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The Tanks of August

Collected Articles

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A compendium of articles prepared for the first anniversary of the armed conflict between Russia and Georgia that took place from 8-12 August 2008.

The first article is devoted to Georgia's efforts under President Saakashvili to build up its military forces, and it contains a complex description of the basic trends in Georgia's preparations for war.

A detailed chronology of military operations is the second and essentially the central body of material. Various sources are drawn upon in its organization and writing - from official chronicles and statements by top ranking figures, to memoirs and the testimony of participants on both sides of the conflict, materials on the Internet. The chronicle provides a detailed review of all the significant combat operations and episodes.

The third article in the compendium deals with military development in Georgia in the period after August 2008 and what constitutes the military situation and balance of forces in the Transcaucasus at the present time.

The other three articles examine several special aspects of the Five-Day War - losses suffered by Georgian forces in the course of military operations, the losses of Russian aviation in the war; the task of setting up Russian military bases in the territory of Abkhazia and South Ossetia, which Russia recognized as independent states.

The appendix to the collection presents short summary data about Georgia's purchase of basic types of heavy weapons and military hardware during the period 2000-2008.

Photograph on the cover: Russian tank column in South Ossetia, August 2008
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Foreword

Mikhail Barabanov

The present collection of articles was written for the first anniversary of the armed conflict between Russia and Georgia that took place from 8-12 August 2008 and has already received the name of the Five-Day War. Brought about by the attempt of Mikhail Saakashvili, the ambitious nationalist president of Georgia, to wage a "Blitzkrieg" with the goal of conquering South Ossetia, which had declared its independence, the conflict led to the military intervention of Russia, which acted in the capacity of the guarantor of peacemaking in this region. As a result, this became the first "official war" between Russia and one of the former USSR republics and the first large-scale use of Russian armed force beyond the borders of the territory of the Russian Federation since the involvement of the 201st Motor Rifle Division in the events in Tajikistan during the nineties.

The August war between Russia and Georgia had and will continue to have the most varied and long-term political and military consequences. Without going into political problems, the present collection of articles sets as its goal that of reviewing a number of specific military aspects of the armed conflict that occurred.

For several reasons the Five-Day War is of special interest from a military perspective. In the first place, it was a demonstrative and comprehensive test on a large scale of the combat readiness of the contemporary armed forces of Russia. Although from the position of untutored foreign observers the war appeared to be a rapid, massive, and decisive engagement of the Russian army and successful destruction of the Georgian armed forces, in fact, however, it was completely clear that the experience of the use of Russian armed forces in the conflict was regarded by the military-political leadership of the Russian Federation as sufficiently contradictory to lead as a result, to a new stage of radical military reform in Russia by early fall 2008 with the goal of rapidly bringing about a "new image" of the armed forces of the country, one that was oriented primarily toward involvement in local conflicts in the territory of the former USSR.

Secondly, the August war also became a unique test of one of the most curious experiments in the realm of military development in the post-Soviet area – the attempt by Mikhail Saakashvili to create contemporary combat-ready armed forces in Georgia on the Western model. The
Saakashvili regime tried to do this by way of a massive upsurge in Georgia's military expenditures to levels unprecedented not only for the former USSR, but in fact for the contemporary world (on the order of 8% of GDP for the republic in 2007–2008 – only Saudi Arabia, Oman, Jordan, and, evidently, the Korean Peoples Democratic Republic currently spend a comparable or greater proportion of their national wealth for military purposes) to overcome the paradigm that is fundamental for all post-socialist countries of chronic under funding of the defense sector, thus paralyzing any effective military buildup. Having obtained by means of a sharp increase in the military budget, the needed financial resources and relying on broad Western assistance, the Saakashvili government tried in many respects to mold a basically new Georgian army "from scratch," an army based on a complete acceptance of Western standards of organization, recruitment, training, and tactical application. The principal mission of this army became the restoration by force of arms of the breakaway autonomous regions of the former Georgian Soviet Socialist Republic to the control of Tbilisi -- Abkhazia and South Ossetia --, and it was precisely for the "return" of South Ossetia that the Georgian army was thrown into battle in August 2008.

The first article in the collection is devoted to the experience of the military buildup in Georgia under Saakashvili. The article contains a quite complex and curious description of the basic trends of Georgia's preparation for war in its military-organizational and technological aspects.

It is necessary to draw readers' attention to a number of aspects of Georgian military development that certainly arouse interest for other post-Soviet states, including Russia. It is impossible to overlook the fact that Saakashvili carried out military policy and the reform of the Georgian armed forces in a highly purposeful and logical manner, in many cases (material provisions for the military, construction of housing, creation of contemporary military bases, transition to a voluntary system of recruitment) showing a concern for the armed services. Western influence on the Georgian defense buildup was expressed among other things in the seemingly completely correct orientation toward primary investment in personnel and "human capital," without the traditional contempt of this side of the military system from which the Russian army still suffers chronically. Finally, the Georgian defense establishment is the first in the post-Soviet region (with the exception, perhaps, of what remains of the very weak armies of the Baltic republics) also to try to accomplish the transition to re-equipment of the material sector on the basis of Western standards. The first article of the compendium, however, exposes the popular myth that Saakashvili conducted the ambitious military buildup principally with means provided by foreign (basically American) military aid – on the contrary, it is quite obvious that since 2006, Georgia for the most part expended its own national wealth on preparing for war with its former autonomous regions.

At the same time the sad results of August 2008 for the new Georgian army demonstrated the substantial persistent limitations of the military buildup in Georgia, which for the time being had not led to the creation of a genuinely effective military machine despite the abundance of money and extensive Western aid that Georgia had received. Regardless of Saakashvili’s day-dreams about a "European future" for his country, the Five-Day War graphically showed that Georgia, in fact, was more a "Third World" country with a typical "Third World" army -- even though it was clothed in Western uniforms and armed with American M4 rifles, it suffered from a low level of self-organization and self-discipline, low morale, pervasive corruption and nepotism, a low level
of education, deficits of trained cadres, and the absence of a national military school and traditions.

The situation is enhanced by well-known characteristics of the Georgian national mentality and problems of adequate self-evaluation that are obvious to Georgians. Indeed, it was the extreme narcissism of the Georgians, their megalomania and contempt for neighboring peoples, the Georgians' hypertrophic passion for a brilliant external facade in so many things that appear to have contributed to the rise of Saakashvili's extremely exaggerated conception of the military potential of the army so cherished by him, and to have led to the fateful decision to commit it to battle. Finally, the rapid growth in numbers of the Georgian armed services under conditions of the most acute deficit of trained and ready cadres led to the fact that Georgia's problems with its enlisted troops seemed hardly capable of resolution in principle. No kind of preparation kept pace with the numerical growth of the army -- a challenge with which, as military history shows, even the armies of great powers frequently do not cope.

Meanwhile, it is unclear whether Georgia will be able in the foreseeable future to overcome the stated limitations on the development of its military potential, which go back to the poverty and backwardness of the republic as a whole and are rooted in the hard-to-correct Georgian national mentality. Furthermore, the world economic crisis worsens the economic situation of Georgia, and Western nations thus far have evinced obvious caution in providing military assistance to Georgia owing to fear of being drawn into another military adventure, fraught with further harm to the relations of the West with Russia, by the exalted and barely manageable president in Tbilisi. Nevertheless, one should not forget for a minute that Georgia continues to remain a breeding ground of instability, potential aggression, and war throughout the Caucasus, that the Georgian military buildup bears an openly "revanchist" character, and, at the same time, the continuing active development of the Georgian armed services in the period following the Five-Day War has an increasingly anti-Russian orientation now directed not so much at the goal of recovering Abkhazia and South Ossetia by force of arms, as at direct resistance to the military potential of Russia. Meanwhile attempts are being taken in Georgia to take account of its negative experience of August 2008 in the military sphere. Simultaneously the realization is continuing of programs (including programs for the acquisition of armaments and war fighting technology) that were launched as far back as the period before the Five-Day War. One may firmly declare that in many aspects the integral military potential of Georgia has only grown larger over the past year. The third article of the compendium is devoted to military development in Georgia in the period following August 2008 and the military situation and the balance of military forces, which has developed in the Transcaucasus at the present time as a result of the war.

The second article, in essence the central, substantive material of the compendium is an exceptionally comprehensive and detailed chronology of the Five-Day War in August 2008. Without exaggeration, this is unique information in the preparation of which a mass of diverse sources of the broadest possible origins was made use of -- from official chronicles and statements of top-ranking officials, to the memoirs and testimony of participants in the conflict on both sides and various Internet materials. The chronicle presents a quite detailed overview of all significant combat operations and battle episodes in August 2008. In addition, it was compiled on the principle of a painstaking comparison and revision of sources on both the
Russian and Georgian sides, which advantageously distinguishes the present information from most of other similar domestic publications.

The chronicle provides a detailed picture of the combat units and subunits of the forces on both sides that were brought into play in the Five-Day War, including the time of their arrival in the zone of combat operations and how they were used tactically. The information in the chronicle clearly refutes official Georgian statements about the supposed beginning of combat activities by the Georgian side on 8 August 2008 in response to a certain prior massive incursion by Russian troops into South Ossetia. Besides, it seems that even his most zealous Western patrons no longer believe this and similar insinuations by Saakashvili.

Three other rather short articles in the collection about special aspects of the Five-Day War are interesting.

The article about the losses sustained by Georgian forces in direct military action refutes the widespread view of a supposed rout of the Georgian army at the moment of the cease-fire on 12 August. One should characterize the actual losses on the Georgian side in terms of manpower and equipment at that moment as relatively small, which is tied to the headlong flight of the Georgian forces, in the face of the rapid build-up of Russian forces, after only a few skirmishes with Russian units. To be sure, Georgian troops were quite demoralized by 12 August, yet they preserved the foundations of their military potential, which could create the condition for their exploitation in the capacity of a political factor. In light of this, it is impossible not to acknowledge as very correct the ensuing actions of the Russian side to "demilitarize" Georgia, to occupy and incapacitate the largest and newest Georgian military bases in Gori and Senaki with the massive seizure of weapons and military hardware that were located there, to destroy the Georgian navy in Poti, to conduct raids deep into Georgian territory. All of these operations not only deprived Georgia of a substantial part of its military potential; it completely humiliated and demoralized the Georgian army, clearly demonstrating to the Georgian people and the world community who was really the victor in the Five-Day War, thus pulling the rug out from under Saakashvili's propaganda concerning the supposedly "successful repulse of Russian aggression."

In the most convincing manner, Russia demonstrated by its military operations in the period after 12 August its firmness and its power, which always produces its expected impression on the Caucasian and Eastern peoples, including the Georgians. It showed who the true hegemon in the Transcaucasia is.

The article about losses of Russian aircraft during the Five-Day War sheds light on the composition and circumstances surrounding Russian Air Force losses in this conflict. The information, compiled on the basis of scrupulous study and comparison of sources from both sides, demonstrates the ineffectiveness of the Georgian anti-aircraft defense system and leads to the conclusion that the basic source of Russian losses in the air was erroneous "friendly fire" from their own troops. This situation poses questions about the level of coordination and interaction among Russian forces in combat operations in August 2008.

Finally, one other contribution is dedicated to the stationing of Russian forces on military bases in the territory of Abkhazia and South Ossetia, recognized by Moscow as independent states, in the period after the Five-Day War.
In the appendix to the collection, a short summary data is presented about purchases by Georgia of basic types of heavy armaments and military hardware in the 2000-2008 period. Initially, we had planned to publish in the compendium a separate extensive article, "How Georgia Armed Itself," devoted to the acquisition of arms by Georgia in the period 1990-2008; in the process of research and writing, however, the material turned out to be so vast and multidimensional that the AST Center reached the decision to issue "How Georgia Armed Itself" as a separate publication in the future.

Taken as a whole, the contributions to the compendium caution us against excessive overvaluation and euphoria in relation to the success of the operations conducted by Russian forces in the Five-Day War of August 2008, as well as against underestimating the danger of the Georgian military threat and Georgian military preparations in a foreseeable perspective. Georgia continues to arm itself, to pursue an aggressive, hysterical anti-Russian policy, and remains a source of direct and immediate threat to Russia's national security. The armed forces of Russia must be ready in the event of a need to shatter the military potential of Georgia decisively and to do this more effectively than in August 2008.
The Reform of the Georgian Army Under Saakashvili Before the Five-Day War of 2008

Vyacheslav Tseluyko

A Short History of the Georgian Army After 1991

The contemporary Georgian army had its beginning under the USSR with the creation of the Georgian National Guard on 20 December 1990. On 30 April 1991, conscription into the National Guard was declared, and this date is celebrated today as the Armed Forces Day of Georgia.

In the early 1990's, the National Guard conceived of itself as a voluntary formation, many members of which, including officers and even the commanding officer, Tengiz Kitovani, had no specialized military education. This, by the way, did not prevent some of them from later occupying high positions in the contemporary Georgian Army; for example, both deputy commanders of Joint Staff in August 2008 -- G. Tatishvili and A. Osepaishvili -- were former National Guard members, who did not have a military education before entering its ranks. As with many similar military formations in the world, the Georgian National Guard suffered from a shortage of professional cadres and poor discipline. The National Guard was subsequently integrated into the structure of the Georgian Ministry of Defense, but at this time the Georgian-Abkhazian war of 1992-1993 was ending, and this process was just beginning.

The Ministry of Defense itself was created in 1992 when Georgia had already gained its independence. In the spring of that year, its structure was complemented by the formation of the 11th Brigade (1st Brigade of the 1st Corps). Among the structural elements of the Georgian Ministry of Defense in the war in Abkhazia, the 2d Corps, especially its 23d Mechanized Brigade, which consisted primarily of local Georgians, took the most active part. Aside from units and subunits of the Ministry of Defense, representatives of other Georgian power structures, first among them the MVD, also participated in the military operations in Abkhazia.

Non-state volunteer armed formations, primarily the "Mkhedrioni" of Dzhaba Ioseliani, were important elements of the Georgian military organization in Abkhazia in 1992-1993. A low level of discipline was characteristic of them to an even greater degree.

It is worthwhile mentioning separately the Zviadist formations -- supporters of the overthrown first president of Georgia, Zviad Gamsakhurdia. The relationships of these military formations

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with the agencies of the state during the war in Abkhazia were ambiguous in nature -- ranging from cooperation to armed rebellion in the final days of the defense of Sukhum.

All in all, the basic factors that characterized the early 1990's, negatively influenced the course and the outcome of combat operations for the Georgian side in Abkhazia in 1992-1993, were: the lack of a united military organization capable of concentrating forces and resources on the principal issues, namely, "atamanshchina" and the Zviadist uprising.

After the defeat in Abkhazia and the end of the civil war, the process of reforming the Georgian military organization was activated. As a result of the defeat of the Zviadist formations in the civil war, the disbanding of the "Mkhedrioni," and the establishment of partial state control over the other non-state armed units (the "White Legion," "Forest Brothers," "Hunter"), "atamanshchina" was significantly weakened -- and finally liquidated under Saakashvili. The integration of the National Guard within the structure of the Ministry of Defense was intensified, which in the final analysis led to limiting the functions of the National Guard within the framework of the Ministry of Defense to the training of reservists and helping with mobilization measures as well as assisting the civil administration in resisting and liquidating the consequences of social unrest, natural, and anthropogenic disasters.

Nevertheless, a number of factors exercised an extremely negative influence on the process of developing the Georgian army. One of the main issues was the low level of funding for the Ministry of Defense. Even in 2002 the Georgian military budget amounted to only 36 million lari,\(^4\) and in 2003, 60.9 million lari.\(^5\) As a result, the pay of military and civilian employees of the Ministry of Defense was low, the satisfaction level of military personnel low, and the technical backwardness of the Georgian army led to a low level of combat readiness. Likewise, deserving of mention is the high level of corruption among a number of Georgian military figures, the ambiguity of the attitude of Aslan Abashidze, the leader of Ajaria, toward official Tbilisi, as well as doubts about the loyalty to the central authorities of the power structures located in Ajarian territory. We need to list among the positive processes in the last years of the administration of Eduard Shevardnadze, the intensification of military aid on the part of foreign states. The American program, "Georgia Train and Equip Program, GTEP," carried out from April 2002 through April 2004, needs to be singled out. In the course of this program at the price of 64 million dollars, three light infantry battalions of the 11th Brigade (now the 1st Brigade, Gori), the 16th Mountain Battalion of the National Guard (a mountain school was founded at its base in Sachkher), and a combined mechanized regiment (created out of the headquarters' company, the tank company, the mechanized company, and subunits of engineers and the 120-mm mortars).\(^6\) According to data of the Georgian Ministry of Defense, three battalions of the 1st Brigade -- the 21st Battalion of the 2d Brigade, and a tank battalion -- were trained for a total of 2,702 troops within the framework of the GTEP program (one may assume that the 21st Light Infantry was based on personnel of the 16th Mountain Battalion, and the mechanized company, taking account of its manpower, was completely justified in being called a

\(^4\) Ibid.
battalion). Despite the fact that the program was completed on 24 April 2004, that is, under Saakashvili, Shevardnadze and his military advisors should receive credit for it. Foreign aid in the training of the Georgian military was not limited to the training of infantry subunits. Of no less significance, was the training of Georgian officer cadres in foreign military colleges, primarily German, U.S., Turkish, and Ukrainian. Among Georgian officers who underwent such training under Shevardnadze are a number of the highest-ranking leaders of the current Georgian defense establishment.  

Aside from assistance in the training of the Georgian military, foreign states provided assistance to Georgia in the form of armaments and military equipment. Thus, one should single out the transfer of motor transport vehicles and 10 Bell UH-1H helicopters (four of them in the capacity of a spare parts reserve) on the part of the United States, two of the same helicopters by Turkey, and the receipt of 10 L-29 trainer aircrafts and "Tbilisi" missile boat of project 206MR from Ukraine. Altogether, the last years of Shevardnaze's administration were marked by the qualitative growth of the Georgian army, but this process continued on a significantly larger scale under Saakashvili.

Goals, Tasks, and Priorities of Developing Georgia's Armed Forces Under Saakashvili

Speaking of the structure and dynamics of the Georgian military in the "pre-August" period, we should stop in advance to examine the goals and missions, which were officially advanced by the Saakashvili regime in the area of force development. After Saakashvili and his team came to power at the end of 2003, a number of conceptual documents and programs were adopted that to one degree or another illustrate this question. Among them, the following deserve emphasis: Georgia's National Security Concept, NSC, Threat Assessment Document, TAD, National Military Strategy, NMS, Strategic Defence Review, SDR, Vision of the Ministry of Defense for 2008-2011, and MV. These documents were put into effect for only a few years (2005-2007), and in connection with this, a certain evolution of view on the goals and missions of the Georgian defense establishment, as well as on threats to the Georgian state on the part of state and non-state actors can be observed. Furthermore, certain amendments were introduced into the documents themselves in connection with the new outlook on the situation by the Georgian defense and political leadership, which will be addressed below.
The first conceptual document adopted was the NSC, which bore a global character and dealt not only with military matters, but also with values, politics, economics, ecology, and culture.

The following were declared to be among the fundamental interests of Georgia:
- ensuring the territorial integrity of Georgia
- regional stability in the Caucasus and the Black Sea basin
- ensuring the role of Georgia as a transitional state

Concretization of the missions facing the Georgian defense establishment was accomplished in the NSC by defining the basic threats to national security, namely:
- a violation of the territorial integrity of Georgia, under which was understood to be the existence of quasi-state formations in the Republic of Abkhazia and the Republic of South Ossetia
- a spread of conflict caused by neighboring states, primarily republics in the Russian North Caucasus area
- military aggression by foreign states (considered improbable by the authors of the concept) or by non-state actors (more likely)
- diversionary actions and acts of terror, primarily against infrastructure targets such as gas and oil pipelines, but also against representatives of foreign states
- smuggling and transnational criminal activities
- military bases of the Russian Federation in Georgia would pose a short-term threat until they were completely withdrawn

As a whole, the TAD and NMS documents repeated the list of basic threats to Georgia's security. As a supplement to the NMS, a threat was alluded to not only from Russian military bases, but also from Russian peacekeepers in Abkhazia and South Ossetia. In the new variant of the TAD passed in November 2007, mention was made of a lowering of the probability of large-scale aggression against Georgia; apart from other reasons, the closing of Russian bases in Georgia clearly had its influence on this.

The SDR, published in 2007, concretized the dependence of force development on threats, chief among which were:
- full-scale aggression against Georgia (the low probability of this was underlined)
- renewal of military action on the territories of the former autonomous regions of the Georgian Soviet Socialist Republic
- a spread of the conflict from the territory of the North Caucasus
- a spread of the conflict by states in the South Caucasus
- international terrorism

At the same time, military planning would have to proceed from recognition of the most likely threat and its most severe consequences. In the course of the 2007-2012 period, the most likely threat was declared to be a renewal of armed hostilities in the territories of the former autonomous regions, and most dangerous -- full-scale aggression. In the 2013 through 2015 period the most likely threat was considered by the SDR authors to be the threat from international terrorism, and most dangerous was spread of the conflict from the territory of the North Caucasus -- under the condition that at this time, conflict with the former autonomous
regions would be regulated by their peaceful integration into the structure of the Georgian state, and significant integration of Georgia into the NATO structure would protect it from full-scale foreign aggression, whereas in the opposite case planning would have to proceed from the threats of the previous period.

Two points need to be stressed. First, despite focusing attention on the improbability of large-scale aggression against Georgia on the part of a foreign state (read: Russia), preparation for just such a development of events was more than considered in the military buildup of the Georgian army, which was also reflected in practical activity; this will be addressed in the next section. In the second place, joining NATO was looked upon as a guarantee against aggression of this kind, which was also reflected in earlier conceptual documents (NSC, NMS). Thus, apart from a cultural orientation towards the West, the desire to join NATO also rests on a material basis -- the limited nature of Georgian resources negatively influenced the ability of the Georgian armed forces to resist full-scale aggression on the part of a much larger state, a description that would fit Russia. This found expression in corresponding documents (NMS).

It is necessary to point out that at that time demands were placed on the Georgian defense establishment to conduct combat operations both in the framework of coalition forces and independently, including repelling aggression by a foreign state. Therefore, the decision on the task of integration into the military structure of NATO by adapting the Georgian army to actions as part of NATO forces in various operations beyond the borders of Georgia required the reconfiguration of the country's armed forces in a direction opposite to the requirements of self-sufficiency. The negative consequences of this contradiction were intensified by the finite nature of Georgian resources.

So, participation in operations under the aegis of NATO requires that the Georgian army reorganize into quite compact professional forces of high mobility that are relatively lightly armed and unified to a higher degree with the armies of NATO. In addition, the very participation of the armed forces in such operations requires definite material resources, which otherwise could be spent on other programs. Moreover, as the authors of the Georgian conceptual documents in the sphere of national security pointed out, a threat from international terrorism would directly relate to the participation of Georgian troops in American and NATO operations. NATO recommendations exercised substantial influence on the authors of the SDR. In accord with the present work, Georgia's armed forces would have to be transformed by 2015 into a small, lightly armed army, which would not correspond with the requirements of Georgian self-sufficiency.

Achievement of the basic tasks (participation in combat operations in the event of an escalation of conflict in the former autonomous regions and in repelling aggression by a foreign state) independently demanded of the Georgian armed forces the capability of exploiting its quantitative superiority (in manpower and military hardware) over the Abkhazian and Ossetian power structures in conventional and counterinsurgency warfare, for which it was essential to increase the numerical strength of the professional regular army and the quantity (and quality) of its heavy armaments, as well as have the services of a numerous and adequately trained reserve.
Potential aggression by a more powerful foreign state, likewise demanded a professional army and a large reserve (creation of an effective reserve was taken into account in the 2006 amendments to the NSC in context of the concept of "total defense"), corresponding weapons systems (for example, PVO), as well as the capability of waging partisan warfare against a stronger opponent (the last requirement was reflected in the NMS). Thus, it was pointed out in the last document that the basic tactical subunit of the Georgian army -- the light infantry battalion -- should be able to conduct classical combat operations as well as partisan warfare ("unconventional" in the original) under autonomous conditions, but in the context of a common strategy (the so-called "net war"), for which its personnel must be trained accordingly. The requirement that regular (and in part reserve) units be capable of conducting partisan warfare is conditioned by the specific Georgian view of defensive warfare against a stronger opponent. Considering the small dimensions of the country and the negative experience of conflicts early in the 1990's, when the recovery of lost territory stretched out for many years with uncertain chances of success, the authors of the NMS considered it unacceptable for Georgia to make a strategic retreat while leaving parts of national territory in the hands of the opponent. That is why units located on the invasion routes of superior forces of an opponent are required to make the transition to partisan warfare in occupied territory. At the same time, the best means against large-scale aggression was considered to be the creation of conditions under which the potential aggressor would suffer perceptible losses with uncertain chances of success, and thus, would be restrained from attacking.

In general, the missions of the Georgian armed forces were defined by the NMS in the following manner:

- defense, in the broad sense, including the defense of the territorial integrity of the country, which also presumes offensive operations against the former autonomous regions
- preventing and forestalling potential aggression
- high level of readiness in the armed forces to react to threats to national security
- international military cooperation both with NATO structures and on a bilateral basis

This document also presented requirements put forward for the Georgian armed forces:

- flexibility in use (capability of units to resist various threats: from aggression by another state to struggle with non-state actors and liquidation of the effects of natural and anthropogenic disasters)
- capability to conduct operations with the involvement of different types of armed forces and arms of the service
- compatibility with NATO organizational structures
- qualitative operational planning
- support of civilian authority
- high level of informational and intelligence support

In the SDR, the priorities for the development of the armed forces of Georgia are defined until 2015. The following relate to them:

- raising the mobility and combat readiness of the Georgian army as a restraining factor for the potential aggressor
- effective reserve as the basis of the concept of "Total Defense"
• raising the effectiveness of Georgian subunits in the conduct of operations on mountainous terrain
• increasing opportunities to participate in international and counter-terrorism operations
• protecting objects of the infrastructure from sabotage
• defending Georgian airspace
• helping civilian authorities liquidate the aftermath of natural and anthropogenic disasters

Summarizing the above, we can draw the following conclusions:

1. Dualism in solving the problem of resistance to large-scale external aggression substantially influenced Georgia's force development in 2003–2008 – whether Georgia should join NATO or pursue its goal independently. Each way required different priorities in the development of the armed forces given the country's limited material resources. At that time, despite the priority that should have gone to the first path, steps were taken in force development in the framework of both variants (both general and specific steps for each of them).

2. Georgia's basic opponent at that period of time was openly considered to be Russia, and it was precisely for resistance to Russia in meeting the threat that was most dangerous and most probable to Georgia (large-scale incursion and escalation of the conflict in the territory of the previous autonomous regions) that the steps to be taken by the Saakashvili regime to reform the Georgian army up to, and including integration with the NATO structure were intended.

3. The dualism of the threats that were influencing the military planning determined the need for universal armed forces capable of conducting both classical and anti-partisan warfare in the framework of a hierarchical military structure, as well as a partisan "net war" with autonomous units based on light infantry battalions.

4. The goal of resistance to Russia called into being the concept of "Total Defense" with the broad involvement of Georgian society in the context of a large reserve. At the same time, priority in this resistance was given to the restraint of Russia by threatening to impose unacceptable losses on her and saddle her with the uncertainty of a positive outcome of a conflict for Russia.

Reform of Georgia's Armed Forces Under Saakashvili

Structural transformation

By copying the Western model with a civilian Minister of Defense and an apparatus of the Ministry of Defense, as well as having the individual services run by the professional armed services of Georgia through a General/Joint Staff with differentiation of the functions of the Ministry of Defense and the General Staff, the Georgian leadership implemented the unification of the supreme military governance with analogous structures of the NATO member countries for the fulfillment of one of the conditions of the plan of action for individual partnership with NATO (the Individual Partnership Action Plan, IPAP).\(^\text{15}\) Also, deserving of mention is the

\(^{15}\) [www.mod.gov.ge/?l=E&m=4&sm=1](http://www.mod.gov.ge/?l=E&m=4&sm=1)
transformation of the General Staff into a Joint Staff. Subordinate to the Joint Staff were: the command structures of the armed services (ground troops, VVS, and VMS), departments (the National Guard, rear services support, education, intelligence, and military police)\textsuperscript{16}, as well as separate structures. Of the formations subordinate to central command, it is necessary to single out the Special Operations Group situated in the Tbilisi suburb of Vashlidzhvari (the former Special Operations Brigade in Kodzhori). Included in the composition of the group, were the Special Operations Detachment (staffed by officers),\textsuperscript{17} the Special Operations Battalion, the School of Special Operations, and the Special Operations Detachment of the VMS.\textsuperscript{18} In 2008, at the base of the military police company, a battalion of military police was deployed directly subordinate to the Joint Staff in Tbilisi by way of staffing supplementary subunits with cadres from members of the Special Operations Battalion.\textsuperscript{19}

According to the Georgian conceptual documents, ground troops are the basic branch of the armed forces in Georgia.\textsuperscript{20} After the experience of the armed conflict in 2004 in the territory of South Ossetia, characterized by unsatisfactory coordination between the subunits of the Ministry of Defense and the Ministry of Interior of Georgia, but also from considerations of removing the duplication of functions between these agencies in achieving objectives within the recognized borders of Georgia, the decision was taken in fall 2004 to transfer the internal troops from the MVD to the Ministry of Defense.\textsuperscript{21} The army's 4th Infantry Brigade was created at the base of the former internal troops, and the MVD helicopters were absorbed into the Georgian Air Force. Simultaneously, the reorganization and changing of the numbers of brigades and battalions of ground forces of Georgia, existing at that moment, were carried out.

As a result, on 1 January 2007, the Georgian land forces consisted of: the headquarters staff, four infantry brigades (including three volunteer brigades -- the 1st, 2d, and 3d, and one recruited on a combined basis -- the 4th), an artillery brigade, seven independent battalions (a combined tank, two combined light infantry, a combined engineer-chemical, a medical, communications, and technical reconnaissance), and an anti-aircraft division. The number of ground troops totaled 16,993.\textsuperscript{22}

According to NATO recommendations, reflected in the SDR of 2007, the total number of Georgian ground troops, resulting from their reorganization by the end of 2015, should have been 11,876, but the structure had to undergo the following changes: the 4th Infantry Brigade, independent light infantry and armored battalions were disbanded; moreover, from the complement of each of the three remaining infantry brigades, it was planned to disband one light infantry battalion, and from the complement of the artillery brigade to disband the howitzer and anti-tank divisions. At the same time, battalions of military police, a material-technical supply battalion, and a battalion of army aviation (from the VVS), were supposed to be absorbed by the

\textsuperscript{17} Kakabadze, E., "Reforma v tsvete khaki" // \textit{Ogonek}, No. 21, 2008.
\textsuperscript{20} www.mod.gov.ge/?l=E&m=3&sm=3
\textsuperscript{22} \textit{Strategic Defence Review}. Ministry of Defence of Georgia, Tbilisi, 2007, p. 86.
ground forces, while a battalion of radio-technical intelligence was transformed into a military reconnaissance battalion.\textsuperscript{23} In this way, the ground troops were supposed to be cut to eight light infantry battalions (from 14 in 2007), two tank battalions (from five), and two howitzer divisions (from seven).

Obviously, similar plans under the conditions of the policy chosen by Saakashvili for confrontation with Russia and "thawing" of conflicts in the former autonomous regions were openly at odds with the political-military situation that was taking shape and the plans of the Georgian leader to "restore the territorial integrity" of the country. Therefore, the good wishes of NATO and the corresponding "pacifist" projects of the SDR stayed on paper, and Georgian ground troops not only did not shrink in number, but also began to grow steeply in 2007. This was reflected in the vision of the Ministry of Defense for 2008-2011, which was called upon, to explain to NATO members why the numerical strength of the Georgian military had grown, primarily because of the creation of the 5th Infantry Brigade and the dropping of plans to disband the 4th Infantry Brigade,\textsuperscript{24} in justification of which the growth in the size of the Georgian contingent in Iraq was cited as well as the worsening of relations with Russia.

On 14 September 2007 the Georgian parliament adopted a decision to increase the manpower numbers of the armed forces from 28,000 to 32,000 troops,\textsuperscript{25} after which the Ministry of Defense announced the recruitment of servicemen to enlist as contractual volunteers in the 4th and 5th Infantry Brigades (formation of the 5th was still projected). The new brigade was based in Khoni (western Georgia),\textsuperscript{26} and its 51st Light Infantry Battalion completed basic training on 7 March, 2008.\textsuperscript{27} Nevertheless, in August 2008, the 5th Brigade was essentially still forming. As far as the 4th Brigade was concerned, its transition to a contractual basis was completed only in the summer of 2008, and many of its servicemen had time to complete only preliminary training.\textsuperscript{28}

On 15 July 2008, the Georgian parliament passed a routine resolution to increase military manpower to 37,000, in connection with which the parliament was informed about plans to create the 6th Infantry Brigade, as well as to increase the strength of the PVO and VMS. The deployment of an independent engineer brigade also began at the base in Gori on 15 July 2008; in August, it was still forming.

As a result, on 8 August 2008, the Georgian ground forces consisted of: Headquarters, five infantry brigades (the 1st in Gori, the 2d in Senaki, the 3d in Kutaisi, the 4th in Vaziani near Tbilisi, and the 5th in Koni), the Artillery Brigade in Gori (a portion of its force was in Khoni), the Engineer Brigade in Gori, six independent battalions (the Combined Tank in Gori, which had 50 T-72 tanks, the Light Infantry in Adliya, the Medical in Saguramo, the Communications in Vaziani, the Technical Reconnaissance in Kobuleti, the Material-Technical Supply in Tbilisi),

\textsuperscript{24} www.mod.gov.ge/?l=E&m=3&sm=2
\textsuperscript{25} "Parlament Gruzii prinyal popravki ob uvelichenii chislesnosti Voruzhennykh sil strany" // www.newsgeorgia.ru/geo1/20070914/42050848.html
\textsuperscript{26} Arabuli, M. "Recruitment for V Infantry Brigade Underway" // Defence Today, №6, 2007, p. 1.
\textsuperscript{27} News the Georgian Ministry of Defense site dated 03.07.2008 // www.mod.gov.ge/?l=E&m=11&sm=0&id=871
\textsuperscript{28} Official site of the Ministry of Defense of Georgia // www.mod.gov.ge/?l=E&m=11&sm=0&id=1013
and an anti-aircraft division in Kutaisi. The total numbers of land forces manpower came to about 22,000.  

