



#3 (13), 2008

PUBLISHER



CAST Director & Publisher

Ruslan Pukhov

Editor-in-Chief

Mikhail Barabanov

Advisory Editors

Konstantin Makienko

Alexey Pokolyavin

Researchers

Ruslan Aliev

Sergey Denisentsev

Polina Temerina

Dmitry Vasiliev

Editorial Office

3 Tverskaya-Yamskaya, 24, office 5,

Moscow, Russia 125047

phone: +7 495 251 9069

fax: +7 495 775 0418

<http://www.mdb.cast.ru/>

To subscribe, contact

phone: +7 495 251 9069

or e-mail: mdb@cast.ru

Moscow Defense Brief is published by the Centre for Analysis of Strategies and Technologies

All rights reserved. No part of this publication may be reproduced in any form or by any means, electronic, mechanical or photocopying, recording or otherwise, without reference to *Moscow Defense Brief*. Please note that, while the Publisher has taken all reasonable care in the compilation of this publication, the Publisher cannot accept responsibility for any errors or omissions in this publication or for any loss arising therefrom. Authors' opinions do not necessarily reflect those of the Publisher or Editor

Computer design & pre-press: ZEBRA-GROUP

www.zebra-group.ru

Cover Photo: A Russian tank column in South Ossetia, August 2008.

Photo by: REUTERS/Denis Sinyakov

© Centre for Analysis of Strategies and Technologies, 2008

Printed in Russia

CONTENTS

Editorial

Saakashvili: "War At Last!" 2

International Relations

Conflict in South Ossetia: Political Context 4

Implications of the Georgia-Russia War for Global Politics 7

War And People

The August War between Russia and Georgia 9

Force Development and the Armed Forces of Georgia under Saakashvili 13

Georgia's Air Defense in the War with South Ossetia 20

Military Procurement

Russian National Defense Procurement 2000–2007 23

Defense Industry

Profile of Tactical Missiles Corporation 26

Facts & Figures

Known Deliveries of Military Equipment to Georgia 2000–2008 28

Our Authors

Saakashvili: “War At Last!”

Mikhail Barabanov

The August War in Georgia began with the fateful decision of President Mikhail Saakashvili to launch a campaign against South Ossetia on August 7. This step could be seen as an impulsive and sudden decision of a Caucasus leader. However, the attack on Tskhinvali was in fact the logical outcome of the policies of the leader of “Free Georgia.”

The Georgian “Rose Revolution” of late 2003 was neither democratic in form nor motivated by democratic ideals. The driving force of this mass movement against the then President Eduard Shevardnadze was radical Georgian nationalism, and the main accusation leveled against Shevardnadze was the fact that he did not use force against Abkhazia and South Ossetia when those regions declared their independence in the early 1990s. Having seized power in Tbilisi in late 2003, Saakashvili distinguished himself from the other oppositional leaders by his especially radical rhetoric, not shying away from racist attacks against the Abkhazians and Ossetians and openly calling for violence against the former autonomous regions. It was this, not democratic slogans, that made Saakashvili attractive to the crowds in Tbilisi; it was precisely his promise to “solve” the Abkhazian and South Ossetian “issues” that brought Saakashvili to power.

The forcible return of Abkhazia and South Ossetia to the Georgian fold was the main plank of Saakashvili’s platform when he was in opposition and when he came to power. He could not reject this program even if he wanted to, insofar as he would simply have fallen prey to competing nationalist demagogues. Having seized power on promises to “return” Abkhazia and South Ossetia, Saakashvili simply had to fulfill those promises, so as to avoid the fate of Shevardnadze.

It is therefore no accident that everything that Saakashvili did as President was directly related to preparations for war with the former autonomous regions. All other policies were subordinated to this goal. The development of the Georgian army was the main task, accompanied by world-record-breaking increases of the defense budget, which grew from 2003 to 2008 in dollar terms by 33 times. In 2007, Georgia spent 8% of its GDP on defense, and would have spent 10% in 2008 even without the August War, surpassing the defense spending levels of the Stalinist North Korean regime. It is clear that Georgia, with its fragile economy and huge balance-of-payments deficit, could not sustain this level of defense spending for very long. Saakashvili gambled everything on the wager that a victory over the “separatists” would recoup all losses. This made war inevitable, for without a war Saakashvili would have soon become bankrupt in an economic and political sense.

Having declared the return of Abkhazia and South Ossetia as his main goal, Saakashvili’s regime faced the political task of constantly galvanizing nationalist sentiment to maintain popular support. Short of the unattainable “total victory,” he had to show at least partial victories. Hence, his political need to “unfreeze” the positions in Abkhazia and South Ossetia that had formed in the wake of the conflicts of the early 1990s. Hence, Tbilisi’s constant, conscious maneuvers from 2004 onward to instigate spiraling tensions in both regions, to destabilize the situation and raise these conflicts as an “issue” of Georgian domestic and foreign policy. The strategy of fomenting conflict was essential to Saakashvili, whose political machine worked like a bicycle, constantly pedaling so as not to fall down. And, insofar as Russia was the main guarantor of the status quo in Abkhazia and South Ossetia, Saakashvili’s policy was destined to bring Georgia and Russia into conflict.

Saakashvili was able to find support in the West, first of all from the United States, which has always based its policy in the post-Soviet space on the primitive principle that “whatever is bad for Russia is good for us.” That said, the Americans at first followed a contradictory policy. On the one hand, they wanted stability in Georgia and the Caucasus as a whole, to serve among other things as an energy transit corridor from the Caspian that bypassed Russian territory. On the other hand, the United States also wanted to use Georgia to inflict the maximum possible harm on Russia and to undermine Russian political influence in the region. The second aim inevitably led to American support for all anti-Russian rhetoric and action, including openly destabilizing steps, like the unfreezing by Saakashvili of the conflicts in Abkhazia and South Ossetia. Thus, it is not surprising that the United States sent Saakashvili confused and self-contradictory signals, ones that he could interpret according to his whim. In practice, American policy veered toward automatic support of Saakashvili against Russia on every issue, without serious analysis of his actions in the broader context of American interests. The logic of “he may be a bastard, but he’s our bastard” began to take hold, allowing Saakashvili to manipulate Western support for his own interests. The tail wags the dog.

For its part, Saakashvili’s faith in the total and unconditional support of the United States and the West had a corrosive effect on the internal politics of the Georgian regime. Saakashvili’s policy from 2005 onward was built exclusively on the notion that the West would sooner or later force Russia to make concessions to Georgia and would force

Russia to give up its de-facto protectorate over Abkhazia and South Ossetia and allow Tbilisi to regain control over them. According to this logic, Georgia needed only to demonstrate maximum loyalty to America, while Russia's interests could in principle be ignored, since the United States would in any case dictate its terms to Russia.

To Saakashvili's great sorrow, this logic proved to be completely unsound. In the Putin era, Russia was not about to give in to Western pressure in an area of vital Russian interests. Moreover, Western states themselves were not prepared to provide unconditional support to Georgia. In essence, Georgia turned out to be no more than a political coin of the West in its relations with Russia. In this manner, Saakashvili made his country hostage to relations between the great powers.

Saakashvili's drive to NATO membership would prove to have even more catastrophic consequences for Georgia's foreign policy. Assuming that NATO membership would secure the West's close involvement in Georgia's problems, Saakashvili lost not only the chance to take back the territories, but also any chance of joining NATO. The policy was unrealistic from the start. Even if Russia could be persuaded to hand over Abkhazia and South Ossetia to a friendly Georgia, it could never transfer these territories to NATO. In effect, Saakashvili pushed Russia toward the use of these territories to block Georgia's pro-Western drive.

On the whole, Saakashvili's Russian policy presents as an exceptional example of self-destructive action. Abkhazia and South Ossetia were for a long time at the distant periphery of Russia's interests, and its policy was to preserve the status quo of stability, and to urge the two regions that had declared their independence toward a peaceful resolution of the conflict with Georgia. Since the end of the 1990s, Russia had supported the regime of economic sanctions against Abkhazia, and in general severely limited its relations with both republics. At the end of 2003, Russia even welcomed the arrival of Saakashvili to replace the weak and ineffective regime of Shevardnadze. Moreover, Moscow initially gave serious support to Saakashvili, de facto securing his reestablishment of control over Adjara, in spite of the pro-Russian orientation of the local leader Aslan Abashidze. Russia agreed to withdraw its military bases from Georgia. If Saakashvili had followed a

more sensible and flexible policy, he stood a good chance to secure Russian support with respect to Abkhazia and South Ossetia as well. All that was required of Saakashvili was to respect Russia's obvious interests in those regions and its desire to avoid violence in Abkhazia and South Ossetia, the waves of which could penetrate into the Russian territories of the North Caucasus.

Instead, Saakashvili launched an aggressive anti-Russian policy in the hope that this would secure US support and ultimately force Russia to withdraw from Abkhazia and South Ossetia. Simultaneously, Saakashvili initiated the "unfreezing" of the conflicts in both zones, organizing the first military campaign in South Ossetia in 2004, which very quickly fell apart. Blaming Moscow for the failure, and at the same time declaring the return of Adjara as a "victory over Moscow," Saakashvili unleashed an hysterical anti-Russian campaign, declaring Russia to be the chief enemy of Georgia. At that point, Georgia-Russian relations came to the brink. Russia's reaction was at first purely reactive, but as Georgia continued to sow tensions, Moscow's position hardened. When it became clear in 2006 that Saakashvili's main goal was preparation for military action to return Abkhazia and South Ossetia, and that Georgia was becoming a militaristic state, the inevitability of military intervention to protect the two autonomous regions became clear to the Kremlin. Nevertheless, the thickheaded Georgian leader, with unbelievable negligence, ignored Moscow's clear signals that it would intervene.

