all information flows and interconnecting lines on trunks have a volume of about 360-468 Mbps (180-234 lines x 2 Mbps) and in the command posts networks maximum traffic is determined mainly by volume of information conveyed through computer networks. The characteristic feature of these flows is the numerical form transmission, bit oriented, which differ essentially from analog flows⁸⁹.

⁸⁸ EUROCOM D/0, *Tactical Communication System. Operational Concepts and Requirements*, Brussels, 1994, chapter. D, p.1-4.

⁸⁹ Timofte, G., Tudose, E., Constantin, G., *Protectia informatiilor în sistemele de comunicatii militare moderne*, Editura Inedit, Bucuresti, 2006, p.24.

National Military Communications Network (NMCN) provide communications and information support for a number of programs such as ASOC (including connecting to sensors, air bases, ground-air missiles, electronic war units), ADAMS, AILS, Integrated Meteorological System, military intranet etc.. and long-range multi links for interconnection of tactical level networks. The network is based on military radiorelay lines of 34.2 Mbps 2 working on frequency bands of 1,35-2,75 GHz, 4.4-5 GHz, 7.75-8.5 GHz, 37-39 GHz, leased flows of at least 2 Mbps from SNTc Romtelecom SA and rented satellite channels (1 Mbps) from RARTEL SA and 64 Kbps from the Italian Defense Ministry. Each site is equipped with one voice and digital data circuits switch and the basic element has a X.25 packet switch. NMCN is a network based on EUROCOM standards and is equipped with UIT-T compliant interfaces, EUROCOM and STANAG for high level networking and interoperability with other commercial and tactical mobile networks.

Information has had always an important role for the victory and due to the fact that we are in the communications and information technology age the war is increasingly focusing on this technology in the production, transmission, processing and storing it.

Lack of information integration for Ministry of National Defense, based on security, access and types of details levels, is the main element that reduces the control and speed of response to any internal or external application.

3. OBJECTIVES, MECHANISMS AND INFORMATION SECURITY TASKS FOR THE ROMANIAN ARMED FORCES C4ISR SYSTEM.

Security entity is generally defined as all measures and means to ensure all conditions necessary to support it to meet its objectives for which it was created.

Usually, the information security means ensuring its confidentiality (secret enable). The concept has "historical" roots and is circulated in both civilian and in military environments. Representation is restricted and is not "productive" for the society information processing based where can cause greater damage than by affecting the availability, integrity or their authenticity. It can be said that generally, the availability of information is much more "productive" than its confidentiality production and require protection with priority.

In principle, information security can be defined as: "an information is secure (protected) by ensuring: the availability, confidentiality, integrity, authenticity and non-repudiation of it so far is necessary for the entity that created it or those that is using"⁹⁰.

Information security is an important component of Network Centric Warfare and NATO Network Enabled Capability conceptual framework, implicitly for the Romanian Armed Forces C4ISR system and is generally meaningless to be treated separately. Information security management is done by permanent security mechanism and aims to ensure the protection of information flows within the

⁹⁰ *Securitatea informatiilor*, Centrul de Expertiza în Domeniul Securitatii, Bucuresti, 2008, p.1.

organization and exchange of information with outside to ensure the optimal framework for the planned objectives.

Security requirements are based on the methodic analysis of the risks, vulnerabilities threats evaluation and their impact on our networks functionality.

C4ISR system security threats can have the following origins: disaster or natural calamity, failure of equipment, human error operation or manipulation, fraud. The first three types of threats are accidental, while the latter is intentional. Some system security studies estimate that half of the incidents cost are due to deliberately destructive actions, a quarter due to accidental disasters and a quarter due to human errors. The last category can be avoided or, finally, compensated by a better enforcement of safety rules.

C4ISR system protection is essential for each own structural element and objectives in this regard are: prevention actions against the system, reduction of vulnerability to these attacks, minimizing the damage and recovery time following the attacks.

Security information conveyed in C4ISR systems are based, in principle, by the definition and implementation of security services to meet operational requirements and the selection of appropriate security mechanisms, to be able to perform the necessary services required by the quality level imposed by the risk analysis.

The main security services are: authentication and identification, confidentiality, availability, integrity and non-repudiation.

Information security mechanisms that support the services listed above are: access control, encryption, protection of the outer boundaries, intrusion detection, filtering, virus protection, firewall, backup solution (replication), solutions to eliminate the effects of attacks and recovery of working processes, solutions for activities monitoring, digital signature, virtual private network (VPN).

The main security services together with mechanisms that can be used to ensure them are presented in table 3.1.