Components of a Georgian infantry brigade in personnel and equipment in 2008: Headquarters (60) and the HQ company (108 troops, two BMPs), three light infantry battalions (591 each), one combined tank battalion (two tank companies and one mechanized company of only 380, 30 T-72 tanks, and 15 BMPs), a material-technical supply battalion (288), an artillery division (371 troops, 18 122-mm D-30 towed howitzers, 12 120-mm mortars, 4 ZSU-23-4 systems), a scout company (101 troops, 8 BTRs), a communications company (88 troops, two BTRs), a combined engineer company (96) -- only 3,265 servicemen.  

The artillery brigade performed in the role of a basic means of support for the infantry troops. In the middle of 2008, its components included: a command structure, a division of 152-mm 2A65 "Msta-B" towed howitzers, a division of 152-mm 2C3 "Akatsiya" self-propelled howitzers, a division of 152-mm Dana self-propelled howitzers, a battery of 203-mm 2C7 "Pion" self-propelled guns, a rocket artillery division, an anti-tank division, a training battalion, a material supply battalion, and a guard company.  

In the immediate vicinity of Tskinval, a Georgian peacekeeping battalion was quartered; on 8 August, it consisted of the 11th Light Infantry Battalion of the 1st Infantry Brigade and a mechanized company of the independent tank battalion.  

It is necessary to note the absence, prior to the start of the war on Georgian territory, the greater part of the best-trained 1st Infantry Brigade (units of the Staff and the Headquarters Company, the 12th and 13th Light Infantry Battalions, the Material-Technical Supply Battalion, the Engineer Company, the Scout Company, and units of enlisted men in the Tank Battalion), which was stationed in Iraq. The return of the 1st Brigade from Iraq was in the initial plans, but this was put off in connection with plans to prepare the 4th Brigade for its dispatch to Iraq.  

Among the weapons of the Georgian infantry troops in August 2008 were:

- 191 T-72 tanks of various modifications (up to 120 of them were upgraded into the T-72 SIM-1)
- 56 T-55AM tanks
- 80 BMP-1 infantry fighting vehicles (15 of them -- upgraded BMP-1Us)
- 74 BMP-2 infantry fighting vehicles
- 11 BRM-1K reconnaissance vehicles
- 5 BRDM-2 reconnaissance vehicles
- 31 BTR-70 armored personnel carriers (16 of them -- upgraded BTR-70Di)
- 35 BTR-80 armored personnel carriers
- 86 MT-LB multipurpose armored vehicle

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30 Ibid, p. 87.  
31 Ibid. p. 89.  
33 Official site of the Ministry of Defense of Georgia // www.mod.gov.ge/?l=E&m=11&sm=0&id=835
• six 203-mm 2C7 "Pion" self-propelled guns
• one 152-mm 2C19 "Msta-C" self-propelled howitzer
• 13 152-mm 2C3 "Akatsiya" self-propelled howitzers
• 24 152-mm Dana self-propelled howitzers
• 11 152-mm 2A65 "Msta-B" towed howitzers
• three 152-mm 2A36 "Giatsint-B" towed guns
• 109 122-mm D-30 towed howitzers
• 15 100-mm MT-12 anti-tank guns
• 40 85-mm D-48 anti-tank guns
• four or six 122-mm/160 mm PSZO GRADLAR
• six 122-mm RM-70 PSZO
• 16 122-mm "Grad" BM-21 PSZO
• about 80 120-mm mortars and up to 300 mortars calibers 60, 81, and 82 mm
• 15 57-mm C-60 towed anti-aircraft guns
• 30 23-mm ZU-23-2 coupled anti-aircraft guns (part mounted on MT-LB truck chassis
• 15 23-mm "Shilka" ZSU-23-4 quadruple self-propelled anti-aircraft systems

In the arsenal of the Georgian Army, there were also a large number of anti-tank missile systems -- Faggot, Factoria, and Concourse, as well as the man-portable anti-aircraft missile systems Strela-2M, Igla-1, Igla, and Grom 2.

Under Saakashvili, the National Guard was also transformed (in accord with NATO recommendations). Instead of remaining an alternative to the infantry, it was transformed into a structure for training reservists, for supporting mobilization, territorial defense, and helping the civilian authorities. The vital need to cut the numbers of the armed forces pursuant to NATO recommendations, combined with the indecisiveness of the Abkhazian and Ossetian questions and the difficult relationship with Russia (which required strengthening the army, including qualitatively), forced the Georgian leadership to look for ways to combine these contradictory requirements. One of the ways out was a large-scale program of training reservists.

Following the armed conflict in South Ossetia in 2004, a resolution was adopted concerning the creation of territorial battalions of the National Guard on a voluntary basis. Those who signed up went through a three-week course of instruction. A total of 27 separate battalions were formed. But in actuality, the process of creating an organized reserve became large-scale after the adoption in September 2006 of the "Total Defense" concept and the law on service in the reserve in December 2006. Pursuant to the latter a three-component - Georgian reserve was created: active, National Guard, and individual. The first component is formed on the basis of the conscription of Georgian citizens; the second, united the battalions trained in 2004-2006, while the third, is offered to former members of the regular army. The training of light infantry battalions of the active reserve began in 2007 with an 18-day program. Conceptually the light infantry battalions of the active reserve were supposed to be united in brigades (the 10th in Kodzhori, the 20th in Senaki, the 30th in Khoni, the 40th in Mukhrovani, and the 50th in Telavi).

34 [www.mod.gov.ge/?l=E&m=4&sm=1](http://www.mod.gov.ge/?l=E&m=4&sm=1)
In addition to the light infantry battalions, the artillery divisions were supposed to join forces with the complement of the brigades. In 2008, the 420th Reserve Tank Battalion was also created.

The composition of the Georgian air forces in August 2008 was as follows:

- aviation operational center
- Marneuli Air Base (squadron of Su-25 attack planes, squadron of L-39 trainer aircraft)
- Alekseyevka Air Base squadron of Mi-8 helicopters, squadron of UH-1H helicopters
  and a combined helicopter squadron (Mi-8, Mi-14, Mi-24)
- squadron of UAVs
- six RLS
- technical reconnaissance subunit
- two PVO bases (two divisions of S-125M ZRK, two divisions of Buk-M1 ZRK, up to 18 Osa-AK/AKM ZRK fighting vehicles, and several Spyder-SR ZRK fighting vehicles), an PVO subunit
- training center with a squadron of An-2 aircraft

According to plans published in the SDR to reform the Air Force by the end of 2015, it was supposed to completely lose its aviation component (the Su-25 squadron was slated for disbandment, the helicopter subunits and the UAVs were to be transferred to the ground troops), and, practically speaking, it would be converted to the PVO forces. In reality, developments went in exactly the opposite direction – in 2007-2008, the Georgian Air Force continued to make purchases of Su-25 and L-39 aircraft, and Georgian leadership discussed the question of acquiring fighter planes.

The full complement of Georgian VVS armaments in August 2008, consisted of 10 Su-25 attack planes (five of which were upgraded to the level of the Su-25KM "Scorpion"), two Su-25UB combat trainers, 12 L-39S jet trainer aircraft, four Yak-52 trainer planes, six light An-2 transport planes, five Mi-24B combat helicopters and three Mi-24Ps, 18 Mi-8T/MTV helicopters, two Mi-14BT helicopters, six Bell UH-1H helicopters, and six Bell 212 helicopters.

The Georgian Navy forces in August 2008, consisted of the main naval base in Poti, a naval base in Batumi, and squadrons of surface vessels made up of a division of rocket ships (cutters), a division of patrol vessels (motor launches), a division of supply vessels (landing craft), marine units, and a mine clearing team. With a manpower strength of about 1,000, the fleet consisted of two missile boats ("Tbilisi" of project 206MR and "Dioskuriya" of the La Combattante II class), eight patrol cutters, two small landing ships, two landing craft, and up to six small cutters. Virtually, it seems, most of the ships and cutters of the Georgian VMS (including both missile boats) were out of order by August.

40 Ibid., pp. 87-90.
A Georgian Coast Guard also existed. It had one patrol ship (a former German base type minesweeper) and up to 35 patrol cutters. By 2015, according to the SDR, it was planned to make it part of the VMS.41

**Training Personnel**

In this sphere of the military buildup, the Georgian leadership succeeded by 2008 in achieving tangible successes in comparison with the earlier "anarchy" period. This was determined by a number of factors: a) raising the quality of enlisted personnel thanks to the transition to a contractual method of recruitment, b) reform of the system of military education and the training of personnel, c) foreign aid.

It must be emphasized, that in comparison with other countries of the CIS, the transition of the army to voluntary recruitment in Georgia was, relatively speaking, highly successful. Two important factors contributed to this. First, the relatively high motivation of Georgians when they report for military service owing to the presence of unregulated conflicts in their territory, and the high probability of their being resolved by the application of force. High motivation is especially characteristic of Georgian refugees from the former autonomous regions of the Georgian SSR. The second factor is the high pay of military personnel as measured by Georgian standards (and indeed that of the entire post-Soviet region). Thus, according to the budget data of the Georgian Ministry of Defense for 2008, the pay of a corporal (rank-and-file voluntary service) should come to 925 lari per month (or approximately 640 dollars at the mid-2008 exchange rate), for a lieutenant – 1,119 lari (770 dollars), whereby in comparison with 2004 a corporal's pay was 8.64 times greater and a lieutenant's was 7.31 times greater (not allowing for inflation).42 This circumstance creates favorable conditions for the rise of competition to join the armed forces of Georgia, which, in its turn, ensures the possibility of selecting the most suitable candidates. Aside from the quite high pay, potential military recruits are also attracted by social privileges, as well as the comfortable living conditions on the new or modernized military bases. It deserves to be pointed out, that military service is most attractive precisely for refugees from the former autonomous regions in view of their inferior material situation in comparison with the rest of the Georgian population. And that in combination with their greater motivation leads to a higher specific weight for the refugees in the Georgian military. The reverse side of the high pay in the services by Georgian standards, was the effort on the part of a number of commanders to fix up their relatives and other similar persons with jobs in military service, even though, they did not have the requisite professional training and experience.

The years of Saakashvili's rule are likewise characterized by the reform of military education. The process of officer training underwent substantial reform. In place of the Soviet system of training junior officers over the course of several years, the Western system of training by stages was introduced in which relatively short-term instruction alternates with service in the field. The huge demand for officers in the regular army (including its new units and subunits) as well as in the National Guard required the adoption of a short-term program of instruction in courses for junior officers (courses "A," "B," "C"); the courses would last 7–10 months, and when they were

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41 Ibid., pp. 86-90.
successfully concluded the students would earn the rank of lieutenant. One should take into account that only people with a higher education background can enroll in courses; naturally, classroom time is not spent on general education disciplines as it is in a number of post-Soviet higher military educational institutions. Intensified "C" courses for the preparation of young officers at which the students master specific skills are of particular interest. Thus 54 young officers at the end of 2007-early 2008 completed airborne and parachute training at the Alekseyevka Air Base in the course of 9 months, mountain training in Sachkher, topographical training, street fighting tactics under the guidance of Georgian and Israeli instructors, and in 2008 another 150 students began course work. It should likewise be noted that the shortage of junior officers for the expanded Army and National Guard required the adoption of accelerated junior officer course work for volunteer non-commissioned officers with a higher education. When they finished such nine-week courses, they were awarded the rank of second lieutenant.

Career courses for captains are the next stage in the training of officers. They operate within the framework of the Academy of National Defense (founded at the base of the Soviet Tbilisi Higher Military Artillery Command Institution) and in a period of 12–18 weeks officers raise their qualifications to the ranks of first lieutenant, captain, and major, primarily company commanders and battalion chiefs of staff. In addition, 5-week accelerated courses for captains also exist.

Two special features of cadre's policy in the Georgian Army need to be singled out because they negatively influence its fighting ability throughout the Saakashvili period.

- The presence of a greater number of "green" young officers, who through merely the passage of time will receive the appropriate theoretical and practical skills (this factor somewhat levels the opportunity for officers to obtain supplementary military education beyond the borders of Georgia).
- The frequent change of leadership in the Georgian Army, leading to the situation in which low-ranking young officers occupy high positions (for example, infantry brigades are often commanded by majors and sometimes also by captains). At the same time, well-trained command cadres are not infrequently discharged from the ranks of the armed forces for political reasons.

The training of the core of troops in the Georgian Army improved thanks to the development of the Krtsanisi National Training Center with the aid of significant international assistance in this process (the training of Georgian instructors, help in the development of a training basis, funding a number of programs for training the Georgian military). The preparation of Georgian instructors permitted Georgia to carry out Basic Combat Training, BCT – a certain analog of the young warrior course, which both students and recruits take for inclusion in the voluntary units of the Georgian armed forces. Speaking of international programs, we must first single out the

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46 Graduation Ceremony of Captain Career Courses 02.29.2008// [www.mod.gov.ge/?l=E&m=11&sm=0&id=863](http://www.mod.gov.ge/?l=E&m=11&sm=0&id=863)
programs "Georgia Sustainment and Stability Operations Program," GSSOP-I and GSSOP-II, funded by the United States. The first of them lasted from spring 2005 to fall 2006 and encompassed the 22d, 23d, and 31st Light Infantry Battalions, logistics battalions of the 1st and 2d Infantry Brigades, as well as the reconnaissance company of the 2d Brigade and a separate military police company; the overall total expenses came to 61 million dollars. The second program began in the fall 2006 and ended in summer 2007. The units that received training were the 32d and 33d Light Infantry Battalions, the Logistics Battalion of the 3d Brigade, its reconnaissance, engineer company, and communications companies, as well as an engineer company and communications company of the 2d Brigade.\(^47\) It must be noted, however, that the GSSOP program in fact boiled down to training Georgian units for the operation in Iraq, whereby the training had a specific character -- to a significant extent it was training for anti-insurgent operations. At the same time units of the 4th Infantry Brigade, the most actively equipped in August 2008 in the operation against Tskinval, did not undergo these programs at all.

One should also note, the school for junior commanders in Gori (moved to Krtsanisi) that was founded with international assistance and especially the mountain fighting school in Sachkher (with the help of the French and Swiss). Georgian students, officers, and light infantry subunits were admitted to the latter school, which has significance for the Georgian Army, when taking account of the special features of the theater of military operations.\(^48\)

In connection with plans for integration with NATO and also for the development of means of communication, Georgia bought radio stations from the American firm Harris, and at the base for a independent communication battalion in Saguramo a training center to prepare communication specialists by trained representatives of the firm with Georgian instructors.\(^49\)

Aside from member countries of NATO, Ukraine provided assistance in the training of the Georgian military. Thus, at the Air Force University in Kharkov in 2007-2008, 150 Georgian soldiers went through training. This included no fewer than 30 pilots, who upon conclusion of the 8-month course, 25 hours in an L-39, and courses on the Mi-8 began the last phase of training at the Marneuli base.\(^50\)

Special foreign military companies played a definite role in the Georgian force development under Saakashvili. Special American military companies, imitated by the Georgian Ministry of Defense (MRYI, Cubic Defense Applications and American Systems), engaged basically in consultations on force development and training of the Georgian special mission units. Israeli companies (Defence Shield in particular) basically engaged via contracts in the training of junior officers and non-commissioned officers, as well as general planning.

\(^{48}\) "The History of Sachkher Mountain-Training School"// www.mod.gov.ge/?l=E&m=5&sm=12&ssm=3
\(^{50}\) Londaridze, Sh. "Georgian Pilots Trained in Ukraine" // Defence Today, No. 11, 2008, p. 4.
As was stated above, a large-scale program of training an active conscript reserve was started in 2007 for the realization of the concept of "Total Defense." Plans for the National Guard in 2007, stipulated training 25,000 reservists in an 18-day program. In addition, a program to train 27 territorial battalions of the National Guard was contemplated. Among conscripts of the active reserve, a high weighted advantage lay with students of higher education institutions. According to the plan of the 18-day program, the reservists were supposed to master target shooting (4 days), tactics (8), engineering training (1), arms and tactics of a likely opponent (1), courses in survival and first aid (1), field activities (1), and the program allotted two days to organizational questions.\(^{51}\) Judging by the short duration of the courses, one might skeptically evaluate the quality of the training of the reservists, which would more likely succeed in giving them a basic conception of service in the army. In 2008, an 8-day retraining program took place for reservists called up in 2007, but the duration of this was likewise clearly unsatisfactory. At the end of the retraining of the previous year's reservists at National Guard bases, a torrent of reservists began to arrive in 2008 for training in the 18-day program. It should be noted that considering the large-scale training (a rate of 25,000 reservists a year) and retraining (25,000 in 2008 and plans for up to 50,000 in 2009), a program of this kind required considerable resources to obtain qualified reservists: extending the duration of the training and retraining, increasing the amount of firing from various kinds of infantry weapons, intensified study of tactics, etc. There also existed a demand for a large number of officers for brigades and battalions of the active reserve, just as there was a demand for specialists in the use of heavy infantry weaponry, artillery, and armored equipment.

In light of this, it is no wonder, that in reality a program to create a massive reserve similar to the National Guard should have failed, as the events of the Five-Day War made painfully obvious. The battalions created in the National Guard had little combat capability in view of the inadequate training of the personnel, the shortage of command-level cadres, and the shortage of heavy infantry armaments, including anti-tank weapons. Overall, the failure in the creation of Georgian Army reserve units may be explained as mistakes of a conceptual nature (the drive for quantity at the cost of quality) as well as a shortage of time. We should separately mention the forming of National Guard units recruited from the residents of Georgian villages in conflict zones, which to one extent or another participated in combat operations in the capacity of self-defense detachments. Despite their higher motivation in comparison with other reserve subunits, they were likewise of low quality for reasons characteristic of the entire Georgian National Guard.\(^{52}\)

Altogether, one should note, the significant qualitative improvement of Georgian military personnel in comparison with the times of Shevardnadze. At the same time, however, in reports that appeared on the Internet in 2008, some foreign military instructors and advisors (American, Israeli, and Ukrainian) spoke out in highly critical fashion about the general level of the training of Georgian Army personnel; this was intensified by the negative peculiarities of the Georgian mentality. They pointed out the low educational level of the majority of recruits entering voluntary service, the serious problems of discipline among the troops, including theft of military property, the high level of corruption, nepotism, and protectionism, the fact that many officers lacked the desire to receive the training needed to overcome the general weakness of their

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\(^{51}\) New Reserve Training and Management Concept, 2007, p. 22.

\(^{52}\) Ibid.
military preparation, the inadequate exactingness of the commanders vis-a-vis subordinates, the propensity of the Georgians for posing and excessive self-advertising.

**Renewal of Weapons and Military Hardware Stock**

The greatest successes of the Saakashvili regime were achieved in the sphere of weapons and hardware purchases for the Georgian armed forces. The basic contributing factor to this process was the enormous growth in the republic's military expenditures by comparison with the times of Shevardnadze. The budget of the Georgian Ministry of Defense in 2007 was more than the total military budget for 2004-2006.\(^{53}\) And in the military budget for 2008, 291.8 million lari (about 177 million dollars) was allocated for the purchase of armaments and equipment.\(^ {54}\)

For the first stage (2004-2007) of force development under Saakashvili, the fundamental emphasis in the military-technological policy of Georgia was placed on acquisitions in the CIS republics (primarily Ukraine) and in the countries of Eastern Europe of inexpensive weapons and equipment of Soviet origin from their excess supplies. This permitted economies in both the purchases themselves and in the training of personnel. Purchases of T-72, BMP-2, BTR-80 tanks and armored vehicles; 2C3 and Dana self-propelled howitzers; D-30 towed howitzers; mortars; infantry rifles; RPG and PTRK, ZRS Buk-M1 and Osa-AK/AKM, portable ZRK, Mi-24 attack helicopters, and others permitted Georgia by 2008 to achieve rapid increases in the technological level of the armed forces and obvious superiority over the armies of its former autonomous regions -- Abkhazia and South Ossetia.

However, the high level of military outlays allowed Georgia as early as 2007 to move to a new level of military hardware policy -- the first former republic of the USSR to begin fairly large acquisitions of contemporary combat hardware and equipment produced in the West, as well as programs of the modernization of existing hardware to western standards.

The rearmament begun in January 2008, of the regular Georgian Army with American M4A3 5.56-mm automatic Carbine rifles in place of Kalashnikov automatic rifles should be noted among the most large-scale programs for the ground forces; they were purchased from Bushmaster, an American company. For all the ambiguity of this measure, it fit in completely with the general line of Georgia about joining NATO as a factor enhancing compatibility with the troops of the alliance in operations at that time in Iraq or Afghanistan. Besides, the plans to create a large active reserve of the National Guard all the same, required major purchases of infantry weapons. Therefore, having rearmed the regular army with the M4A3, the Georgians freed their infantry weapons designed on the Soviet model for transfer to the reservists. However, some chaos in the plan of military purchases -- characteristic of the contemporary Georgian Army and negatively influencing the effective expenditure of limited resources -- has to be mentioned.

For increasing the opportunities to resolve its conflicts with the former autonomous regions as well as to resist the potential intervention of Russia, Georgia actively purchased heavy

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armaments. Among the most important programs of the ground troops, the following should be singled out.

- Development of self-propelled artillery by means of creating self-propelled 2С3 howitzers (bought in 2003-2006 from Ukraine and the Czech Republic, 12 and 24 units respectively) within an artillery brigade, and in 2007-2008 five 203-mm 2С7 "Pion" long-range self-propelled guns were acquired in Ukraine.\(^{55}\)
- Development of missile artillery. Beginning in the Czech Republic in 2003, six RM-70 122 mm multiple launch rocket systems were bought, but the purchase of four (from other data up to eight) Israeli GRADLAR systems, with 160 mm LAR-160 Mk IV rockets with a firing range of up to 45 km included, guaranteed an even greater growth of the opportunities for Georgian rocket artillery. Likewise, the question is still open about the sale by Bosnia and Herzegovina of 262 mm RSZO M-87 "Orkan" long-range rocket launchers. It is well known that 500 rockets were sold to Georgia in 2006 for the RSZO, but it is not clear whether the five launchers that were ordered were ever delivered.\(^{56}\)
- Purchase of mortars as an effective means of warfare in the mountains, especially in case of a transition to partisan operations. To supplement the systems obtained as its inheritance from the Soviet Army, Georgia actively bought mortars in Bosnia and Herzegovina and in the Czech Republic.\(^{57}\) In addition, Greece transferred 60 mortars of 60 mm caliber to Georgia in the form of aid.\(^{58}\) Of special interest to Georgia, 60 and 81/82-mm caliber mortars were offered to Georgia insofar as they did not fall under the restrictions of the CFE signed in 1990.
- Development of tanks and mechanized forces by purchasing large batches of Soviet armored equipment in Ukraine and the Czech Republic (in the 2004-2008 period Georgia acquired 180 T-72 tanks, 52 BMP-2 vehicles, 15 modernized BMP-1Us, 30 BTR-80s, and 25 modernized BTR-70Ds).\(^{59}\) In 2008, 70 Ejder armored personnel carriers were ordered from the Turkish company Nurol, and earlier 100 Turkish Otokar Cobra armored cars were bought for the Georgian Ministry of Internal Affairs;
- Serious attention was paid to enhancing the mobility of the army by buying motor transport. In Ukraine, 400 KrA3 trucks were bought, including 150 vehicles in 2008.\(^{60}\) In Russia KamA3 trucks were acquired, as were Toyota Hilux pickups and Land Rover jeeps in other countries;
- Aside from the above-mentioned programs for rearming the infantry with M4A3 Carbine rifles, the purchase of sniper rifles of western manufacture must be noted: AGS-17 automatic grenade launchers from Ukraine and Fagot and Contest PTRKs from Bulgaria.\(^{61}\)


\(^{56}\) Ibid.

\(^{57}\) Ibid.

\(^{58}\) Military Grant Agreement with the Hellenic Republic 06.18.2007 // [ww.mod.gov.ge/?l=E&m=11&sm=0&id=617](http://ww.mod.gov.ge/?l=E&m=11&sm=0&id=617).


While speaking about Georgia's purchase of heavy military hardware, we cannot fail to mention the republic's quota under the CFE treaty, which amounts to 220 tanks, 135 IFVs, 85 APCs, and 285 guns of higher than 100 mm caliber. If the quotas for armored equipment approximate the requirements of the Georgian Army (six combined tank battalions for the regular army, including one independent reinforced unit and one reserve battalion), Georgia's artillery quota is manifestly tight if the standard complement of Georgian artillery units is taken into account.

Aside from purchases of arms for the ground troops, modernization programs were launched under Saakashvili. Among such projects, the program of modernizing the reserve supply of T-72 tanks through the T-72-SIM-1 variant should be singled out. In the Georgian T-72-SIM-1 variant, tanks are equipped with the GPS, thermal-imaging cameras for the commander and the driver-mechanic, the Harris-Falcon communication system. They are also equipped for weapons firing with Ukrainian anti-tank guided missiles "Kombat" (400 such missiles were purchased in Ukraine in 2007). The T-72 tank, modernized in this way, is superior owing to its characteristics both to the tanks of the former Georgian autonomous regions and the Transcaucasian states and to tanks that belonged to the arsenal of the North Caucasus Military District of Russia in 2008, especially when armed combat is conducted at night and in difficult weather conditions. The 1st tank company began its shift to modernized tanks on 13 February 2008, and finished it on 25 February, but by August, the Georgians were able to modernize only up to 120 T-72s.

Of the purchases for the VVS, the purchase of the L-39 trainer airplanes and the Mi-8 and Mi-24 helicopters in Ukraine, the PTUR "Shturm" in Kazakhstan, the Elbit Hermes 450 and Skylark UAVs in Israel, the upgrading up to the level of the SU-25KM of part of the inventory of Su-25s with the participation of the Israeli firm Elbit Systems stand out. A contract was concluded with the American company Sikorsky Aircraft for delivery in 2010-2011 of 15 multipurpose UH-60 helicopters.

The Georgian VVS actively developed a system of PVO. Under Saakashvili two contemporary 36D6-M RLS for the detection of air targets, five "Kolchuga-M" passive radiolocation systems, one assembly of Mandate jamming system, two divisions of Buk-M1 ZRK, up to 18 "Osa-AK/AKM" ZRK, four P-18 RLS updated to the P-180U variant -- modernized with the assistance of the Ukrainian firm Aerotekhnikha. In 2006, Aerotekhnikha also combined all the Georgian military RLSs and four civilian RLSs for the control of air traffic, as well as "Kolchuga-M" system into a single ASOC network with its operational center in Tbilisi. In Israel, the latest Spyder-SR ZRKs was acquired. The Russian Ministry of Defense also announced the acquisition by the Georgian Army in 2008 of the Aselsan Skywatcher tactical command control system manufactured by the Turkish company. All of these were open measures to neutralize the Russian VVS in the event of hostilities between Georgia and Russia, although the scale of the measures did not completely correspond to the level of the threat. It is

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66 Ibid.
also worthwhile to assess the presence in the arsenal of the Georgian Army of a large number of portable ZRKs, including the acquisition in Poland of 30 modern Grom–2 man-portable air-defense systems.

Among the new armaments of the Georgian VMS, the "Dioskuriya" missile boat (French construction of the La Combattante II class) stood out; it was delivered by Greece in 2004 under the designation of military assistance together with 10 Exocet MM38 anti-ship rockets. In Turkey, the construction was begun of high-speed patrol cutters under projects MRTP 33 and MRTP 21 for the Georgian Coast Guard.

**Infrastructure Development**

Under Saakashvili, sizable resources were allocated from the budget of the Georgian Ministry of Defense for the development of military infrastructure. Such actions pursued two basic goals: improvement of the quality of training and living conditions of the personnel as well as the stationing of units and subunits of the Georgian Army near the zone of anticipated combat operations. The high priority of the second factor led to the creation of a base in Gori for the 1st Infantry Brigade and of one in Senaki for the 2nd Infantry Brigade, the transfer of the Artillery Brigade to the former base of the 3d Brigade to Gori, and the creation of a base in Khoni for the new 5th Infantry Brigade. In the final analysis, this permitted the Georgians by 2008 to concentrate the 1st Infantry and the artillery brigades in a 30-kilometer zone of the Georgian-Ossetian conflict, the 2nd Infantry Brigade in a 40-kilometer zone from the Inguri River (the border between Georgia and Abkhazia), and the new 5th Infantry Brigade in a 60-kilometer zone. Plus the fact, that the 3rd Infantry Brigade stationed in Kutaisi could be activated in combat operations against both Abkhazia and South Ossetia, thus performing the role of a "lighthouse." These redeployments allowed the Georgian side to significantly increase its chances of success in the event of a "Blitzkrieg" against its former autonomous regions.

The construction of a modern well-equipped base for the 2nd Infantry Brigade in Senaki was completed in May 2007, and the new base of the 1st Infantry Brigade in Gori was finished in January 2008. Aside from the construction of new bases, the reconstruction of old ones was carried out, both those belonging to the regular army and those transferred to the National Guard as training centers for reservists. Deserving special note is the modernization of the Marneuli Air Base with the help of Turkey.

**Financing**

When one speaks of financing the Georgian armed forces, it is necessary right away to talk about international assistance. Avoiding an underestimation of its significance, one must take into account that the cost of these programs is measured in terms of millions and tens of millions of dollars (the largest of them -- the GTEP and the GSSOP-1 -- cost more than 60 million dollars apiece). And although Georgia receives aid from many states, the volume was not so great in

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comparison with contemporary national military expenditures, and the total can be appraised at approximately 300 million dollars for 2002-2008.

As for what is mentioned most frequently, namely, American military aid, it in fact began to reach Georgia in 1997. At that time, at the initiative of Shevardnadze, American training programs were distributed to Georgia with the U.S.A. contributing military cadres of the International Military Education and Training (IMET) program and the rendering of military assistance by the Foreign Military Financing (FMF) program. To be sure, the Americans exhibited caution both in the type of military aid -- Georgia was offered grant aid only in the form of "non-combat" hardware and resources, and, moreover, completely obsolete available items from the U.S. armed forces. In 1999-2001 Georgia received through American grants 10 old multipurpose Bell UH-1H helicopters (produced in 1973-1974, four of them to be dismantled for spare parts), about 500 units of obsolete motor transport (produced in 1969-1971), 30,000 sets of uniforms, 16,000 pairs of army boots, mine clearing equipment, communications gear, as well as generators, tents, etc. The overall cost of this program came to 11 million dollars, of which 3 million was for delivering helicopters and training their crews. Besides that, in 1997-1999 Georgia was allocated under the auspices of the FMF another 17.5 million dollars, which included the training of 140 officers.\footnote{Darchiashvili, D. "Georgia Courts NATO, Strives For Defense Overhaul" // www.eurasianet.org/departments/insight/articles/eav072600.shtml}

Simultaneously, more than 18 million dollars in aid was allocated in 1999 to the border agency within the framework of the American program to provide assistance to Georgia for border protection (Georgian Border Security and Law Enforcement).\footnote{Minasyan, S. "Voyenno-tekhnicheskiye aspekty regionalnoy bezopasnosti i problemy kontrolya nad vooruzheniyem na Yuzhnom Kavkaze" // Region, Noravank Fund, No. 2 (6), 2005.} In the course of implementing the program, repairs to the Alekseyevka Air Base were carried out. This is where Georgian VVS helicopters are based. A contemporary border outpost and the "red bridge" checkpoint were set up on the Georgian-Azerbaijani border. Two patrol boats of the Point class were transferred from the US Coast Guard to the Georgian Coast Guard. Altogether, according to articles by the Export Control & Border Security (EXBS) program, aid valued at 134.58 million dollars was provided to Georgia in the 1992-2005 fiscal years by the United States.\footnote{Nichol, J. "Armenia, Azerbaijan, and Georgia: Security Issues and Implications for U.S. Interests": CRS Report for Congress. - Congressional Research Service. The Library of Congress. Updated August 1, 2006, with a reference to official data of the U.S. Department of State.}

The total count of American aid to Georgia in the military realm and in the sphere of security came to 379.02 million dollars in the 1992-2005 fiscal years,\footnote{Nichol, J. Armenia, Azerbaijan, and Georgia: Security Issues and Implications for U.S. Interests: CRS Report for Congress. - Congressional Research Service. The Library of Congress. Updated August 1, 2006, with a reference to official data of the U.S. Department of State.} and to a large measure this was without accounting for the implementation of the training programs GTEP and GSSOP-I accomplished in 2002-2006 with funding from the American Defense Department (approximately another 125 million dollars was spent, and only a small part of these expenditures was covered by FMF funding). It must be noted, however, that of the stated 379.02 million dollars, the basic part of the total funds (283 million dollars) went to all sorts of auxiliary programs, programs of cooperation in the realm of border protection, law and order, the struggle
against crime, smuggling, non-proliferation of WMD, etc. The direct military assistance affecting the material-technological equipping of the Georgian armed forces under the aegis of the FMF program from 1992-2005 amounted to only 83.29 million dollars, and the training of cadres under the auspices of IMET was a mere 7.18 million dollars.

After deducting the GTEP and GSSOP-I training programs, American military aid to Georgia prior to the overthrow of Shevardnadze at the end of 2003 can be evaluated, by our reckoning, as an average of approximately 20 million dollars a year in the 1998-2003 period. Aggregate real overall international military aid to Georgia in 1998-2003, by our calculation, came to 25-30 million dollars a year (still without counting the same GTEP) and thus was comparable to the total military budget of Georgia itself in 1997-2000. Beginning in 2001, the importance of this aid increased sharply, and from the moment of the beginning of the implementation of GTEP in 2002 and 2003, international military aid in fact increased even more. Altogether, in 2002-2004 the United States offered Georgia a total of 98 million dollars for military purposes. Therefore, in 2002 and 2003 overall military aid to Georgia on the part of all countries is estimated to amount to 50 million dollars per year, that is, actually three times more than the official defense budget of Georgia at that time, in reality covering 70% of the republic's expenditures on its defense needs. One may say that in the final years of Shevardnadze's rule, the Georgian armed forces almost completely passed into the keeping of the NATO countries, first among them the United States.