Saakashvili's policy toward Russia was based on the completely mistaken assumption that he could simply ignore Russia and its interests and exclude Russia from the resolution of the conflicts in Abkhazia and South Ossetia. He was convinced of this in spite of Georgia's significant economic dependence on Russia and in spite of the fact that only Russia held the key to resolving the Abkhazian and South Ossetian issues. Saakashvili seemed to entertain the fantasy that Russia was somehow located on another planet; he acted in complete denial of the obvious realities of Georgia's history and geography. But only a few hours after he had launched his war in South Ossetia, the tanks of Russia's 58th Army quickly showed the Georgian President where things actually stood. Saakashvili wanted a war, and that is what he got.

Conflict in South Ossetia: Political Context

Vasily Kashin

Saakashvili's policy priorities

Restoration of Georgia's Territorial Integrity

From the moment he came to power through the Rose Revolution of 2003, Mikhail Saakashvili's number-one priority has been to restore the territorial integrity of Georgia. His first inauguration ceremony took place at the gravesite of the great Georgian King David the Builder. There, at the Gelati monastery, Saakashvili pronounced: "The restoration of Georgian Unity is the aim of my life." His reputation as a potential unifier of Georgia was cemented in May 2004 with the bloodless unification of the autonomous Republic of Abkhazeti, whose leader, Aslan Abashidze, fled to Russia. The suppression of the revolt of the Svan (the minor Georgian ethnic group) field commander Emzar Kvitsiani and the seizure of the Kodori Gorge was a less significant, but highly propagandized, success in the fight for the restoration of Georgia. In this light, the 2003 "Rose Revolution" appears at its foundation to be less democratic and more nationalistic, and Saakashvili's regime as ultranationalistic to its core. For the people of Georgia, the fight for territorial integrity was the strongest plank in Saakashvili's platform.

Contradictory Economic Policy

Other aspects of Saakashvili's domestic policy got a mixed reception among ordinary Georgians. Foreign investors and World Bank experts welcomed the economic and administrative reforms launched by his regime, but for the masses they were extremely painful.

It is important to remember that in the 1990s Georgia sustained the worst economic collapse of all former Soviet republics. At its lowest point, GDP in 1994 was only 28% of its level in 1990. The state of the economy is illustrated by the fact that even today, scrap metal left over from the Soviet industrialization program remains one of the economy's most important exports.

Saakashvili tried to overcome the consequences of the catastrophic 1990s with a radical improvement in the quality of state administration and improvements in the investment climate. These policies resulted in a sharp reduction and complete purge of the bureaucracy and the deregulation of the economy. The state completely rejected all controls over the economy, most import tariffs were eliminated or seriously reduced, and the powers of regulatory agencies

were diminished to the point where even the antimonopoly service was disbanded. Meanwhile, the tax administration was greatly strengthened and fines for tax evasion were made much heavier.

These efforts had ambiguous results. Almost all foreign observers noted a significant reduction in corruption and growth in the effectiveness of the bureaucracy from 2004 to 2007. GDP growth stabilized and reached a record 12.7% in 2007. Direct foreign investment reached 2 billion USD in 2007, or 20% of GDP. Investments became the biggest source of economic growth, compensating for Georgia's huge current-accounts deficit (about 20% of GDP).

On the other hand, prices for the utilities, transportation, gasoline, and several types of products grew enormously, while unemployment grew from 11.5% in 2003 to 14.6% in 2007. One of the particularities of the personnel policy of the new regime was to encourage the hiring of people under 30 years of age for even the highest of positions. Those older than 30 faced a loss of career prospects, creating a large class of dissatisfied bureaucrats. According to Georgian statistics, the majority of workers were self-employed (54.8% in 2006). Aside from the small middle class, most of these were small farmers and urban residents excluded from the "official" economy by the cataclysms of the 1990s, who found work in the shuttle trade or small retail. They could hardly benefit from Georgia's wonderful macroeconomic indicators under Saakashvili, and indeed stood much to lose from the price hikes, the measures taken by the government to clean up street trading, strict tax collection, and poor relations with Russia.

Against a backdrop of worsening relations, Russia imposed a range of economic sanctions against Georgia. Apart from banning the importation of Georgian wine, mineral water, and agricultural products, Russia closed the Lars border crossing, the only land crossing along the Russian-Georgian border controlled by Tbilisi, which wreaked havoc on informal trade in agricultural products, an important source of income for many Georgians. In spite of the announcements made by Georgian politicians, the effects of the Russian sanctions were never overcome. For example, exports of Georgian wine and beverages reached 164.3 million USD in 2005, up 50-100% from 2003, and had a chance to become one of the main locomotives of economic growth, but in 2007 exports were only 143.4 million USD.

Internal Crisis of the Regime

Saakashvili's popularity began to fall sharply from 2006 onward. In September of 2006, the Georgian president resorted for the first time to the use of force against the opposition, accusing the pro-Russian "Justice" party of preparing a coup and arresting its leadership. This had little resonance in the West, but by November 2007, growing popular discontent led to the famous demonstrations in front of the Georgian Parliament, led by pro-Western Georgian politicians like Giorgi Khaindrava (the former Minister of State for conflict resolution), Salome Zurbishvili (former Minister of Foreign Affairs), and Levan Gachechiladze (a former MP).

Saakashvili went so far as to authorize the large-scale use of force and closure of Imedi, the largest opposition television station. This time, both Washington and Brussels criticized Saakashvili harshly, and he was forced to call a snap election. Saakashvili won the presidential election, held in January 2008, but was accused by the opposition of falsifying the results. In general, Saakashvili's regime resembled a police state more than a democratic one. The number of citizens incarcerated rose by a factor of three from 2003 to 2007 to reach 19,400. Opponents of the regime were physically liquidated: aside from the mysterious death of former Prime Minister Zhvania, several leaders of the Armenian and the Mingrelian ethnic groups have died.

The Georgian opposition criticized Saakashvili most harshly for his inability to solve the problems of Abkhazia and South Ossetia. In 2007, former Minister of Defense Irakli Okruashvili fell out of favor with the regime and became one of Saakashvili's most vociferous critics. Okruashvili, known for his militant statements against Russia and having personally participated in the conflicts in South Ossetia in 2004, blamed Saakashvili directly for his indecisiveness over an alleged opportunity to seize Tskhinvali in 2006.

Toward the summer of 2008, the political position of the Georgian President began to weaken. In addition to those who left his team earlier, like Okruashvili, Zurbishvili, and Khaindrava, Saakashvili lost a key ally in the period leading to the May 2008 elections: the speaker of Parliament Nino Burjanadze. Saakashvili's room for maneuver decreased considerably, and his only chance for political survival was to find a quick solution to the problem of the unrecognized territories. In this respect, the decision of the Georgian leaders to begin military action was completely rational, and predictable, in spite of the clear risks it entailed.

Saakashvili's Mistake: Moscow's Reaction

Georgian politicians and their Western advisers operated under two assumptions that would prove to be false. First, in purely military terms, the speed with which the 58th Army

of the North Caucasus Military District could deploy to South Ossetia was underestimated. Second, the speed with which the Russian leadership would make the decision to take military action was also underestimated.

The second point requires some elaboration. It is well known that Russia publicly proclaimed its readiness to defend South Ossetia in a 2006 statement by Foreign Minister Sergey Lavrov. This statement was later reinforced not only by statements of the Russian officials, both civilian and military, but also by the annual conduct of military exercises on the borders of Georgia that openly developed scenarios for the provision of the military support to the Russian peacekeepers in South Ossetia. The last of these exercises took place on August 2, 2008, less than a week before the onset of war.

Why did these clear warnings, supported by concrete actions, have absolutely no effect? The time of the Georgian attack suggests that Georgian officials and their Western friends and advisors were hostage to a mythological view of Russian power as divided between the camps of the "hardliner" Putin and the "pro-Western" Medvedev, supposedly in conflict among themselves. Such views were widespread not only among Western journalists in Moscow, but also among many Western diplomats. Putin's absence from Moscow when the attack was launched, in their opinion, delayed the decision to respond with force, and even lowered the likelihood of such a decision.

Of course, it is clear that Russia's leadership considered war with Georgia to be practically inevitable and developed no later than 2006 a detailed plan for the deployment of its armed forces and relevant civilian agencies in case a conflict erupted. Indeed, it is likely that Medvedev himself, as deputy prime minister or, earlier, as head of the Presidential Administration, would have been fully briefed on its development and may even have participated in the process. There was no division within the Kremlin over Georgia between the hawks and doves.

External observers frequently miss the point that Russia's stake in the conflict over the unrecognized republics is much higher than that of Georgia's entry into NATO or the destabilization of energy transit routes that bypass Russia. Russia simply could not afford to lose: in view of the harsh nature of the conflict in Abkhazia and Georgia in the early 1990s, Georgia's seizure of these territories would mean ethnic cleansing, and the flight to Russian territory of many tens of thousands of embittered and armed refugees. The loyalty of the North Caucasus republics of North Ossetia and Adygeya, tied by blood relation to South Ossetia and Abkhazia, would be undermined. North Ossetia, moreover, is the largest and most loyal autonomous republic in the region. Russia would have been shown to be weak before the entire North Caucasus, and this would have marked a return to the situation of the 1990s. The reaction of the international community to Russia's war with Georgia, no matter how

harsh, could not compare in significance to the implications of a new war in the North Caucasus. Georgia's attempt to export the ethnic conflict that it created in the early 1990s to Russian territory had to be intercepted at any cost.

Attempts to postpone Moscow's decision to use force were made during the first hours of the conflict by Georgia's main partner: the United States. When Vladimir Putin was in Beijing on August 8, George Bush informed him of the beginning of the conflict and, judging by statements made by Putin's aides, expressed his concern, saying, "nobody needs war" and recommended an emergency session of the UN Security Council. As a matter of fact, when Putin and Bush were meeting, the UNSC was already in session and the US representatives had already blocked a Russian resolution requiring Georgia to stop its attack.

Clearly, the US President consciously lied to the Russian Prime Minister, trying to disorient the Russian party and forcing it to waste time making additional clarifications through diplomatic channels. On the night before the Georgian attack, US Assistant Secretary of State Daniel Fried behaved in a similar manner. During his initial calls, Fried assured Deputy Minister of Foreign Affairs Grigoriy Krasin that the United States was working on a resolution to the conflict. Then, according to an interview Krasin gave to *Der Spiegel*, "at a certain point Washington stopped answering the phone, although the working day there had not yet finished."