Table 3.1

Service	Mechanism
Authentication and identification	Encryption (digital signature)
Confidentiality	Encryption (link, bulk, E3) Access control (MAC / DAC)
Integrity	Digital signature Access control (MAC / DAC)
Availability (Service denial)	Encryption (link, bulk, E3) Digital signature Access control (MAC / DAC)
Non-repudiation	Encryption (digital signature)

Authentication is the mechanism by which a user shows that is exactly who says that. Systems and computer networks need mechanisms to confirm that

identification of the individual is made real. In the past, identification was done by simple password systems, but they proved to be ineffective against hackers today. Identification is the process by which an entity is already checked to obtain authorized access to the resources of the C4ISR systems connected. The strong identification and authentication techniques depend on encryption and digital signatures.

Privacy Services ensures that data will not be accessed, viewed or made available to unauthorized users even if they are stored on a workstation, a server or are in transit over the network. Privacy requirements are met by using access control mechanisms to computers and data encryption during the time they are in transit over the network and sometimes they are stored on disk. There are many different types of encryption, including encryption of communications, volume encryption and sensitive data encryption volume during the entire route from one end to the other (E3).

Services ensure that data integrity will not be altered or destroyed by an accidental or unauthorized action. The mechanisms used to protect the integrity of the messages include message packing, encryption and access control. Messages packing is a technique throughout a created "checksum" based on one-way functions, which are attached to messages. Encryption, in general, can be used to ensure the integrity requirements because it is almost impossible for an adversary to change the data to a significant extent as long as they are encrypted.

A special encryption technique is digital signature and access control allows only authorized persons to enter the system.

Availability is essential at the functionality level of C4ISR systems and quality of services provided by them, aiming to ensure the necessary conditions for retrieval and use, whenever necessary, with strict conditions of confidentiality and integrity of information circulating in the system. Again, encryption is used to prevent attacks against networks and access control is used to prevent unauthorized access.

Non-repudiation is a service which allows not a user, participating in the exchange of information, to not recognize that he was the initiator of that message or he didn't receive it, if that was the receiver of the message. The digital signature provides a powerful technical solution to this requirement.

The level of protection a system can afford depends on the value of the information contained or conveyed through that system, or the functions they must provide. In most military systems, this value is given by the category of secret information circulated through the system, and the category of military missions. The minimum level of security services that must be provided in modern armed forces C4ISR systems is determined by the OSI⁹¹ reference model architecture of open systems in relation to the structures provided. The methods of providing security services are presented in table 3.2.

Table 3.2.

⁹¹ NATO Interoperability Standards and Profiles, version 2, NC3B, Brussels, 2008, vol.2, p.3.

Security Service		Used security mechanisms							
		Encryption	Digital signature	Access control	Data integrity	Exchange authentication	Traffic lock	Routing control	Notification
Confidentiality	With connexion								
	Without connexion								
	Partially selective								
	High importance traffic								
Integrity	Connexion with transmission resume								
	Connexion without transmission resume								
	Without connexion								
Authentication	Entity approved								
	Data Origin								
	Access Control								
Non-repudiation	Source of origin								
	Recipient (delivery)								

On short term system security require compliance attributes of integrity, availability and confidentiality but on medium term requires the protection of the institution's values and assurance of the services continuity through prevention, protection, reaction and revision measures.

C4ISR systems service oriented architecture will provide access to workstations in a variety of facilities, starting from a database access to ability to redirect a sensor or steer a rocket. In this context, the smooth conduct of the business of providing technical systems security requires the existence of an up and running information system.

CONCLUSIONS

Beyond the simple requirements of modern development and integration of new technologies, the future Romanian Armed Forces C4ISR system should solve two categories of problems: availability of information necessary for such structures and assurance of adequate information. Quality of information is crucial, because all processes of C4ISR systems depend on accurate perception of the military situation and the creation of an information sharing system for all structures involved in the action.

At the same time, ensuring information is essential for the C4ISR functionality. If enemies are able to obtain or denaturize information in our C4ISR system, may affect the processes of making and implementing decisions, with dramatic negative effect on the forces and means. Therefore, data integrity and information systems security becomes a key concern and a major goal on further refinement of the Romanian Armed Forces C4ISR system.

Introduction of C4ISR solutions will develop operational capabilities allowing staff and technical systems used in military actions (e.g. decision makers, information systems and performers), to cooperate as necessary, using the federation of networks. In this way, staff can act as one combined, joint force networked connected with access to all relevant information and facilities.

Finally the main objectives which contribute to fulfill the goals pursued by the transformation processes are decision superiority, information superiority and network enabled capabilities⁹².

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