As for the situation after Saakashvili came to power, American military aid, first of all in the form of implementing the GTEP, GSSOP-I, and GSSOP-II, was of the most substantial economic significance in the early years of his administration (2004-2005), but later in view of the rapid buildup of Georgia's own defense budget, the role of such aid began to drop off sharply. In 2004 Georgia received a total of 30 million dollars in military assistance, with these programs included in the calculation, from the U.S. and in 2005 a record 74 million dollars, that is, a total of 104 million dollars over two years, while Georgia's own expenditures in these two years had already reached 300 million dollars. Beginning in 2005 the upsurge in Georgia's defense budget proceeded at an unprecedented pace. Expressed in terms of the annual doubling of military expenditures in relation to the previous year, in 2007 the defense budget of the republic approached 1 billion dollars. This coincided in 2007 with the completion of the last American GSSOP-II training, and with the decrease of American military aid to Georgia to the quite modest sum of 13-16 million dollars per year, which was to be spent, as far as one can judge, basically on the training of personnel. Moreover, the compensation for this international aid was the participation of Georgian troops in the operations under the aegis of the United States and NATO in Iraq, Kosovo, and Afghanistan, the sum total of which, compared with the amount of aid, matched the Georgian budget if it did not exceed it.

In the 1997-2006 period, Turkey provided aid to the Georgian armed forces to the sum of more than 37 million dollars. Specific types of military aid to Georgia, fundamentally in the training
of personnel, were also provided by Germany, Great Britain, France, Greece, a number of countries of Eastern Europe, and even the Peoples Republic of China.

In the final analysis, beginning in 2006, direct international military assistance ceased to play a directly substantive role in Georgia's force development, and the Georgian government increased the defense budget to such an extent that it could shift to a policy of large-scale armaments acquisition and re-equipping the armed forces of Georgia by means of purchasing quite large batches of contemporary armaments and military hardware of its own choosing.

Table 1. Georgia's actual military expenses in 2003-2008 (with taking into account foreign military aid)

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned expenditures, millions of Georgian lari</td>
<td>60.9</td>
<td>67</td>
<td>138.9</td>
<td>392.6</td>
<td>513.2</td>
<td>1100</td>
</tr>
<tr>
<td>Actual expenditures, millions of Georgian lari</td>
<td>60.9</td>
<td>173.9</td>
<td>368.9</td>
<td>684.9</td>
<td>1495</td>
<td>1545</td>
</tr>
<tr>
<td>Actual expenditures, millions of dollars</td>
<td>30</td>
<td>97</td>
<td>203</td>
<td>388</td>
<td>940</td>
<td>1003</td>
</tr>
<tr>
<td>Share of actual expenditures in Georgian GDP, percentages</td>
<td>0.7</td>
<td>1.8</td>
<td>3.2</td>
<td>4.9</td>
<td>8.0</td>
<td>8.1</td>
</tr>
</tbody>
</table>


Table 2. American direct military aid to Georgia in fiscal years 2007-2010 (millions of dollars)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010 (request)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Military Financing (FMF)</td>
<td>9.7</td>
<td>9</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>International Military Education and Training (IMET)</td>
<td>1.16</td>
<td>0.761</td>
<td>1.15</td>
<td>2</td>
</tr>
<tr>
<td>Non-Proliferation, Anti-Terrorism, mine clearing, and Related Programs</td>
<td>5.15</td>
<td>3.21</td>
<td>2.2</td>
<td>No data</td>
</tr>
<tr>
<td>Total</td>
<td>16.01</td>
<td>12.982</td>
<td>14.2</td>
<td>&gt;18</td>
</tr>
</tbody>
</table>

Source: U.S. Department of State

It is necessary to single out two tendencies: the significant rise in military expenditures under Saakashvili (24.5 times larger in 2007 in comparison with 2003, which evidently is a world record -- in actuality, however, after taking account of what was not included in the 2003 index of foreign military aid, this growth was somewhat smaller) and the widespread practice under Saakashvili of repeated increases in the defense budget in the course of a year.
The most indicative year is 2007, when actual expenditures (after three increases in the budget of the Ministry of Defense in the course of a year) were 2.91 times greater than planned outlays and amounted to 940 million dollars, which was connected to a significant degree with:

- increase in the numerical size of the Georgian contingent in Iraq
- higher pay for servicemen
- increase in the numerical size of the armed forces from 28,000 to 32,000 men and the planned creation of the 5th Infantry Brigade
- start of a program of training an active reserve of the National Guard
- purchases and modernization of armaments

The budget of the Ministry of Defense for 2008 was planned at a level of 1,100 million lari. The August war dealt Georgia serious military and economic harm and compelled the ministry in the second half of the year not to occupy itself with the future expansion of the armed services, but rather with the restoration of the damaged military infrastructure. As a result, in September-October the military agency was allocated another 445 million lari. Therefore, the actual expenditures, amounting to 1,545 lari (1,003 million dollars) in 2008, evidently included direct expenditures on the war and compensation for its consequences while reducing the actual budget for the development of the armed forces. In connection with the world economic crisis that then set in, it became all the more clear that Georgia was incapable of maintaining for a long time the (by world standards) unprecedented level of military expenditures at 8% of GDP that led to the contraction of the planned defense budget for 2009 (up to 940 million lari), thus cutting short the unbroken upward trend of growth.

Conclusions

When Saakashvili came to power, rapid growth began in the numerical strength and combat potential of the Georgian Army. The greatest successes were achieved in the sphere of training military personnel, developing a military infrastructure, purchases, and modernization of armaments and military hardware. The basic credit for this belongs to the political leadership, which substantially increased defense expenditures and, to a lesser degree, international military aid. By comparison with the time of the Shevardnadze administration, the Georgian Army also went to a qualitatively different level by summer 2008, presenting a serious threat to the former autonomous regions of the Georgian SSR. At the same time, however, numerous doctrinaire contradictions, unstable planning, and serious problems in the realm of the training of personnel that were intensified by the rapid upsurge in the numerical strength of the armed forces burdened the Georgian force development under Saakashvili and periodic purges of army personnel for political reasons. No sort of preparation followed the headlong growth of the Georgian Army, and this led to the appearance of a mass of green, poorly trained commanders.

The comprehensive work of Mikhail Saakashvili in the reorganization of the Georgian Army came to a head in August 2008 when the ambitious, nationalistic Georgian president threw his troops into the conquest of South Ossetia. In the operation to seize Tskhinval, the basic combat ready forces of the Georgian Army were activated (with the exception of the main forces of the 1st Infantry Brigade then stationed in Iraq). The adventuress military campaign immediately resulted in an armed clash with Russia and a massive counterblow by Russian troops. Only three
days later, the Georgian forces began a hasty retreat from South Ossetia, which quickly developed, into a flight in the direction of Tbilisi with a significant portion of arms and hardware left behind. Mobilization of reservists, carried out in conjunction with the doctrine of "Total Defense," did not raise the combat potential of Georgia in view of the low level of training and depressed morale of the mobilized troops, and the inadequate number of commanders for them. Russian aircraft suffered more losses from the "friendly fire" of their own troops than from the actions of the Georgian PVO. The Georgian defense system demonstrated the extreme weakness of its organization, the low level of its command structure, and its complete lack of training for a big conflict. The luster of annual parades proved to be tinsel, clearly showing that in spite of all the efforts taken by Saakashvili, his army nonetheless was not a full-fledged contemporary, combat-ready military force capable of resisting the army of a great power, into a confrontation with which Saakashvili recklessly plunged Georgia.
Chronology of Military Operations Between Russia and Georgia in August 2008

Anton Lavrov

Introduction

Mikhail Saakashvili came to power with slogans of the quick return back to Georgia of her separatist territories – Abkhazia, Adzharia, and South Ossetia. This quickly led to a further cooling of relations with these regions. Ajaria was annexed quickly and peacefully, but under the threat of using military force. An attempt to repeat the same scenario in South Ossetia caused armed opposition involving the Georgian Army, South Ossetian military forces, militia, and peacekeeping forces. Armed conflicts occurred in August 2004, and both Ossetia and Georgia suffered losses. Georgia brought tanks and other heavy combat equipment to the disputed republic's borders and captured a number of disputed heights. Sixteen Georgian servicemen died as a result of later conflicts. The effectiveness of Russian peacekeeping forces was limited after open threats by the Georgia Ministry of Defense to utilize forces against them if they intervened.

Yet the South Ossetia conflict had not grown into a full-scale military operation. It became obvious for Georgian authorities that the army at their disposal did not give them a major advantage over even this relatively small separatist region. The readiness of Ossetians to defend their independence with arms became evident. That is why an attempt to take over with force would turn into a prolonged bloody conflict. There was even less chance to take control of Abkhazia, because it had a much stronger army.

The Georgian Army withdrew from South Ossetia and left most of the previously captured heights. Georgian authorities started a transformation of the Army to upgrade its military potential to fight separatists. In the next few years under the rule of Saakashvili, major military reform took place, which drastically changed the makeup of the Georgian Army. This led to a rapid growth of military expenses in 2007-2008 up to 8% of the Gross Domestic Product of Georgia. The Georgian Army was completely changed into a professional organization. It went through a massive rearmament program. Georgia purchased over 100 T-72 tanks, dozens of heavy artillery units, and more than 200 units of light armored vehicles. There were acquisitions of attack and transport helicopters. Highly effective unmanned aerial vehicles were bought from Israel, which allowed intelligence gathering throughout the territories of the unrecognized countries. Every year a 25,000-man trained military reserve was formed that was projected to reach a total of 100,000 servicemen.

Full-scale military exercises accompanied intensive combat training of the refurbished Georgian Army. Practically all of the exercises were focused on offensive operations with the use of large
numbers of armored vehicles and artillery. After the defeat of the separatist units, the Georgian Armed Forces Command expected to face resistance in these territories, and they therefore paid close attention to counter-insurgency operations.

The US provided a great deal of assistance in training the Georgian Army. Georgia sent a large contingent to Iraq, and the US began a large-scale training program for military operations there. Their main task was to conduct counter-insurgency operations. The Georgian Army successfully reinforced its newly acquired skills in direct actions in Iraq. Although the new skills learned with assistance of the US were very valuable, they did not address full-scale combat. The program did not include training for large-scale actions including artillery, armored vehicles, and aviation. It also did not concentrate on defense techniques against stronger opposition.

Georgian Special Forces carried out intensive reconnaissance activities in the territories of Abkhazia and South Ossetia. Along with traditional counterintelligence activities, they made wide use of technical means. Radio Intelligence Services controlled all communication carried out via cellular phones in the territory of South Ossetia and parts of Abkhazia. After Georgia acquired unmanned aerial vehicles, they regularly conducted reconnaissance of bases and positions of the military forces of the unrecognized republics and the peacekeeping forces in them. Besides, drones on a regular basis filmed key objects such as villages, Inguri River GES, bridges, tunnels, ports, and so on. It was a common practice to purchase high quality photographs of key regions from foreign commercial providers of satellite cartographic services. Using these, the Georgian side, for example, monitored progress of the building of Russian peacekeeping bases in South Ossetia. In addition, these photographs were utilized for drawing detailed maps of terrain in planning offensive operations.

Regular army troops played the part of Georgian peacekeeping forces in the area of the Georgian-Ossetian conflict. It allowed the Georgian Command to familiarize the personnel with the area of future combat operations. In order to do that quickly, they increased the frequency of rotation of the Georgian peacekeeping contingent. In some cases, Georgian battalions remained on station only about a month instead of the standard six months.

Parallel to modernization of the Georgian Army, much attention was given to the development and training of militarized small units and detachments of the Ministry of Internal Affairs of Georgia. A few detachments were formed for action against separatist regions. The MVD acquired armaments such as armored vehicles, artillery, and unmanned aerial vehicles (in particular, the Israeli Hermes 450). It allowed the Georgians partially to omit limitations on positioning Army units within the area of conflict and next to it. These militarized units of the Georgian MVD became a disturbance to the peace of the region.

The armies of Abkhazia and South Ossetia practically stagnated at the same time. A lack of influx of heavy armaments from outside of the country and maintenance facilities for existing ones brought their armies into gradual decline. Even if Abkhazia still tried to keep a marginally efficient regular army, South Ossetia was forced to depend almost entirely on militia armed with light infantry weapons and mortars. By 2008, the quantity of South-Ossetian tanks in good working order was reduced to one composite company of hopelessly outdated T-55s (about 10
units). The amount of heavy artillery was limited to a few units of self-propelled 2C3 "Akatsia" howitzers and "Gvozdika2C1's and several towed guns.

It was obvious that the balance of power in the region had changed considerably. The Army of Abkhazia and the insignificant armed forces of sparsely populated South Ossetia practically lost all hope of resisting a Georgian offensive. Lightly armed peacekeeping contingents of Russians in these areas (about 500 men in South Ossetia and about 3,000 in Abkhazia) also were not able to resist an offensive of the renovated Georgian Army. It became clear that the only possible means of protecting the unrecognized republics would be a direct military intervention of the Russian Army in case of an attempt by Georgia to recover the separatist territories by force.

**Russian Forces in the Region**

With tensions rising between Russia and Georgia and the growing potential of the Georgian Army, Russian authorities began seriously considering the possibility of armed conflict in the surrounding separatist regions of Georgia. However, no special activities took place to prepare for a war with Georgia. In case of escalation of the situation, there was a plan to manage it with the armed forces located in the area. Therefore, troops of the North Caucasus Military District, airborne units, and the 4th Air Force and Army Air Defenses had to carry out military operations.

The North Caucasus Military District was one of the most efficient military districts of Russia mainly because of many years of conflict in Chechnya and neighboring regions. The troops of this district had gained valuable combat experience. They went through restructuring. This district undertook the most intensive experiments with transforming troops into a brigade structure. Two new mountain motorized infantry brigades were formed in Dagestan and Karachay-Cherkessia. Many units in the district were kept in a constant state of readiness for combat. Each combat regiment was capable within 24 hours of receiving an order to form an efficient tactical battalion comprised of about one third of the regiment.

The NCMD had the highest percentage of professional contracted servicemen in comparison with other districts. The 42d Motorized Infantry Division, unique for the Russian Army, was developed in Chechnya. This division, the only one in the country, was set up at combat strength and fully staffed by recruited personnel.

Notwithstanding many years of involvement in combat operations, the situation with modern combat equipment supply was poor. The perspective of an armed conflict with Georgia did not make an impact on the situation. There were no first-rate heavy armaments in the district. The most advanced were several dozens of somewhat upgraded T-72s dispersed over different tank subunits of the district. T-80 and T-90 tanks were not a part of the standard equipment. The 42d Motorized Infantry Division acquired totally outdated T-62s, fit for counter-insurgency actions, but hardly useful in today's fighting. Motorized infantry also did not have the most modern equipment. Along with the BMP-2 and the BTR-80, which were not the newest, most advanced versions, they used large numbers of outdated BMP-1s and MT-LB's.

Taking active part in the Chechen War, the Russian 4th Air Force and Army Anti-Aircraft, which was concentrated in this region, possessed a considerable quantity of aviation and also
practical combat experience. The Army Air Force consisted of three fighter squadrons and one Air Force Base with fighters in Armenia; two bomber, three combat support, and one surveillance squadron; and three helicopter squadrons with one Air Transport base. At the same time, the 4th Air Force and Army AA did not account for new modernized equipment. Only the 487th Helicopter Squadron in Budennovsk received some units of modern Mi-24PM attack helicopters, and the 368th Combat Support Squadron also in Budennovsk acquired about ten upgraded SU-25SM attack planes.

Nevertheless, Russian forces, however widely dispersed over a sizeable territory of the district and not equipped with first-rate Russian armament, still considerably surpassed Georgia in strength and military power. In addition, the Russian command had the ability to transfer extra units of highly mobile airborne troops. Apparently, Russian authorities and the High Command believed that taking all of this into account should stop Georgia from thoughtless attempts at military action against Abkhazia or South Ossetia.

Starting in 2006, full-scale military training of the North Caucasus Military District had been conducted on a regular basis. Among its goals was that of demonstrating Russian military forces in the area to Georgia. The most prominent exercises were "Caucasian Frontier-2006," "Caucasian Frontier-2007," and "Caucasus-2008." They were conducted in the summer as a series of training exercises of the 58th Army and the 4th Air Force and Army AA, which were stationed in this area. In addition to these two, some regiments of the Airborne Forces and the Russian Black Sea Fleet were engaged as well. As usual, participants from the Airborne Troops were: a tactical battalion group of the 76th Pskov Airborne Division and regiments of the 7th Novorossiysk Air Assault Division.

Every year the quantity of participating troops was increasing. Its number reached 10,000 troops and several hundred armored vehicles during the "Caucasian 2008" maneuvers.

An explosive situation arose in the first half of 2008 in Abkhazia accompanied by a series of incidents involving flights of Georgian unmanned aircraft over Abkhazian territory, and also a buildup of Georgian troops along the border with Abkhazia. Three UAV Hermes 450s were shot down with the aid of the Russians.

The Russians had to increase their peacekeeping contingent in Abkhazia, bringing it up to the permitted 3,000 troops. In addition to three Motorized Infantry battalions of the 131st Special Motorized Infantry Brigade located in the republic, they brought in a tactical battalion group of the 7th Airborne Attack Division and two companies of Special Operations forces. They also temporarily brought in units of Russian railway troops to fix rail tracks making it easier to move reinforcements in case of a start of military conflict.

Contrary to the previous August War, no unusual observed reinforcements were added to Russian troops in the South Ossetia and Russian regions close to it. The scale of the "Caucasus-2008" maneuvers was increased from the previous year, yet there was little difference overall comparing it to the exercises of prior years. It was noticed that the Russian High Command was paying more attention to Abkhazia.
The landing of a marine company from a large landing craft on the beach of the Sochi Imeretinsk Lowland was carried out within the framework of the exercises. This area is just a few kilometers from the Russian border with Abkhazia. Also, unusual was a shift of a small number of Su-24 bombers to the Sochi Airport, where they practiced their flights.

Aside from large-scale yearly maneuvers, there were many small routine combat exercises in the region. In periods of strained political relations with Georgia, or escalating military situations in areas near separatist regions, there was a practice of carrying out unscheduled training. During these exercises, usually a small Russian force in North Ossetia would temporarily deploy in the immediate proximity of the South Ossetia border. This group had to assist peacekeepers if Georgia were suddenly to attack.

**Plans of the Opposing Sides**

The main requirement of the Georgian plan for an offensive against South Ossetia in 2008 was a speedy advance. Using the advantage of the overwhelming superiority of its forces, the plan was to rout the main forces of South Ossetia with maximum speed, to capture the capital – Tskhinvali, and block the Transkam to prevent the transport of volunteers from Russia. The entire operation had to be conducted rapidly, and occupation of the South Ossetia territory and major settlements had to be done in 3-4 days. It was planned to establish Georgian administration of South Ossetia under the leadership of Dmitriy Sanakoyev and announce the reinstatement of Georgian control over this separatist region. Then methodically suppress isolated areas of resistance. 40,000 reservists were needed for successful occupation of the territory and counter-insurgency. Their training was completed before the war.

Large forces of the Georgian Ministry of Defense and Ministry of the Interior were to be utilized in the offensive operation. It was planned that the 4th Infantry Brigade would drive west from Tskhinvali and take the village of Khetagurovo, and the 3d Infantry Brigade drive east and occupy Prisskie Heights and also the villages of Dmenis and Sarabuk. Then both brigades would circle around the city from the north and unite at Gufta village to complete the encirclement. After this, they would quickly move forward towards Dzhava and the Roki Tunnel to cut off outside assistance for Ossetian units. At the same time, troops of the Georgian Ministry of Interior and Army Special Forces with the support of artillery and tanks had to occupy and secure Tskhinvali itself. An artillery brigade was to support Georgian forces during all stages of the offensive with intense fire. Small units, about the size of a battalion, were planned to be used for attacks in secondary sectors such as the Leningori and Znaur areas, and the Kvaisa township.

The main problem of the Georgian Plan of Operation was an utter disregard of the possibility of the involvement by the Russian Army in the conflict. No preparations to resist a possible entrance of Russian troops were noted. Georgians as well, did not undertake reasonable measures to provide air defense attack units with existing arms and equipment. The personnel were not informed about a possibility of conflict with Russian troops. The reason for the odd confidence of the Georgian command was not completely clear.

Most likely, Georgia hoped that by offering guarantees of non-aggression with the Russian peacekeeping contingent in the republic it would manage to avoid a conflict with Russia, or at least, to delay it. It was probably planned that Russia would try to use diplomatic means at first,
then work out a political decision of military intervention as well as troop deployment and concentrations and that this would take several days. By that time, the major part of the territory and villages of South Ossetia and the Roki Tunnel would be under the control of Georgia. In this scenario, Russian intervention would be worthless.

Georgia's South Ossetia attack plans were not a secret to the Russian side. Only the start date of operation was unknown. Therefore, a political decision about protecting the vulnerable republic at the beginning of the offensive was made in advance. South Ossetia was in danger of being occupied in only a few days because of its modest size; the extremely vulnerable position of the capital (right on the border with Georgia), its weak army, and extensive Georgian enclaves in the republic. This is why the Russian Army Command took steps toward providing timely assistance.

After the "Kavkaz-2008" maneuvers, small troop concentrations that consisted of two reinforced motorized infantry battalions were left at the border with South Ossetia. It would, within a few hours of the Georgian attack, enter into the republic's territory and support the peacekeepers. Additionally, in cooperation with the Air Force, it had to hold the advance of Georgian troops from penetrating deep inland until the arrival of more reinforcements from Russia. Combat ready units of the North Caucasus Military District located in the vicinity of the border needed one to two days to arrive to South Ossetia. There was a plan of emergency transport of airborne units into the region if needed. To assure protection of Abkhazia in case of conflict there were plans to bring in additional Russian troops.

After the beginning of combat operations and the quick entrance of the Russians, the meticulously formulated Georgian plan, which did not include this possibility, became useless. The Georgian Command was forced to improvise. The Russian plan to shield the republic was a success. The skills acquired in many exercises allowed Russian combat troops to successfully conduct a march and deploy in real combat situations.

1-7 August

The intensity of shooting incidents between Georgian and South-Ossetian villages noticeably increased in July 2008. Yet rapid escalation of the conflict began only in August. Because of the escalation of the conflict, the considered starting point was 1 August. At 0800 hours on a secondary road heading from Georgia to a Georgian enclave to the north of Tskhinvali, a homemade explosive device blasted a Georgian Police Toyota Hilux and five policemen were wounded.

At 1817 hours on 1 August, sniper units of the Special Forces of the Georgian MVD began firing at the positions of the South Ossetia MVD. Four Ossetians were killed and seven were wounded. The majority of them were South Ossetian MVD troops. As a result, during the night of 1-2 August, intensive shooting took place with mortars and grenade-launchers. The number of Ossetians killed rose to six men, including one serviceman of the North-Ossetian peacekeeping battalion. The number of wounded increased to fifteen. There were civilians among them. Six Georgian civilians and one policeman were also wounded. The Ossetian leadership made a decision to evacuate women and children from Tskhinvali and the border village Dmenis, based
on the escalation of the situation. The organized evacuation to Russian territories started in the morning on 2 August. There was a sporadic movement of the population to the safer regions of South Ossetia.

Despite the escalation of the situation in South Ossetia, an announcement was made on 2 August about the completion of the "Caucasus-2008" large-scale maneuvers of Russian forces that were taking place at this time in the region. The majority of Russian troops participating in the exercises went back to their regular bases. The transport of a battalion tactics group of the 104th Airborne Regiment of the 76th Airborne Division from the South Ossetian border back to Pskov started on 2 August. The personnel were sent back by planes and the equipment by train.

A small unit routinely providing support to Russian peacekeepers in South Ossetia during Russian-Georgian tensions stayed near the South Ossetian border in the field located on the
training bases at "Tarskoe" and "Kesatikau." The core of it comprised two motorized infantry battalions: one of the 135th and the other of the 693d Motorized Infantry Regiments of the 19th Motorized Infantry Division. The total number of Russian troops was 1,500 men with 14 T-72 tanks, 16 self–propelled 2C3 "Akatsia" howitzers, and 9 MB-21 "Grad" Multiple Launch Rocket Systems.

Due to the escalation during the first days of August, the Russian Peacekeeping contingent in South Ossetia was brought to a combat ready state. There was calm in South Ossetia until 6 August. There were random insignificant exchanges of small-arms fire. On 6 August, exchanges intensified and almost the whole night from the sixth to the seventh, mortar and small arms fire from both sides continued. Fourteen mostly civilian men were injured in Tskhinvali, and four more in surrounding Ossetian villages.

On the evening of the 6 August, Georgian units at their bases received an order to prepare for combat. Georgian political leadership made a decision to start military operations against the republic. The operation unit was formed at the headquarters of the Commander of Georgian Land Forces, which defined a general plan of operation and started issuing orders for advancing the troops. On the night of the 6-7 August, the staff of the 3d and 4th infantry brigades issued field orders detailing their deployment near the South Ossetia border, and also the targets, tasks, and plans for starting an offensive. At 1300 hours on 7 August, Georgia began partial mobilization of its reservists. That same night, a station of Russian peacekeepers recorded five flights of combat-support aircraft over South Ossetian territory in the direction of Dzhava, but they did not do any bombing. They also saw a few flights of Georgian Unmanned Aerial Vehicles.

On 7 August, Georgians began evacuating women and children from the village of Ergneti, located near the border with South Ossetia. Georgian peacekeepers and policemen began to occupy the strategic heights that were under dispute with South Ossetia. It resulted in new intense fire. At about 1400 hours, in an area near the border with the Georgian village of Avnevi, a Georgian combat infantry vehicle BMP-2 was hit by South-Ossetian fire. As a result of a direct hit by a mortar shell, the BMP-2 was destroyed, two died and five soldiers of the 1st Infantry Brigade playing role of peacekeepers from the Georgian side were wounded. At 1430 hours, the President of Georgia, Mikhail Saakashvili, issued an order to start preparations for an offensive against South Ossetia. They started moving the Georgian Army to the locations for an attack and also partially mobilized reservists according to the plans of operation prepared in advance. Simultaneously, the officers of the Georgian part of the Staff of the Combined Peacekeeping Force left the area of the Tskhinvali Headquarters altogether. Georgian observers also left various bases in the territory of South Ossetia.

During the day on 7 August, there were exchanges of fire between positions near the village of Khetagurovo and the Georgian villages of Avnevi and Nuli. Both sides used small arms, mortars, and grenade-launchers. Less intense exchanges of fire occurred between Georgian enclaves and Tskhinvali. At 1545 hours, Georgian subunits started firing on Khetagurovo and the southern suburbs of Tskhinvali with self-propelled artillery and tanks. They suppressed the Ossetian positions near Khetagurovo. The Georgians' use of heavy combat equipment and
artillery caused a sharp rise of intensity in the conflict. In connection with this, a unit stationed on a Russian training base at the border with South Ossetia was brought to a combat ready state.

The intensity of fire died down toward evening. At 1936 hours, Mikhail Saakashvili in a TV address announced a unilateral cease-fire by Georgia. Afterwards only sporadic exchanges were noticed. Yet the transport of Georgian troops and units of the MVD continued to the combat zone, putting them in position to begin an attack. From observation points on the heights around Tskhinvali, Russian peacekeepers and South Ossetian army troops watched the approach of numerous columns of the Georgian Army. By 2300 hours, concentration of the core of the Georgian forces was completed. It was conducted quickly and efficiently (it has to be taken into consideration that some of the troops were moved to the combat area in advance). As a result, dozens of tanks, heavy artillery, and rocket launchers concentrated in the Georgian sector of border area, where the location of heavy forces was prohibited.

The 4th Infantry Brigade moved forward from Visiani (Tbilisi) for the assault on the left flank of the Georgian troops. It had to attack the village of Khetagurovo with a goal of occupying it, and then cut off the Zari road, with part of the forces occupying the settlements of South Ossetia to the west from Khetagurovo. It was later planned to move forward along the Zari road towards the village of Gufta and to the strategically important objective of Gufta Bridge. The 3d Infantry Brigade from Kutaisi was concentrating on the left flank, to the east of the city. The concentration of its troops was completed by the morning of 8 August, and a tank battalion of the brigade arrived by noon. The goal of the 3d Brigade was to storm the Prisskie Heights, the villages of Dmenis and Sarabuk, envelop the city, and move toward the Georgian enclaves in the Liakhvi Gorge and the village of Gufta, where it had to meet the 4th Infantry Brigade and, therefore, to complete the encirclement around Tskhinvali.

At the center of the assault and while securing Tskhinvali they formed a unit of combined subunits of special operations of the Georgian Ministry of Interior. There were several dozen units of light armored equipment (primarily Cobra armored cars with 12.7 mm machine guns and 40 mm automatic grenade-launchers). Their support troops were a Detached combined tank battalion from Gori, a special operations unit, and a detached light infantry battalion of the Georgian Ministry of Defense (a former marine battalion).

The 53d Light Infantry Battalion of the Infantry Brigade from Khoni was backing up the unit. A Georgian peacekeeping battalion comprised of the 11th Light Infantry Battalion of the 1st Infantry Brigade (its two other light infantry battalions were in Iraq), and a mechanized company of a detached tank battalion. Additionally, an artillery battalion of the 1st Infantry Brigade was also involved. Self-propelled guns and multiple rocket launch systems of an artillery brigade based in Gori were brought out as well. Firing positions were moved forward in advance to the main heights in the Tskhinvali region and the villages of the Georgian enclave.

On the west border of South Ossetia, the Georgians formed two small units, the goal of which was that after the attack on the poorly protected flank, to take over the settlement of Kvaisa and make an attempt to approach Dzhava in order to cut off the Transcaucasus highway with a later possibility of occupying the Roki Tunnel. This task in the area of the settlement of Perevi was assigned to a detached combined mountain rifle battalion and a detachment of police special
forces, and in the area of the settlement of Kvaisa to a combined battalion of the Georgian MVD Department of Constitutional Protection.

The total number of the army units deployed for the Georgian assault on South Ossetia on the morning of 8 August was about 12,000 troops and 75 T-72 tanks. Among those, Georgian MVD forces included 4,000 troops and 70 Cobra armored cars. Only the 2d Infantry Brigade stayed on the base in Senaki, and its purpose was cover West Georgia if the Abkhazian opened a second front. A part of the 5th Infantry Brigade together with MVD small units defended the Kodori Gorge.

At 2330 hours on 8 August, the Georgian Army received orders to open fire. At about 2335 hours, a Georgian artillery brigade and an artillery infantry brigade began range finding for the artillery to strike targets in Tskhinvali, reconnoitered in advance the South-Ossetian forces' defense positions, the city itself, and nearby villages. They struck using mortars, self-propelled and towed artillery (122, 152, and 203 mm), and multiple launch rocket systems of 122, 160, and 240 mm.

At 2345 hours, a telephone conversation took place between the Commander of Combined Peacekeeping Forces, Russian Major-General Marat Kulakhmetov, and the Chief of Staff of Peacekeeping Operations of the Georgian Ministry of Defense General Mamuki Kurashvili. In the course of the conversation, Kurashvili informed Kulakhmetov about the beginning of Georgian military operations. Based on certain information, Kurashvili during the conversation offered Russian peacekeepers guarantees of immunity if they would not hinder the Georgian advance.

8 August
South Ossetia

More than 100 units of artillery and mortars, and more than 30 rocket launchers were firing at the capital of South Ossetia Tskhinvali and its suburbs. The Georgians tried to hit primarily administrative and defense targets, which they planned to destroy. The list of targets was prepared in advance. Since the fire was not accurate, it resulted in considerable destruction of residential areas and civilian structures. Almost the entire area of the city appeared to be in the fire zone. Isolated Georgian shells flew over the city to the north and even exploded in the villages of the Georgian enclave (for example, Tamarasheni).

At first, Russian peacekeeping forces were not a target of artillery fire, but starting at midnight; random shells occasionally hit their territory. At 0003 hours, the Headquarters of the Combined Peacekeeping Forces territory was struck. At 0045 hours, the first hit on the Upper Campground of Russian peacekeepers was recorded. Peacekeeper observation posts at the border with Georgia were subjected to sporadic rifle and mortar fire right from the first minutes of the conflict.

At about 0030 hours, General Mamuka Kurashvili made an announcement to the media blaming the South-Ossetian side for the continued fire on Georgian villages. He announced a cancellation of the Georgian unilateral cease-fire, which had been announced several hours
earlier and the beginning of the "operation of re-establishing constitutional order in the conflict zone."

At 0040 hours, Georgian artillery of the 4th Infantry Brigade started a 20-minute artillery barrage before the attack on Khetagurovo. At 0100 hours in the morning, a brigade of the troops of the 41st and the 42d Light Infantry Battalions went on the offensive, and quickly occupied the village of Muguti without a fight, and after a small engagement with Ossetian forces, captured Khetagurovo by storm. At the same time, the 43d Battalion of the same brigade advanced, marching towards the regional center Znaur. It did not meet resistance and rapidly occupied a few frontier villages of the Znaur region.

At approximately the same time, the Georgians started offensive action against Ossetian villages in the remote Leningori (Akhalgori) region of South Ossetia. The territory had been in dispute with Georgia for a long time. The attack was carried out by small detachments of Special Forces of the Georgian Ministry of the Interior. A small population of Ossetians in this region and almost nonexistent Ossetian defense measures and armed troops allowed Georgian subunits to quickly occupy a few of the Ossetian villages without combat and losses in this general sector.

Almost immediately after the beginning of the massive strike against South Ossetia at 0100 hours in the morning of 8 August, Russian troops, located on training bases in close proximity to the border with South Ossetia, received an order from the General Staff to advance towards the Roki Tunnel. Two battalion tactical units of the 693d and 135th Motorized Infantry Regiments of the 19th Motorized Infantry Division started the advance.

In a telephone conversation at 0100 hours in the morning, Russian Minister of Defense Anatoliy Serdyukov reported to the President of Russia, Dmitriy Medvedev, about the beginning of the Georgian assault. It was probably during this conversation that the idea of sending the Russian Army to South Ossetia was sanctioned. Already at 0200 hours on 8 August, the first Russian armored equipment from a battalion tactical unit of the 693d Motorized Infantry Regiment had crossed the Russian border and a battalion tactical unit of the 135th Motorized Infantry Regiment followed.

In accordance with the initial plan, these two reinforced battalions were to establish control over the road from the Roki Tunnel to Tskhinvali and provide safe entrance to the republic for additional Russian troops, which was to counterattack and throw back Georgian troops. The section of the road from the Tunnel to Dzhava had to be controlled by a battalion unit of the 693d Motorized Infantry Regiment; responsibility for the section from Dzhava to Tskhinvali was assigned to a tactical battalion unit of the 693d Motorized Infantry Regiment.