Consequences of the Conflict

The behavior of the American leadership during the first hours of the conflict, and the fact that the United States had supplied Georgian military and civilian structures with so many advisers, led Moscow to the conclusion that Washington either approved or directly prepared the attack, aimed at the elimination of several hundred Russian civilians and dozens of peacekeepers, located in a region where they had an active mandate.

It is clear that Russian-American relations will experience a chill for at least until the new administration is sworn in, and perhaps much longer, if the Republican candidate wins. And even if relations improve outwardly, it will be years before either side will be able to discuss anything with any degree of trust and confidence. The main consequence of the conflict has been a qualitative change in Russia's relations with the West.

For Georgia, the purely economic consequences of the war seem to be rather modest, at least for now. Georgian statements on losses suffered are confused and often clearly deceitful; for example, according to the Georgian government, the port of Poti was almost completely destroyed during the first days of war. Meanwhile, on August 15, the director general of the Poti Seaport Corporation told the *Financial Times* that the port is ready for operations and the physical damage from bombing was minimal, in spite of the fact that 11 people died. Even Saakashvili told the FT that the overall damage to the Georgian economy was about 2 billion USD, although minister of the economy Yekaterina Sharashidze later estimated the loss at only 1 billion USD. The number given by Sharashidze is easily covered by the aid promised to Georgia by the United States, let alone the aid expected to come from the EU. It may prove to be more difficult to lure back the frightened foreign investors, whose funds have enabled Georgia to cover its balance-of-payments deficit. But for now there are no signs of massive capital flight from Georgia. It seems that Georgia's financial system will receive whatever aid is necessary from the United States and international financial institutions to maintain stability.

In the political sphere, Saakashvili lost the war as a leader and will soon face a sharp challenge from the opposition, which now counts many of his closest allies, such as Okruashvili and Burjanadze, exiled in Paris. Burjanadze is already visiting Western capitals and commenting on the situation in Georgia as a potential candidate for the presidency. Okruashvili has the advantage of sound managerial skills and popularity among nationalist circles in Georgia, and he bears no stain from defeat in this war. The replacement of Saakashvili in the next few months is likely, but not a foregone conclusion. Both the United States and the EU need Georgia as a stable transit country, and it is not yet clear whether Saakashvili will prove able to exploit this situation to his advantage.

If Saakashvili remains in power or if an effective nationalist leader, such as Irakli Okruashvili, takes over the helm, the next Georgian-Russian war will be only a matter of time. In view of the clear desire of the United States to provide assistance to the restoration of the Georgian army and speculation regarding deliveries of modern weapons, Russia will be faced with the task of rapidly modernizing its own war machine, especially as regards the strengthening of military forces in the North Caucasus.

Implications of the Georgia-Russia War for Global Politics

Fedor Lukyanov, Editor in Chief, Russia in Global Affairs

The war between Georgia and Russia signals the beginning of a new stage in the development of the former Soviet space, and will have a significant influence on global politics.

The final consequences of the five-day armed conflict of August 2008 are not yet clear, but certain trends are already apparent.

First, Russia has for the first time since the collapse of the Soviet Union demonstrated its capacity and readiness to use force beyond its territory in the defense of its interests. This is a new situation for Moscow's neighbors and international partners alike.

Neighboring states now face the issue of how to guarantee their own security. Their dilemma is clear. One path is to seek the patronage of a strong state from outside of the region, finding support that goes beyond political one, to include real security guarantees. The other path is to conclude an agreement with Russia for the same type of guarantees against external threats, which also hedges against a possible worsening of relations with Russia itself.

For Georgia and, it seems, Ukraine, the choice is clear: they have chosen to seek the support of NATO and the United States. The remaining states of the region will have to give the matter serious thought. For its part, Russia must provide a clear formulation of those vital interests that it will defend with the use of force.

Second, it would be too much to say that Russia is now isolated internationally, since no country except Georgia has broken off relations with it. Nonetheless, Moscow does find itself in something of a vacuum. For various reasons, nobody has supported its actions. Russia's long-noted lack of reliable allies is painfully apparent, and there is now the danger of Russia becoming closer to countries from which it would otherwise keep a certain distance. And they may well exact a high price for their support.

Third, Russia's harsh actions have shown that the West's strategy of gradually assimilating the geopolitical inheritance of the Soviet Union has reached its limit. Russian passiveness in the face of this process can no longer be taken for granted.

The United States and its European allies face the dilemma of taking a strong position, leading toward the containment of the resurgent ambitions of Moscow, or to attempt to find a balance of interests with Russia, recognizing its right to its own sphere of influence. The outcome of this dilemma is not obvious.

Fourth, divisions among Western states and their main institutions (especially NATO) have emerged. As it seeks to consolidate global leadership, the United States has overloaded itself with too many politico-military obligations. Europe is clearly divided between hawks and doves in relation to Russia. As a result, NATO and the EU find it difficult to take a firm stance.

The new and weaker part of Europe supported the American line. The conflict over Georgia could prompt a reformatting of European security structures. Regional alliances, such as one between Central and Eastern Europe plus the United States, could emerge in parallel with NATO, which would turn into a political club.

In theory, one could imagine a genuine discussion on the establishment of a new security system that would include Russian participation, but, judging from the reaction of the West, this option is practically impossible.

Fifth, the basic problem of Russo-American relations has become clear: their strategic horizons simply do not pair up.

Russia is a world power with regional ambitions. That is, it is prepared to sacrifice its interests in far-off regions (Latin America, Africa, Near and Far East) in order to preserve its vital interests in Europe and Eurasia. In other words, Russia has a gradation of interests; it has established a hierarchy of priorities.

The United States, on the other hand, is a superpower with global ambitions. As the world leader, Washington assumes that it has no "secondary" interests. Nothing can be sacrificed, and there is no point in making trades, because a compromise in one area will only provoke a domino effect. So, all other powers must be pressured to the greatest possible extent. The result is that the United States is, by definition, incapable of holding a constructive dialogue with anyone.

Sixth, a dramatic conflict of perceptions has emerged. Russia sees its actions as completely justified in political and moral terms. It is completely confident in the justification for its actions.

However, this confidence is not shared by anyone else. Moreover, the majority of influential countries hold the opposite opinion: that the actions of Russia, regardless of their motivation, are completely unacceptable.

Russia is sincerely shocked by the reaction of the West, and sees not only a double standard, but also a naked

cynicism that exceeds the boundaries of normal politics. This could have far-reaching effects: Moscow may not only reject Western values, but also come to believe that there is no such thing.

Seventh, the very structure of global politics is in crisis. This system has been marked since the 1990s by an absence of systemic confrontation, the emergence of strategic partnership, and steps toward a unified world order based on shared understandings.

The reemergence of deterrence recalls not so much the Cold War (in the absence of real ideological conflict) but the type of competition typical of the 19th century. Ideological and political confusion only deepens the various imbalances that have accumulated in the world.

The rules and norms of international relations in effect during the Cold War have been destroyed over the past ten years, but new ones have not appeared to replace them.

The August War between Russia and Georgia

Mikhail Barabanov

Initially, Georgia's attack on the capital of the self-proclaimed Republic of South Ossetia on August 8, 2008, seemed like it would lead to yet another bloody, drawn out Caucasus war. However, the quick, energetic, and sustained intervention of Russia (the guarantor of peace in South Ossetia since 1992) escalated by August 11 into a powerful blitzkrieg against Georgia proper. Commentators who until recently described the Georgian Army as the "best" in the post-Soviet space were at a loss for words.

Indeed, upon his seizure of power in the "Rose Revolution" of 2003, Mikhail Saakashvili devoted exceptional efforts to the creation of a fighting armed force that could return the separatist autonomous republics of Abkhazia and South Ossetia to the Georgian fold. Moreover, Saakashvili wagered on the broadest possible alliance with the United States and NATO, and on the formation of the Georgian Army according to Western models, with significant US military assistance. Significant funding went into force generation: during Saakashvili's rule, Georgia broke world records for defense spending, which grew by 33 times to reach about 1 billion USD per year in 2007-2008. Last year's defense budget was 8% of the Georgian GDP. Only Saudi Arabia, Oman, and North Korea spend more as a proportion of their national wealth. Georgia has recently made massive purchases of military equipment, including Soviet-made arms from Ukraine and Eastern Europe, as well as modern Western and Israeli equipment. A significant part of the new Georgian army got real field experience in Iraq, in cooperation with the US Army.

The creation of Saakashvili's army was accompanied by a powerful PR campaign within Georgia and abroad. The Internet was inundated with photos and videos of maneuvers and combat preparations by young Georgian men in American uniforms and helmets. Saakashvili himself took great pleasure in participating in military parades of battalions dressed in American uniforms, marching in an American style along the streets of Tbilisi with American rifles in their hands. The virtual image of a modern "Western Army" was created, just like in Hollywood films. Georgia became a kind of window display for military reform in the Western style.

In the end, Saakashvili seems to have become the victim of his own militaristic self-advertising, convinced that the new Georgian military machine was sufficiently effective,

capable, and powerful to impose a final solution on the rebellious autonomous regions. The temptation to use his pretty toy soldiers became increasingly hard to resist; indeed, overwhelming, when he launched upon his fateful military adventure in South Ossetia in August.

The attack on South Ossetia was not spontaneous. Over the course of several days in early August, the Georgians appear to have secretly concentrated a significant number of troops and equipment (the full 2th, 3th and 4th Infantry Brigades, the Artillery Brigade, the elements of the 1th Infantry Brigade, the separate Gori Tank Battalion – total the nine light infantry and five tank battalions, up to eight artillery battalions – plus special forces and Ministry of the Internal Affairs troops – all in all, up to 16,000 men) in the Georgian enclaves in the South Ossetian conflict zone, under cover of providing support for the exchange of fire with Ossetian formations. On August 7, at about 22:00, the Georgians began a massive artillery bombardment of Tskhinvali, the capital of South Ossetia, and by dawn the next day began an attack aimed at capturing Tskhinvali and the rest of the territory of South Ossetia. By 08:00 on August 8, Georgian infantry and tanks had entered Tskhinvali and engaged in a fierce battle with Ossetian forces and the Russian peacekeeping battalion stationed in the city.

In these conditions, on the morning of August 8, the Russian Government, headed by Vladimir Putin and Dmitriy Medvedev, decided to conduct an operation to prevent the seizure by Georgia of South Ossetia, characterized as a "peace enforcement" mission. Later that day, three tactical battalion groups from the 135th, 503rd and 693rd Motorized Rifle Regiments of the 19th Motorized Rifle Division (based in Vladikavkaz) of the 58th Army of the North Caucasus Military District were deployed in battle formation to Java and Gufta, and by the end of the day had cleared the roads and heights around Kverneti, Tbeti, and Dzari districts, and as far as the western edge of Tskhinvali. Russian Air Force also took action.

Meanwhile, Georgian forces were engaged in positional battles in Tskhinvali and its environs, but with the entry of Russian forces they stood no chance of success. Nonetheless, the slow passage of Russian forces toward Tskhinvali through the narrow Roki tunnel and along the narrow mountain roads, as well as the difficulties of quickly concentrating a significant quantity of Russian troops from various regions

of the North Caucasus, created the impression of slow Russian deployment and the clumsiness of the Russian command. The fact is that they were compelled by circumstances to introduce their forces into battle battalion by battalion. For this reason, on Saturday, August 9, a fierce battle took place in the region of Tskhinvali, and the Georgians were able to mount several counterattacks, including some with tanks. They even resorted to ambush and partisan tactics, which succeeded in wounding the commander of the 58th Army Lieutenant General A. Khrulyov.

By the morning of August 10, the Georgians had captured almost the whole of Tskhinvali, forcing the Ossetian forces and Russian peacekeeping battalion to retreat to the northern reaches of the city. However, on this very day the accumulation of Russian forces in the region finally bore fruit, and the fighting in South Ossetia reached a turning point. Toward the evening of August 10, Tskhinvali was completely cleared of Georgian forces, which retreated to the south of the city. Georgian forces were also repelled from the key Prisi heights. The bulk of Georgia's artillery was defeated. Meanwhile, Ossetian forces, with the support of Russian divisions, took Tamarasheni, Kekhvi, Kurta, and Achabeti on the approach to Tskhinvali from the north. Georgian forces in several of Georgian enclaves were eliminated.

By the evening of August 10, Russia had six regimental tactical groups (135th, 503rd and 693rd Motorized Rifle Regiments of the 19th Motorized Rifle Division from North Ossetia, the 70th and 71th Motorized Rifle Regiments of the 42nd Motorized Rifle Division from Chechnya, and mixed from the 104th and 234th Paratroop Regiments of the 76th Pskov Air Assault Division), units of the 45th Reconnaissance Paratroop Regiment and the 10th and 22nd Special Forces Brigades, as well as significant artillery and air-defense forces. Two Chechen companies from the Zapad and Vostok Battalions and regimental tactical groups of the 98th Ivanovo Airborne Division, deployed to the battle zone too. The total number of Russian forces in South Ossetia reached about 10,000 men and 120 tanks.

At the same time, Russia opened a "second front" in Abkhazia, deploying up to 9,000 men from the 7th Novorossiysk and 76th Pskov Air Assault Divisions, the elements of the 20th Motorized Rifle Division and two battalions of the Black Sea Fleet Marines. With their support, Abkhaz forces began to dislodge the Georgian forces from the Kodori Gorge.

The Russian Black Sea Fleet left Sevastopol on the evening of August 8 and established a de-facto sea blockade of the Georgian coast. The Russian Task Force included the Moskva guide missile cruiser, the Smetlivy destroyer (Kashin class), the Mirazh (Nanuchka III class) guide missile corvette, the R-239 and R-334 (Tarantul III class) guide missile corvettes, the Aleksandrovets and Murmanets (Grisha V class) corvettes, three minesweepers, three large

tank landing ships, a transport, and a rescue ship. On the evening of August 9, the Mirazh corvette probably sank one Georgian patrol cutter with two Malakhit (SS-N-9) anti-ship missiles in what amounted to the Russian Navy's first real sea battle since 1945.

Russia's Air Force carried out attacks on military targets all across Georgian territory, completing several hundred sorties using Su-24M Fencer frontal bombers, and Su-25 Frogfoot attack planes, and the Tu-22M3 Backfire long-range bombers. That said, the use of air power was limited by political considerations. There were no attacks on Georgian infrastructure, transport, communications or industry, nor any on government buildings. The distance of targets from Russian bases also complicated matters. In addition, Russian helicopters had a hard time flying over the Caucasus passes, and thus extensive use of helicopters by Russia began only after August 10-11, once a temporary landing/take-off strip was set up in South Ossetia. The overall losses of Russian Air Force amounted to one Tu-22M3 long-range bomber, one Su-24M Fencer frontal bomber, one Su-24MR Fencer E reconnaissance plane, and four Su-25 attack planes. Moreover, the Russian Army launched 15 Tochka-U (SS-21) short-range ballistic missiles against military targets and a few new Iskander (SS-26) short-range theater ballistic missiles.

Having lost its control over the bulk of South Ossetian territory, Georgian forces began to regroup at Gori. Meanwhile, Georgian units and artillery continued to shell Tskhinvali from a number of high points, and displayed fierce resistance in a number of Georgian enclaves. However, by the end of August 11 South Ossetia was completely cleared of Georgian forces, and Russian units had moved into Georgia proper by the next morning, establishing a demilitarized buffer zone as much as 25 km wide to prevent any further artillery attacks on South Ossetia. Georgian units resisted stubbornly in the area around the village of Zemo-Nikozi, repelling the Russian attack for a short time, but were soon wiped away.

Georgian defenses and the entire army soon began to collapse. From the morning of August 12 onward, the Georgian army began to retreat toward Gori, a retreat which soon grew into a panicked flight from Gori, almost all the way to Tbilisi. Along the way, the Georgians abandoned a significant quantity of ammunition and military equipment, especially the artillery brigade.

On August 11, Russian forces entered Georgia proper from Abkhazia virtually unopposed. Having taken the city of Zugdidi, Russian units (paratroops from the 7th Division) spread across almost all of Western Georgia on raids aimed at destroying heavy weapons at Georgian military bases in Senaki and Poti.

At midday on August 12, Russian President Dmitry Medvedev decided to cease the active phase of the peace-enforcement operation. That evening, Saakashvili signed a preliminary ceasefire agreement that French President

Nikolas Sarkozy had just brought from Moscow. Russian formations concentrated along the southern borders of South Ossetia and Abkhazia, exercising partial control of the demilitarized zone. Meanwhile, active raids on Georgian territory to capture and destroy Georgian weapons, and the “demilitarization of the Georgian armed forces,” continued. From August 13 to 15, Russian paratroops raided Poti again and again, destroying almost all of the docked ships and boats of the Georgian Navy, and took away a quantity of valuable military equipment. In the same days, Russian forces entered Gori and Senaki and began to seize rich trophies from Georgia’s military base. Other Russian raiding units neared within 20 km of Tbilisi. This all occurred in the context of the complete paralysis of a demoralized Georgian Army, and the conclusion of individual agreements with local Georgian authorities and commanders on nonresistance against the Russian forces. The remaining combat-capable units of the Georgian Army (including the 1st Infantry Brigade hurried back from Iraq) concentrated at the northern approach to Tbilisi in expectation of a Russian attack on the capital. The morale of even these troops was reportedly extremely low.

As announced on end of August, the Russian armed forces sustained official losses of 71 dead, five POW (including two pilots) and 356 injured. However, these figures do not include losses to Ossetian forces and various volunteers (probably, up to 150 died). Russian and Ossetian forces lost a few tanks and infantry combat vehicles. Losses to the Georgian side are not yet clear, but estimated at over 500 killed and up to 1,500 injured, with more than 100 POW (though the Russians have acknowledged taking only 15).

Georgia has entirely lost its air and naval forces and air-defense systems. Reportedly, Russian forces captured and destroyed a significant portion of the Georgian army’s arsenals. The Russians seized up to 150 units of Georgian heavy weaponry, including 65 T-72 tanks (including 44 in operational condition), 15 BMP armoured infantry fighting vehicles, a few dozen armoured personnel carriers, vehicles, guns and SAM systems. Russia seized a large quantity of automobiles and small arms, including American M4A3 carbines. Several Georgian tanks, armoured vehicles, and guns were completely destroyed in battle.

Thus, not only did Saakashvili’s adventure end in total failure, but Georgia suffered a heavy military defeat. The new Georgian Army clearly did not live up to the ambitious hopes of its leaders. While Georgian servicemen displayed an adequate level of military training and perseverance at the tactical level, at higher levels of command the performance of the Georgian Army was less than satisfactory. The tenacity of the Georgians in South Ossetia can be explained by local and ethnic motivation, typical of interethnic conflicts. But once the ethnic motivation is gone, servicemen quickly lose morale. Typical Caucasus emotionality quickly turned into panic and demoralization when faced with a clearly superior

enemy. The unit command of the Georgian Army was unable to maintain discipline, and lost control when under stress and when its communications were attacked. A widespread sense of the futility of fighting against the powerful Russian Armed Forces may also have contributed to the collapse of morale.

A clear analogy can be drawn between the fate of the Georgian Army and the collapse of the armed forces of South Vietnam in 1975. Like the Georgian Army, the South Vietnamese Army was built, trained, according to the American model and was well equipped. However, when they fought against the forces of North Vietnam, which combined local combat techniques with Soviet and Chinese organization and tactics, the outwardly impressive South Vietnamese forces proved to be much less effective than expected and fell apart after several defeats. In Georgia, as in South Vietnam, the imitation of Western methods of organization and force generation failed to match Western levels of military effectiveness. The creation of an effective national military machine requires long-term work on the part of the state, and an ability to take national characteristics into account. In and of themselves, “Western” standards of force generation do not guarantee superiority over “non-Western” armies. Those who believe in the a-priori superiority of the West in military affairs have learned yet another unpleasant lesson from the Georgian affair.