After the march by columns through the Roki Tunnel, they continued moving towards the settlement of Dzhava. A surveillance company of the 693d Motorized Infantry Regiment, which was a part of a battalion tactical unit, was left behind to provide security for the south entrance of the Roki Tunnel. Motorized infantry platoons were left behind at key sections of the road for security of the battalion tactical unit, as they moved forward.
At 0300 hours, located on its base in Troitskaya and some other units of the North Caucasus Military District, the 503d Motorized Infantry Regiment of the 19th Motorized Infantry Division was put on alert. Among those brought in to action were units of the 42d Motorized Infantry Division located in the Chechen Republic: the 70th and the 71st Motorized Infantry Regiments, and the 50th Self-Propelled Artillery Regiment. A battalion tactical unit of the 104th Airborne Regiment of the 76th Pskov Airborne Division went on alert as well. All this happened on the day after they had returned to Pskov from their exercises in North Ossetia. The Georgian 2d Infantry Brigade at its base in Senaki close to Abkhazia also received orders at the same time to move to the combat zone. At 0300 hours, the Georgian Government announced a total mobilization of Georgian reservists.

After several hours of combat fire at Tskhinvali, a Georgian combat support unit started moving towards it. A small number of South Ossetian artillery and mortars opened fire at a few positions where Georgian troops were concentrated near the village of Zemo-Nikozi, but the fire was poorly organized and ineffective. The defenders only managed to slow down the advance of the Georgian troops. At 0400 hours, Georgian troops started approaching the city and entered into combat with small-scale units of the South-Ossetian Ministry of Defense, OMON, and militia, which were trying to stop the advance of the Georgian Army, and assaulted the strongholds of the Ossetians. A few units of armored vehicles of the North Ossetian Peacekeeping Battalion "Alania" took part in combat on the South-Ossetian side. During these combat operations, one BMP-2 of the battalion was destroyed near the village of Tbet.

At sunrise, Georgian troops located on the west border of the republic started to attack. The Special Forces of the Georgian MVD Department of Constitutional Protection attempted to advance toward the settlement of Kvaisa. Right at the border they found fortified Ossetian positions occupied by a platoon of the Ministry of Defense of South Ossetia; they lost a few men, who were wounded; and withdrew back to Georgian territories. There were no more attempts to attack by the Georgians in this area. There was just sporadic firing at the Ossetian territories and the settlement of Kvaisa.

At sunrise on 8 August, three Georgian Air Force attack helicopters were transported from an air base at Alekseyevka (near Tbilisi) and had to provide air support for the advance of Georgian troops in the Tskhinvali region. An order was issued to prepare an advanced landing field with supplies of gas and ammunition for them near Kaspi.

At 0600 hours, the 3d Georgian Infantry Brigade started an advance from the Eredvi area to the west of Tskhinvali. Its three light infantry battalions were advancing in the direction of the large Ossetian village of Dmenis and the village of Sarabuki, securing neighboring villages and taking under control strategic heights. During the advance, the brigade met resistance forces from the Ossetian villages. The size of the resistance troops was about the size of a company. They were firing shells and grenades out of fortified positions on the Prisskie Heights and went into combat with them.

At 0600 hours, a detachment of the Georgian MVD Special Forces, which were concentrated in Zemo-Nikozi, started an assault. The advance was moving past the upper camp of Russian Peacekeepers. Exchanges of fire between Georgian forces and Russian peacekeepers on the
approach to the Russian camp slowed down the Georgian advance. Cobra armored cars opened fire with large caliber machine guns at the Russian camp. The Commander of the Russian Peacekeeping Battalion moved three BMP-1s to the camp perimeter to prevent its capture. Georgian troops called for additional tanks of a detached tank battalion.

At about 0630 hours, the Russian peacekeeping contingent suffered its first losses. Three Georgian T-72 tanks came from Zemo-Nikozi to the South Camp of the Russian peacekeepers in the suburbs of Tskhinvali and started firing. The very first hit destroyed an observation post on the roof of the barracks and a Russian peacekeeper and an Ossetian observer who were there were killed. After this, three BMP-1s of a peacekeeping battalion, located at the guard post of the entrance to the camp, were hit by tank fire. Five crewmembers were killed: privates Gimatov, Marchenko, Polushkin, Shmyganovskiy, and Yasko of the 135th Motorized Infantry Regiment. Antitank hand grenade launchers hit one Georgian T-72 and it got stuck in the irrigation canal 300 meters from the camp. The rest moved back a safe distance and continued to fire. Additionally, the camp of Russian peacekeepers became a target for direct artillery and mortar fire.

A column of Russian armored vehicles consisting of the two above-mentioned tactical battalion units, reached the village of Dzhava at 0630 hours in the morning, and without stopping continued to move to Tskhinvali. Their task was to block the Transcaucasus highway at the Georgian enclave and the Gufta Bridge, and also the Zari road. It had to prevent the rapid break-through of Georgian troops to Dzhava and subsequently the Roki Tunnel and also to secure the positioning of Russian forces in the republic.

During the march between Dzhava and Tskhinvali, a column of the 693d Motorized Infantry Regiment was bombed by four Georgian Su-25s attack aircraft, which were flying to the strategically important Gufta Bridge. Its destruction could make it difficult to transport South Ossetian and Russian Federation troops to Tskhinvali. The air raid on the bridge, despite a few close hits, did no damage and did not cause any losses to the Russian troops. Except for the bridge, there were other military targets of the air raid: the base of South Ossetian forces near Dzhava, and an equipment park of the Northern Ossetia Battalion. As a result of the raid, a few houses in the surrounding villages were destroyed. There were casualties among civilians. The pilots reported to the Georgian Command of the considerable amount of military equipment advancing on the road to Tskhinvali.

Georgian attack planes returned to base and began preparing for the next flight, yet it was cancelled after Russian planes appeared in South Ossetian airspace. The Georgian Command did not dare to repeat the raid because vulnerable Su-25s could become an easy target for Russian fighters, which began patrolling the airspace. It could result in unreasonable loses from the small number of Georgian attack planes and pilots. The Su-25s were dispersed and camouflaged at the airfield. They did not take off anymore, but as a result did not suffer loses even during the bombardment of the airbases.

The 693d Motorized Infantry Regiment came under small-arms fire from the Georgian enclave while approaching the Gufta Bridge. It is possible that it was a Georgian surveillance-diversion unit looking to destroy or block the bridge. They were suppressed by counter fire from the tanks
of a battalion tactical unit of the 693d Motorized Infantry Regiment and did not resist afterwards. At the time when the battalion marched over the bridge, the BMP-2 # 005's engine stalled. In order to unblock the traffic, a military infantry vehicle had to be quickly pushed off the bridge.

At 0745 hours, a medical aid station of the Russian peacekeepers south camp was damaged and its three units of machinery destroyed by Georgian tank fire from the Zemo-Nikozi region. At 0830 hours, the medical aid station came under fire again and was totally destroyed together with some other structures within the camp.

At 0800 hours, a Georgian combined mountain rifle battalion and subunits of the police force started to advance from the Perevi region on the west border of South Ossetia. Georgian forces encountered militia resistance at the border of the Ossetian settlement of Sinaguri. They managed to subdue it by 1400 hours on 8 August. Afterwards a Georgian detachment advanced some distance and was stopped at the blown-up bridge. There were no combat operations in this area any longer.

By 1000 hours, the Georgian Army had subdued the counterinsurgency centers of South Ossetian villages and the North Ossetian peacekeeping battalion "Alania" on the south and southwest approaches to the city and had occupied several surrounding villages. Since the Georgian MVD unit did not succeed in entering and occupying the city quickly after occupation of Khetagurovo, the 41st and 42d Light Infantry Battalions of the 4th Infantry Brigade were reassigned from the Zari road to Tskhinvali to reinforce an assault unit. After they arrived, there was a renewed attempt to storm the South Ossetian capital.

By 1000 hours, almost all the armored cars of the Russian peacekeeping battalion and several units of armored vehicles located there were destroyed as a result of fire. The battalion personnel in the camp had to hide from the constant fire in the basement of the barracks and a heating facility. This left them with no possible means of effectively resisting the Georgian advance and preventing Georgian troops from entering Tskhinvali.

At about 1100 hours, subunits of the Georgian 4th Infantry Brigade entered the city from the southwest, by the road from the village Tbet. Special subunits of the Georgian MVD with support of armored vehicles of a detached tank battalion and a detached light infantry battalion entered the city from the south from the village Zemo-Nikozi. They did not encounter much resistance from the half-destroyed and burning Russian peacekeeping forces base. Nevertheless, a subunit was assigned to block and cut off the Russians from Tskhinvali. The peacekeeping base was practically surrounded.

Georgian troops and MVD forces moved along main streets of Tskhinvali setting up guard posts at crossroads and securing the area. South-Ossetian forces resisted with very small units, groups of lightly armed OMON men, policemen, and militia. These groups were not coordinated and suffered from a shortage of ammunition and antitank weapons. Areas of apartment high-rises in the south and southwest outskirts of the city became centers of insurgency.

The Georgians advanced successfully to the west of the city as well. At 1100 hours, battalions of the 3d Infantry Brigade occupied fortified Ossetian positions on the Kokhati Heights, captured
several mortars there, and moved to the edge of the village of Dmenis. Their advance slowed down there. South Ossetian military forces restricted movements of the Georgian troops by firing from surrounding heights, and soon the Russian Air Force made its first strikes against Georgian troops.

At 1100 hours, Russia began an air assault against Georgia. The Russian Air Force right from the start was engaged not only in attacking advancing Georgian troops, but also in bombing rear area strategic objectives. At 1030 hours the Viziani Military Base was bombed, which was a mobilization center of reservists. Several people were injured. At 1057 hours the base of a detached tank battalion in Gori was hit.

The largest (a few dozen men) and well-equipped group of South-Ossetian militia concentrated in the area of the staff of peacekeeping forces in Tskhinvali. The Chairman of the South Ossetia Security Committee, General Anatoliy Barankevich, assumed the leadership position of the group. At approximately 1400 hours, the Georgian T-72 # 406 tank of a detached tank battalion drove to the Staff of the Combined Peacekeeping Forces (Lower Compound) at the crossroads of Moskovskaya and Privokzalnaya streets. Anatoliy Barankevich, the Secretary of the South Ossetia Security Committee, hit the tank by firing an RPG-7. The round hit the turret and caused detonation of the ammunition, which resulted in the total destruction of the tank along with the crew. A few minutes later, the militia hit two more Georgian T-72s using the weapons of the same battalion at the same crossroads.

At practically the time the three tanks were destroyed, a couple of Russian Su-25 attack planes, hit the 42d Light Infantry Battalion of the 4th Georgian Infantry Brigade, which was resting in an oak grove at the western outskirts of the city. Over twenty Georgian soldiers were killed and a few dozen were wounded as a result of the bombing. The battalion panicked, ran, and left dead comrades and equipment including no fewer than three tanks (# 103, 109, 111) previously attached for reinforcement. The losses suffered in the city, combat operations of the Russians, and panicky rumors about "the destruction of the 42d battalion" led to an abrupt loss of morale among Georgian troops who were storming the city, and they started to retreat. Therefore, the furthest advance of Georgian forces in Tskhinvali occurred at 1400 hours of 8 August. By that time they had succeeded in controlling no more than 30 % of its territory.

At about 1400 hours, the core unit of the Georgian 2d Infantry Brigade, which came from Senaki, started to deploy in the combat zone. Its subunits gathered at the village of Takhtisdziri, and completed deployment by the end of the day. Several of the brigade's tanks and an infantry company, which were first to arrive, were immediately sent to the area of Eredvi to support the slowed down advance of the 3d Infantry Brigade and the 53d Light Infantry Battalion of the 5th Infantry Brigade sent from the reserves.

At 1415 hours, The Georgian government made an announcement on TV about a "humanitarian cease fire" from 1500 to 1800 hours for securing the exit of civilians from Tskhinvali. They offered amnesty to Ossetian militia insurgents who surrendered. They assigned one exit corridor for civilians, which led to the south into the Georgian territories. That offer stayed practically unnoticed by the city residents, who at the time were hiding in the basements from Georgian artillery fire and had no access to media outlets.
At about 1500 hours, Russian artillery of the 693d Motorized Infantry Regiment, and MB-21 "Grad" Multiple Launch Rocket Systems of the 292d Combined Artillery Regiment opened fire. By 1600 hours, they practically left Tskhinvali. Georgian forces consolidated in the southern outskirts of the city and the suburban area of Shanghai still blocking the Russian Peacekeeping Camp. Taking advantage of the respite, South Ossetian insurgents were able to fix lines of communication and coordinate plans, get ammunition supplies and start securing the city from counterinsurgency pockets of resistance.

The Georgian advance to the east was halted at almost the same time as the attack on the city was stopped. Light infantry battalions of the 3d Brigade withdrew from the occupied positions back to Ervedi due to the air raids by Russian and Ossetian forces. Tanks of the 2d and the 3d Infantry Brigades previously positioned at the approaches to Tskhinvali, withdrew deeper to the rear to avoid the Russian Air Forces.

At 1600 hours, the transport of a battalion tactical unit of the 104th Airborne Regiment by IL72s, of the 103d Military Transport Aviation Regiment of the Russian Air Force from Pskov to Beslan started. Simultaneously, the 19th Motorized Infantry Division continued moving into South Ossetia. The Russian Air Force continued the assault. Su-24s and Su-25 hit Georgian troops in the area of Tskhinvali and the Gori-Tskhinvali road, as well as strategic infrastructure targets of deep in Georgia.

At 1505 hours, the military base at Visiani, where the deployment of reservists took place, was bombed and suffered some losses among the reservists. At 1630 hours, two Russian Su-24M bombers assaulted the main Georgian Airbase at Marneuli. They destroyed three light transport An-2 planes of the Georgian Air Force. At 1700 hours, the raid was repeated by a couple of Su-25s, and at 1735 hours, by three Su-24Ms. The airport at Bolnisi was bombed as well. At about 1800 hours, the Russian Air Force lost its first aircraft. On the Zari road, in the area of concentrated Russian troops and South Ossetian militia forces, the Su-25 attack plane of Lieutenant Colonel Oleg Terebunskiy of the 368th Air Attack Regiment from Budennovsk was hit by mistake. The pilot managed to bail out successfully.

At about 1700 hours, another three Mi-24 attack helicopters of the Georgian Air Force from the airbase in Senaki, arrived at the temporary landing field. It brought a Georgian helicopter unit there to an impressive number of six Mi-24 helicopters. Yet it was difficult to use them because Russian attack planes dominated the airspace. For this reason, the Georgian Command did not dare to use their Mi-24s on 8 August.

At 1800 hours, transportation to the combat area by rail and the positioning of the main forces of the new 2d Infantry Brigade was completed. They started preparing for combat operations in the area of the 4th Infantry Brigade, located in Khetagurovo. At this time, in the assault on South Ossetia, the entire Georgian Army was engaged except for portions of the 1st and the 5th Brigades, and a significant portion of the Interior troops.

The retreat of Georgian forces from the villages of the enclave to the north of Tskhinvali began after failure of the attack on Tskhinvali and entrance of the Russian Army in the combat zone.
The city was abandoned by its residents, troops of the Georgian Peacekeeping Battalion of the 1st Infantry Brigade, policemen, and armed units of the Georgian administration of South Ossetia. The villages of the Big Liakhvi Gorge were almost entirely abandoned by the Georgian Armed Forces by nightfall.

At about 1800 hours, some Georgian Army subunits with several tanks of a detached tank battalion attempted to again move out of the Zemo-Nikozi region to the southern outskirts of Tskhinvali in the Shanghai district. While approaching the city outskirts, they came under the heavy artillery and mortar fire of Russian troops and Ossetian insurgents. As a result, they failed to advance and withdrew to the positions in Zemo-Nikozi at about 1900 hours.

Taking advantage of the respite, at about 1900 hours, a medical vehicle from the still surrounded South Compound was released due to the mediation of OSCE with 24 Russian peacekeepers having sustained severe and mild injuries. They were evacuated on the only still functioning armored truck 'Ural" left after an assault during which almost all the peacekeepers' vehicles were destroyed. After negotiations with Georgian subunits surrounding the peacekeepers camp, the car was released. While exiting the camp it came under mortar fire from the Georgians, but managed to break through the city to the Zari road, where it was met by forward subunits of the 135th Motorized Infantry Regiment.

At 2200 hours that night, the city was totally cleared of Georgian troops and was under the control of the Ossetian militia. After the retreat of Georgian forces from the villages of Tbet and Khetagurovo, the Zari road was cleared. On this road an advanced Russian detachment of a few T-72B tanks of the 141st Detached Tank Battalion of the 19th Motorized Infantry Division and a reconnaissance company of the 135th Motorized Infantry Regiment entered Khetagurovo, which was cleared of Georgian forces.

By the end of the day on 8 August, it became obvious that the Georgian assault on South Ossetia had been halted. The Georgian Military Forces were forced to withdraw from Tskhinvali in the central area, and had to position themselves at border villages on Georgian territory. To the east of the city, Georgian subunits retreated to Eredvi and Prisi, leaving most of their previously occupied positions in the morning and during the day. To the west of Tskhinvali, in the Znaur district, the 43d Light Infantry Battalion succeeded in advancing several kilometers towards Znaur, yet they did manage to occupy the regional center. Insignificant Georgian forces, which operated on the western border of the republic, did not make any critical progress. Georgians were successful only in the remote Leningori district where there was practically no presence of Ossetian forces.

The exact number of Russian troops brought to South Ossetia on 8 August is not known. Yet based on the data about the forces that were engaged in combat on that day, the number could be estimated from 3,000-3,500 troops with 30 tanks and the same number of self-propelled artillery units. This unit was approximately the same size as one Georgian infantry brigade and was markedly inferior to the total number of Georgian troops concentrated in Tskhinvali and its vicinity. It made Russian forces unable to carry out an active advance for the purpose of throwing out Georgian troops from the border of the republic and establishing a buffer zone to
eliminate the ability to shell South Ossetian territory. To support peacekeepers and the Russian unit, the Russian Air Force made 63 raids.

The Georgian Command, most likely knowing that they had the advantage in forces, decided to repeat the attack. For a new assault, the new 2d Infantry Brigade was concentrated and the troops that were engaged in operations on 8 August were reorganized and readied for combat. Georgian artillery did not suffer losses and continued shelling strongholds of the Ossetians and was getting ready to support a new attack with massive fire.

**Abkhazia**

It was not clear in first hours of the conflict whether an assault on South Ossetia would not be followed by an attack of the Georgian Army on Abkhazia. Large forces of Georgian military troops: the 2d Infantry Brigade in Senaki, units of the 5th Infantry Brigade in the Kodori Gorge, and several thousand troops of the Georgian MVD were located close the border and in the disputed territory on the upper part of the Kodori Gorge. Georgia also had an opportunity in the course of 1 to 2 days to mobilize and arm thousands of trained reservists.

Therefore, at 0200 hours, the Abkhazia Security Council started its meeting during which it made the decision to bring the Abkhazian army to a state of alert, move it to the border with Georgia, and begin the mobilization of reservists. At about 0500 hours, subunits of the Abkhazian Army in the Ochamchira and Gal districts of Abkhazia began moving forward. Among the subunits moving towards the border were the 1st Detached Tank Battalion and the 2d Detached Battalion of Marine Infantry. At the demand of the Commander of the CIS Collective Peacekeeping Forces they stopped at the border of the area of Limitation of Armaments, which was determined by the Moscow Agreement, and began positioning the troops.

The Russian Command made a decision to commence the urgent entrance of additional Russian troops into Abkhazia, mainly airborne forces. On the morning of 8 August, the 7th Airborne Division (mountain), based in Novorossiysk received an order to form three tactical battalions and to send them to Abkhazia. Part of this force had to be transported by sea.

By the evening, loading of the battalion tactical unit of the 108th Airborne Division onto ships of the Black Sea Fleet began at the Port of Novorossiysk. The big landing ship "Tsezar Kunikov" was the first to load. It quickly loaded 150 troops and 20 pieces of equipment for the regiment, and departed at 1900 hours. At 2030 hours the core part of the battalion unit, which returned from the training base Ramenskoye, concentrated at the port. The large landing ship "Saratov," which was on its way to Sevastopol with cargo at the moment of receiving a change of orders, came to the port during the evening. After it was unloaded, at 2300 hours the "Saratov" took on board the rest of the battalion tactical unit: 450 troops and over 100 pieces of equipment.

By nightfall, from the Novorossiysk Military naval base, several small fighting ships based there moved toward the coast of Abkhazia to protect it from the sea and secure the landing of the amphibious force. In Sevastopol, the flagship of the Russian Black Sea Fleet missile cruiser "Moscow" started preparations for emergency deployment.
At about 2345 hours, two Russian aircraft, presumably Su-24MP, took photographs of Georgian positions in the Kodori Gorge using flare bombs. These photographs were later used to prepare Russian and Abkhaz troops for an advance on the Gorge.

9 August
South Ossetia

At 0130 hours, Georgian artillery began a barrage before an attack by the 2d Infantry Brigade. Intensive fire continued until 2:30 a.m. in the morning; later there was only random firing. At about 6:00 a.m. in the morning, Georgian troops started advancing in different directions. The 22d and the 23d Light Infantry Battalions of the 2d Brigade with the support of tanks were moving forward towards Khetagurovo.

There they met resistance from Russian motorized infantry and tanks, which had entered the village by night on 8 August. It slowed down the advance of the Brigade. The subunits of the 2d Brigade lost at least two soldiers killed by long-range fire. A small Russian detachment at the same time retreated from Khetagurovo, through Tbet, broke into Tskhinvali using the still cleared road. Because by this time there were no Georgian troops in the city, the detachment reached the base of Russian peacekeepers on the southern outskirts with no resistance. By 0400 hours, a reconnaissance company of 23 soldiers of the 135th Motorized Infantry Regiment moved in and two T-72B tanks of the 141st Detached Tank Battalion arrived a little later. It made the situation with the surrounded base peacekeepers easier and allowed them to hold out until the evening of 9 August. Scouts with support provided by peacekeeping soldiers of the 107th Special Forces Detachment of the 10th Detached Special Forces Brigade secured the perimeter of the base. It prevented Georgian troops from taking it by assault. Additionally, a reconnaissance company was correcting fire for the Russian artillery.

At night the 43d Light Infantry Battalion started an assault in the Znaur district of South Ossetia. Together with a small unit of reservists they renewed the advance to the settlement of Znaur, which they had failed to occupy the previous day. To the west of Tskhinvali the 3d Infantry Brigade began advancing again in the direction of Dmenis and Tliakana. The Georgians continued to form a combined unit in the center, which was to make a third attempt of a large-scale assault on Tskhinvali.

This time the advance of Georgian troops in all sectors was carried out with greater caution and at a slower pace. They paused when they met fortified positions and resistance by the South-Ossetian forces. By 1200 hours, a subunit of the 2d Infantry Brigade easily occupied the deserted village of Khetagurovo, which was abandoned by the forward Russian detachment.

On 9 August in the morning, in just a few hours the Russian Air Force lost three attack aircraft. At about 0900 hours, the Georgian air defenses shot down a Tu-22M3 long-range bomber of the 52d Heavy Bomber Guard Squadron from Shaykovka during its flight over the Sachkher district of Georgia. Two crewmembers, Majors Nesterov and Pryadkin died, Major Malkov was injured and captured by Georgian troops, and the Crew Chief Lieutenant Colonel Koventsov went missing in action after he was ejected from the plane. A bit later, at about 1000 hours Georgian forces in the Shindisi district, firing a mobile ZPK, shot down a Su-24M bomber of the 923d
National Summer Testing Center in Aktyubinsk, which was on a raid to suppress Georgian artillery. The crew ejected, but Colonel Rzhavitin was killed upon impact. Colonel Zinov was injured and taken prisoner. At practically the same time, a Su-25SM attack plane of Colonel Kobylash, the Commander of the 368th Attack Air Force Squadron, was shot down (possibly by friendly fire). His plane was previously hit during an assault on a Georgian column. He successfully ejected over the Georgian villages of the Big Liakhvi Gorge and managed to reach his troops. Serious losses in a short period of time forced the Russian Command to reduce the use of the Air Force in combat until they could analyze the causes. After the loss of the Tu-22M3 the use of long-range aircraft was halted until the end of the conflict.

Random raids by Russian attack planes and bombers still continued. At 1130 hours, during the bombing of the Georgian Military base located on Sukhishvili Street in Gori, as a result of the bombing, followed by the fire and explosion of an ammunition dump that was located on the premises of the base, three five-story apartment buildings, which were close to this facility, were badly damaged. This incident caused the largest loss of Georgian civilians in the course of military operations. Fourteen people were killed.

At about 1300 hours, Georgian Mi-24 attack helicopters, taking advantage of the absence of the Russian Air Force in the air, made a raid and fired machine guns and unguided missiles at the positions of the 4th Battalion of the South-Ossetia Ministry of Defense in the village of Gudzbar and an asphalt plant in the outskirts of Tskhinvali. All helicopters returned undamaged to the base at Kaspi. Yet the raid did not cause any losses to the South-Ossetian and Russian forces and had no impact on the course of the conflict.

Although a Georgian unit was completing deployment in the area of Zemo-Nikozi for the new assault on the city, Russian reconnaissance did not discover the Georgians' plans. Taking advantage of the occupation of Tskhinvali by the South-Ossetian militia and the clearing of the Zari road, Lieutenant General Anatoliy Khrulev, the Commander the 58th Army of the North Caucasus Military District, came to a decision to transport into the city a Russian motorized infantry battalion; march to the south compound of Russian Peacekeepers; break through the blockade and take up a defensive position on the outskirts of Tskhinvali, and wait for the arrival of reinforcements. At 1400 hours in the afternoon, under the command of Khrulev himself, a part of a battalion tactical unit of the 135th Motorized Infantry Regiment, which consisted of the 2d and the 3d Companies of the 1st Motorized Infantry Battalion; and an operational unit of the Staff of the 58th Army, started to advance from a position on the Zari road in the direction of Tskhinvali with three armored vehicles.

Simultaneously, the Georgian side at 1400 hours began a barrage before a second assault on the city. A Russian column on the approaches to the city lost one BMP and three GAS-66 trucks, which were hit, but still continued to advance. Close to Tskhinvali, in the area of the village of Tbet, the column found two abandoned Georgian tanks, #110 and #125 on the road on 8 August and blew them up. At about 1500 hours, they entered the city from the west. At the same time from the south, from the village of Nikozi, Georgian units comprised of the 21st and 41st Light Infantry Battalions, a Detached Light Infantry Battalion, a unit of battalion of the 2d Infantry Brigade and other army subunits began to enter the city.
On the outskirts of the city, the Russian column met a reconnaissance company of the 2d Georgian Brigade. It was a surprise for both Russian and Georgian troops, and a short fight from close range resulted in losses on both sides. Among casualties, the Commander of the 58th Army, General Khrulev was injured as well as a few journalists riding with him. A Georgian subunit suffered losses and retreated from the fight. The Russian column continued to advance through the city toward the upper compound of Russian Peacekeepers.

At this time, the advancing Georgian troops began a new assault. Tanks, at close range, were firing at a half-ruined barracks' building where the majority of the peacekeeping battalion was hiding. The building caught fire, the basement filled with smoke, and this made the situation complicated for the Russian troops in the camp.

In the area of the settlement of Shanghai, on the outskirts of the city, at only 400 meters from the peacekeepers camp, at about 1530 hours, the head of the column of the 1st Battalion of the 135th Motorized Infantry Regiment clashed with the main Georgian forces including tanks. Four BMPs were hit and lost immediately. About one fourth of the column managed to retreat and exit the city while the rest of troops were surrounded, forced to go on the defensive, and fight under siege. Companies were split into platoons and each fought independent under the leadership of junior officers. Moving the battalion's equipment from the streets to the back yards of the houses saved most of it.

At approximately 1500 hours in the afternoon, near Dzhava, in the Gufta district, an Su-25 attack aircraft of the 368th Air Force Attack Regiment was shot down by friendly fire of a Russian ZSU-23-4 "Shilka" antiaircraft self-propelled gun, which was securing the Gufta Bridge. The plane fell not far from the bridge at the Ossetian settlement of Itrapis. The pilot, Vladimir Yeremenko, was killed.

At 1530, subunits of the Russian Army Special Operations Forces and a company of the Chechen Battalion "Vostok" began advancing in order to help the surrounded column of the 1st Battalion of the 135th Motorized Infantry Regiment. A Russian artillery unit and a mortar battery of the 1st Motorized Infantry Battalion of the 135th Motorized Infantry Regiment opened intense fire on Georgian troops. The Russian Air Force was reorganized for an assault of Georgian forces in the outskirts of the city.

In the artillery duel of opposite sides that followed, the Russian artillery suffered losses. The Russians assumed a comfortable position on a section of the Zari road near the settlement of Galuanta, but it was easily visible from the Georgian side and the Russians came under fire. Major Tarasov, the Commander of a 2C3 "Akatsia" self-propelled howitzer of the 693d Motorized Infantry Regiment, died from a shrapnel wound. Seven trucks of one of the mortar batteries of the same Regiment congested on the road were destroyed. During the firing on a mortar battery of the 135th Motorized Infantry Regiment, two sergeants, Belousov and Gorkovoy, were killed and several other men were wounded. Nevertheless, the continued intense fire from Russian artillery on the Zari road supported by howitzers and launches rocket systems from the rear positions at Dzhava, tied up and suppressed the Georgian unit. Artillery spotters, together with scouts, broke into the southern compound of the peacekeepers and reinforced the Russian artillery.
A Georgian unit started to retreat from the city at 1700 hours because of losses from artillery fire; close combat with Ossetian troops, Russian battalions and special forces, and also the loss of the Commander of the 41st Light Infantry Battalion. By 1900 hours, the Georgians had practically left the city. Also at 1900 hours, the 43d Light Infantry Battalion panicked and retreated from previously occupied Znaur just a few hours ago.

After the retreat of the Georgian unit, Russian troops in the south compound of peacekeepers were released. At about 1900 hours, the 2d Peacekeeping Battalion of the 135th Motorized Infantry Regiment withdrew and split into several units. Units of special operation forces, a tank without ammunition of the 141st Detached Tank Battalion, the crew of a shot up tank, and also a reconnaissance company that drove into the city to support the peacekeepers retreated with them. Russian troops suffered losses of 14 killed during the entire conflict and especially tank fire during the morning of 8 August.

At 1900 hours a Georgian unit which entered the territories of South Ossetia from the direction of Paravi on the remote western border of the republic was stopped at the village of Sinaguri and struck by at least one missile with a "Tochka –U" cassette warhead of the High Precision Theater Missile System. After the hit the Georgians retreated back to the territories of Georgia and did not attempt more assaults.

At 2000 hours, 152 mm 2C3 "Akatsia" self-propelled guns of the 503d Motorized Infantry Regiment located on the Zari road, opened fire. At about 2100 hours Georgian artillery was able to detect a missile systems unit of the 292d Combined Artillery Regiment of the 19th Motorized Infantry Division, which was firing from positions a few kilometers from Dzhava on 8 August. As a result of the Georgian assault, one Russian soldier was wounded. The division had to change its position rapidly. The wounded private was the only casualty in the war from this regiment.

By nightfall, the 1st Battalion of the 135th Motorized Infantry Regiment, which earlier that day tried to rescue the peacekeepers, became disorganized, suffered casualties, and finally retreated from Tskhinvali. As a result of the assault on the Zari road that day and the following urban fight, it suffered casualties of up to 15 killed and a few dozen wounded. The city was cleared of both the Georgian and Russian armies and over night was under control of local insurgents. There were only small units of Russian Special Forces and about one and a half companies of the 693d Motorized Infantry Regiment, which were urgently sent to the city as reinforcements after the beginning of street fighting. Georgian battalions of the 3d Infantry Brigade withdrew again, at first to Eredvi to the east of Tskhinvali; then they were withdrawn completely and moved deep within Georgian territory towards Tkviavi.

At the end of the day on 9 August, Georgian troops once more had lost almost all of the positions they had occupied in South Ossetia during the morning and day. Moreover, they began retreating back from the border with South Ossetia. Just a portion of the troops of the 2d Infantry Brigade held their positions in the Ossetian village of Khetagurovo and to the approaches to the village of Tbet. Although the Georgian Command had stripped Abkhazia entirely of their forces, and had used all their land forces, they still did not achieve military
success and did not cause significant losses to the Russians. Its own troops suffered losses and were exhausted. At this point Georgia appealed to the U.S. to allow it to recall urgently its 2,000-man contingent of the 1st Infantry Brigade in Iraq.

On 9 August, the Russian Air Force made 28 raids to support the peacekeepers. The reduced number of flights in the first half of the day in comparison to the previous day was a result of the losses sustained by the Russian Air Force in the first half of the day.

**Abkhazia**

At about midnight, Russian troops from the area of Ochamchira in Abkhazia fired two "Tochka – U" missiles at the Georgian Naval Base in the port of Poti (a Russian "Tochka –U" High Precision Theater Missile System was concealed in Ochamchira in the fall of 2007). As a result of the strikes on the Poti Naval Base and a neighboring civilian cargo terminal by cassette-type missiles, five people were killed and over thirty Georgian sailors and around the same number of civilian port workers were injured. There was minimal damage to the port infrastructure, but its operation was disrupted. Georgian military ships that had crews on board and were technically ready to go to sea started preparations for an emergency departure to the port of Batumi.

Simultaneously with the strike against Poti, at 0017 hours, the 2d Infantry Brigade Military Base in Senaki was bombed. It was a center for reservists deployed from West Germany. At the time of the bombing there were over 1,000 reservists there. Seven of them were killed and several dozen were wounded. As a result of the bombing, the deployment at the base was halted and the reservists who had arrived earlier were released to go home. Bombs also struck in the area of a railway station in the city, caused damage to several buildings, rail tracks, and casualties among civilian residents.

By 0530 hours a number of Russian vessels consisting of the large landing ships "Tsezar Kunikov" and "Saratov," a small missile ship "Mirazh," a small anti-submarine vessel "Suzdalets" and the minesweepers "Zheleznyak" and "Turbinist" came to the Ochamchira area. A battalion tactical unit of the 108th Airborne Regiment of the 7th Airborne Division was loaded on landing ships at Novorossiysk. There were over 500 troops and 100 pieces of equipment. The vessels remained in the roadsteads of Ochamchira waiting for the landing order.

By the morning of 9 August, The Abkhazia Ministry of Defense made a decision to attack the Kodori Gorge. Since 700 hours, Abkhaz troops began concentrating for an assault in the settlement areas of Lata and Zemo-Lata. In the afternoon, the operation to drive out Georgian troops began. Georgian positions came under artillery and rocket fire. Abkhaz Mi-24 and Mi-8 helicopters, and L-39 planes also attacked. The latter were used as light attack planes and dropped bombs and unguided rockets. The first strike on Georgian positions in the Gorge was at 1430 hours. By 1500 hours, the Abkhazian Army established its command posts. The Center Command post was set up in the village of Tsabal, an alternate command post in Sukhumi, and forward posts were established in the area of Zemo-Lata and in Ochamchira.