But one should not, however, discount the strength of the Georgian Army, in spite of what happened. On the whole, the Saakashvili regime developed Georgia’s military capacity in a sensible manner, showing an admirable concern for the armed forces. From a technical point of view, the focus on acquiring heavy, self-propelled artillery, multiple-launch rocket systems and air-defense systems proved to be entirely justified, and it was precisely these weapons that inflicted the greatest damage on the Ossetian and the Russian forces. The acquisition of UAVs was similarly justified, along with night vision, modern communications, radio-technical reconnaissance and electronic warfare equipment. In these categories, the Georgian Army was perhaps even better equipped than Russian Army. The emphasis placed by Western military instructors on the individual training of soldiers also seems to have paid off. But, on the whole, the Georgian Army needed more time to ripen. Saakashvili’s rash decision to throw this army into battle prematurely, leading to confrontation with the Russian Armed Forces, led to its fateful demise.

As for the performance of the Russian Armed Forces, the speed of their reaction was clearly unexpected, not only by the Georgians, but by the West as well, not to mention a few pessimistic observers within Russia itself. Three tactical battalion groups from level-ready units were introduced into South Ossetia in a matter of hours. Within three days, a powerful alignment of forces and equipment

was assembled under extremely difficult natural conditions, capable of effective action and inflicting quick defeat on a numerically equivalent enemy. The Russian forces may have demonstrated insufficient coherence at the tactical level, but their superiority over the Georgian forces in terms of combat capability and effectiveness is indisputable. Russia has thus demonstrated that it has units and groups ready for combat operations, as well as an effective military command.

The traditionally weak aspects of the Russian Army, such as night operations, reconnaissance, communications,

and rear support, remained as before, though in view of the enemy's weakness these weak points did not play a significant role. There is no doubt that these issues will have to be examined as a first priority in view of the results of the campaign, as well as issues concerning counter-battery combat.

Victory over the Georgian Army during the peace-enforcement operation of August 2008 should not be a cause for euphoria in Moscow, but rather a stimulus to accelerate military transformation and the mass procurement of modern armaments for the Russian Armed Forces.

Force Development and the Armed Forces of Georgia under Saakashvili

Vyacheslav Tseluyko

The formation of the Armed Forces of independent Georgia began in the last days of the Soviet Union, with the creation of the National Guard on December 20, 1990. The first draft to the National Guard was announced on April 30, 1991, a date now celebrated as marking the birth of the Georgian Armed Forces. The National Guard began operations in the early 1990s as a volunteer formation, most of whose members had no special military training, including officers and Tengiz Kitovani, its commander. As with other such formations, it suffered from insufficient training and a low level of discipline.

The National Guard was eventually integrated into the Ministry of Defense, established in 1992. The lack of a unified military organization capable of concentrating forces and means, the pernicious influence of “atamans” (warlords), and the rebellion of the supporters of the deposed Zviad Gamsakhurdia, Georgia’s first president, were the main factors leading to Georgia’s defeat in the war with Abkhazia in 1992–1993.

Following defeat in Abkhazia and the conclusion of civil war, Georgian President Eduard Shevardnadze renewed military reform. In particular, he disbanded volunteer military formations like Mkhedrioni. Nonetheless, other negative factors continued to plague the Army; first of all, a very low level of financing. Even in 2002, Georgia’s defense budget was a mere 36 million lari (16.4 million USD), and in 2003, 60.9 million lari (28.4 million USD). High corruption and low discipline also deserve mention.

The last years of Shevardnadze’s rule saw greater military assistance from foreign governments. From April 2002 to April 2004 the United States implemented the Georgia Train & Equip Program (GTEP) worth 64 million USD. This involved the training of three light infantry battalions of the 11th Brigade (now the 1st Infantry Brigade, Gori), the 16th Mountain Battalion of the National Guard (from which the Mountaineering School in Sachkhere was formed) and a Combined Mechanized Battalion. A total of 2,702 servicemen were trained under the GTEP. In spite of the fact that the program concluded on April 24, 2004, that is, under Saakashvili, it owes its success to Shevardnadze and his military circle. Foreign assistance also included the training of Georgian commanders at foreign military academies, first of all in Germany, the United States, Turkey, and Ukraine. Several current leaders of the Georgian Armed Forces underwent such training under Shevardnadze.

Foreign states also provided Georgia with military equipment and supplies. The transfer of 10 Bell UH-1H helicopters (including four for parts) from the United States, another two such helicopters from Turkey, 12 L-29 trainers, two Mi-14 helicopters, Tbilisi Project 206MR (Matka class) fast attack craft (missile) and six patrol boats from Ukraine should be noted.

On the whole, the last years of Shevardnadze’s rule were a period of qualitative growth for the Georgian army, even if it was on a smaller scale than would take place later under Saakashvili.

Contradictions in the Goals, Tasks, and Priorities for the Development of the Georgian Army

After Mikhail Saakashvili came to power in late 2003, a range of defence conceptual documents and programs was adopted through 2005–2007, reflecting the aims, tasks, and priorities for the development of the armed forces of Georgia. Of these, it is worth mentioning the National Security Concept (NSC), the Threat Assessment Document (TAD), the National Military Strategy (NMS), the Strategic Defense Review (SDR), and the Defense Minister’s Vision.

The first to be adopted was the NSC, which expresses a global vision and touches upon not only military, but also financial, political, economic, environmental, and cultural issues. It declares the main interests of Georgia to be: (a) securing Georgia’s territorial integrity; (b) securing regional stability in the Caucasus and the Black Sea basin; and (c) securing Georgia’s role as a transit state.

The main threats to Georgia’s national security are identified as follows: (a) violation of territorial integrity, understood to mean the separatist republics of Abkhazia and South Ossetia; (b) the spread of conflict from neighboring states, from the Russian North Caucasus in particular; (c) military aggression on the part of foreign states (considered by the authors to be unlikely) or nonstate actors (more likely); (d) terrorism and sabotage, first of all against infrastructure like gas and oil pipelines, as well as against foreign missions; (e) smuggling and transnational crime; and (f) Russia’s military bases as a short-term threat until they are fully withdrawn.

The TAD and NMS documents are largely repetitive in their listing of the main threats to Georgia’s security. The NMS mentions

the threat not only from Russian military bases but also from the Russian peacekeeping forces in Abkhazia and South Ossetia.

Published in 2007, the SDR lists the following types of threat: (a) large-scale aggression against Georgia (low probability); (b) renewal of fighting on the territories of the former autonomous areas of Georgia; (c) spreading of conflict from the North Caucasus; (d) spreading of conflict from the South Caucasus; and (e) international terrorism. From 2007 to 2012, the most likely threat was considered to be the renewal of military action on the territory of the former autonomous regions; and, most dangerous, large-scale external aggression. From 2013 to 2015, the most likely threat was considered by the authors of the SDR to be international terrorism, with the most dangerous one stemming from the spread of conflict from the North Caucasus.

Recommendations from NATO had a strong influence on the authors of the SDR, which led to serious contradictions. Thus, the armed forces of Georgia should undergo a transformation into a compact, lightly armed army, but at the same time be able to undertake independent military operations up to and including the repulsion of aggression by a foreign state. And although NATO membership was seen as an eventual guarantee against a large-scale external aggression (which was also expressed in the earlier NSC and NMS documents), preparations for this eventuality determined in large part the force generation strategy of the Georgian army in the meantime. The negative consequences of this contradiction were intensified by Georgia's limited resource base.

Participation in a conflict in the former autonomous regions would require the Georgian Armed Forces to possess a quantitative superiority (in terms of both manpower and military equipment) over the Abkhaz and Ossetian forces in both classical and antiguerrilla warfare terms. This would require a more numerous professional regular army and more numerous and more powerful heavy weapons, as well as numerous and well trained reserves.

Potential aggression on the part of a more powerful foreign state (Russia) also demands a large professional army and reserves and corresponding armaments (for example, air-defense systems) as well as the ability to conduct guerrilla warfare. The latter requirement was reflected in the NMS where it notes that the main tactical unit of the Georgian Army – the light infantry battalion – should be able to conduct both classical military actions as well as guerrilla warfare in an autonomous mode, but within the framework of an overall strategy, for which the service personnel need to be adequately instructed.

The following conclusions can be drawn:

1. The above dualism in the approach toward the task of repelling large-scale foreign aggression had a significant influence on force generation under Saakashvili: either Georgia joins NATO or it develops an independent capability. Given limited resources, these options lead to different priorities for the development of the armed forces.

2. The Saakashvili regime considered Russia to be Georgia's main opponent, and the steps that Georgia took to reform its army leading to NATO membership were geared against Russia. The task of confronting Russia also led to the promotion of the "Total Defence" program of reserve training. A priority was given to deterring Russia by means of inflicting unacceptable losses.

3. The dualism of threats shaping military planning defined Georgia's requirement for universal armed forces, capable of both classical and antiguerrilla warfare in the framework of a hierarchical military structure, as well as guerrilla warfare conducted by autonomous formations on the basis of light infantry battalions.

Reform of the Georgian Army under Saakashvili

Structural Transformation

To fulfill one of the requirements of the NATO Individual Partnership Action Plan, Georgia reformed its system of military governance, implementing a Western model of a civilian defense minister with its own administration alongside a Joint Staff, with a separation of functions between the Minister of Defense and the Joint Staff. The Joint Staff commands: the service commands of the Armed Forces, departments (National Guard, rear support, education, intelligence, and military police), and other structures. Other formations under central command include the following: Special Operations Group, located in the Tbilisi suburb of Vashlijvari and including, as of 2007, a Special Operations Detachment of officers, a Special Operations Battalion, a School for Special Operations, and a Navy Detachment for Special Operations. In addition, a Military Police Battalion was formed in 2008 under the control of the Minister of Defense.