Turkey sent to Georgia a shipment of several Ejder armored carriers, which were purchased by Georgia before the war. The shipment was carried by motor vehicles by the route of Batumi-
Kobuleti-Kutaisi-Gori-Tbilisi. The sight of these unusual looking six-wheeled armored carriers caused rumors in Georgia about NATO equipment being shipped into the country to support its conflict with Russia. A second wave of rumors was provoked by the move on 9 August of the Georgian Navy and border patrol boats from the vulnerable port of Poti, which had already been hit by rockets, to the more remote Batumi. Georgian ships and boats remained in roadsteads and did not enter the port. The large number of military vessels including landing force of the Georgian Navy transferred to a civilian port led to rumors of the arrival of Turkish ships with marines to support the Georgians.

At 1600 hours, the Russian side officially announced the beginning of patrols along the Abkhazian coastline and establishing a no navigation zone of safety. At 1640 hours, the cruiser "Moscow," flagship of the Russian Black Sea Fleet, sailed from Sevastopol. At 1912 hours, several Georgian military boats moved out of Poti and, heading towards Ochamchira, crossed into the no navigation zone of safety and were attacked by "Mirazh" and "Suzdalets." The Russians fired two 4K85 "Malakhit" anti-ship missiles and two 9M33M2 "Osa-MA2" missiles. The Georgian boats turned around and went in the direction of Poti. Later the Russians announced the sinking of one Georgian boat during combat; however, there was no confirmation, and the Georgians did not acknowledge the loss. The circumstances of this episode still remain unclear. At night Russian ships started to disembark landing troops at Ochamchira.
**10 August**

**South Ossetia**

Throughout the night an artillery duel between the Russian and Georgian armies continued in addition to shelling by the Georgian artillery of Russian troops moving along the Zari road. The Russian Air Force carried out night raids. A runway at the Tbilisi Aviation Plant and a communication center near the village of Urta in the Zugdidi district of Georgia were bombed. At night Russian units of the 42d Motorized Infantry Division were completing their 300-kilometer march on foot from their bases in the Chechen Republic and entering South Ossetia. Also at night subunits of Russian Special Forces, a battalion tactical unit of the 104th Airborne Regiment of the 76th Airborne Division, and the "Vostok" Battalion began securing villages of a Georgian enclave north of Tskhinvali and one section of the Zari road for ensuring a quick thrust by a large Russian force to Tskhinvali the next day.

By 0700 hours, subunits of the 503d Motorized Infantry Regiment started entering the city from the west. In the morning the Russians cleared the road and the Transcaucasus highway through the villages of a Georgian enclave. At 1030 hours Russian armored vehicles and infantrymen of the 42d Motorized Infantry Division entered Tskhinvali. At about noon on 10 August, in vague circumstances, a T62M tank of the 71st Motorized Infantry Regiment of this Division was hit, Second Lieutenant Neff, the tank commander, was killed. The tank became the second one lost by the Russian Army in the course of combat operations.

Throughout the day, Russian forces continued to concentrate troops and secure control of Tskhinvali. The 70th and the 71st Motorized Infantry Regiments almost in their entirety, the 50th Self-Propelled Artillery Regiment, the 417th Detached Reconnaissance Battalion, and different supply subunits of the 42d Motorized Infantry Division was brought to the city. The total number of units engaged consisted of 4,500 men, 29 T-62s and T-62Ms, 40 self-propelled howitzers, and more than 250 BMPs and BTRs. The large number of units moving caused a serious traffic jam on the Transcaucasus highway in the Dzhava area and led to a traffic slow down for many hours, which slowed the progress of concentrating Russian troops. Still, the approach of the division had changed the balance of forces in the combat zone right away. The arrival of the 42d Motorized Infantry Division, battalion tactical units of the 76th Airborne Division, and the 503d Motorized Infantry Regiment of the 19th Motorized Infantry Division almost doubled Russian forces in South Ossetia. They now amounted to over 10,000 troops in the republic and approximately equaled the number of Georgian troops engaged in the assault against South Ossetia. The Russians completed an advanced helicopter landing field by noon on a natural plateau to the west of Dzhava in the settlement of Ugardanta. About 10 attack and military transport helicopters of the 487th Helicopter Regiment were shifted from their base in Budennovsk. This enhanced air support for Russian troops considerably. A field hospital was set up next to the landing field.

At 1400 hours, the Georgian Army completely left South Ossetia and withdrew to the territory of Georgia. Detached subunits of the 2d Infantry Brigade started fortifying their positions at Georgian border settlements to the south and southeast of Tskhinvali. Other Georgian units were positioned in the villages between Tskhinvali and Gori. The Georgian Command failed to build
up a line of defense at the border area and apply other means of protection for the Georgian territory itself because of chaos in command and communication, and panic among the personnel. At 1730 hours, Georgia made an official announcement of a cease-fire and complete withdrawal of its troops from the combat zone.

However, artillery exchanges between the Georgian and Russian sides continued as well as raids by the Russians out of Gori to Tskhinvali and also targets deep inside Georgian territory. At 1905 hours, a strike by an anti-radiolocation missile destroyed a civilian radar station for air traffic control at the International Airport in Tbilisi. At 1910 hours a second attack struck the runway of the Tbilisi Aviation Plant.

In the evening, the Georgian side started shelling Tskhinvali once again. The fire was less intense than on previous days. Nevertheless, at about 2300 hours, the 2d Motorized Infantry Battalion of the 71st Motorized Infantry Regiment, which was positioned to the east of Tskhinvali in the area of the Prisskie Heights, came under Georgian artillery fire and suffered casualties. Three Russian troops were killed and 18 wounded.

Late at night on August 10, the move of subunits of the 693d Motorized Infantry Regiment on the Zari road to Tskhinvali was completed. It was not a part of the Battalion Tactical Unit, which entered South Ossetia in the first hours of the war. Twenty-two T-72 tanks of its Tank Battalion arrived as well. They joined T-62 tanks of the Motorized Infantry Division and considerably bolstered the attack capabilities of Russian troops in South Ossetia.

During the day of 10 August, there were no substantial clashes between Russian, Georgian, and South Ossetian forces. The Georgian Army made no attempt to renew attacks. Instead, it retreated to Georgian territory and made an effort to strengthen its positions along the border. Only artillery fire continued. During the day, the Russians, with overwhelming forces this time, entered Tskhinvali practically without resistance, and took positions in the outskirts east and west of the city.

**Abkhazia**

At 0630 hours the unloading of Russian landing ships of the Battalion Tactical Unit of the 108th Airborne Regiment of the 7th Airborne Division in Ochanchiri was completed. The unit deployed in the area of the Greenhouse Plant 8 km northeast of Ochamchira. At 0800 hours the Air Force transported a detached tactical unit of the 31st Detached Airborne Attack Brigade from Ulyanovsk to the airport in Babushari. By midday on 10 August, the Military Transport Air Force of the Russian Air Force transported a total of four battalion tactical units of Airborne Forces to Abkhazia. The main forces of the 7th Airborne Attack Division from Novosibirsk started arriving by rail.

By 1000 hours the mobilization of Abkhazian reservists and the replacement of front-line military troops with them were completed. After the mobilization the total number of Abkhazian military forces reached 9,000 men. During the day Abkhazian armed forces continued their artillery and air assault on the Kodori Gorge. From 1200 to 1300 hours they made four raids
against Georgian positions in the Gorge. By 1800 hours subunits of the Abkhazian Army entered the area of Limitation of Armaments and took a position at Inguri, the border/river.

By nightfall, the Russian Command announced the establishment of a 10,000-troop unit with 350 pieces of armored vehicles in Abkhazia. The core of the unit was comprised of Airborne Forces. The unique feature of this unit was almost the entire absence of heavy assault equipment: tanks, and self-propelled artillery (except for some 120 mm 2C9 "Nona-C" self-propelled howitzers of the landing forces subunit). This weakness was partially balanced by the support of the armored equipment of the Abkhazian Army.

At 19:45 hours on August 10, the missile cruiser "Moscow" and the patrol ship "Smetlivyy" sailed from Sevastopol to Novorossiysk and anchored in the roadstead. They remained there until the end of the conflict. At 20:10 hours, subunits of the 108th Airborne Attack Division took control of a bridge on the Inguri River on the border between Abkhazia and Georgia. Later that night, after negotiations with the local administration and Georgian MVD representatives, Russian troops entered the Zugdidi district of Georgia.
11 August

South Ossetia

Russian aircraft continued air strikes during the night and conducted operations to suppress the Georgian air defense system. At 0030 hours, an anti-radar missile destroyed a vital Georgian military RLS 36D-M in Shavshebi near Gori, which was controlling airspace in the conflict zone. At 0400 hours, an anti-radar missile destroyed a powerful civilian RLS on Makhat Mountain near Tbilisi, which was integrated into the general airspace control system. The Center of the Georgian Air Force Control was also hit. Georgian mobile AA air control stations were forced to stop operating to avoid strikes by Russian missiles. At 5 a.m. in the morning, the Shiraki airport was bombed and a runway was damaged. At 0610 hours a detached tank battalion base in Gori was bombed for the second time. At 0715 hours two Georgian Mi-14BT and Mi-24B helicopters were destroyed on the ground at the Senaki airport by a Russian Mi-24 attack helicopter using anti-tank guided missiles.

The night in Tskhinvali passed relatively quietly, although there was random artillery fire at the city from Georgian artillery positions in the city of Gori. Russian troops continued to move into South Ossetia and the area around Tskhinvali. In order to preclude Russian fire against the territories of South Ossetia, Russian Command made a decision to start a counterattack, push Georgian troops from the borders of the republic, and create a buffer zone around it. They began to form two advance regiment tactical units.

A unit comprised of a battalion tactical unit of the 234th Airborne Regiment of 76th Airborne Division and the 70th Motorized Infantry Regiment of the 19th Motorized Infantry Division (without one Motorized Infantry battalion and the major portion of artillery), which had arrived from the Chechen Republic, concentrated east of the Liakhvi River for an assault. The 693d Motorized Infantry Regiment was assigned to be the major strike force in the main direction of the assault along the west bank of the Liakhvi River. By the morning of 11 August, it deployed close to its full complement including its tank battalion at Tskhinvali. The Regiment at this time suffered minimal losses of two killed and fewer than ten wounded, even though the advance subunits of the Regiment were the first Russian troops to enter South Ossetia on 8 August and were to be engaged in combat for three days. A battalion tactical unit of the 104th Airborne Regiment of the 76th Airborne Division was appointed to lead the Regiment as a forward element.

The advance of this western unit out of the area of Tskhinvali-Tbet started at about 1030 hours. Russian troops received an order to come to the Sovkhoz Variani line at the end of the day to secure a buffer zone and end artillery shelling of Tskhinvali and its outskirts. At first the column was taking the Tskhinvali-Tbet-Khetagurovo-Avnevi route, but scouts discovered fortified positions of the Georgian Army in the Georgian village of Avnevi. A battalion tactical unit of the 104th Airborne Regiment, which was moving as an advance element, moved through the fields between the villages of Avnevi and Zemo-Nikozi, and successfully advanced deep into Georgian territory. The airborne troops came under fire from the Avnevi area, but managed to pass through the fire zone at high speed and without losses. They did not meet resistance until they reached the targeted line 15 km from the border with Georgia.
The column of the 693d Motorized Infantry Regiment was following. They tried to move on the road through the Georgian village of Zemo-Khviti and at 1430 hours were attacked in the center of the village by a small Georgian subunit, supposedly a part of the 2d Infantry Brigade and reservists. During this ambush the Russians lost one T-72 tank # 321 of the 2d Tank Company of the Regiment and two BMP-2s (# 350 and # 355) of the 5th Company of the 2d Battalion of the Regiment, which were hit and disabled. Five troops were killed (Lieutenant Molchan, Privates Burdenko, Kusmartsev, Makeev, Pasko), which was the entire tank crew, and about ten were wounded. The column was broken up. The two advance companies (a tank and Motorized Infantry) passed the village by the time of the attack and continued to move. The rest of the subunits of the Regiment stopped and began surrounding the village. Together with special operations subunits, and a company of the "Vostok" Battalion, they started securing the village and its neighboring settlements.

At about 1500 hours, an Su-25 attack plane of the Krasnodar 461st Air Force Regiment assaulted the Russian column by mistake in the area of the Georgian village of Eredvi. A tanker was hit and several soldiers were wounded. The counter fire by Russian soldiers from mobile ZRKs hit the attack plane's right engine and it caught fire. The Su-25 was able to return to base with great difficulty.

After the Russian Army went on the offensive, the last subunits of the Georgian 2d Infantry Brigade, still holding their positions on the border with South Ossetia, began to withdraw to Gori. A column of an engineering company of the 2d Brigade consisted of 50 troops and more than 10 vehicles were retreating from the area of the village of Kelkseuli. It started on the Tskhinvali-Gori road without knowing it happened to be following the Russian airborne troops, who had broken through. The Georgian column at Shindisi ran into one BMD-1 of the 104th Airborne Regiment that was disabled and left behind the main unit, and a second BMD-1 providing technical assistance for it. Russian troops reacted first by firing light weapons and BMD guns that stopped and dispersed the Georgian column. Several Georgian soldiers were killed immediately, the rest hid in the buildings of a railway station. The exchange of fire between ten airborne troops and a depleted Georgian company went on for over half an hour until advanced subunits of the 693d Motorized Infantry Regiment called up by radio arrived. Its tanks and motor infantry quickly suppressed the resistance of the Georgian subunit. As a result of the fighting more than 10 cars and trucks of the column were destroyed. Seventeen Georgian troops were killed and several taken prisoners. Russian troops did not suffer any casualties.

At about 1700 hours, the Georgian Command attempted for the last time to slow down the Russian advance on Georgian territory. Six Mi-24 helicopters from the landing field at Kaspi conducted a raid on advancing Russian columns. They succeeded in burning no fewer than two Russian military trucks in the area of Pkhenisini and Dzerevi. The helicopters returned to the temporary landing field without losses. The Russian side acknowledged damage of one of the Georgian helicopters during the raid by fire of a 23-mm antiaircraft gun from BTR-D, which was in the column of a battalion tactical unit of the 104th Airborne Regiment. The raid, although the most successful operation of the Georgian Air Force against Russian troops, still did not noticeably slow down their advance. Soon afterwards, Georgian helicopters were transported to Tbilisi and were not engaged in combat any longer.
At 1630 hours, Mikhail Saakashvili, who was on a visit to Gori, hastily left the city. Half an hour later, at 1700 hours, there was a quick retreat from the city and redeployment of a large unit of the Georgian Army. The major portion of the Army was withdrawing in the direction of Tbilisi, a small portion in the direction of Kutaisi, and insignificant portions of troops were dispersed to secondary roads or hiding in the woods either independent or in small groups. The Russian Army and Air Force did not obstruct the withdrawal and did not launch raids against the retreating troops. At the end of the day, the advanced subunits of the Russian Army consolidated on the Variani line. Units of the Georgian Army that remained operational withdrew to Tbilisi and began to consolidate along the approaches to the capital.

The transport of Russian Forces to South Ossetia continued the whole day. At the end of 11 August, 14,000 Russian troops, about 100 tanks, up to 100 self-propelled artillery units, over 40 multiple launch rocket systems, up to 400 BMPs, and 200 BTRs moved into the territory of South Ossetia and its regions bordering Georgia.

Abkhazia

In the morning, Russian troops entered the city of Zugdidi and demanded that local police turn their weapons over to them. The Abkhazian leadership sent an ultimatum to Georgian troops and police stationed in the Kodori Gorge demanding that they disarm and leave. By 1200 hours, the airborne attack unit for occupying the Kodori Gorge was formed, and disarmament of Georgian forces was completed. In the afternoon, a column of a subunit of the Russian 108th Airborne Regiment of the 7th Airborne Division with support of helicopters and an escort of Georgian Patrol Police, and a UN observation mission in Georgia, started moving toward the city of Senaki and moved to the 2d Brigade military base. At the base airport Russian troops destroyed a concealed Georgian Mi-24B attack helicopter, which was not damaged during a morning raid of Russian helicopters on the base. They also discovered four concealed Georgian T-72 tanks of the 2d Infantry Brigade (side #'s 206, 207, 208, 209). Two tanks were destroyed on the spot, and the other two were towed to Abkhazia. In Senaki, they also captured two guns and two launchers of the AA BUK-M1 Surface-To-Air Missile Systems, and missiles for it.

One more column of the Russian Airborne Forces, comprised of a reinforced company of the 247th Airborne Regiment of the 7th Airborne Division, started moving towards Zugdidi at 2000 hours, and after the completion of the march on the Zugdidi-Khudoni-Tobari-Saken route, blocked the exit from the Kodori Gorge. Georgian troops and policemen were surrounded in the Gorge. Once they realized this, they started to drop their weapons, change partially into civilian clothes, and exit the Gorge in small groups heading in the direction of Georgia. Russian troops at the roadblock did not block their exit. By 2100 hours, a reconnaissance unit of the Airborne Forces reached the city of Poti, surveyed the area, and returned to Zugdidi.

12 August

South Ossetia

In the morning, Russian troops began taking over Georgian territory and settlements located between Gori and Tskhinvali without encountering resistance on the part of the Georgian Army.
By 1100 hours battalion tactical units of the 693d Motorized Infantry Regiment and a battalion tactical unit of the 104th Airborne Regiment reached the dominating height in the area of the TV Tower on the outskirts of Gori. Russian troops captured abandoned MT-12 Rapira anti-tank guns of an anti-tank battery of a Georgian artillery brigade and repositioned them for a possible counter attack. This convenient position gave the Russian artillery unit control over the main Tbilisi-Batumi highway, the railroad, the city of Gori, and all military bases located within the city. Russian troops came to the suburbs of Gori, secured them from the northwest and northeast, and cut off the main roads, but did not enter the city.

At about noon, the Russians shot two missiles with cassette warhead missiles of an Iskander Mobile Theater Missile System. One missile hit the Marneuli Air Base (later Georgian authorities announced that its target was the Baku-Supsa oil pipeline that ran close by). The second missile hit the central square of Gori. The square had been cleared of previously gathered reservists and Georgian troops. Eight civilians and a Dutch TV cameraman were casualties of the second hit.

At 1300 hours, the President of Russia, Dmitriy Medvedev, announced the cessation of operations to force the Georgian government to acquiesce, but gave an order to suppress strongholds of resistance if needed. Georgian artillery at this time was idle; the Russians struck with Multiple Launch Rocket Systems fire at about 1400 hours. At approximately the same time, Russian air units made a last raid. At 1500 hours, Russian Armed Forces ceased combat operations.

Since the Georgian Army halted contact with Russian troops at the end of the day on 11 August a large neutral zone developed between the armies. Russian forces took advantage of it, entered the Tbilisi-Gori highway, and took control. Large stocks of ammunition, equipment, weapons, and supplies were found on three large Georgian military bases in Gori.
Abkhazia

On the night of 12 August, Abkhazian forces made a few raids against Georgian positions in the Kodori Gorge. At 0600 hours the attack on the Gorge started. At 0800 hours, Abkhazian forces hit the area of the village of Adzhara. The villages of Verkhneye and Nizhneye Adzhara, which were the administrative center of the Gorge, were occupied during the day after the landing of tactical forces from Mi-8 helicopters of the Abkhazian Army deep in the Gorge behind the main defense positions of the Georgian MVD. Because the core of the Georgian Army and police dropped their weapons and left the Gorge, Abkhazian troops practically without resistance moved to the border with Georgia in the upper part of the Gorge and took control by 2030 hours.

In the evening on 12 August, a detachment of the 45th Detached Reconnaissance Regiment of the Airborne Forces entered the port of Poti. It blew up six abandoned Georgian ships including both missile boats: "Tbilisi" and "Dioskuriya" at their moorings (the latter vessel unsuccessfully, as it was still floating and was blown up a second time on 19 August), which were the main attack force of the Georgian fleet.

13 August Until the Beginning of the Russian Forces' Exit

On 13 August, a Russian column of vehicles went through Gori by the Gori-Tbilisi highway and entered the remote Leningori area of South Ossetia. Since the start of the combat operation, communications with this area were practically nonexistent. The Georgians saw this move as an intent to attack Tbilisi. Troops that moved in set up a garrison in this remote district and took control before the transport and arrival of Georgian Army units. This allowed the South-Ossetian authorities to restore control over the disputed territory. That same day Russian troops occupied the city of Gori.

By 14 August, Georgian troops using the lull in the action were reorganized and partially reinstated their combat capability. Later they moved some Georgian subunits and also large forces of the MVD to the line of a buffer zone that was occupied by Russian troops. Russian reconnaissance units were removing trophies from the occupied bases; yet wary of a counterattack they destroyed up to 20 Georgian T-72 tanks and several BMP-2s. Georgian police attempted to enter Gori, but were stopped at Russian blockades in the city. This caused a tense situation briefly, but it did not turn into a fight.

On 15-16 August, a ceasefire agreement between Russia and Georgia was approved and signed with the assistance of international mediation. After the signing of the agreement, on 18 August, the Russian Command announced the beginning of a gradual exit of Russian troops from Georgian territories.

The collection and removal of trophies by the Russians, dismantling of equipment, and partial demolition of buildings on Georgian bases in Gori, Senaki, Poti, and the Kodori Gorge continued in the days following the end of combat operations. In Senaki, a concealed runway for planes on the Air Base was blown up. Russian detachments were coming to the military port of Poti on a daily basis to transport supplies from the VMS and the Georgian border patrol depot. Georgian
small high-speed boats and attack boats were taken from there as well. The trophies that were taken after the war significantly exceeded the ones captured during combat.

The defeat of the Georgian Army during the short campaign when the Army and police lost over 2,000 men killed and wounded was increased after the war. The Georgian Army suffered huge material resource losses. In total, (primarily after the end of combat operations) Russian and Ossetian forces captured 65 Georgian tanks, more than 20 BMPs, two Cobra armored vehicles, about 10 SAM launchers (including transport-charger vehicles) and a few dozen units of mortar and other artillery guns, including two Dana 152 mm self-propelled howitzers and one 203 mm Pion 2S7 self-propelled gun. Additionally dozens of cars became trophies, thousands of guns, and other supplies were captured and destroyed. The bases of the 1st Infantry Brigade, an artillery brigade, and a detached tank battalion in Gori; the base of the 2d Infantry Brigade in Senaki, naval bases, and the Georgian Coast Guard in Poti suffered serious damage.
The Present and Future of the Georgian-Russian Conflict. The Military Aspect

Vyacheslav Tseluyko

In August 2008, the Georgian Army, contrary to the prewar opinion of a number of experts, did not show itself capable of effectively resisting the armed forces of Russia. In its turn, an uncritical analysis of this fact led to the widespread view of the incapability of the Georgian Army to resist the Russian Army at all without taking account of the concrete situation in the military and political spheres, and the dynamics of changes in them.

To make a prognosis of the possible forms, including military, of the unregulated Russo-Georgian conflict requires a complex analysis of the correlation of forces, the resources, and the positions of the two sides prior to the Five-Day War, the changes in them at the present time, and possible changes in the immediate future.

Transformation of the Georgian Army in the Postwar Period

The question of the prewar development of the Georgian Armed Forces is examined in detail in the first article of the compendium; therefore, we only need to contemplate individual points.

First, we need to compare the strength and the structure of the Georgian Army before the war and at the present time. By summer 2008, the Georgian Army numbered 32,000 troops, including almost 22,000 in land forces. That branch included five infantry brigades, an artillery brigade, an engineer brigade (being formed), a special operations unit, seven independent battalions (mixed armor, light infantry, medical, military police, communication, technical reconnaissance, material-technical supply), and an anti-aircraft division. However, the 5th Infantry Brigade was in the process of being formed (its 50th Light Infantry Battalion had only finished a 12-week basic camp training on 3 October 2008 and a principal segment (2,000 servicemen) of the best-trained 1st Infantry Brigade was stationed in Iraq.

In summer 2009, according to the budgetary data of the Georgian Ministry of Defense, the numbers of personnel in the Georgian armed forces amounted to 37,800 troops. According to other data, in 2009 the numbers came to 36,600 troops, including 36,200 men. The size of the

80 Ibid., www.mod.gov.ge/?l=E&m=6
81 Ibid., www.mod.gov.ge/?l=E&m=5&sm=4
Georgian infantry came to 23,000 troops\(^{82}\) (at this moment the official count of Georgian infantrymen is declared to be at the level of 20,500 personnel, but several recently created new units are not being counted -- for example, a independent anti-tank battalion.\(^{83}\) Unlike August 2008, however, practically all Georgian troops are located in the territory of the country, and, without considering plans to deploy a small contingent in Afghanistan, they are not making preparations to leave. Besides, the relatively "young" 4th and 5th Infantry Brigades raised their level of combat readiness thanks to the training of their personnel in the postwar period.

An important restructuring of the Georgian land forces started by a buildup of a new artillery brigade, named the 2d Artillery Brigade. It was structured based on the Khoni group of the Gori Artillery Brigade (the Gori Artillery Brigade became the 1st Brigade). As early as November 2008, the personnel of the new 2d Artillery Brigade participated in a two-week training together with artillery divisions of the 3d and 5th Infantry Brigades on the Orpolo training field.\(^{84}\)

It must be noted that the development of the 5th Infantry and 2d Artillery Brigades substantially reinforced the Georgian troops in the Abkhazia sector, which does not permit one to hope for such an easy repetition of the raids of Russian troopers in this region and seizure of Georgian bases in Poti and Senaki as occurred in the previous August, even in the event of the participation of one or both the 2d or 3d Infantry Brigades in combat operation in the Ossetian sector.

On the other hand, the former Gori Independent Tank Battalion was restructured, and plans were shelved to build up the engineer battalion into a brigade. In turn, an independent anti-tank battalion was formed as part of the Georgian Army.\(^{85}\)

Continuing the topic of the personnel resources of the postwar Georgian Army, we must point out the increase in the number of trained recruits at the Krtsanisi training center. Thus, if before the war during the second half of 2008, 500-650 troops went through basic camp training at the same time, on 8 May 2009, the number of troops finished the training went up to 832.\(^{86}\) There is a possibility of an increase in the number of men being trained at the same time at other training centers as well; and the use for the training of recruits or active reservists of the National Guard bases in Kodzhori, Mukhrovani, Telavi, and/or Senaki. The increase in the numbers of trained troops at Krtsanisi could be caused by the need to supply personnel for new subunits of the Georgian Army and/or to compensate for the outflow of personnel from the army.

The last reason is directly connected with plans for reforming the Georgian Army reserve force, which showed a complete lack of combat capability (due to a shortage of officers and the lack of professional and morale enhancing training of the reservists) during the Five-Day War. Also, it was precisely the lack of a combat-ready reserve able to relieve units of the regular army in secondary sectors and to secure the rear lines that became one of the main reasons for the defeat of Georgia in August 2008. The strength of the regular army was not sufficient enough to supply

\(^{82}\) Ibid., www.mod.gov.ge/?l=E&m=5&sm=5
\(^{83}\) Ibid., www.mod.gov.ge/index.php?page=-10&id=25&lang=1
\(^{86}\) Ibid., www.mod.gov.ge/?l=E&m=11&sm=0&id=1309
troops for combat operations in both sectors (Ossetian and Abkhazian). The absence of the 2d and 3d Infantry Brigades in Western Georgia (some of their subunits were shifted to the Ossetian sector) and the understaffing of the 5th Brigade led to the loss of Kodor (the Georgians were forced to evacuate because of a danger that their garrison could be encircled by Russians advancing from Zugdidi) and the occupation of bases in Senaki and Poti by Russian troops.

Learning from the experience of the Five-Day War, the Georgian Military Command was set on reforming the reserve system. In spite of the lack of information on this topic, one may speak of change in the organization of the reserve from three components (individual, active, and National Guard) to two components (regular and territorial). At least two brigades recruited from former regular army soldiers who left the Army within the past five years (the reservists which are called "first-class reservists") and being the first to undergo training in the American "Train and Equip" program. It should be noted in connection with this, that for some Georgian recruits the terms of their service of the first period of voluntary enlistment are running out. Those who decline to extend their enlistment in the regular army will be enrolled in these brigades; and here we are referring to the best-trained troops of the special operations forces and the elite forces of the 1st and 2d Infantry Brigades. In the beginning stage, the plan is to attract as members of this type of reserve 2,000 former servicemen. It is possible that in the future, the number of army-type reserve brigades will be increased, but the low intensity of this process in Georgia can be explained by the slow accumulation of reserve recruits with military training owing to the prolonged terms of enlistment, aside from other factors. For this reason it is also planned to bring in volunteers who have not served in the army, but who have undergone intensive training for several months (the general duration of the training program for first-class reservists must be 200 days, including individual type -- 45 days -- and the rest is the training of coordination of action through the battalion level), or conscripts in case the draft is restored in Georgia.

One may expect that when the structure of the first two brigades is completed, they will constitute a valuable resource for the Georgian High Command thanks to the relatively high level of training of their personnel, especially if it has been retrained with a shift of emphasis placed on combined arms battle, and Special Forces operations. The quality of the personnel of these two brigades may be higher in comparison with the volunteer regular armies of Georgia or Russia, who recently concluded their first term of enlistment, and with Russian conscripts.

Reservists of the old active reserve and the National Guard reserve will probably form the territorial component of the reserve. Its basic mission is the protection of military and important state assets, communications with the special operations troops, tactical landings, and the forward detachments of the enemy. Despite the fact that it is difficult to expect a high degree of combat effectiveness from these formations, nevertheless they may partially relieve the regular army and army-type reserves of secondary tasks.

Therefore, in comparison to August 2008, the ground component of the Georgian Army grew by a single regular infantry brigade (and by taking account of the two reserve brigades of the army

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87 Ibid., www.mod.gov.ge/?l=E&m=11&sm=0&id=1288
89 Ibid.
type in the process of development, it will grow to three in the foreseeable future) and an artillery
brigade, i.e., one may speak of growth approximately on a scale of one and a half to two times
(counting the combat ready reserve).

For the time being the question of supplying weapons to these units remains open, although the
absence of an embargo on the delivery of weapons to Georgia, the fulfillment by contractors
previously signed contracts, and possible foreign aid make this problem not so overwhelming for
Georgia.

Apart from the quantitative growth of the Georgian ground forces, we should pay attention to its
qualitative growth, which is tied primarily to a shift of focus in the training of Georgian troops.
Before the war priority was given to training for operations in low-intensity conflicts, including
being a part of coalition forces, whereas now more attention is allotted to the conduct of combine
arms battle, for which the trainings of the Georgian Army give testimony.\footnote{Ibid., \url{www.mod.gov.ge/?l=E&m=11&sm=0&id=1188}} \footnote{Ibid., \url{www.mod.gov.ge/?l=E&m=11&sm=0&id=1327}} Although in the
above-mentioned trainings the Georgian servicemen and reservists worked on defensive
operations against the armored equipment of the opponent, which can serve as testimony to the
priority of the defense training over the offense for the present-day Georgian Army. The need to
safeguard the completion of the reform of the Georgian Army, which requires time, but active
defensive training must appear as an element of pressure on the Russian High Command, which
is able to make a decision to engage in preventive war before the Georgian Army presents a
serious threat to Russian policy in the Caucasus. A conflict between privates of the 5th Brigade
and their officer concerning the development of defensive positions, which the troops were
building over the course of three months, illustrates the scale of Georgian defensive
preparations.\footnote{Arabuli, M. "National Guards' Eighteenth Anniversary" // Defence Today, No. 18, 2008, p. 1.}

On the other hand, at the monthly "Shield 2009" training completed on 30 June
2009 at the Orpolo training base with the use of combined arms subunits worked on offensive
operations of a battalion tactical group with the support of conventional and rocket artillery,
tanks, air force, anti-aircraft troops, and special operations subunits.

Aside from this, one should note the expansion of Georgian capabilities for training personnel by
themselves on the base's tank courses at the Krtsanisi Center of the Tank Center in Akhaltsikhe
in June 2009. As early as 1 July, a mechanized company of the 1st Infantry Brigade began
training there, and finished on 30 July.\footnote{Eka Gakhokidze, "New armored center opens in Akhaltsikhe" // Defence Today, No. 25, 2009, p. 1.}

It is also worth noting, that if in August 2008 a substantial share of responsibility in combat
operations lay on the shoulders of recently enlisted recruits of the 4th and 5th Infantry Brigades,
while the best-trained infantry troops of the 1st Brigade remained in Iraq. Now they are in
Georgia, and the level of training of the personnel of the 4th and 5th Brigades has risen.

As a result of the August 2008 conflict, the Georgian VVS lost three Mi-24 helicopters and one
Mi-14BT, three An-2 aircraft, five ZRK "Osa", two fighting vehicles and two Buk-M1 transport-
loading vehicles, and possibly one ZRK Spyder-SR fighting vehicle, several RLS, including a
36D6-M in the Gori area and a P-180U in the Poti area. It should be noted that according to reported data, Russian land forces captured all the ZRK fighting vehicles and they were not destroyed by air raids.

However, even despite the low efficiency of the Russian Air Force in suppressing the Georgian PVO, the latter failed its mission not only of covering the territory of the country (for which it did not have the appropriate forces and resources), but even important military targets (air and sea bases) and troops. The prewar miscalculations in the PVO development (allocation of insufficient resources for these objectives) were one of the reasons for the defeat of the Georgian Army. Recognition of this fact led the priority given to anti-aircraft defense in the Georgian Army program documents on development.  

The practical realization of this program depends on a number of factors, among which one may single out the availability of necessary resources, the willingness of the producers of new ZRKs and the owners of old ones to sell them to Georgia, and the possibility of receiving anti-aircraft systems in the form of foreign aid. At the same time one must take into account, that even in the event of conditions that are unfavorable to Georgia, its PVO can be strengthened owing to the deliveries of ZRK in accordance with prewar contracts (with Ukraine, Israel, and Poland) and the mastering of these systems by the personnel. Under favorable conditions, especially if the foreign aid is available, Georgian PVO may move to a qualitatively different level, thus narrowing the opportunities for the Russian VVS to impact the troops and in part the territory of the country. About the development of the Georgian PVO speaks the fact of the growth the VVS in numbers of personnel from 1813 men in 2008 to 2971 in 2009, much which in view of the retention of a quantity of air force subunits may be explained by increase in the number of the PVO subunits.