The Land Forces are the main service of Georgian Armed Forces. In light of the experience of armed conflict of 2004 in South Ossetia, Saakashvili decided in the fall of 2004 to transfer the Internal Troops of the Ministry of the Internal Affairs to the Ministry of Defense, where they became the 4th Infantry Brigade.

As of the summer of 2008, the Georgian Land Forces included: the Headquarters, five Infantry Brigades (1st in Gori, 2nd in Senaki, 3rd in Kutaisi, 4th in Vaziani near Tbilisi, 5th in Khoni), an Artillery Brigade in Gori, an Engineer Brigade in Gori, six separated Battalions (Combined Tank in Gori counting 50 T-72 tanks, Light Infantry in Adlia, Medical in Saguramo, Communications in Vazinai, ELINT in Kobuleti, Maintenance in Tbilisi), an Air-Defense Battalion in Kutaisi (up four Osa-AK/AKM SAM batteries). The service strength of the Land Forces was about 22,000 men. Meanwhile, the 5th Infantry and Engineer Brigades were still in the process of formation.

The Infantry Brigades as of 2008 numbered as follows: headquarters (60 men) and headquarters company (108 men,

two AIFVs), three light infantry battalions (591 men each), one combined tank battalion (two tank and one mechanized companies – a total of 380 men, 30 T-72 tanks and 15 AIFVs), a maintenance battalion (288 men), an artillery battalion (371 men, 18 122 mm D-30 towed howitzers, 12 120 mm towed mortars, 4 ZSU-23-4 self-propelled anti-aircraft gun systems), a reconnaissance company (101 men, 8 APCs), a communications company (88 men, two APCs), a combined engineer company (96 men) – all in all, 3,265 servicemen. The Artillery Brigade served as the main means of the fire support for the Land Forces. In mid-2008, it numbered up to 1,200 men and included: headquarters, a battalion of 152 mm 2A65 Msta-B towed howitzers, a battalion of 152 mm 2S3 self-propelled howitzers, a battalion of 152 mm Dana self-propelled gun-howitzers, a battalion of BM-21 Grad, RM-70 and a GradLAR multiple-launch rocket systems, a battalion 100-mm MT-12 anti-tank guns, a training battalion, a supply battalion, and a security company.

In the summer of 2008, the bulk of the forces of the 1st Infantry Brigade (headquarters and headquarters company, all three light infantry battalions, the reconnaissance and engineer companies and communications company) were located in Iraq, numbering up to 2,000 men.

The Land Forces were equipped with the following armaments as of the summer of 2008:

- 191 T-72 main battle tanks in several versions (of which probably up to 120 were upgraded to the T-72-SIM-1 version);
- 56 T-55AM main battle tanks;
- 80 BMP-1 armoured infantry fighting vehicles (of which 15 were upgraded to the BMP-1U version);
- 74 BMP-2 armoured infantry fighting vehicles;
- 11 BRM-1K armoured combat reconnaissance vehicles;
- 5 BRDM-2 armoured scout vehicles;
- 17 BTR-70 armoured personnel carriers (of which two were upgraded to the BTR-70DI version);
- 35 BTR-80 armoured personnel carriers;
- 86 MT-LB armoured multipurpose tracked vehicles;
- Six 203 mm 2S7 Pion self-propelled guns;
- One 152 mm 2S19 Msta-S self-propelled howitzer;
- 13 152 mm 2S3 Akatsiya self-propelled howitzers;
- 24 152 mm Dana self-propelled gun-howitzers;
- 11 152 mm 2A65 Msta-B towed howitzers;
- Three 152 mm 2A36 Giatsint-B towed guns;
- 109 122 mm D-30 towed howitzer;
- 15 100 mm MT-12 anti-tank guns;
- 40 85 mm D-44 and D-48 anti-tank guns;
- Five 262 mm M-87 Orkan MLRS (unconfirmed);
- Four or eight 122 mm/160 mm GradLAR/LAR-160 MLRS;
- Six 122 mm RM-70 MLRS;
- 16 122 mm BM-21 Grad MLRS;
- About 80 120 mm towed mortars and up to 300 mortars

with calibers of 60, 81, and 82 mm;

- 15 57 mm S-60 towed anti-aircraft guns;
- 30 23 mm twin ZU-23-2 towed anti-aircraft guns (some of which mounted on MT-LB vehicles);
- 15 23 mm quad ZSU-23-4 Shilka self-propelled anti-aircraft gun systems;
- up to 18 9K33M2/M3 Osa-AK/AKM (SA-8B) SAM system self-propelled launchers.

The Georgian Army also had a large quantity of 9K111 Fagot and 9K111M Faktoria (AT-4), and 9K113 Konkurs (AT-5) anti-tank guided-missile systems, as well as 9K32M Strela-2M (SA-7B), 9K34 Strela-3 (SA-14), 9K310 Igla-1 (SA-16), 9K38 Igla (SA-18), and Grom MANPAD systems.

According to the SDR, following NATO recommendations, the service strength of the Georgian Army was to be drawn down to 11,876 men and three infantry brigades by 2015. However, in preparation for a military campaign against the former autonomous regions, the Land Forces were not shrinking, but rather growing in number. This was reflected in the Minister's Vision for 2008-2011, which was meant to explain to NATO the reasons for the growing numbers of the Georgian Army and first of all the established of the 5th Infantry Brigade, and the refusal to disband the 4th Infantry Brigade. The increase in the numbers of the Georgian contingent in Iraq from 850 to 2,000 servicemen and the increasing tension in relations with Russia were offered as the main justifications.

In September of 2007, the Georgian Parliament voted to increase the service strength of the armed forces from 28,000 to 32,000 men. Shortly thereafter, the Georgian Minister of Defense announced the recruitment of contract servicemen to the 4th and the soon to be established 5th Infantry Brigades. In early 2008, the new Engineer Brigade began formation in Gori. In July of 2008, the Georgian Parliament made yet another decision to increase the number of servicemen to 37,000, which led to the announcement of the establish of a 6th Infantry Brigade, as well as increases to the air-defense and Naval forces.

In accordance with NATO recommendations, the National Guard was transformed from an alternative Army to a training structure for reserves, providing for mobilization, home defense and assistance to civilian authorities. The need to reduce the number of servicemen in accordance with NATO recommendations, combined with the lack of any resolution to the Abkhaz and Ossetian issues, and the sharpening of relations with Russia required the Georgian leadership to find means of combining these contradictory requirements. One way out was to establish a large-scale program for the training of reserves.

Following the armed conflict in South Ossetia in 2004, a decision was made to create territorial battalions of the National Guard on a volunteer basis. Volunteers were put through a three-week training course. In total, 27 battalions

were formed. In reality, the full-scale process of creating an organized reserve force got under way after the adoption in September of 2006 of the “Total Defense” concept and the adoption of the Law on Service in the Reserves in December of 2006. According to the latter document, Georgian reserves are formed of three components: active reserves, National Guard reserves, and individual reserves. The first component was formed on the basis of a draft of Georgian citizens, the second one united the battalions trained in 2004-2006, and the third one was made up of former servicemen of the regular army. In 2007, the training of light infantry battalions began to follow an 18-day program. It was planned to unite them in five brigades (the 10th in Kojori, the 20th in Senaki, the 30th in Khoni, the 40th in Mukhrovani, the 50th in Telavi). In addition to light infantry battalions, the reserve brigades would include also artillery battalions. In addition, the 420th Reserve Tank Battalion was established in 2008.

The Georgian Air Force counted some 2,000 men by mid-2008, including: the Headquarters and Aviation Operational Center, the Marneuli Airbase (with a Squadron of Su-25 attack planes and a Squadron of L-39 trainers), the Alekseevka Airbase (with a Squadron of Mi-8 helicopters and a Squadron of UH-1H and Bell 212 helicopters), a Combined Helicopter Squadron (Mi-8, Mi-14, and Mi-24 helicopters), a Training Center that included a Squadron of An-2 aircraft, a Squadron of UAV's, six radar stations, a ELINT detachment, an Air-Defense Base, including two S-125M (SA-3B) SAM systems battalions near Tbilisi and Poti and one (probably, second formed) Buk-M1 (SA-11) SAM system battalion in Gori.

Air Force combat action against Abkhazia and South Ossetia used the forward airbase at Senaki. The Georgian Air Force included 12 Su-25 Frogfoot attack aircraft (of which six were upgraded to the Su-25KM version), two Su-25UB combat trainers, 12 L-39C jet trainers, four Yak-52 piston-powered trainers, six An-2 Colt light transport airplanes, five Mi-24V and three Mi-24P Hind attack helicopters, 18 Mi-8T/MTV Hip utility helicopters, two Mi-14PS Haze utility helicopters, six Bell UH-1H Huey and six Bell 212 utility helicopters.

The Georgian Navy in 2008 were composed of a main naval base in Poti, naval bases in Batumi and Squadron of surface ships composed of a Flotilla of missile ships (fast attack craft), a Flotilla of patrol boats, a Flotilla of supply (landing) ships, a Marine Infantry Battalion, and mine countermeasures squad.

With a strength of about 1,000 men the fleet included two fast attack craft (missile) (Tbilisi and Dioskuria), eight patrol boats, two small landing ships, two landing boats and up to six small crafts.

Georgia also had a Coast Guard, with one patrol ship (a former German minesweeper) and up to 35 patrol boats and crafts. There were plans to fold the Coast Guard into the Navy by 2015.

Training

In the area of training, the Georgian leadership was able to attain great success due to: (a) higher quality of training of servicemen associated with the transition to contractual staffing; (b) reform of the system of military education and training; and (c) foreign assistance.

Compared with other CIS states, the transition to a contractual army proceeded with relative success and was aided by two important factors. First, Georgians entering the armed forces have a relatively high level of motivation due to the presence of unresolved conflicts on their territory and the likelihood that these would be addressed using force. Such motivation was especially high among Georgians who came from the former autonomous regions. The second factor was the relatively high pay given to servicemen. In 2008, a corporal's wage was 640 USD per month and a lieutenant's 770 USD, which was 8.6 and 7.3 times higher than their respective wages in 2004 (not taking inflation into account). Moreover, servicemen enjoy social subsidies as well as good living conditions on new or modernized military bases. In sum, by 2008 the entire Georgian Army, except the 4th Infantry Brigade, had completed the transition to fully professional service.