Nevertheless, the lack of fighter aviation deprives the PVO of a maneuverable component. Even the potential of Georgia’s obtaining a certain number of used fourth-generation fighters will require time for their complete mastery by the personnel and will not be able to play a substantial role in view of the crushing quantitative superiority of Russian fighter aviation. Unless, perhaps, they are able to deflect the latest Russian top-line Su-27SM and MiG-29SMT fighters from carrying out successful strike missions.

The VMS, which was in a poor state of combat readiness anyway, as a result of combat operations, lost its most powerful units -- both rocket boats "Tbilisi" and "Dioskuriya." The outcome of this was the abolishment of the VMS in October 2008 as one of the armed services and the transfer of the remaining boats to the Coast Guard. Nevertheless, it is wrong to exclude the formation of units of the coastal patrol armed with anti-ship missiles and/or artillery systems as part of the Georgian Army.

The Five-Day War revealed gaps not only in the training of the rank and file of the Georgian Army, but in the officer corps as well. However, it affected the senior officers to the greatest extent. Some of them were removed from their duties as a result of the war, discharged from the ranks of the Georgian armed forces, or consigned to retraining. Aside from purges in the

military High Command (which in Georgia are taken into account not only the professional qualities of the officer, but the degree of his loyalty to the Saakashvili regime), a program was developed in the postwar period for the retraining of officers at the level of battalion commander/brigade chief of staff that lasted 10 weeks (at the end of 2008, 16 officers had passed through it). There were also short two-week courses for brigade commanders and individual subunits in Krtsanisi. Apart from this the duration of the pre-existing "Career Courses for Captains" and the number of trainees at any given time were increased.

On the whole, one might expect a lifting of the professional level of Georgian officers in comparison with August 2008. However, the persistence of the major influence of the political leadership on personnel assignments and appointments did not allow the design of a system of command based on the professional qualities of the servicemen without major influence on personnel questions of the degree of loyalty to the regime of one or another candidate. On the other hand, the importance of the loyalty factor was clearly demonstrated by the subsequent mutiny of the deactivated tank battalion in Mukhrovani in May 2009.

Analyzing Georgia's defense expenditures, one should focus on their significant growth after Saakashvili came to power. The high point of defense expenditures came about in 2007-2008 when the budget of the Ministry of Defense was 1495 and 1545 million lari respectively, in comparison with 369 and 685 million in 2005 and 2006. It is necessary to take into account, however, that expenditures for the restoration of the military infrastructure, which had suffered in the course of the war, went into the 2008 budget in the amount of 138 million lari. Plus, in view of the numerical increase in personnel and the higher rates of pay of the servicemen, expenditures on the maintenance of the army in 2008 were higher than in 2007. The budget of the Ministry of Defense for 2009 was approved at a total of 897 million lari.

Evidently, it was precisely in 2007-2008 that the maximum expenditures for purchases of arms for the Georgian Army came due. In that connection armaments and military hardware bought in accordance with 2007-2008 contracts, were delivered to Georgia in 2007-2009, i.e., even after the end of combat operations in August 2008. Moreover, the arms delivered under these contracts to Georgia before the start of hostilities were not completely mastered by the personnel and in part were even acquired by the Russian Army as warehouse trophies (some of the modernized T-72 tanks, the IFV-1U in Gori, the battery of Buk-M1 SAM's in Senaki). This circumstance was the reason for the incomplete realization of the potential ascribed to the new armaments by the Georgian military.

Therefore, despite the fact that in 2009 the budgeted expenditures of the Ministry of Defense dropped in comparison with 2007-2008, the conversion of the latter into combat power came
about only in the postwar period when armaments arrived and are still arriving in accordance
with previously signed contracts (for example, the Turkish Ejder APC), and the new models
also continue to be assimilated by the personnel. This permits one to affirm that in the postwar
period the level of supplies for the Georgian Army rose higher (except for the Navy) than in
August, even after taking into account of the losses of armaments and military hardware suffered
in the course of combat operations. The latter, albeit painful for Georgia, constituted the lesser
part of the total human resources of the armed forces. However, even in tanks, where the
percentage of losses of the military hardware of the ground troops was highest, it was primarily
the previously used, older model T-72s from the Eastern European countries that were lost, and
their cost was rather low.

**Overall, one may maintain that in the time that has elapsed since the end of combat
operations, the Georgian Army not only restored its power, but also substantially increased
it in comparison with August 2008.** However, for a successful consummation of the postwar
reform of Georgia, time is essential for completion of the reform of the reserves and for
retraining the regular army to conduct combined-arms operations rather than anti-partisan
warfare and for the personnel to familiarize themselves with the new equipment. Thus Georgia
may switch over to active operations aimed at the restoration of Georgian territorial integrity
(given adequate policies on the part of its leaders) no earlier than 2010 or even 2011. At the
present time, it is engaged in not permitting the revival of large-scale combat operations and is
focusing its attention on defense. In the event that the Georgian leaders are assured of the
solidity of their positions and the adequacy of their forces to repel a Russian attack using the
forces of the North Caucasian Military District reinforced by other Military Districts, the
decision might be taken to unleash a minor war in the territories of South Ossetia and Abkhazia,
first of all in areas where the situation of Russian troops is unstable -- in Kodor, Gal, Leningori.
This in turn might serve as the prologue to further escalation of the conflict.

**Postwar Reform of the Russian Army in the Context of the Confrontation With Georgia**

If the postwar changes in the Georgian Army permitted it to increase its opportunities to conduct
general combined-arms combat at the present time, the global reform of the Russian Army could
not have a positive effect so quickly. Moreover, according to a number of indicators the Russian
Army now is weaker than it was in August 2008. First of all, this involves its numerical
strength.107,108

In the Georgian-Russian conflict fundamental responsibility lies with the units and commands of
the North Caucasus Military District (NCMD), and this is why one should devote particular
attention to it. The change in the quantitative composition of the NCMD, as in the whole
Russian Army, is linked to its transition to a brigade structure instead of the former divisional
one, while the Armed Forces are generally undergoing a reduction in manpower. In place of
three combined arms divisions and five detached brigades; two military bases are being formed
(the 4th in South Ossetia and the 7th in Abkhazia, approximately comparable to a motorized

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106 www.ssm.gov.tr/EN/savunmasanayiimiz/ssurunleri/urunkara/Pages/EJDER6x6TaktkTekerlekliiZ%C4%B1rl%C4
%B1ara%C3%A7.aspx
infantry brigade, with the possible stationing of part of its personnel in Maykop and Vladikavkaz); nine brigades of independent motorized infantry, motor rifle mountain, and mountain scout; and the 8th Independent Motor Rifle Mountain Brigade is reformed on the basis of the former 2d Taman Motorized Infantry Division and redeployed from the Moscow Military District (MVO) to Borzoy (Chechnya).

It should be noted that in distinction from other districts, where the formation of brigades takes place on the basis of divisions in both a state of constant readiness as well as with a reduction in personnel, in the NCMD the majority of commands were constantly ready for action. Thus, one may point out, that as a result of the reorganization of the North Caucasian divisions into brigades, the quantity of tank and motor rifle battalions shrunk, even in spite of obtaining supplementary brigades from the MVO. So, whereas in August 2008 the divisions and brigades of the NCMD numbered 65 deployed tank and motor rifle battalions altogether, by the end of 2009 in the reorganized NCMD there were to remain, presumably, 40 such battalions.

Taking into account the specifics of the formations of the Russian Ministry of Defense stationed in the republics of the North Caucasus, this reduction in the number of tank and especially motor rifle battalions has the potential for serious negative consequences. The point is, that the units and subunits of the Armed Forces play a stabilizing role in these republics. Their presence in the region does not allow illegally armed groups to conduct large-scale operations, including seizure and holding of settlements, under a threat that the boyeviki will be utterly crashed by heavily armed subunits of the army.

Aside from that, subunits of the Ministry of Defense serve as a reserve for the lightly armed units of the MVD and FSB, including the border guards and support them when there is a need for artillery fire and armored equipment.

Although in connection with the transformation of the conflict between Georgia and its formerly autonomous regions into a Russo-Georgian confrontation, escalation of hostilities in the North Caucasus is quite possible in the event of open or indirect support of the boyeviki by the Georgian side (the free transit of personnel, armaments, financial resources across Georgian territory for the boyeviki, lack of countermeasures to the recruitment of protagonists, the organization of insurgent bases in Georgia).

The situation of frontier outposts in the territories of Ingushetia, Chechnya, and Dagestan -- weakly linked with one another -- is seen as particularly threatening in the event of the possible influence of boyeviki operating from Georgia. Additionally, the proximity of targeted objectives to Georgian territory, into which illegal armed groups can retreat in case of need, potentially allows them to utilize actively heavy infantry combat armor and operate with larger forces than in the interior of the territories of these republics.

Therefore, in view of the threat of the escalation of the conflict in the North Caucasus and the possibility that the boyeviki may turn to larger scale operations, an increase of burden on Russian Army formations is possible in the republics, especially for the scout and combat units. For this
reason, the reduction of combat battalions as a result of the reform may have a negative effect on both the stability of these regions and the possibility of using new brigades beyond the borders of the republics. The latter circumstance may impose limitations on the ability of the NCMD High Command to provide adequate assistance to its troops in Abkhazia and South Ossetia.

Conversely, the growth in the numbers of subunits for combat and rear-line support is supposed to show a positive influence with regard to the autonomy of the new brigades, which has an important meaning for this theater of military operations. Nevertheless, in view of what is stated above, by no means all the new brigades of the NCMD will be able to realize this advantage in practice. The heirs of the 20th Motor Rifle Division (Volgograd) -- the 20th Independent Motor Rifle Brigade and the 56th Airborne Brigade (at the present time being reorganized into a scout brigade) and the 205th Independent Motor Rifle Brigade (Budennovsk) may be used fairly easily and in full strength; however, they are quite removed from the zone of the Georgian-Russian conflict, especially the first-named. On the other hand, the available information about the redeployment of the 56th Airborne Brigade to Mozdok permits one to speak of increasing the opportunities for the Russian High Command to react efficiently to the situation around South Ossetia as compared with the situation in August 2008.

In this manner a situation is developing in which units of the NCMD which are deployed relatively close to Abkhazia and South Ossetia, if an unfavorable turn of events happens, they might only take part in limited combat operations in the territories of the republics and Georgia, especially in case of operations by the boyeviki become more active. Units that might be used at full strength are quite far-removed from the zone of conflict and cannot participate quickly. Apparently, recognizing this, Russian command is also relying particularly on quality to compensate for the unsatisfactory quantitative indicators. One of the important elements of this strategy is the rearming of units of the NCMD land forces with more advanced combat equipment -- both new and used that was left after the reorganization of the ground units in other districts. Thus, in place of the North Caucasus older model T-62 and T-72 tanks came the T-72B, T-72BM, the modernized T-72BA, and the most contemporary T-90; the depot of light armored hardware was amplified by contemporary BMP-3’s and the modernized caterpillar-tread MT-LB 6MA armored personnel carriers. It is important to note that this equipment is not simply more advanced than that which was used in the NCMD, but it was also literally newer, which must lower the non-combat losses on long marches in mountainous terrain as occurred during the Five-Day War in the redeployment of the 19th and 42d Motor Rifle Divisions to South Ossetia.

In view of the growth in the number of combat subunits of the Georgian Army, and, to the contrary, their reduction in units of the NCMD, the task of reinforcing the deployment pattern in this district at the expense of other districts and airborne forces becomes urgent. The most acceptable by redeployment schedules is the use of units of the land forces of the Moscow and Volga-Ural Military Districts. Two factors have to be noted, however.

Firstly, the significant reduction in the number of tank and motor rifle battalions in these districts as the result of the military reform (they partially affected subunits with reduced staffing) and the redeployment of the 8th Independent Motor Rifle Mountain Brigade from the Moscow Military
District to Chechnya. Thus, the opportunities for these districts to build up their dispositions of troops in the Caucasus are quite modest.

Secondly, it takes a substantial amount of time to redeploy troops by rail; it requires them to receive orders well in advance, but this is problematic if the initiative for the start of combat operations belongs to Georgia. But the redeployment of land forces by the Military Transport Aviation is hampered in view of the large amount of equipment in combined-arms brigades, including heavy equipment, and the Military Transport Aviation at this time is working on redeployment of the VDV units to the theater of combat operations. For this reason, the most acceptable method is the redeployment by air of light motor rifle brigades to the Caucasus (the 27th from the Moscow Military District and the 15th from the Volga-Ural Military District) if the capabilities of the Military Transport Aviation so allow.

Preliminary storage in the territories of the former Georgian autonomous regions of the necessary amount of heavy equipment for the development of supplementary combined arms brigades and staffing them with personnel transferred from other districts appears to be more rational. It is especially easy to carry this out in Abkhazia, where two suitable airfields are located. All the more so because Abkhazia is the very place where the shortage of "heavy" units is felt since most of the formations of the Russian Army that are stationed in its vicinity are relatively lightly armed.

In addition to the land forces, a substantial reforming also enveloped the Russian Air Force. Among the main lines of this reform, we need to single out the cutbacks in a large number of Air Force units whose combat readiness was curtailed owing to worn-out Soviet equipment and a shortage of trained crews. Their creation on the foundation of air bases that are relatively few in number, but better supplied with equipment and personnel plays a positive role for exerting concentrated impact from the air on the opponents of Russia.

Nevertheless, one should note the persistent and even hastened tendency in 2009 to cut back the size of the Russian VVS Aircraft Fleet owing to the decommissioning of worn-out Soviet equipment; this adds to the load placed upon remaining equipment and, in its turn, contributes to the accelerated deterioration of that equipment.

In the event of a renewal of combat operations, one may note the following positive improvements in the Russian VVS in comparison with August 2008:

- the acquisition of advanced aviation bases (helicopter pads) in Abkhazia and South Ossetia that raise the effectiveness of the support provided to the ground troops (however, one must emphasize the vulnerability of the helicopter pad in Dzhava to the impact of Georgian artillery armed with cassette ammunition, which makes it desirable to build concrete shelters for the helicopters)
- the start of the rearmament of helicopter units in the North Caucasus with the latest Mi 28N and Ka 52 combat helicopters possessing broadened capabilities in comparison with the Mi 24 (nevertheless in their present form these new helicopters do not respond in full measure to the missions laid upon them by reason of their engine power that is
unsatisfactory for mountainous terrain and their limited capabilities in terms of on-board defense, not to speak of the actual lack of the latter on the first series of Mi 28Ns)\textsuperscript{111}

- an increase in the level of personnel training

However, the influence of these positive processes depends in large measure on the retention or increase in the level of financing for the Armed Forces, guarantees of which are lacking under the conditions of the world economic crisis.

Of the negative factors one may single out the significant cutback in the number of attack aircraft in the vicinity of the zone of conflict, primarily owing to the reduction in the number of Su-24 front-line bombers in the territory of the NCMD (from 93 to 54 according to the plan by the end of the year). This may exert a substantially negative influence on the capabilities of the Russian VVS to isolate the area of combat operations and strike targets of the military and civilian infrastructure of Georgia. On the other hand, there is the possibility of assigning some of these missions to ex-Algerian MiG 29SMT multipurpose fighters obtained by the Russian VVS, provided the crews have the appropriate qualifications.

On the whole, one should note that in the tactical plan the capabilities of the Russian VVS have increased in comparison with the Five-Day War, whereas operational capabilities have dropped. The latter circumstance will require a more active application of Tochka-U and Iskander tactical operational missile systems by the Russians.

The effectiveness of the Russian Air Force in a potential conflict will depend to a great extent on the state of the Georgian PVO system at the beginning of a conflict. In the event of a significant qualitative and quantitative growth in the Georgian Air Defense in comparison with August 2008, the Russian Air Force may experience difficulties in completing the missions assigned to it and may suffer greater losses, especially if combat operations carry on.

Besides the reform of front-line and army aviation, the cutback in the Russian Military Transport Aviation is of high significance for a prognosis of the course and outcome of the Georgia-Russia conflict. It reduces the opportunities for the operational buildup and supply of the land force units in the zone of the conflict. It is entirely possible that Military Transport Aviation will be able to provide the timely redeployment of just units of the VDV from the Moscow and Leningrad Military Districts, while units of the land forces will be compelled to put up with rail transport.

Changes in the Russian VMF do not have fundamental meaning for the Georgia-Russia conflict in view of the liquidation of the VMS as a branch of the Georgian armed forces. Nevertheless, one should note the possible cutback in the personnel of the 77th Marine Brigade in the Caspian Flotilla, which would weaken the Russian military presence in Dagestan.\textsuperscript{112}

Mention will be made separately of the global transformation of the personnel structure of the Russian Armed Forces as a result of the reform, in the context of which the substantial cutback in the officer corps, the practical liquidation of the Institute of Warrant Officers and

\textsuperscript{111} www.kommersant.ru/doc.aspxDocsID=1158808
\textsuperscript{112} Newspaper of the Russian Ministry of Defense Kranaya zvezda www.redstar.ru/2009/05/21_05/2_02.html
Midshipmen, and the recruitment of a significant number of conscripts owing to the transition to a one-year term of service.

The cutback in the size of the officer corps and changes in its structure led to a certain disorganization of this highly important component of military organization. Despite the rationality behind such actions, in the short-term perspective it substantially weakens the Russian Army and will possibly lower the motivation of the remaining officers owing to delayed career advancement. If motivation is not appropriately reinforced by material stimuli, problems with the command cadres in Russia might be extended. Aside from that, the current transitional period opens broad opportunities for corruption, which can lead to an outflow of qualified cadres from the army and the promotion of those who do not respond in full measure to appropriate requirements for the development of their own moral and professional qualities.

The practically complete liquidation of the Institute of Warrant Officers may in a short-term perspective lead to degradation of the combat readiness of the Russian Army up to replacement of officers in suitable posts by trained non-commissioned officers and civilian personnel wherever this is possible. In view of the fact that the training program for qualified non-commissioned officers is only beginning to gain speed, it will take certain time to overcome the negative consequences of this tendency in the reform.

The transition to a single year of service brings with it a number of consequences. Among the positives, one might note the accelerated tempos of accumulating a reserve supply of trained servicemen, but the demanding nature of this raises doubts in the view of significant reduction in the number of units that are fully staffed and developed for mobilization.

Among the negative consequences are the following:
- lowering the length of active service
- attracting to military service broader layers of the population and, as a result, taking in people with limitations involving health, a low level of education, and a criminal record
- lowering of the motivation on the part of conscripts to reenlist for voluntary service

Therefore, the personnel reform of the Russian Army exerts a substantial negative influence on its combat readiness over the short term and may not yield a positive return until after a possible escalation of the Georgian-Russian conflict.

In general, it may be stated that in the postwar period the positive processes in the Russian army do not yet outweigh the negatives, and for this reason, its combat power has not risen and may indeed have dropped lower than it was in August 2008.

### Potential Influence of the Conflict in Nagorno-Karabakh on the Correlation of Georgian and Russian of Forces

When speaking of a change in the correlation of forces, one cannot avoid bringing up the influence on it of Nagorno-Karabakh between Armenia and Azerbaijan. The active rearming of the Azerbaijan Army in the last few years stands out as one of the basic factors destabilizing the
Symptomatic in addition is the failure to present Azerbaijani official data to the UN Register of Conventional Arms for 2007, which permits one to presume the possibility that Azerbaijan has exceeded its quota of heavy armaments stipulated in the CFE Treaty. This is likewise confirmed by information from unofficial sources.

Moreover, at a parade on 26 June 2008 new models of equipment for the Azerbaijan Army were displayed: the "Tornado" MLRS and the Israeli IMI Lynx (the latter included "EXTRA" extended range rockets), 203 mm 2S7 "Pion" self-propelled guns, "Tochka" missile systems, UAVs, as well as MiG-29 fighters purchased in Ukraine. It is important to note the appearance of not only powerful but relatively modern Soviet systems in the armaments of the Azerbaijan Army, and also the latest Israeli systems, characterizes a critical point in its rearmament.

Altogether, one may affirm that owing to a great disproportion in exports, revenues, and expenditures in state budgets of the opponents, Azerbaijan has the opportunity to attain significant qualitative superiority over Armenia in the military sphere in the near future. This requires an adequate reaction on the part of Russia for the support of its ally in the Collective Security Treaty Organization in view of its inability to sustain the arms race independently. However, the transfer of outdated arms from the inventory of the Russian contingent in Armenia can no longer be considered sufficient.

It may be presumed that among the simplest and most effective mechanisms for neutralizing the Azerbaijani threat to Armenia are: first, deliveries of relatively modern arms to Armenia (new or late Soviet) in sufficient quantities (possibly in the form of aid or at bargain prices). Secondly, it can be the buildup of the power of Russian contingent in Armenia both at the expense of its rearmament and of increasing its numerical strength. This will help to release Armenian units from watching the Turkish and Georgian borders or provide the Armenian Army with direct aid in case an unfavorable situation develops.

Both these variations exert direct influence on the correlation of forces in the Georgian-Russian conflict. The combat readiness of the Armenian Army, increased in the case of rearmament, theoretically presents a threat to Georgian interests in Dzhavakheti and to civilian and military targets south of Tbilisi. However, one needs to take into account that, in all likelihood, the Armenian Army will mainly focus on Azerbaijan and will refrain from aggressive actions with respect to Georgia.

Russian troops in Armenia, to the contrary, under certain conditions may take part in combat operations against Georgia. In this connection their use is possible both in Dzhavakheti for the support of Armenian separatists and for an attack on Tbilisi from the south, which would allow them to surround the Georgian capital, occupying en route the principal military airbase at Marneuli, and advancing toward the airbases in the southern suburbs of Tbilisi. It is only 35 km from the Armenian border to Marneuli and 65 km to Tbilisi.

Not coincidentally in connection with this the intention is apparent in the course of reforming the Armed Forces of Russia to form as part of the 102d Military base on Armenian territory a force consisting of two independent motor rifle brigades in constant readiness (the 73d and 76th, but

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113 Data of the UN Registry // [http://disarmament.un.org/UN_REGISTER.NSF](http://disarmament.un.org/UN_REGISTER.NSF)
according to information released in the fall 2009, the 73d Independent Motor Rifle Brigade in Yerevan will be redistributed).

Therefore, in case of quantitative and qualitative reinforcement of Russian troops in Armenia for neutralization of the imbalance between the Armenian and Azerbaijan armies, the prerequisites for an effective impact on Georgia from the south are being created. Georgia, in turn will be required to react adequately, assigning forces to cover the capital and Mardun at the cost of weakening the Ossetian and Abkhazian sectors. In the event of a full-scale Russian attack on Tbilisi, Russian troops in Armenia may take an active part in it.

**Changes in Positions of Opposing Sides as a Result of the Five-Day War**

By the results of the war Georgia lost the following territories: in Abkhazia - the Kodor Gorge, or the so-called Upper Abkhazia; in South Ossetia - the enclave of Great Liakhvi, or the Liakhvi Corridor (section of the Transkam to the north of Tskhinval), the villages of Malaya Liakhvi (to the east of the capital of South Ossetia), the villages of the Pronskiy Gorge (to the west of Tskhinval), the Akhalkori area (Georgian-controlled section of the Leningori area) east of South Ossetia, the villages in the Perevi area in the western part of South Ossetia. For its part, Russia lost its base in the Zugdidi area of western Georgia.

From a military-political standpoint, these territories have different meanings for the two sides in the conflict and will be examined in greater detail.

Despite the widespread view of the mass media, Upper Abkhazia (the Kodor Gorge) was not a convenient platform for Georgia to attack Sukhumi, for a number of reasons:

- awkward locality for a Georgian attack up the mountain road along the Kodor River
- Abkhazian positions in the Tsebelda-Amtkel area -- without a breakthrough here an attack on Sukhumi from this sector made no sense
- complications in supplying any kind of large disposition of forces in Kodor
- difficulties in the organization of PVO for both the attacking troops and for communications in this locality
- vulnerability of the attacking troops in the event of a breakthrough toward Dzhava by Russian or Abkhazian troops, as a result of which Georgian troops in Kodor would be cut off from the rest of Georgia (the threat of a flanking envelopment from this sector was one of the basic reasons why the Georgian garrison abandoned Kodor in August 2008)

On the other hand, the Kodor Gorge figured as a valuable item for Georgia's defense plan as a base for reconnaissance-subversive activity, its mission under E. Shevardnadze. But the vulnerability of the gorge in the event of a combined-arms operation by an opponent to occupy it would turn it into a "trunk without handles" for Georgia, and its defense would require a substantial amount of forces of which Georgia has no surplus, and it was fraught with the danger of envelopment and the utter defeat of its garrison. So from the military point of view the loss of Kodor might be considered advantageous to Georgia in that it would straighten the line of resistance, free up supplemental forces for more important sectors, and the opponent would be ensnared in a locality where it could be subjected to effective pressure in the course of a minor war with the involvement of the Svans refugees, who are thoroughly familiar with the locality.
For Russia and Abkhazia the establishment of control over the Kodor Gorge, aside from its political significance, has positive results in terms of liquidating bases for sabotage detachments, the operations of which could be directed not only against targets in Abkhazian territory, but in Karachay-Cherkessia as well. On the other hand, the forces of the Ministry of Defense and the frontier forces based in Kodor are quite vulnerable as the result of a forested, mountainous locality that is favorable to partisan operations, and communications with coastal Abkhazia are vulnerable, while the reserves are far away. In addition, the forces for garrison service in this region are isolated; in the event that the Russian contingent in Abkhazia is small in numbers, this weakens the disposition of forces in the main coastal sector.

Russia's loss of its positions in the Zugdidi area as a result of combat operations has both positive and negative sides for her. On the positive side it might be ascribed the removal of the threat to the Russian peacekeeping battalion in this region, the base and detached posts of which could be attacked by subunits of the 2d Infantry Brigade from Senaki, and this would convert the battalion into a hostage of the Georgian-Russian conflict. However, as compared with Russian garrisons in Kodor, Leningori, or Perevi, the situation of this battalion was far better owing to the possibility of receiving timely help from the Gal district, and support by sea and air from Gudauta.

For this reason in our view, the negatives visibly overshadow the positive consequences of the withdrawal of Russian troops from the Zugdidi area. To the negatives, we could ascribe the loss of positions on Mt. Urta governing the Senaki-Zugdidi highway and Georgian positions along the lower course of the Inguri River which allowed the Russians to hamper the movement of Georgian troops along this road, to correct Russian artillery fire, and to serve as a base for scouting and diversionary groups. Altogether, Russia's loss of a military presence in the Zugdidi area makes it easier for the Georgian Army to deploy its forces in the Abkhazian sector, as well as to increase and supply forces that may be activated against Russian-Abkhazian units in Kodor.

In addition to the reconfiguration of position on land, the creation of base centers for the Russian VVS (Gudauta) and the Black Sea Fleet (Ochamchira) should be noted. This enables more operational assistance to be provided for the support of ground troops, and it also facilitates the rapid deployment of supplementary air and naval forces in Abkhazia in a period of threat or in the course of combat operations.

In the Ossetian sector, Russia's most important success was to establish control over the Georgian enclave Great Liakhvi (the Liakhvi Corridor), which enabled her to shorten the route from Dzhava to Tskhinval by one-half, using a good road -- the Transcaucasus highway instead of the mountainous Dzari secondary road. Besides, by establishing control over this locality, Russia secured the key point in the defense of South Ossetia -- Dzhava -- and removed the threat to Tskhinval from the northern sector. For the Dzhava-Liakhvi corridor represented a threat both as an advance baseline area for an offensive by Georgian troops against the north and as a base for light forces able to aim artillery, organize ambushes, lay mines in the area, and strike at the base (first in line the weakly defended helicopter pad) with heavy infantry arms and mortars. It should be noted that the departure of the Georgian population from the enclave considerably
lowers the threat to communication between Dzhava and Tskhinval on the part of Georgian reconnaissance-sabotage units.

Seizing control over the Georgian villages of Malaya Liakhvi and the Pronskiy Gorge eases communication with the Znaur and Leningori areas. Likewise, the occupation of these positions improves conditions for the defense of Tskhinval and the ruling heights above it to the northeast and northwest. Altogether one may affirm that the losses by the Georgian side of its position in the villages in the Tskhinval area markedly improves the situation of the Russian and Ossetian troops in the capital city area of South Ossetia, and it likewise eases the maneuvering of forces between Tskhinval and Dzhava and the arrival of aid from Russia.

Regarded as more controversial from the military standpoint is the occupation of Perevi village and the Leningori (Akhalgori) area with its administrative center. What these positions have in common is the weak linkage of the garrisons with the main body of forces owing to the unsatisfactory state of communications, which are subject to the effect of landslides and blockages, thus substantially interfering with movement, and, besides, they may become a target of the action of the opponent's sabotage detachments. The operations of the latter are facilitated by the mountainous, forested character of the region, the condition of the roads, and the nearness of the location of the roads to the borders of South Ossetia. However, even the use of subunits of border troops for the defense of the Ossetian border cannot substantially hamper the operations of saboteurs in view of the considerable extent of the borders and the relatively small contingent of Russian border troops that is expected to be stationed in South Ossetia.

However, if Perevi is a relatively insignificant place and in case of need could be abandoned, then Leningori may have definite value for Russia under several variants of the development of events.

First, from Leningori to Tbilisi is a bit more than 50 km on a fairly good road, which theoretically can be used for an attack on the Georgian capital or to deliver blows against targets in the Tbilisi area with the aid of long-range missiles and artillery systems.

Second, forces from the Leningori area can disrupt the main lines of communication between Tbilisi and Gori (and farther into western Georgia) that run near the frontiers of the Leningori area.

Third, an attack from Leningori to the east into the Dushet area can contribute to an attack against Tbilisi from the direction of Vladikavkaz along the Georgian Military Road.

Fourth, to serve as a base for intelligence and sabotage forces, which may be used against Georgian communications and military targets in the Tbilisi area.

The combination of these factors compels the Georgian leadership to devote fixed attention to this area and to search for the opportunity to recover it one way or another. In this connection, a number of circumstances theoretically act in favor of a military restoration.
The close proximity to Tbilisi carries with it a number of negative consequences for Russian forces in the Leningori area: the possibility that the Georgian Army will quickly put together a strike force to take possession of the area, so the very threat issued from Leningori, can, should it turn out to be serious, provoke Georgia into taking preventive action. This circumstance is all the more dangerous for the Russian garrison inasmuch as about 75 kilometers of a poor dirt road passing along the border with Georgia in a mountainous, wooded area separate it from the nearest reserves in Tskhinval. For the sake of comparison: the distance from the Ossetian-Russian border to Tskhinval on the Transcaucasian Highway comes 62 km, but on the Transcaucasian Highway and the Zari Road -- about 75 km of which only a little more than 30 are on a dirt road. Thus, the Leningori garrison is even farther removed from the rest of the Russian troops in South Ossetia than the peacekeepers in Tskhinval were from the reserves at the northern entrance of the Rokskiy Tunnel in August 2008. This problem becomes especially acute from late fall to early spring, when the ability to use the Tskhinval-Leningori road deteriorates. Despite the efforts undertaken to improve the quality of the top layer of the road, they require an expenditure of time and resources and in any case do not remove the problem of the remoteness of the garrison and the vulnerability of communication to disruptions by small Georgian units.

And this means it is completely possible that a situation may arise wherein Russian troops are isolated from the reserves and lack the possibility of retreating toward Tskhinval.

The second negative factor is the possibility that the garrison will be attacked not only from the southern sector along the Ksani River, but also from the Dushet area in the east, and in part from the southwest and the north. In other words, the creation of a solid defense in the sectors under threat requires a considerable number of troops.

The remoteness of the garrison from the main force in Tskhinval and Dzhava interferes with its support by artillery fire, including rockets. Therefore, one may assume that in case of the start of combat operations in this area, basic responsibility for the support of the garrison will lie with assault aircraft and helicopters stationed in the outskirts of Dzhava (if it is possible to use the helicopter pad in the event of hostile actions against it by long-range Georgian artillery). Meanwhile, the Georgian troops operating in the Leningori region may be under the cover of not only the army PVO, but also the Tbilisi PVO.

Likewise, the fragility of the rear of the Russian troops in this area should be mentioned in view of the ethnic makeup of its population, represented overwhelmingly by Georgians, which makes it easier for the Georgian High Command to conduct reconnaissance and disruptive activities.

The totality of these factors permits one to draw the following conclusions: the presence of military forces in Leningori carries both positive and negative implications for Russia. However, realization of the potential advantages requires the availability in this area of large enough forces -- ideally not less than a motor rifle brigade, which also eliminates a number of threats to the garrison, which become exceptionally real given its small size. The small garrison is not able to attain its active objectives, and in itself may serve as a relatively easy target for the Georgian forces, which is in danger of the defeat at an early stage of combat operations.
On the other hand, the presence of large Russian forces in the Leningori area (apart from its difficulties in terms of deployment and added expense) exacerbates the threat to the Georgian capital and its nearby lines of communication and may call forth responsive actions beginning with the formation of supplementary subunits of the regular army or the National Guard in this sector prior to the decision to regain control of the region by the use of force.

Altogether one may state that the announced number of Russian forces in South Ossetia (3,700 troops) does not ensure reliable management of their zone of responsibility, which has increased in comparison with August 2008, and in view of the small number of reserves represents a threat to the detached garrisons of the Russian Army, especially in Leningori. In the event of a decision to deploy smaller forces in South Ossetia, it is incumbent on the Russian Ministry of Defense to evacuate the remote garrisons, which in practice signifies the return of the territories they occupy to Georgian sovereignty inasmuch as the Ossetians are incapable of holding onto them independently.

Conclusions

Since the end of combat operations in August 2008, the Georgian armed forces have revived and increased their combat strength by means of:

- bringing their troops back from Iraq
- forming new units and completing the training of units created earlier
- acquiring arms in accordance with contracts signed in 2007-2008
- reforming the system of cadre training with a shift in orientation to confrontation with Russia in place of anti-partisan training
- beginning the reform of the reserve system

The reform of the Russian Army exerts a strong influence on its potential to conduct a war with Georgia. It is necessary to single out:

- reduction in the number of tank and motor rifle battalions in the NCMD (North Caucasus Military District)
- reformation of the old cadre system
- cutback in the number of attack aircraft in the vicinity of Georgia with some expansion of potential for the close support of troops by creating bases for front-line and army aviation in Abkhazia and South Ossetia, and beginning the process of re-equipping army aviation with new helicopters
- reduction of opportunities for the operational buildup of forces in the Caucasus with the involvement of other military districts and the VDV owing to a cutback in the number of airplanes in Military Transport Aviation

On the other hand, the process of re-equipping North Caucasus units with newer and more contemporary hardware is called for by the need to compensate for the cutback in their numbers.