The training process for officers underwent significant change. In place of the Soviet system of training for junior officers over several years, the Western system of staged training was implemented, starting with a relatively short period of instruction followed by service in the forces. The high demand for officers for both the regular Army (including new units) and for the National Guard called for the introduction of short-term training programs (levels A, B, C) lasting 7–10 months, after which the successful student is awarded the rank of lieutenant. Only those with higher education could enter this program. The in-depth training of young officers at level C involved specific skills, such as airmobile, parachute and mountain training, and lessons on topography and urban combat given by foreign instructors. The shortage of young officers also led to the creation of accelerated programs for sergeants with higher education in contract service. They would be awarded the rank of junior lieutenant after the successful completion of a 9-week course.

A new stage in the preparation of officers was professional classes for captains, offered by the existing National Defense Academy. Over the course of 12-18 weeks, officers would raise their qualifications to the level of senior lieutenant, captain, and major, mostly company commanders and battalion chiefs of staff. Moreover, there is an accelerated five-week course for captains, which 11 officers from the 5th Infantry Brigade completed.

It is worth mentioning two particularities of the personnel policy of the Georgian Army that had a negative effect on its combat readiness: (a) the large number of young officers who

were granted very quick advancement; (b) frequent shuffles in the army's leadership, which led to young officers with low ranks holding high positions; for example, infantry brigades were often commanded by majors, and sometimes even captains). Also, for political reasons, Saakashvili rarely fired any trained servicemen from the Armed Forces.

Foreign assistance to the Krtsanisi National Training Center contributed to improved training for servicemen as a whole. Foreign instructor training allowed Georgia to establish its own Basic Combat training for officers and recruits. The US-funded Georgia Sustainment & Stability Operations Program (GSSOP-I and GSSOP-II) deserves special mention. The first took place from the spring of 2005 to the fall of 2006, training three light infantry battalions, a maintenance battalion of the 1st and 2nd Infantry Brigades, as well as a reconnaissance company of the 2nd Infantry Brigade and a company of military police. The second program began in the fall of 2006 and finished in the summer of 2007, training two light infantry battalions, a maintenance battalion of the 3rd Infantry Brigade, its reconnaissance and engineer companies, and a communications company, as well as an engineer company and a communications company of the 2nd Infantry Brigade.

Foreign assistance also enabled the establishment of a School for young commanders in Gori (later moved to Krtsanisi, with the assistance of American and Israeli instructors) and a Mountaineering School in Sachkhere (with the assistance of French and Swiss instructors).

In addition to NATO states, foreign assistance was also forthcoming from Ukraine. 150 Georgian servicemen were trained at the Air Force University in Kharkiv, including no fewer than 30 pilots.

A massive program to train active reservists was launched under the "Total Defense" concept in 2007. The plan for the National Guard for 2007 and 2008 envisaged the training of 25,000 reservists per year with an 18-day program. Moreover, a program for the training of 27 territorial battalions of the National Guard was in preparation. In view of the short duration of these programs, observers viewed the quality of the training for reservists skeptically.

In summary, the Georgian Army underwent a qualitative change for the better since Shevardnadze's rule. The regular Army, in spite of its quantitative growth, became more professional thanks to national training combined with foreign one, extensive exercises, measures to increase interoperability with NATO forces, and participation in various operations outside of Georgia under NATO and US command (three infantry brigades and a number of smaller units fought in Iraq). The training of the active reserve of the National Guard did not meet the requirements of the "Total Defense" concept.

That said, there were several reports on the internet in 2008 citing foreign (American, Israeli, Ukrainian) military

instructors and advisors critical of Georgian military training and preparedness. They remarked upon the low educational levels of those who signed up for contract service, serious problems with discipline among the troops, including theft of military equipment, a high level of corruption and cronyism, the lack of willingness of many officers to improve their low level of military training, the moderate demand made by commanders on their subordinates, and the inclination of the Georgians to self-congratulation.

Arms and Military Equipment Acquisition Programs

Saakashvili initiated an active program of defense procurement, allocating a huge amount of funds for this purpose, reaching 291.8 million lari (194.5 million USD) in 2008.

One of the major acquisition programs for the Land Forces began in January of 2008 with replacement of Kalashnikovs used by the regular Army with 5.56 mm M4A3 automatic carbines, purchased from US Bushmaster company (4,000 carbines were delivered by the end of 2007). The old Kalashnikovs were transferred to use of the reserves. In 2006-2007, a large batch of AK-74 and AKM (31,100 and 15,100) assault rifles and old 7.62 mm and 7.92 mm rifles were purchased from Ukraine.

Georgia made several significant purchases to improve its stock of heavy weaponry:

1. Self-propelled artillery. From 2003 to 2006, Georgia purchased 152 mm 2S3 and Dana self-propelled howitzers from Ukraine and the Czech Republic (12 and 24 units respectively). Georgia also purchased five 203 mm 2S7 Pion long-range self-propelled guns from Ukraine.

2. Multiple-launch rocket systems. From 2003 onward Georgia purchased six 122 mm RM-70 MLRS from the Czech Republic. It also purchased four (or eight) Israeli GradLAR systems, including 160 mm LAR-160 Mk IV rockets with a range of up to 45 km, as well as the 262 mm M-87 Orkan MLRS purchased from Bosnia & Herzegovina.

3. Mortars, especially for mountain and guerrilla warfare. In addition to those systems inherited from the Soviet Army, Georgia purchased mortars from Bulgaria, Bosnia & Herzegovina and the Czech Republic. In addition, Greece donated 60 mortars in 2008.

4. Tank forces were bolstered with significant purchases of Soviet armor from Ukraine and the Czech Republic (from 2004 to 2007, Georgia acquired 160 T-72 tanks, 52 BMP-2 armoured infantry fighting vehicles, 15 BMP-1U upgraded armoured infantry fighting vehicles with new Shkwal turrets, 30 BTR-80 armoured personnel carriers, two BTR-70DI upgraded armoured personnel carriers, 14 MT-LB armoured multipurpose tracked vehicles).

5. The Georgian leadership devoted significant attention to army mobility. 400 new KrAZ trucks were purchased from

Ukraine, including 150 vehicles in 2008. Georgia purchased new KamAZ military trucks from Russia, and Land Rovers and Toyota Hilux pickups from other countries.

6. Large quantity weapons purchased for the infantry: 30 mm AGS-17 automatic grenade launchers from Ukraine and the Czech Republic and the Fagot, Faktoria and Konkurs anti-tank guided-missile systems from Bulgaria (total up to 150 launchers and 1750 anti-tank missiles).

Procurement was supplemented with modernization programs, for instance, the upgrades of 191 T-72 tanks by the beginning of 2008 (probably developed the Israeli Elbit Systems project). The Georgian T-72-SIM-1 upgrade tank was equipped with GPS navigation receivers, battlefield combat identification system, thermal images cameras for the tank commander and driver, Harris Falcon communications system as well as the Ukrainian Kombat laser-guided missile projectiles (400 Kombat missile projectiles were delivered from Ukraine in 2007). The first upgraded tank company was completed of training course February 25, 2008, and probably up to 120 tanks were upgraded by August 2008.

Other significant purchases for Air Force include the 12 L-39C jet training aircraft and the two Mi-8MTV and seven Mi-24V/P helicopters from Ukraine, six Bell 212 helicopters on secondary civil markets, 9M114 Shturm-V (AT-6) anti-tank guided-missiles from Kazakhstan, Elbit Hermes 450, Elbit Skylark and Defense Aeronautics Aerostar UAVs from Israel, and the upgrades of six Su-25 to Su-25KM Scorpion by the Israeli Elbit Systems. A contract with US Sikorsky Aircraft for the delivery of 15 new UH-60 Blackhawk utility helicopters by 2010–2011 was signed. Future purchases of fighters and up to five C-130 Hercules military transport aircraft were planned.

In order to neutralize the Russian Air Force in case of conflict, the Georgian Air Force invested heavily in air defenses. Two new 36D6-M radars, up to five Kolchuga-M passive electronic monitoring radar systems, one Mandat electronic warfare systems, a batallion (or two batallions) of Buk-M1 SAM systems, and up to four batteries of the Osa-AK/AKM SAM systems were purchased from Ukraine, and four P-18 Spoon Rest radars were modernized to the P-180U version by the Ukrainian Aerotekhnika company. The Georgian Army also acquired a large number of MANPADs, including the Igla-1 from Ukraine and Bulgaria and the Grom from Poland.

The Georgian Navy acquired the Dioskuria Fast Attack Craft (Missile) (French La Combattante II class) from Greece as military assistance, along with 10 Exocet MM38 anti-ship missiles.

The Georgian Ministry of the Internal Affairs since 2007 also delivered 100 Turkish Otokar Cobra light armoured personnel carriers.

Infrastructure Development

Significant resources were allocated under Saakashvili to the development of defense infrastructure, with two main goals in mind. The first one was to improve the quality of life of the servicemen; and second, to deploy units and subdivisions of the Georgian Army to the vicinity of the zones of conflict.

The priority given to the second factor led to the creation of a base in Gori for the 1st Infantry Brigade, in Senaki for the 2nd Infantry Brigade, the re-deployed of Artillery Brigade to the former base of the 3rd Infantry Brigade in Gori, and established of bases in Khoni for the new 5th Infantry Brigade.

This allowed for the concentration of the 1st Infantry, Artillery and Engineer Brigades within 30 km of the Georgia-Ossetia conflict zone, the 2nd Infantry Brigade within 40 km of the Inguri river, which marks the border between Georgia and Abkhazia, and the new 5th Infantry Brigade within 60 km. In addition, the 3rd Infantry Brigade in Kutaisi was positioned for action against Abkhazia as well as South Ossetia.