Affecting the alignment of forces in the Georgian-Russian conflict is the developing imbalance between Armenia and Azerbaijan in the military sphere, which requires Russia to reinforce the Armenian Army adequately as well as Russian forces in Armenia. In its turn, the increase in combat capability of the Russian troops in Armenia enables their use in the event of the renewal
of combat operations in Georgia for an attack on Tbilisi-Marneuli from the south and/or in Dzhavakhetia and later on Ajaria.

As a result of the Five-Day War, Georgia lost important positions in the Tskhinval area that facilitated its assault on and advance on Dzhava and further to the Rokskiy Tunnel. In Abkhazia, a convenient base for diversionary forces in the Kodor Gorge was lost; this, however, freed up Georgian forces for operations in more important sectors and saved the Kodor garrison from total defeat. In its turn, Russia lost positions in the Zugdidi area of Georgia, which had hampered Georgian deployment along the Inguri River, and had enabled the Russians to conduct artillery spotting and to use the area as a Special Forces base. Securing of Russian control over the Georgian-populated Leningori (Akhalgori) areas of South Ossetia should be specially underlined; for Russia it opens up broad possibilities and carries with it potentially serious threats for the garrison of the area, and the firmness of the entire defense of South Ossetia given the low Russian troop strength in the republic and its dispersal across semi-isolated sectors.

Altogether, it may be stated that the August war did not resolve the contradictions between Georgia and Russia. Likewise, it did not deprive either side of the opportunity to renew military operations with chances of success. For this reason one may speak of the escalation of the conflict (its transformation from a Georgian-Ossetian into a Georgian-Russian conflict), which for now is in a latent phase, but which bears within itself considerable potential for instability and is capable of pushing one of the sides into a new war for its final resolution.
Losses of the Russian Air Force in the Five-Day War in August 2008

Anton Lavrov

The losses of the Russian Air Force in the short Five-Day War with Georgia in August 2008 became one of the biggest surprises to observers. The loss of several Russian planes in such a short conflict with an opposition of a totally different weight category suggested that Georgian anti-aircraft defenses (PVO) were extremely efficient and actually were perhaps the most successful branch of the Georgian Armed forces in the war. Yet a detailed analysis of the circumstances of the losses of the Russian planes changes the picture substantially.

The official data on the losses of the Russian Air Force in the short-term conflict between Russia and Georgia collected by both sides differ considerably. High-ranking officials of the Russian Federation Ministry of Defense reported four planes lost: three Su-25 attack planes and one Tu-22M3 long-range bomber (speech by the Deputy Chief of the General Staff of the Armed Forces of the Russian Federation, Colonel General Anatoliy Nagovitsyn). The President of Georgia, Mikhail Saakashvili, announced the Georgian version on the evening of 12 August. He said in his speech that during the combat twenty-one Russian planes were shot down114. It is worthwhile to point out that later in Georgian media resources there were videos and photographs of the wreckage of only one Russian plane.

Representatives of the Ministry of Defense did not give details and circumstances of the aircraft losses and their unit identifications. Furthermore, they did not officially acknowledge the loss of two Su-24M front-line bombers. However, the information in the mass media that has since been published and also data from unofficial sources have allowed us to fill in the blanks in the official sets of records.

The first loss suffered by the Russian Air Force in the conflict with Georgia was the Su-25BM attack plane of Lieutenant-Colonel Oleg Terebunskiy of the 368th Aviation Assault Regiment (Budennovsk Air Base), which was shot down over the territory of South Ossetia at the Zari pass area between Dzhaava and Tskhinvali. A few missiles of the of a South Ossetian militia mobile anti-aircraft missile complex struck it at about 1800 hours on 8 August115. The fall of the burning plane and its wreckage were videotaped by a film crew of the Russian State TV channel Vesti and aired as a scene of destruction of a Georgian plane116. Mistaken identification of the plane unleashed friendly fire and led to the first loss. It most likely happened because it was the first flights of the Russian Air Force in the conflict and the South Ossetians were not informed

114 www.gazeta.ru/news/lenta/2008/08/12/n_1255971.shtml
115 Mikavkaz.net website forum // www.milkavkaz.net/forum/viewtopic.php?p=26078#26078
116 Aired on TV channel Vesti-24 08.08.2008 // www.youtube.com/watch?v=YlI0p_tv30
about the engagement of the Russian Air Force. Also, a few hours earlier, four Georgian Su-25s had bombed the nearby area\textsuperscript{117}; therefore, the Ossetians had grounds to assume a continuation of Georgian raids. Lieutenant Colonel Oleg Terebunskiy successfully bailed out, was rescued, and evacuated by the Russians.

Georgian air defenses achieved their first and most significant success after a little more than 24 hours from the beginning of combat operations. Early on the morning of 8 August, they succeeded in shooting down a Russian Tu-22M3 long-range bomber of the 52d Heavy Bomber Air Regiment (Air Base Shaykovka) in the area of the village of Korbouli, Sachkher district of Georgia\textsuperscript{118} (about 50 km northwest of Gori). Several Tu-22M3s were making a night raid on the base of one of the Georgian infantry Brigades. The bomber group returned by the same route as the one they took on the way to the target, yet for unknown reasons they reduced their flight altitude from 12,000 to 4,000 meters. According to an anonymous Russian military source, they were shot at by an "Osa-AK/AKM ZRK." A missile hit one bomber, and caused a shutdown of the key control systems of the plane and cut off the power.

One of the crewmembers, co-pilot Vyacheslav Malkov, ejected and was taken prisoner by the Georgians. On impact, he suffered a stress fracture of three vertebrae and a broken arm. He was taken to a local hospital and later transferred to Tbilisi. Malkov was exchanged for Georgian prisoners on 19 August. The pilot of the Tu-22M3, Lieutenant Colonel Aleksandr Koventsov, ejected after Malkov and went missing in action. The remains of his ejection seat were found\textsuperscript{119}, but neither he nor his body has yet been located. Later, the Georgians supplied DNA samples of an unidentified body and it was a 95% DNA match with Lieutenant Colonel Koventsov's mother. Additional tests were needed to prove whether the pilot of the bomber had finally been found.

A few weeks after the war, a search unit in the territory of South Ossetia in the remote and sparsely populated area close to the border with Georgia, found the remains of a plane with the bodies of the rest of the crew: Major Viktor Pryadkin (navigator) and Igor Nesterov (warfare systems operator). It has to be pointed out that contrary to earlier reports in the media, the downed Tu-22M3 was not a reconnaissance plane.

At 1020 hours that same day in the morning of 9 August, Georgian air defense managed to shoot down one more Russian plane. This time it was a Su-24M front-line bomber of the 929th State Flight Test Center (Air Base Akhtyubinsk)\textsuperscript{120}. It was making a raid as part of a group of three bombers with the purpose of suppressing Georgian artillery\textsuperscript{121} in the area of the village of Shindisi (between Gori and Tskhinvali). After making their first approach, the aircraft was shot down before a number of Georgian witnesses. The moment of impact and the fall of the burning plane were photographed and videotaped by the cameras of the cellular phones and uploaded to

\textsuperscript{117} Interfax news report // \url{www.interfax.ru/politics/news.asp?id=25736}

\textsuperscript{118} “The Week with Marianna Maksimovskaya” (Nedelya s Mariannoy Maksimovskoy) 21.02.2009 – Ren-TV// \url{www.youtube.com/watch?v=s50BabE2B9Q}

\textsuperscript{119} “The Week with Marianna Maksimovskaya” 21.02.2009 – Ren-TV// \url{www.youtube.com/watch?v=s50BabE2B9Q}

\textsuperscript{120} Pilot Igor Rzhavin, who was killed in Ossetia, served in the 929th SFTC of the Russian Air Force // RIA "Novyy region," \url{www.nr2ru/center/190689.html}

\textsuperscript{121} Pozdeyev L. "The Fourth in Revdy's History" (Chetvertyy v Istorii Revdy) // Oblastnaya Gazeta (Ekaterinburg), 18.10.2008, \url{www.oblgazeta.ru/home.htm?st=5-1.sat&dt=18.10.2008}
According to the story of a witness, there were two unsuccessful shots at the plane by missiles from a mobile anti-aircraft missile complex, but the third one shot the aircraft down. Polish media stated that the Su-24M was shot down using a Polish made mobile anti-aircraft missile complex (Grom2).

The hit caused an extensive fire and the crew ejected, but the debris of the plane damaged the parachute dome of the navigator, Colonel Igor Rzhavitin, and he was killed on impact with the ground. The crew chief, Colonel Igor Zinov, suffered massive burns and a contusion of the spinal cord. He was taken prisoner and transported to a military hospital in Gori, then later evacuated to a hospital in Tbilisi and put with Major Malkov. They were both exchanged for Georgian prisoners on 19 August. The downed Su-24M fell into an orchard of a private home in the village of Dzeveiri without causing casualties and destruction on the ground. Its wreckage was filmed on video and aired the same day on Georgian TV channels. Photographs of the wreckage of the plane were published in the Georgian magazine "Arsenal" and in some foreign media.

Almost at the same time that the Aktyubinsk Su-24M was shot down, at about 1030 hours on the morning of 9 August, an upgraded Su-25SM attack aircraft of the Commander of the 368th Assault Aviation Regiment, Colonel Sergey Kobylash, was also shot down. He was the leader of a pair of attack aircraft, which assaulted a Georgian column south of Tskhinvali on the Gori-Tskhinvali road. While coming out of the first approach, Kobylash's plane was hit and disabled by a mobile anti-aircraft missile complex missile on the left engine. Kobylash was forced to halt the attack and return home only with one functioning engine. Sometime later, during the flight over the southern outskirts of Tskhinvali at an altitude of 1,000 m, the plane was hit by a mobile anti-aircraft missile complex missile on the right engine, and was left without power. Kobylash tried to glide as far as possible from the front-line in order to bail out over friendly territory. He managed to eject north of Tskhinvali and successfully landed in South Ossetian territory in one of the villages of a Georgian enclave in the Big Liakhvi Gorge. He was quickly picked up by a Russian Mi-8 helicopter of a search and rescue unit of the 487th Detached Helicopter Regiment (Budennovsk Air Base). Kobylash was not injured in the ejection and landing.

It is not clear who shot down Colonel Kobylash's Su-25SM. There were no Georgian forces in Tskhinvali the second time he was hit by a mobile anti-aircraft missile while flying over the city, but they were positioned not far away in the villages near its suburbs. On the other hand, half an hour after his plane crashed, the South Ossetia State Committee of Press and Media reported that the AA forces of South Ossetia had shot down one of two Georgian attack aircraft above the city, which had attempted a raid on Tskhinvali. According to Georgian information, on 9 August,

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122 www.youtube.com/watch?v=P5Mh2DeC2JE
123 www.youtube.com/watch?v=foP047XmWM8
124 Georgian weekly magazine Kviris Palitra, #38, 2008
125 Video of the Russian channel "Rustavi-2," 09.08.2008 // www.youtube.com/watch?v=xcT3FYrFluc
127 S. Kobylash, Interview on the program "Voyennaya Tayna", TV channel Ren-TV // www.youtube.com/watch?v=VTl3RoFl5Hc
128 Attention! South Ossetian AA shot down second Georgian attack aircraft // cominf.org/node/1166477959)
Georgian attack planes did not make any more raids; therefore, most likely, Kobylash's damaged aircraft and wingman were mistaken for Georgian equipment and fired upon. They had entered the airspace above the city from the direction of Georgia.

9 August was the hardest day for the Russian Air Force, which lost a total of four planes in one day. The fourth was a Su-25BM attack aircraft piloted by Major Vladimir Yedamenko of the 368th Assault Aviation Regiment. His wingman, Captain Sergey Sapilin, recounted the circumstances of this raid to TV channel Ren-TV. The pair of attack aircraft had a mission to escort a Russian military column moving from Dzhava to Tskhinvali. Right after they crossed the Caucasus mountain range and entered the airspace of South Ossetia, the crews visually recognized the approach of fighters. They identified them as MiG-29s, yet they could not identify their origin. To protect themselves they started a defensive maneuver. Russian MiG-29s coming within close range visually identified them and turned around.

Right afterwards, in the Dzhava area over territory under Russian control, Major Yedamenko's wingman detected radiation coming from the ground and saw the burning Su-25BM of his leader going down in a dive. Yedamenko did not answer the calls of the wingman and did not attempt to eject, which could be because the Major was dead or seriously wounded. The plane hit the ground and exploded and Major Yedamenko was killed. Later the Commander of the Military Air Defense of the Armed Forces of the Russian Federation, Major-General Mikhail Krush, reported the destruction of a "Georgian Su-25KM" by Russian AA. Most likely, it was Yedamenko's attack aircraft.

Between 1500 and 1600 hours on 9 August, journalist Aleksandr Viktorov of TV channel NTV watched a Russian 3SU-23-4 "Shilka" self-propelled anti-aircraft gun, which was securing the Gufta Bridge, shoot at an aerial target. The ruins of a Su-25 attack aircraft were found later where the fire was directed, on the bank of the Big Liakhvi river at the settlement of Itrapis about 1.6 kilometers from the bridge. They reported it as the remains of a "Georgian attack aircraft," and on 5 September, it was blown up by a Russian MHS because of a large number of damaged rockets nearby. Russian journalists who visited the site later recognized the Russian insignia on the remnants.

It is very likely that it indeed was Yedamenko's attack aircraft because from the time that Russian AA units entered South Ossetia, Georgian planes did not conduct any flights. Problems with identification of an aircraft by Russian fighters and an AA gun could support the idea of malfunctioning of the friend-or-foe system on his aircraft.

The sixth and last plane of the Russian Air Force that was shot down was lost closer to the end of active part of the conflict, at about 1100 hours on the morning of 11 August. It was a Su-24M front-line bomber. By unofficial sources of aviation circles, it belonged to the 968th Research

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129 Georgian magazine Arsenal, #10, 2008, translation of an article on davaliani.livejournal.com/13526.html
130 S. Sapilin Interview on the program "Voyennaya Tayna," TV channel Ren-TV // www.youtube.com/watch?v=1Z3E-J4Y5dM
131 Grishchenko N. "Kings of the cross -- to a hero of Russia" (Karolin krossa – Geroyu Rossii) // Stavropolskaya Pravda, 26.09.2008
132 M. Krush Interview // Voyenno-Promyshlenny Kurier, #50, 2008
and Instructor's Composite Aviation Regiment of the 4th Center for Combat Training and Flight Personnel Training (Lipetsk Air Base). A column of Russian troops was moving from Tskhinvali in the direction of Gori. They mistakenly identified the Su-24M as an enemy aircraft and fired several mobile anti-aircraft missile complex missiles, shooting down the plane a few kilometers west of Tskhinvali, over the territory of South Ossetia. The pilots successfully bailed out and were rescued; the wreckage of the Su-24M fell in a remote mountain area.

After the active combat had ended, during the night of 16-17 August, in South Ossetia, there was a crash of a Mi-8MTKO helicopter belonging to the Aviation of the Border Guard Service of the FSB (v/ch 2464). While landing on a temporary runway at the village of Ugardanta not far from the village of Dzhava, it clipped a Mi-24 helicopter of the 487th Detached Helicopter Regiment (Budennovsk Air Base), parked on the ground. It flipped over and caught fire. An outcome of the fire and the exploding ammunition caused another Mi-24 to be damaged, and several more helicopters sitting on the landing field were also damaged. Flight engineer Senior Warrant Officer Aleksandr Burlachko and three other crewmembers received serious burns.

Total combat losses during the war were four crewmembers of Russian planes:
- Major Vladimir Yedamenko – 368th AAR
- Major Ivan Nesterov – 52d HBAR
- Major Viktor Pryadkin – 52d HBAR
- Colonel Igor Rzhavitin – 929th SFTC

Senior Warrant Officer Aleksandr Burlachko (military unit 2464) was killed in a crash in South Ossetian territory after combat operations had already ended.

Two pilots were shot down and later exchanged for Georgian prisoners:
- Colonel Igor Zinov – 929th SFTC
- Major Vyacheslav Malkov – 52d HBAR

Missing in action:
- Colonel Aleksandr Koventsov – 52d NBAR

Total Russian Air Force aircraft losses during the 5-Day War were comprised of six airplanes:
- 1 – Su-25SM and 2 – Su-25BM
- 2- Su-24M
- 1 – Tu-22M3

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133 Waronline.org website forum // www.waronline.org/forum/viewtopic.php?p=401966&sid=fbfa66ccdb197ad9777ec85aad5d6cd8#40196
134 Shavlokhova, M. "Four 'two hundreds' in the capture of Kvemo-Nikozi" (Chetyre 'dvukhsotykh' pri vzyatii Kvemo-Nikozi) // www.gzt.ru/politics/2008/08/12/223003.html
135 Babchenko, A. "War and Peace (by compulsion)"(Vovna i Mir (po prinuzhdeniyu)) // Novaya gazeta, 19.12.2008
136 Documentary Kouti tis Pandoras by Greek journalist Kostas Vaksivani // www.youtube.com/watch?v=oVQMoPOLt-c
Two of the aircraft were clearly shot down by enemy fire, three definitely by friendly fire, and it is difficult to determine who shot down the remaining plane. The debris of five planes fell within the borders of South Ossetia, and only one, a Su-24M of the 929th SFTC landed in Georgian territory.

In addition to the planes shot down, four more Su-25 attack aircrafts were seriously hit; however, they managed to return to Russian airfields. The damage to the three upgraded Su-25SMs of the 368th Assault Aviation Regiment was acknowledged by reports of the Chief Designer of the Sukhoy OKB, and the General Director of the 121st Aviation Repair Plant of the Ministry of Defense. The pilots, Captain Ivan Nechayev and Lieutenant Colonel Oleg Molostivyy, flew two of them. Additionally, there is information about one more damaged Su-25 (side # "47 krasnyy," pilot Major Ivan Konyukhov) of the 461st Assault Aviation Regiment (Krasnodar Air Base); Missiles fired from mobile anti-aircraft missile complexes hit all of them. Other types of planes and helicopters did not suffer serious damage.

Consequently, the 368th Assault Aviation Regiment from Budennovsk suffered the most losses. Six Su-25 aircrafts were shot down or seriously damaged. This number represents more than one fourth of the total number of planes in the regiment. Most of them were recently upgraded Su-25SM's with the best-trained pilots including the regimental commander.

At first glance, the efficiency of the Georgian AA, based entirely on the number of aircraft lost by the Russians without considering the causes, was therefore exaggerated. Georgian AA defense failed to protect its troops and the territory of the country despite having quite efficient SAM systems such as "Buk-M1," "Osa-AK-AKM," "Spyder-SR" and also a substantial number of mobile anti-aircraft missile complex units.

In the course of 24 hours on 8 August, Georgian AA emplacements did not manage to shoot down a single Russian plane, although during that time they operated under conditions of the unsuppressed AA fire of the enemy and had at their disposal no more than a single radar station covering Georgia itself, the separatist regions, and nearby border territories.

In the first 24 hours, the Russian Air Force made dozens of raids and struck not only the combat zone, but throughout the territory of Georgia, using almost exclusively unguided weapons. For instance, the main Georgian Air Force base of Georgia at Marneuli was bombed three times by small groups of Su-25 and Su-24M aircraft without resistance. It was located more than 100 kilometers from the conflict zone and from the border with Russia, near Tbilisi and the border separating Georgia and Armenia. Both planes (or three at best) that could be considered victims of the Georgian AA were shot down on 9 August, in the first half of the day. From that afternoon until the end of the conflict, the Georgian Armed Forces did not manage to shoot down any Russian aircraft.

138 Zaretskiy A. "'The Rook' of Revenge" (‘Grach' Vozmezdiya) // Krasnaya zvezda, 10.09.2008
140 Andreyeva I. "Hero of Russia" (Geroy Rossii) // Volnaya Kuban (Krasnodar), 20.02.2009
The Georgian AA managed to achieve only one hit of a Russian plane from its mobile systems AA during the entire course of the conflict. Portable anti-aircraft missile systems appeared to be more effective. Georgian troops succeeded in scoring three to six mobile anti-aircraft missile complex hits against Russian aircraft including one close hit, which did not cause any serious damage.

At least half of the total number of losses was caused by friendly fire, which came as an unpleasant surprise. It showed serious issues in the Russian Armed Forces with the coordination and management of troops in a combat zone. There was practically no communication between land forces and the Russian Federation Air Force, and it made them fight two separate wars. Pilots were not informed about the situation on the ground. They received incomplete and outdated reconnaissance data. At the beginning of the war, they did not have accurate information about the structure and strength of the Georgian AA according to the Commander of 368th Assault Aviation Regiment Colonel Kobylash.

Russian land forces did not possess information about the airspace situation and until the end of the combat operations, they were not even sure about Russian air supremacy. Although Georgian Su-25 attack aircraft conducted only one raid early in the morning on 8 August and did not leave the ground thereafter, Russian planes were often mistaken by Russian and Ossetian forces for Georgian, and were fired at without any aggressive actions on their part (however, there was some evidence of cases of friendly fire from the air). As a result, Russian troops and Ossetian militia fired at their own aircraft no fewer than ten times using missiles from mobile anti-aircraft missile complex units. They also fired at them with BMP guns, machine guns, and small automatic weapons. There are also data about problems in the functioning of the friend-or-foe system and indications that it was applied just once in a while when using mobile anti-aircraft missile complexes. This led to fairly substantial losses of Russian aircraft to friendly fire.

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143 S. Kobylash Interview on the program "Voyennaya Tayna", TV channel Ren-TV // www.youtube.com/watch?v=VTi3RoFfj5Hc
144 Georgian magazine Arsenal, #10, 2008, translation of the article on d-avaliani.livejournal.com/13526.html
146 Sokyrko V. "Twelve hours before death" (Dvenadtsat chasov do smerti) // Moskovskiy komsomolets, 12.08.2008
The State of the Georgian Army Toward the Conclusion of Military Operations and Its Losses

Anton Lavrov

After the official end of combat operations by Russia, at about noon on 12 August 2008, the Russians began a prolonged destruction of the Georgian military infrastructure and the collection and removal of captured military equipment and ammunition in the territories they occupied. This phase lasted two weeks, and during this post-war phase, Georgia suffered its most serious loss of military equipment. Thus, it is noteworthy to analyze the losses suffered by Georgia during the actual combat operations without accounting for what was destroyed or captured afterwards. This would help to better understand the intensity of the conflict and the efficiency of the Russian troops.

Personnel

According to the official list of Georgian Army losses, a total of 170 troops were killed or lost in action. Losses in wounded consisted of 1,964 servicemen (including reservists and police). In the course of the war, 14 policemen were killed and 227 were wounded as reported by the Parliamentary Commission of The Minister of Home Affairs, Vano Merabishvili. They lost most of their men in the assault on Tskhinvali on 8 August.

Such a large ratio of wounded to killed (12:1) could be explained by a wide use of individual up-to-date protective gear (armor vests, helmets) in the Georgian Army. The most common injury type was shrapnel wounds caused by artillery fire, bombing, and cassette bombs. In this situation, individual protective gear effectively reduced the number of serious life-threatening injuries. According to the Georgian appraisal, medical evacuation services operated well. There were well-equipped civilian and army hospitals in close proximity to the conflict zone. This allowed minimal deaths from wounds among servicemen taken to the hospitals. The number of such deaths amounted to two percent.

Permanent losses of The Georgian Ministry of Defense were distributed as follows:

- VVS – 5 killed
- VMS – 5 killed
- 1st Infantry Brigade – 7 killed
- 2d Infantry Brigade – 34 killed and missing in action
- 3d Infantry Brigade – 13 killed
- 4th Infantry Brigade – 58 killed and missing in action
- 5th Infantry Brigade – 5 killed
- Engineer Brigade – 4 killed
Special Operations Unit – 1 killed  
Detached Combined Tank Battalion – 26 killed and missing in action  
Detached Light Infantry Battalion – 2 killed  
Army Rear Services – 1 killed  
National Guard - 9 killed  

The 4th Infantry Brigade suffered the most losses in comparison with other army units. It was engaged in the fights for Tskhinvali on 8-9 August. Its 42d Light Infantry Battalion came under a Russian air raid in the region of Dobavaya Roshcha in the outskirts of Tskhinvali on 8 August and 9 August and lost 100 men, killed and wounded. The 41st Light Infantry Battalion suffered similar losses in all of its attempts to attack the city. Most of their losses happened on 11 August due to an Engineer Company of the Brigade running into a Russian landing force that broke into the rear and in fights for border villages; as well as during the siege of Tskhinvali on 9 August. Almost all of the Detached Tank Battalion losses occurred in fights on 8 August in the city and its outskirts. They lost seven tanks. The rest of the units rarely engaged in close combat, and their losses were caused mainly by Russian artillery fire and air raids. About 15 Georgian troops were taken prisoners. Mobilized Army reservists (the total was up to 15,000 troops) were released at the end of the conflict after they came under fire during Russian air attacks on the deployment centers. Only a small unit from Gori fought in combat. The Georgia National Guard suffered most of its losses during the night of 8-9 August when the Russians bombed the base in Senaki. Seven reservists were killed.  

The Georgian Army Forces fighting against South Ossetia lost a total of 15 percent of their personnel (without the MVD men and reservists), and that is a large number for such a short conflict. Yet losses were not distributed evenly. The 2d and the 4th Infantry Brigades along with the Detached Tank Battalion were considerably weakened, whereas battalions of the 1st Infantry Brigade and the 3d Infantry Brigade urgently transferred from Iraq suffered much less and maintained their combat efficiency. The Artillery Brigade suffered minimal casualties and with no one killed, only wounded. Elite units of the Georgian Armed Forces, such as the Special Operation Unit, the Military Police Battalion (having many special operations troopers), and also the Detached Light Infantry Battalion, which was formed from Georgian marines, suffered very few losses. Yet even in units with insignificant losses, the situation was exacerbated because of the fatigue of the personnel and a large number of soldiers and the small groups separated from their units dispersed throughout the conflict zone along with desertion. There were 1,700 criminal desertion cases filed after the war.  

The centralized chain of command of infantry brigades was dysfunctional, and management at the brigade level at the end of the conflict was seriously impaired as well. The Commanders of the 41st and 53d Light Infantry Battalions were killed and several commanders of battalions were wounded. However, command centers at the battalion level generally remained functional, although some units were split into separate companies that acted independently, and there was no communication between them. Dysfunctional command made it difficult for the Army to retreat from the border of South Ossetia, thus causing panic and the abandonment of portions of their weapons.
Lack of reliable information led to rumors about thousands of killed soldiers and reservists; the total destruction of the 4th Infantry Brigade; massive Russian forces that had moved-in, set on taking Tbilisi, and more. It inflicted heavy pressure and influenced morale and the psychological state of the Georgian Armed Forces personnel. At the end of the day on 11 August, the robust activities of the Russian Air Forces and energetic use of the Russian Mi-24 attack helicopters affected Georgian troops and caused "air sickness" among those who went through air raids.

**Armored Hardware**

In the Georgian armored hardware, the biggest losses in the duration of combat operations were in tanks. No fewer than ten T-72 tanks were destroyed in Tskhinvali and its vicinity. Most of them belonged to the Detached Tank Battalion and a mechanized battalion of the 4th Infantry Brigade. Six of them were hit by Ossetian forces and one by the Russian peacekeeping battalion; two abandoned Georgian tanks were blown up by Russian troops; and one was destroyed by a helicopter. The Georgians suffered their main losses in the course of fights for the city on 8 August. Aside from that, four T-72 tanks were captured by the Russian troops on 11 August at the 2d Infantry Brigade Base in Senaki.

The Georgian Army lost two disabled BMP-2 vehicles in the urban combat in Tskhinvali and two more BMP-2s of the Mechanized Battalion of the 4th Infantry were captured as trophies. In Tskhinvali on 8 August, the Ossetians captured a disabled Turkish made Cobra armored vehicle of the Georgian MVD and another Cobra fell into Ossetian hands undamaged.

**Artillery**

Despite artillery situated close to the conflict area, the domination of the Russian Air Force in the air, and the counter-battery fire of Russian artillery, the only confirmed loss of Georgian self-propelled artillery in combat was a burned 152 mm Dana self-propelled howitzer of an artillery brigade. Six more Dana howitzers were abandoned in the retreat on the evening of 11 August on the Gori-Tbilisi highway because of a lack of fuel and mechanical problems, but on 12 August, the Georgian Army managed to retrieve them. The Russians captured only one of that type of howitzer on the base in Gori and one more Dana on the fire-line near Gori. Around 20 units of towed artillery and 120 mm mortars of infantry brigades were abandoned in the area of the village of Khetagurovo, Gori, and the Kodori Gorge, and later captured by the Russian and Abkhazian forces. The retreating Georgian artillery brigade in the Gori area hid six 203 mm 2S7 "Pion" self-propelled howitzers; however, by the end of combat operations they were not located by the Russian troops.

**Air Force**

The Georgian VVS undoubtedly lost three transport planes and four helicopters during combat. Three of them, which were light An-2 aircraft, were destroyed during Russian raids on airports (8 August, Marneuli) and two helicopters: one Mi-14BT and one Mi-24B (11 August, in Senaki). Another Mi-24, which was possibly damaged in combat, crashed while making an emergency landing. Additionally, another Georgian Mi-24B helicopter was burned on the ground by Russian troops during the take-over of the Senaki airport. The small number of losses was a
result of the Georgian Air Force (Su-25 attack aircrafts) actively making flights only during the morning of 8 August. Afterwards, using landing field concealments, camouflage, and by dispersing the aircraft, the Georgian VVS succeeded in preserving all its attack aircraft and training planes. Random combat use of Georgian VVS Mi-24 helicopters was recorded up to the evening of 11 August.

Air Defense (PVO)

The Russian VVS conducted an operation to suppress the Georgian PVO on 10 August and 11 August. As a result, anti-radar missiles destroyed a stationary 36D6-M military RLS not far from Gori at the village of Shavshvebi, and a civilian RLS controlling air traffic at the Tbilisi International Airport and in the area of the Tbilisi Sea, on Makhat Mountain. During the bombing on 8 August, a civilian RLS at the Kopitnari airport was damaged. On 11 August, a reconnaissance unit of the VDV destroyed a military P-180U RLS near Poti. All these RLSs, both military and civilian, were incorporated into a single air control system of Georgia that was used for military purposes. The system was seriously damaged by the end of the assault operations. A number of key radar systems were disabled and some of them stopped operating in order to avoid anti-radar missile hits.

The Mobile Air-defense systems of the Georgian PVO apparently did not suffer any losses in combat. The major portion of them was successfully moved away. Two combat vehicles and two transport-charger vehicles of the "Buk-M1" system and its 9M38M missiles were left on the military base at Senaki and on 11 August captured by Russian troops. Up to five "Osa-M" combat vehicles were captured in the Gori area.

Navy and Coast Guard

By the end of 11 August, the BMS and the Coast Patrol of Georgia seemingly had not suffered naval losses. During the night of 9 August in Poti, a civilian hydrographic boat sank as a result of "Tochka-U" missile strikes. The Georgians transferred all military ships and boats that had crews and could go to sea from the Poti Base to the port of Batumi. They anchored at the civilian seaport and at the Coast Guard wharf. Only the missile boats "Tbilisi" and "Dioskuriya," the Coast Guard patrol boat "Ayeti," and several smaller boats of the Coast Guard as well as the Navy, stayed in the deserted military port of Poti. Reasons for their stay are not clear; perhaps they were disabled and could not sail away. The Russians did not attempt to destroy the boats and ships left behind in Poti. The naval base itself did not suffer substantial damage after the missile attack on 9 August. It did not cause any disruption to its operation.

The Russian Command reported a Georgian boat sunk in the course of combat on 9 August. There was no confirmation of this fact after a review of the post-war list of the Georgian Navy and its personnel losses. The circumstances of the loss of the hydrographic boat at sea, which was reported in some Georgian media, remained unclear.

Damage to the Military Infrastructure
The main targets of the Russian Air Force during combat operations outside the conflict zone were airports and military bases. Runways of the airports at Marneuli, Senaki, Kopitnari, Shiraki, Vaziani, and the Tbilisi Aviation Plant were damaged. The raids on the airports were made by Su-24M planes with free-falling bombs. Sixty bombs were dropped on Kopitnari and 12 successful hits struck the runway in two different sections, which blocked take-offs and landings of planes. Over thirty bombs did not explode and required detonation prior to the use of the airport. As a result, it resumed operation only at the end of September. It is unclear whether the massive number of unexploded bombs was the result of some malfunction or if it was done on purpose with special installments of detonators aimed to mine the airport and prevent its use for a long time.

The 2d Infantry Brigade base and Senaki Air Base were mildly damaged; however, the runway was damaged there as well. The same way as in Kopitnari, most of the bombs dropped did not explode. Forty bombs of 250 kg caliber and higher, landed and remained on the base and its vicinity. The Marneuli Air Base came under three air raids on 8 August. The runway, plane-parking zone, and the barracks were damaged. The 1st Infantry Brigade base near Gori, the 4th Infantry base in Viziani, and also the Detached Tank Battalion in Gori was bombed as well. Only the Detached Tank Battalion base in Gori suffered a lot of damage that caused large-scale destruction. The bombings of other targets were not as massive and carried out with so much high-precision weaponry, and a large number of bombs did not explode. Thus, air raids did not lead to serious damage to the Georgian Army infrastructure, and did not destroy ammunition, supplies, and military equipment located on the bases. At the completion of the operation on 12 August, two bases: the Senaki Army Base and the MVD base in Variani, loaded with abandoned equipment and ammunition, were occupied by Russian troops.

Totals

Losses in armored equipment of the Georgian Armed Forces during actual combat operations happened to be fairly moderate and did not exceed 20 items of attack-armored vehicles of all types. There are a few reasons for this, such as: a small number of close-range fights between Russian and Georgian troops; the inertia of the Georgian Army beginning 10 August; and the low efficiency of the Russian Air Force, which failed to destroy Georgian armored equipment and artillery in the rear of the Georgian Army and on subsequent moves. Aside from these, the quantity of armored equipment in the Georgian Army was comparatively small, and the core of the Army forces was comprised of light infantry moving in trucks and pickups. During combat, the Georgian Army lost fewer than 10 BMPs, BTRs and armored cars; however, they also lost a few dozen non-armored vehicles.

The biggest losses in the course of actual combat were of Georgian Armed Forces personnel. One of the main problems of the Georgian side was the low state of the psychology and morale of personnel and the dysfunctional command of the troops. Despite the chaos, after a short break and reorganizing the troops, up to half of the land forces were capable of continuing organized resistance on comfortable natural boundaries at the approaches to Tbilisi. Even considering the losses in personnel, tanks, and artillery, the Georgian Army units along with the MVD, were quite comparable to Russian troops that entered South Ossetia. They had significantly lower numbers of BMPs and BTRs.
In the light of everything that had been said above, the validity of actions taken by the Russian Military Command after the cease-fire on 12 August should be noted. Those were active moves to occupy a number of Georgian areas and settlements (including Gori); the capture of Georgian military objects, confiscation, removal, or destruction of Georgian combat equipment; and the demilitarization of Georgia in general. If the cessation of operations order by the President of Russia, Dmitriy Medvedev, at noon on 12 August was followed by another order for everybody to stop, and Russian troops did not continue to advance, occupy Gori, Senaki, Poti, and so on; then, unquestionably, the Georgians would have retained practically all of their combat equipment and ammunition. This would have helped the Georgians exit the war, which they started, without significant losses.

In other words, 203 mm 2C7 "Pion" self-propelled guns, dozens of upgraded T-72 tanks and BMP-1Us in Gori, and also large attack boats in Poti would still be undamaged and in Georgian possession. Hundreds of anti-tank missiles and PZRKs, tens of thousands of artillery rounds that were stored at the bases in Gori, Senaki, and the Kodori Gorge would have remained in the Georgian arsenal. If Russian troops had delayed their occupation of Gori for one day only, it would have been sufficient for even nominal Georgian forces to return and occupy the military bases located in the city. The Russians would not have fought for them after the signing of the truce. On 12 and 13 August, the Russians succeeded in the removal, (even from Gori itself) of six Dana self-propelled howitzers abandoned during the retreat. On 13 and 14 August, the Georgian troops and police partially returned to the front-line and in some places, came into contact with Russian blockades.
After the end of hostilities of the Five-Day War of August 2008, even before the withdrawal of Russian troops from the territory of Georgia, an announcement was made that the Russian Federation had recognized the independence of the separatist regions of Georgia -- Abkhazia and South Ossetia. Since the Georgian leadership has not abandoned its attempt to take back the independent regions, including if necessary by force, the existence of the newly recognized republics could be guaranteed only by stationing Russian army units there. In accordance with signed agreements, Russia has been granted land for military bases in South Ossetia for a period of 99 years and in Abkhazia for a period of 49 years.

Initially, the permanent strength of each of the Russian military bases was set at 3800 men. But the new state of affairs following recognition of independence of the republics allows the Russian side to freely maneuver forces, including concentrating reinforcement troops there in a timely manner in the event a threat should appear or there is a worsening of relations with Georgia. This possibility is especially important in South Ossetia, where troop transport is difficult owing the poor load capacity of the roads and the Rokskiy Tunnel.

Given the absence of monitoring of the numerical strength of the Russian groupings, the real strength and composition in the first postwar months exceeded what was initially stated. Apart from subunits of the newly formed 4th and 7th Military Bases of the Russian Army, various engineering units were inserted in the republics, Air Force and Air Defense were activated, and additional artillery was moved in, for example the 944th Guards Self-Propelled Artillery Regiment, from the 20th Motorized Infantry Division (Volgograd), and two Uragan 9P14020 -mm multiple rocket launcher systems. In addition, various special-purpose subunits have been and are being deployed in Abkhazia and South Ossetia.

**Russian Military Bases in Abkhazia**

In the event that Georgia tries to attack, in Abkhazia, Russian and Abkhazian troops will have to defend a rather extensive, around 60 km long, flat section of the land border, which runs along a natural boundary, the small Inguri River. In terms of geographical conditions, it is quite convenient for defense. Apart from that, the republic capital, the majority of cities, and the main military bases are at a considerable distance from the border, and are not threatened by the danger of a surprise artillery attack from the Georgian side, or by a land invasion. The border
section with Georgia in the Kodori Gorge can be effectively protected by rather small forces, since the terrain there greatly impedes the use of heavy equipment. The rough mountain terrain in other regions of the border of Abkhazia with Georgia rules out the possibility of using any large Georgian forces or combat equipment there, which greatly facilitates the task of its defense.

After the Five-Day War, the Russian 7th Military Base was formed in Abkhazia. It was based on the 131st Detached Motorized Infantry Brigade of the 58th Army. Previously the brigade was garrisoned in Maykop and became sadly famous for the heavy casualties it suffered during the assault on Grozny in January 1995, during the First Chechen War. Subunits of the 131st Brigade even before the conflict with Georgia spent several years performing peacekeeping functions in Abkhazia, but after the Five-Day War, it was stationed there in full strength, and was accommodated on a permanent basis. The relocation of brigade subunits to Abkhazia began back in mid-August 2008 and was basically concluded by the end of September 2008. The old Soviet military airport of Bombor near the city of Gudauta was chosen as the main base. On 17 November 2008, the Abkhazian parliament made the decision to allocate land there for the Russian base. Overall, around 150 hectares were set aside.

Tents for personnel and a brigade vehicle park and warehouse facility were set up near the landing strip of the airfield. Gudauta is some distance away (more than 100 km) from the border with Georgia along the Inguri River, so a foreword battalion is deployed in the Gal region of Abkhazia, in direct proximity to the Abkhazia-Georgian border at prepared defensive positions, while in the Kodori Gorge there is a reinforced company of the brigade. To equip their positions, apart from the manpower of the base itself, they recruited two Russian detached combat engineer battalions and a detached engineering position company, which were withdrawn from Abkhazia in 2009.

In mid-March 2009, a tank battalion of the 131st Detached Motorized Infantry Brigade was completely changed over from T-72B tanks to the latest T-90A tanks, which were built in 2008. Since the battalion is now deployed in a new organizational structure, the number of T90-A tanks in it is 41. The presence of such a number of modern tanks in the brigade allows it to effectively resist the updated versions of T-72 tanks that are in Georgia, even with the numerical superiority of the latter. The only problems have to do with the personnel mastering the new equipment and providing technical maintenance. Already in April 2009, the new tanks were being actively utilized in brigade exercises.

Apart from tanks, the armament of the military base includes more than 150 BTR-80 armored personnel carriers (according to plans, they are to be replaced with the BTR-80A, which as a heavier armament), two battalions of 2S3 Akatsiya 152-mm self-propelled howitzers, one battalion of BM-21 Grad 122-mm multiple rocket launcher systems, Osa-AKM, ZSU-23-4 Shilka, 2S6M Tunguska air defense systems, and other weapons.

The integration of Abkhazian territory into the Russian air defense system began in autumn 2008. In November 2008, S-300PS surface-to-air missile systems were moved into Abkhazia from one of the staffed surface-to-air missile regiments in the Moscow region, and radar subunits were deployed that are equipped with, among other things, modern Fundament company level automation systems.
Immediately after the recognition of Abkhazian independence, an announcement was also made regarding prospects for construction of a Russian naval base there. This will use the port of Ochamchira, where back in the days of the USSR, a brigade of border ships and a training detachment of naval ships were located. The small port can receive ships up to 85 m in length. The maximum channel depth is 12 m, but after years of virtual abandonment, it has silted over to 5 meters. After inspection and dredging operations on the channel and waters of the port, raising of sunken ships there, and partial restoration of the shore infrastructure, three to five small ships of the Russian Black Sea Fleet -- small missile or small anti-submarine ships or missile boats, and up to 10 patrol ships or boats of the Coast Guard of the Russian FSB can be well utilized there. Such a group will be able to reliably protect the coast of Abkhazia. In August 2009, the Russian side began dredging operations in the port of Ochamchira, which will continue to 2010.

In May 2009, a Russian Ministry of Defense spokesman announced that the numerical strength of the Russian military base in Abkhazia may be reduced owing to the rebasing of up to one half of their numbers to the territory of Russia, to available permanent garrison points. This was related to unresolved issues regarding the basing of Russian troops in Gudauta. The personnel have been housed in tents for all this time. Despite the mild climate of the republic, the high humidity, winds from the sea, and copious rain make it uncomfortable to live in tents in the winter and for part of the summer and autumn. In the winter of 2008/2009, the problem was exacerbated by the irregular supplies of wood and power interruptions. Despite the signing of agreements with Abkhazia lumber companies, service members had to cut trees around the base and use them for heating. Construction of modular, prefabricated buildings began only in August 2009.

Timely movement of some service members and equipment to the permanent garrison site of the 131st Brigade in Russia may simplify resolution of the problem of how to improve living conditions, and also allow troop rotation. In the event of Georgian aggression, strong border security and units of the 7th Russian Base, and relying on prepared and fortified strongpoints and combat-ready Abkhazian Armed Forces can deter it until subunits are brought in from Russia. This possibility is being considered, but relocation of the troops has not yet started.

**Russian Military Bases in South Ossetia**

South Ossetia is difficult territory to defend. The capital is the city of Tskhinvali, the largest populated area in the republic. It is within range not only of artillery and mortar fire from the territory of Georgia, but also of small arms fire. The Leningori region of South Ossetia is isolated and is linked to the main territory of the republic by a single narrow road, with a low load capacity, which becomes difficult to use in the winter and in heavy precipitation. For example, in June 2009, as a result of heavy rain, part of the road was washed away, and transportation connections with the region were interrupted. Russian troops in the region had to be supplied for several days solely by helicopter. The trip to Leningori takes 4-6 hours by motor vehicle.
The territory of South Ossetia itself is linked to the territory of Russia by a single paved two-lane mountain road and by the Rokskiy Tunnel, which limits its load capacity. Apart from that, in the winter and at times in the autumn and spring, this road is regularly blocked to transport traffic by avalanches for a day or more. This greatly hampers the transport of subunits from the territory of Russia. But the Georgian side, using a developed road system and the proximity of its military bases, can quickly and effectively concentrate its troops against South Ossetia, as was demonstrated during the Five-Day War.

Because of this, in meeting its obligations, Russia has been forced to keep a grouping of troops in South Ossetia that is capable of independently resisting the Georgian Army, if necessary, for the time required to move in subunits and/or to organize other actions of resistance to the Georgian aggression. For this purpose, immediately after the end of the war, the decision was made to form the Russian 4th Military Base there. The nucleus of the base is the 693d Detached Motorized Infantry Brigade, which is deployed in its new structure from the 693d Motorized Infantry Regiment of the 19th Motorized Infantry Division, previously garrisoned in the region of Vladikavkaz. The brigade was formed by attaching one battalion of the disbanded 135th Motorized Infantry Regiment of that same division and one multiple rocket launcher battalion to this regiment, and adjustment of the brigade structure to the new form.

At present, the base armament includes 41 T-72B(M) tanks, more than 150 BMP-2 infantry fighting vehicles, two battalions of 2S3 Akatsiya 152-mm self-propelled howitzers, one battalion of BM-21 Grad 122-mm ultimo rocket launchers, Buk-M1 and Tunguska 2S6M air defense systems, and other armament. Most of the brigade equipment has been repaired and upgraded.

The chief garrison points of the Russian 4th Military Base are in three military camps, whose construction was started back before the war, for the accommodation of Russia and North Ossetian peacekeeping contingents. The first base, resident camp No 47/1, is located on the northeast outskirts of Tskhinvali. By the start of the war, it was nearly completed, except for internal finishing and utilities. During the war, the empty camp was scarcely touched, and did not receive aimed fire -- there were only a few random missile strikes on the grounds from Georgian multiple rocket launchers and artillery shells.

After the war, development of the camp was actively continued, and by February 2009, a significant portion of the new base had been put in operation, including barracks, residential buildings, social and cultural facilities, repair pits for vehicles, and a heliport. Development of the base to meet its new requirements was actively continued in 2009. In addition, there were construction plans for 2010. The great drawback of this camp is the fact that it is just a few kilometers from the South Ossetia-Georgian border, and in the event of a new conflict, Russian personnel stationed there and their equipment may come under surprise massed artillery shelling from the deep interior of Georgian territory.

The second Russian base is located 1 1/2 km to the west of the village of Dzhava, close to the village of Ugardanta. In addition to residential camp No. 47/2, it is also the location of the main warehouses for missile and artillery weapons and the Russian engineering service. Near to the base, immediately after the war a heliport was built there with artificial cover, suitable for basing 10 to 15 helicopters. The pad includes stocks of fuels, lubricants, and ammunition, making it
possible, if necessary, to quickly move additional Russian helicopters there and organize effective combat use directly from the territory of South Ossetia, a capability that was greatly lacking in the first days of the war.

A shared problem of the new Russian military camps in South Ossetia is their inadequate size. Since they were built for the limited peacekeeping contingent, they were not intended to accommodate a full-fledged motorized Infantry brigade. It was necessary to do some "tightening up" in the barracks by installing bunk beds. Nor were repair facilities provided for the brigade set of combat vehicles, which amounts to much more equipment than the peacekeeping contingents had. The problem of the space shortage was resolved by accommodating around half of the personnel of the base on the grounds of the 4th Military Base in the city of Vladikavkaz. Personnel are rotated once every six months.

In addition, small Russian subunits deployed in the remote Leningori, Znaur, and Dzhava regions of South Ossetia have been living for more than a year now in field conditions in tents, with a minimum of conveniences, sometimes also suffering supply shortages. The serious situation developing with regard to living conditions in the garrisons in these regions can be seen from the cases of desertion of Russian service members there to Georgia. To partially resolve this problem, construction has started on prefabricated modular buildings for personnel.

A large grouping of the 4th Military Base is located in the Leningori region of the Republic. Because of its isolation and its vulnerable position, a company tactical group of motorized infantry is stationed in the settlement of Kanchaveti in this region, at present reinforced with tanks, artillery, multiple rocket launcher systems, and air defense systems. When the situation there deteriorated, additional troops were deployed.

**Development of the Transport Infrastructure of the Republics**

Effective defense of South Ossetia is impossible without the organization of continuous transport connections between it and Russia. Therefore, one of the priority tasks has been to improve the transportation infrastructure of the republic, including to facilitate possible troop transport, if necessary, and to ensure continuous supplies for Russian units stationed there. For this purpose, the decision was made to ensure round-the-clock operation of the Transcaucasus Highway, where currently traffic is blocked in the winter. A program has been developed which calls for construction of three tunnels, 6 km of anti-avalanche galleries and flood culverts, as well as bridge reconstruction, in the next few years. Reconstruction has begun on the strategically important Rokskiy Tunnel, which leads to the Republic.

In order to ensure communications with the remote Leningori region, work continues on a new mountain road with macadam pavement, which was started back before the war. Work has been done to restore the pavement of roads damaged during troop movements. Asphalting of the dirt Zari roundabout road has been completed. Test work is being done to determine sites for construction of an airfield in South Ossetia capable of also receiving military transport planes.

Transport links between Abkhazia and Russia are significantly more reliable. Apart from the motor road, they are linked by an operating railroad and two large airfields capable of also
receiving heavy transport aircraft, up to and including the An-124. In addition, the ports of Abkhazia on the Black Sea can also be activated to transport troops and cargoes. Russia has signed an agreement with the Republic of Abkhazia, according to which the railroads of the Republic and the airport of Sukhumi are transferred to the management of Russian companies for a period of 10 years. The open joint-stock company (OAO) Russian Railroads (RZhD) which has assumed management of the Abkhazian railroads, intends to reconstruct them, including major repairs on lines and full restoration of the contact electrical network. This will make it possible to increase the load capacity of Abkhazian railroads and speed up troop transport if necessary.

It is now proposed that the Sukhumi Airport, already used intensely in August 2008 to deliver Russian Airborne Troops to Abkhazia and to supply the Russian grouping, be activated for basing both temporary and, in the event the situation deteriorates, also a permanent composite aviation group, which will include Russian ground attack aircraft, fighters, and helicopters. Its placement under the control of the Russian side will make it possible to increase its load capacity and to create conditions and material stocks for the basing of Russian aviation there. The airfield at Gudauta at present is unsuited for use by aviation, since the basic facilities of the 7th Military Base are located there. Only helicopters supporting the Russian grouping are based there.

**Border Facilities**

As an intermediate goal, the Russian side announced the construction of maximally "transparent" borders of Russia with Abkhazia and South Ossetia, similar to the borders between the countries of the European Union. In order to avoid the creation of weak points on the Russian border at these segments, inevitably it was necessary to create and equip a full-fledged state border on the Russian model between the newly recognized republics and Georgia.

In January 2009, Russia began work to demarcate and delimit the borders of South Ossetia and Abkhazia with Georgia. As their basis, they took documents that defined the administrative border of South Ossetia in 1921. The Georgian side announced the complete illegitimacy of these studies and their non-recognition of such borders. Nonetheless, on 30 April 2009, an agreement was signed between Russia and the Republics of Abkhazia and South Ossetia on joint border security efforts. According to these, to safeguard the state borders of Abkhazia and South Ossetia with Georgia, Russian FSB Border Troops would be permanently deployment in these states. Their numbers are not counted in the total numerical strength of the military base of the Russian Ministry of Defense. It was provided that they would be there until the creation of national borders services and that they would provide assistance in the formation of local cadres, after which they would be withdrawn, but no specific withdrawal dates were indicated. Potentially, this gives the opportunity to the Russian border services to remain in the Republic of South Ossetia and Abkhazia for an unlimited period.

To protect the borders of the Republic, two new border directorates of the Russian Federation FSB were formed in the Republic of Abkhazia and in the Republic of South Ossetia. The directorate in Abkhazia will handle security for more than 160 km of land border and around 200 km of water border. For that purpose, 20 border outposts and a maritime division are being formed in the republic with a total strength of border guards of around 1500 men. In South
Ossetia also, around 20 border outposts are being formed, with a numerical strength of more than 1000 men.

Immediately after signing of the agreement, starting on 1 May 2009, the entry of Russian border guards into the Republic, and their movements to the protected segments of the borders were begun. The first phase of the deployment was completed in Abkhazia by the end of May, and in South Ossetia by mid-June. At present, the border guards are accommodated under field conditions, but plans are to conclude construction of standard border outposts by the end of 2011, along the lines of those that have been mass-produced in Chechnya, Ingushetia, Dagestan, and other southern regions of Russia in recent years. Such outposts are autonomous installations, which ensure comfortable living conditions for personnel even in the most isolated regions and allow remote monitoring of the state border using technical systems. For the border troops aviation, a network of helicopter bases was formed which can be used to supply the border outposts.

In South Ossetia, in addition to Tskhinvali itself, Russian border outposts will be deployed in the populated areas of Artsevi, Akhmadzhi, Balaani, Balta, Vakhtana, Velit, Kvaysa, Largvis, Leningori, Muguti, Orchasan, Sinagur, and Tsinagar. Thus not only regions with good connections to Georgia will be covered, but also hard-to-reach mountain regions over the entire perimeter of the republic.

Already in 2009, the need arose for rapid protection of the sea borders of the Republic of Abkhazia and reliable protection of shipping in that region of the Black Sea. After the war, sea communications between Abkhazia and Turkey were intensified. From the standpoint of the Georgian side, this is a violation of Georgian law, and ships entering Abkhazia without the consent of the Georgian side are smugglers. Therefore, Georgia is making efforts to block sea communications with Abkhazia. In 2009, the Georgian Coast Guard seized more than 20 civilian ships entering or leaving Abkhazia. The ships were escorted to Georgian ports where in some cases large fines were levied against their owners, and in other cases the cargoes and even the ships themselves were confiscated, while the crew members were given long prison sentences.

Prevention of the attempted naval blockade of Abkhazia required formation of a division of Russian border ships for its security, which number up to 10 units and will be based in the port of Ochamchira. It will include both large ships of the Russian Coast Guard and modern high-speed project 12150 Mangust and project 12200 Sobol patrol boats. Formation began in September 2009. The division will be manned by the summer of 2010, and infrastructure development of the Ochamchira base for it is planned for completion in 2012.

It should be noted that Russian large border patrol boats have very powerful artillery armaments, consisting of AK-176M 76-mm and AK-630 30-mm rapid-fire artillery mounts and sophisticated fire control systems. This will give complete superiority over any patrol boats at the disposal of the Georgian Coast Guard, whose most powerful weapons are the greatly outmoded 37-mm cannon. These small high-speed border patrol boats are intended to combat the raids of new high-speed lightly armed Georgian boats of Turkish construction and to provide rapid reaction to threats arising against civilian shipping. Apart from the basing of these ships, the Russian Coast
Guard will help to create a uniform system of radar monitoring of the territorial waters of Abkhazia and the contiguous sea spaces.

Apart from the primary function of monitoring the borders, the deployment of the Russian border troops in the republics also has important military significance. The Russian border guards deployed there are fully manned with contract personnel, well-trained and equipped troops with modern weapons in their armaments -- small arms, mortars, light armored vehicles, combat helicopters, and up-to-date surveillance systems, including unmanned aerial vehicles, thermal imagers, and radars. All in all, around 2500 Russian border guards will be stationed in Abkhazia and South Ossetia. After they are settled in these states, they will monitor the border zone of Georgia, if necessary combat Georgian reconnaissance and raiding parties, and in the event of a Georgian attack on the republic, will be the first line of defense impeding the rapid deployment of a Georgian offensive.

**Combat Training**

Russian troops introduced into Abkhazia and South Ossetia after the Five-Day War found themselves limited in their combat training capabilities. Initially, for a period of several months, troops were basically forced to engage in infrastructure development on their own at their new garrison sites, which left virtually no time for combat training. In Abkhazia, where even before the war a large peacekeeping contingent was stationed, and there were still developed elements from the Soviet military infrastructure, this phase passed more easily and quickly. In South Ossetia it continued until the early spring.

After the initial problems of accommodation of large troop elements at the new bases were resolved, they were confronted by the problem of the lack of training ranges for combat training. Firing ranges for small arms were prepared quickly, but allocation of space for tank gunnery ranges and artillery ranges prove to be a much more complex task. The decision to allocate land for them was dragged out by the local authorities. The small size of the republics and of the allocated ranges hampered the conduct of full scale exercises of the battalion level or higher on their territory, especially with live fire. To conduct some types of live fire with tanks, artillery, and air defense systems, personnel and equipment of the military bases have to be moved to ranges in the North Caucasus Military District on the territory of Russia, which reduces the defense capability of Russian troops in Abkhazia and South Ossetia. An especially complex situation developed in South Ossetia. The firing range near the village of Dzartsemi allows combat fire only by infantry fighting vehicles. Tanks have to be moved to the Tarskoye range in North Ossetia for live fire.

At the end of June and in early July 2009, the North Caucasus Military District held the traditional yearly operational-strategic exercise Kavkaz-2009. Russian troops stationed in the newly recognized republics also participated, and provision of assistance to the republics by forces of the district was also practiced. Despite the announced allowance for experience of last year's war, and development of a new brigade structure for the troops, in terms of its scenario, the Kavkaz-2009 exercises differed in no significant way from the earlier Kavkaz-2008 exercises. On the Russian side, they activated approximately the same forces and resources as in prior years, and the exercises were conducted at several considerably geographically separated
ranges, which did not make it possible to practice coordination of brigades and other units with one another. There was no practical training in large-scale movements of district troops, or operational concentration of troops from other districts in it. Practical transport of troops to the newly recognized republics themselves, to build up Russian elements there, was not carried out.

Russian troops stationed in Abkhazia and South Ossetia took only a limited part in Kavkaz-2009, basically in the form of command-staff drills. This was related to, among other things, the danger of diverting major forces of the Russian military bases there away from the border with Georgia. Nor were forces of the new states themselves recruited for the joint exercises. At the exercises, there was no extensive use of new combat equipment of the district, even that which arrived last year, which clearly suggests inadequate proficiency in the line units.

In the time that has passed since the war, there has been complete demobilization of the conscript soldiers who participated in it and acquired some combat experience. The drain of experienced contract troops has also been significant. This was related to the failure of the Russian Ministry of Defense to keep its original promises with regard to monetary payments for service in the republics, as well as to the austere living conditions at Russian bases there. As a result, the number of soldiers serving under contract at the 7th Military Base in Abkhazia decreased by about 20%. Owing to numerous reorganizations of the base structure, a large number of original high-level and medium command personnel who participated in the war have been replaced.

All of this suggests that in the year that has passed since the war, in the North Caucasus there has not yet been a significant increase in combat capability or combat readiness of the Russian army elements deployed in Abkhazia and South Ossetia. Now they approximately correspond to the Russian troops activated in the course of the Five-Day War, in terms of training level.

**Significance of the Bases**

The established numerical strength of Russian military bases in Abkhazia and South Ossetia overall slightly exceed the numerical strength of the Russian peacekeeping contingents before the Five-Day War. Significant growth occurred only in South Ossetia, where the numerical strength increased from 1000 (with allowance for the North Ossetian peacekeeping battalion) to 3500 service members. In Abkhazia, at the start of the war nearly 3000 troops were stationed there, including a significant part of the 131st Motorized Infantry Brigade.

Nonetheless, the combat capabilities of the Russian troops in the republics have increased radically in the last year. This occurred owing to the placement of a large quantity of heavy weapons there, which had been prohibited to the peacekeepers in accordance with the peacekeeping mandate. The dozens of Russian tanks now located there (including the modern T-90A tanks) and heavy self-propelled artillery leave the Georgian army no opportunity for rapid destruction of the troops deployed there and occupation of a significant amount of republic territory.

On their own, the Russian military bases cannot repel a full-scale offensive of the significantly larger Georgian Army, which may be additionally reinforced with reservists. But their delay of a Georgian offensive will allow the Russian army, using the improved transportation
infrastructure, to quickly move additional troops from Russia at any time to launch counterstrikes. For the Georgian side, the situation is complicated also by the fact that now they cannot concentrate virtually their entire army against one of the republics, as was done in the Five-Day War. They will inevitably be forced to leave a significant part of their forces to block the Russian base in the other republic.

The stationing of Russian troops in the youngest states reduces the risk of minor conflicts. The Georgian leadership understands that an attempt even at a limited military operation against Abkhazia or South Ossetia may provoke a full scale, and most importantly, very rapid reaction of Russian troops deployed in the republics, no longer restricted to the scope of peacekeeping operations and "compelling Georgia to keep the peace." In the event that the situation develops in the worst-case scenario, and it escalates into a new major conflict between Russia and Georgia, the bases can be reinforced with other Russian troops.

As before, Russian troops stationed in South Ossetia and neighboring regions support the most vulnerable base in South Ossetia. In the scope of reform of the Armed Forces, in Vladikavkaz, on the basis of the former 19th Motorized Infantry Division, the 19th Detached Motorized Infantry Brigade was formed, which is a permanent readiness unit. Its armaments will include new combat equipment, including T-90A tanks. In the event of a new conflict, this brigade will be the first Russian reserve, which can be moved into South Ossetia within 24 hours.

Other units of the North Caucasus Military District, which can be activated if a new conflict arises, also are receiving new and modernized weapons. The 17th and 18th Detached Motorized Infantry Brigades (formed on the basis of the former 42d Motorized Infantry Division) are being changed over from the outmoded T-62 tanks to the T-72B. They will also receive the new MT-LB 6MB tracked armored personnel carriers with strengthened armaments. The 20th Detached Motorized Infantry Brigade in Volgograd, formed on the basis of the former 20th Motorized Infantry Division, has been changed over to the BMP-3 infantry fighting vehicles early-series T-90 tanks. The 6971st Air Base located at Budennovsk (combining the forces of the former 368th Ground Attack Aviation Regiment and the 487th Detached Helicopter Regiment) received an additional batch of modernized Su-25SM ground attack aircraft and eight new Mi-28N combat helicopters.

Since the time of the stationing of Russian military bases in South Ossetia and Abkhazia, a reduction in the activity of the conflicts has been noted. Cases of cross-border fire between Georgia and the states it does not recognize have become much rarer, and their intensity has significantly diminished. In the year that has passed since the end of the war, not a single civilian has died from them. The aggressiveness in the rhetoric of the Georgian leadership directed toward Abkhazia and South Ossetia has also decreased. Georgian statements avoid mentioning the possibility of a return of the breakaway republics by force, or naming any specific deadlines for the "reunification" with them, which as before would create the prerequisites for repetition of armed conflict with Russia.
Known Deliveries of Basic Types of Military Equipment to Georgia in 2000-2008

Table compiled by the AST Center

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Supplier</th>
<th>Year Delivered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic T-72A/B tanks</td>
<td>110</td>
<td>Ukraine</td>
<td>2005-2008</td>
</tr>
<tr>
<td>Basic T-72M1 tanks</td>
<td>71</td>
<td>Czech Republic</td>
<td>2005-2006</td>
</tr>
<tr>
<td>Basic T-55AM2 tanks</td>
<td>11</td>
<td>Czech Republic</td>
<td>2000</td>
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<tr>
<td>BMP-2 infantry fighting vehicles</td>
<td>52</td>
<td>Ukraine</td>
<td>2004-2005</td>
</tr>
<tr>
<td>Modernized BMP-1 Shkval infantry fighting vehicles</td>
<td>15</td>
<td>Ukraine</td>
<td>2008</td>
</tr>
<tr>
<td>BTR-80 armored personnel carriers</td>
<td>30</td>
<td>Ukraine</td>
<td>2004-2005</td>
</tr>
<tr>
<td>Nurol Ejder armored personnel carriers</td>
<td>70</td>
<td>Turkey</td>
<td>2008-2009</td>
</tr>
<tr>
<td>Modernized BTR-70Di armored personnel carriers</td>
<td>25</td>
<td>Ukraine</td>
<td>2008</td>
</tr>
<tr>
<td>Type</td>
<td>Quantity</td>
<td>Supplier</td>
<td>Year Delivered</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------------------</td>
<td>------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Armored MT-LB towing vehicles</td>
<td>7 or 14</td>
<td>Ukraine</td>
<td>2006</td>
</tr>
<tr>
<td>Light-armored Otokar Cobra vehicles</td>
<td>100</td>
<td>Turkey</td>
<td>2007-2008</td>
</tr>
<tr>
<td>BTS-56 armored recovery vehicles</td>
<td>6</td>
<td>Ukraine</td>
<td>2007</td>
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<tr>
<td>2S7 Pion 203-mm self-propelled artillery gun</td>
<td>5</td>
<td>Ukraine</td>
<td>2007</td>
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<tr>
<td>2S3 Akatsiya 152-mm self-propelled howitzer</td>
<td>12</td>
<td>Ukraine</td>
<td>2004-2005</td>
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<tr>
<td>DANA 152-mm self-propelled gun-howitzer</td>
<td>24</td>
<td>Czech Republic</td>
<td>2003-2006</td>
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<tr>
<td>D-30 122-mm towed howitzers</td>
<td>42</td>
<td>Czech Republic</td>
<td>2001-2006</td>
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<tr>
<td>122/160-mm GRADLAR RSZO</td>
<td>from 4 to 8</td>
<td>Israel</td>
<td>2007-2008</td>
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<tr>
<td>122-mm RM-70 40-barrel RSZO</td>
<td>6</td>
<td>Czech Republic</td>
<td>2004</td>
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<tr>
<td>262-mm M-87 Orkan RSZO</td>
<td>5 (unconfirmed)</td>
<td>Bosnia and Herzegovina</td>
<td>2008</td>
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<tr>
<td>120-mm towed mortars</td>
<td>14</td>
<td>Bulgaria</td>
<td>2004</td>
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<td></td>
<td>25</td>
<td>Czech Republic</td>
<td>2005</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Bosnia and Herzegovina</td>
<td>2006</td>
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<td>82-mm mortars</td>
<td>25</td>
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<td>2006</td>
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<td>60-mm mortars</td>
<td>50</td>
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<td>2006</td>
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<td></td>
<td>30</td>
<td>Bulgaria</td>
<td>2007</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>Greece</td>
<td>2008</td>
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<tr>
<td>Buk-M1 self-propelled SAM systems</td>
<td>2 divisions</td>
<td>Ukraine</td>
<td>2007-2008</td>
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<tr>
<td>Osa-AK/AKM self-propelled ŠAM systems</td>
<td>up to 18 combat vehicles</td>
<td>Ukraine</td>
<td>2005-2008</td>
</tr>
<tr>
<td>Rafael Spyder-SR self-propelled SAM systems</td>
<td>up to 4 combat vehicles</td>
<td>Israel</td>
<td>2008</td>
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<tr>
<td>Type</td>
<td>Quantity</td>
<td>Supplier</td>
<td>Year Delivered</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------</td>
<td>-------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Su-25K attack plane</td>
<td>12</td>
<td>Czech Republic</td>
<td>2004</td>
</tr>
<tr>
<td>L-39S trainer aircraft</td>
<td>12</td>
<td>Bulgaria</td>
<td>2005</td>
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<tr>
<td>Mi-24 combat helicopters</td>
<td>7</td>
<td>Ukraine</td>
<td>2005</td>
</tr>
<tr>
<td>Mi-8MTV transport helicopters</td>
<td>2</td>
<td>Ukraine</td>
<td>2004</td>
</tr>
<tr>
<td>Bell 212 Multipurpose utility helicopters</td>
<td>6</td>
<td>USA</td>
<td>2007-2008</td>
</tr>
<tr>
<td>Bell UH-1H multipurpose utility helicopters</td>
<td>10</td>
<td>USA</td>
<td>2001</td>
</tr>
<tr>
<td>Defense Aeronautics Aerostar unmanned aerial vehicle</td>
<td>1 set</td>
<td>Israel</td>
<td>2005</td>
</tr>
<tr>
<td>Elbit Hermes 450 unmanned aerial vehicle</td>
<td>5</td>
<td>Israel</td>
<td>2006</td>
</tr>
<tr>
<td>Elbit Skylark mini unmanned aerial vehicle</td>
<td>18</td>
<td>Israel</td>
<td>2007</td>
</tr>
<tr>
<td>36D6-M RLS</td>
<td>2</td>
<td>Ukraine</td>
<td>2005</td>
</tr>
<tr>
<td>Kolchuga-M passive radiolocation system</td>
<td>5</td>
<td>Ukraine</td>
<td>2005-2008</td>
</tr>
<tr>
<td>Mandat jamming system</td>
<td>1</td>
<td>Ukraine</td>
<td>2008</td>
</tr>
<tr>
<td>Missile boat of La Combattante II class</td>
<td>1</td>
<td>Greece</td>
<td>2004</td>
</tr>
<tr>
<td>Point class Patrol boat</td>
<td>2</td>
<td>USA</td>
<td>2000-2002</td>
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<tr>
<td>MRTP 33 patrol boat</td>
<td>2</td>
<td>Turkey</td>
<td>2008-2009</td>
</tr>
<tr>
<td>106K small landing craft</td>
<td>2</td>
<td>Bulgaria</td>
<td>2001</td>
</tr>
</tbody>
</table>
About the Authors

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