In addition to the establishment of new bases, the old ones, for the regular Army as well as those transferred to the National Guard as training centers, were rebuilt. Turkey assisted with the reconstruction of the Marneuli Airbase.

Financing

The contribution of foreign financing should not be underestimated: the various programs were worth millions or even tens of millions of dollars, with the largest (GTEP and GSSOP-I) amounting to about 60 million USD each. And though Georgia received assistance from many states, the total volume of this assistance (about 300 million USD over the past five years) was not terribly significant as a percentage of overall Georgian spending. Foreign assistance had a more significant impact during the late years of Shevardnadze's regime and the early Saakashvili years, when the Georgian defense budget was much smaller. Moreover, Georgia paid for this assistance through the participation of Georgian forces in US and NATO operations in Iraq, Kosovo, and Afghanistan, which cost the Georgian budget at least as much as, if not more than, what it received in military assistance.

Two tendencies are worthy of note: the significant increase of defense spending under Saakashvili (over 31 times in dollar values from 2003 to 2007) and the growth of spending over the course of a year. In 2007, for example, actual spending (after three increases to the defense budget over the course of the year) was 2.9 times higher than originally planned. The budget for 2008 was originally set at 1.1 billion lari, but increased by 295 million in June 2008, making for a total defense budget for 2008 of 1,395 million Lari, or about 990 million USD.

Table 1. Defense Spending of Georgia from 2003 to 2007

	2003	2004	2005	2006	2007
Planned spending, million lari	60.9	67	138.9	392.6	513.2
Actual spending, million lari	60.9	173.9	368.9	684.9	1494
Actual spending, million USD	30	97	203	388	940
Share of GDP in %	0.7	1.8	3.2	4.9	8

Source: Strategic Defence Review // Ministry of Defence of Georgia, Tbilisi, 2007.

Conclusions

Mikhail Saakashvili's efforts to reorganize the Georgian Army were put to a fatal test when he made the rash decision to invade South Ossetia. The operation "Tsminda Veli" (Clear Field) to seize Tskhinvali led to a confrontation with Russia and a massive return strike by Russian forces. The Georgian Armed Forces collapsed in the face of a superior foe.

In the course of subsequent Russian military operations, which took place in the absence of any resistance by the demoralized Georgian Army, Russian forces occupied and destroyed the well-equipped Georgian military bases at Gori and Senaki, and in Poti they seized and scuttled almost all of the ships and boats of the Georgian Navy and Coast Guard. The Russians seized and removed rich trophies. Taking combat losses into account, the Georgian Army lost between a third and a half of its ground forces heavy

weapons and equipment, and almost all of its air defenses, Air Force and Navy.

Even more important, the Georgian elite and the Georgian Armed Forces suffered a tremendous psychological blow. The Georgian Army, in which so many resources were invested, proved incapable of defending the homeland, never mind challenging the Russians. The entire force generation effort of the past five years proved to be senseless, and any chances for revenge in the future appear to be improbable.

It is likely that the trauma suffered by the Georgian people will lead to a cardinal reexamination of the direction of force development in Georgia taken over the past few years. The ambitious, militaristic policy of Georgia's leaders was an utter failure. Saakashvili dreamed of turning Georgia into a "Caucasus Israel." In fact, Saakashvili turned out to be a Georgian Nasser, in his extreme overestimation of the military capabilities of his country, which led to a catastrophe similar to that suffered by Egypt in June of 1967.

Georgia's Air Defense in the War with South Ossetia

Said Aminov, Editor of the Air Defense News website: www.pvo.su

The Georgian air-defense system represents a symbiosis of what it inherited from the collapse of the Soviet Union and new acquisitions from former Warsaw Pact and Soviet successor states.

During Soviet times, the 19th Tbilisi Air-Defense Army of the Soviet Air-Defence Troops was deployed in Georgia (reduced to an Air-Defense Corps in 1991). It included three SAM brigades in Tbilisi, Poti, and Echmiadzin, armed with S-75 (SA-2) and S-125 (SA-3) SAM systems, a separate SAM regiment armed with S-75 SAM systems (SA-2, deployed in Gudauta, Abkhazia), and a separate SAM regiment near Tbilisi, equipped with S-200 (SA-5) long-range SAM systems, as well as two radar brigades. However, after the collapse of the Soviet Union, some of the Soviet Armed Forces, including air defense, did not fall under Georgian jurisdiction, but remained under Russian control. During the early 1990s, all of the aforementioned air-defense divisions on Georgian territory were dismantled and their equipment transferred to Russia for scrapping. Nonetheless, Georgian forces seized some air-defense equipment from the Russian military, including at least one S-75 and two S-125 SAM battalions, as well as a few P-18 Spoon Rest radars. These systems were put into service to form the base of the air defenses of the Georgian armed forces. The Georgians used the S-75 SAM battalions in the war with Abkhazia in 1992-1993 and shot down a Russian Su-27 fighter near Gudauta on March 19, 1993.

The S-75 battalion was removed from service in Georgia, but the two S-125 Neva-M low- to high-altitude SAM systems battalions was deployed in Tbilisi and Poti (a total of seven quadruple rail launchers) and those in service with the Georgian Air Force had been modernized by Ukrainian specialists by 2005.

Georgian Army received several short-range air-defense systems in the first half of the 1990s from the arsenals of the former Soviet Army located in Georgia but transferred to Russian jurisdiction. These included KS-19 100-mm anti-aircraft guns, S-60 57-mm anti-aircraft guns, ZU-23-2 twin 23-mm anti-aircraft guns, ZSU-23-4 Shilka quad 23-mm self-propelled anti-aircraft gun systems, Strela-2M (SA-7), Strela-3 (SA-14), and Igla-1 (SA-16) man-portable SAM systems (MANPADS). However, a significant proportion of these arms was lost by Georgia during its unsuccessful war with Abkhazia. Some of the

ZU-23-2 anti-aircraft guns were mounted on MT-LB armored multipurpose tracked vehicles.

With Mikhail Saakashvili's assumption of power in 2003, Georgia began the rapid development of its military capacities with the aim of acquiring the means to regain the separatist Abkhazian and South Ossetian regions. To neutralize Russia's potential to interfere in its operations against Abkhazia and South Ossetia, Georgia began to purchase modern air-defense systems.

First, Georgia acquired a 9K37M1 Buk-M1 (SA-11) battalion of low- to high-altitude self-propelled SAM systems composed of three batteries (each battery includes two self-propelled launcher mounts and one self-propelled loader-launcher) from Ukraine in 2007. These were delivered together with 48 9M38M1 surface-to-air missiles.

Georgia noted this transfer in its official report for 2007 to the UN Register of Conventional Arms. Other than Russia and Ukraine, only Finland, Cyprus, and Egypt possess Buk systems in several different versions. The Russian army is currently acquiring the latest version, the Buk-M2 (SA-17), and a large export contract of Buk-M2E to Syria is in the pipeline. According to subsequent internet reports from Ukraine, the Buk-M1 systems were delivered by sea to Georgia on June 7, 2007. In July 16, 2008, photos of Georgian Buk-M1 systems used during tactical training in Western Georgia dating from August 2007 appeared on the Internet. According to a Ukrainian source, on June 12, 2008, another battery of Buk-M1 systems was delivered to Georgia.

Second, Ukraine delivered eight self-propelled launcher vehicles 9K33M2 Osa-AK (SA-8B) low-altitude SAM systems (two batteries) and six (ten, according to some sources) 9K33M3 Osa-AKM self-propelled launcher vehicles update SAM systems. The Buk-M1 and Osa-AK/AKM systems were deployed by the Georgian Air Force in Gori, Senaki, and Kutaisi.

Third, Ukraine sold Georgia two modern 36D6-M radars that were deployed in Tbilisi and Savshevi near Gori. The 36D6-M is a mobile, 3-D air surveillance radar, developed by the Iskra company in Zaporizhzhya, Ukraine. The 36D6-M radar is a deep modernization of the ST-68U (19Zh6) Tin Shield radar, taken into service in 1980 and used with the S-300P (SA-10) SAM system. The 36D6-M radar has a range of up to 360 km.

Fourth, Ukraine delivered at least one Kolchuga-M passive electronic monitoring radar system, capable of passively detecting modern aircraft, including those using stealth technology. According to information published recently in Ukraine, it is possible that another four Kolchuga-M and one Mandat electronic warfare systems, all produced in Donetsk at the SKB RTU and the Topaz Company, were delivered to Georgia in May of 2008. Earlier, Ukraine was severely criticized by the United States for having sold Kolchuga systems to China, Iraq, and Iran.

Fifth, the Ukrainian company Aerotehnika upgraded the obsolete Georgian P-18 Spoon Rest radars to the P-180U version, which amounts to a qualitatively new and modern 2-D air surveillance radar system. At the time when it attacked South Ossetia, the Georgian Air Force had four P-180U radars deployed in Alekseyevka (near Tbilisi), Marneuli, Poti, and Batumi.

In 2006, company Aerotehnika united Georgian military and four civilian air-traffic-control radars and the Kolchuga-M system into a single Air Sovereignty Operations Center (ASOC) early warning and command control tactical system. The central command center of the ASOC was located in Tbilisi, and as of 2008 was connected to a NATO Air Situation Data Exchange (ASDE) through Turkey, which allowed Georgia to receive data directly from the unified NATO air-defense system.

According to the Russian Defense Ministry, Ukraine either delivered or planned to deliver 50 9K310 Igla-1 (SA-16) man-portable SAM systems and 400 9M313 surface-to-air missiles, with missile seekers, upgraded by the Ukrainian Arsenal plant.

Several East European states also participated in the renewal of the Georgian air defense system. According to the Russian Defense Ministry, Bulgaria delivered 12 ZU-23-2M twin 23-mm anti-aircraft guns and 500 9M313 surface-to-air missiles for Igla-1 man-portable SAM systems. According to the UN Register of Conventional Arms, Poland delivered 30 Grom man-portable SAM systems (an improved Igla-1) and 100 surface-to-air missiles, and it is possible that such deliveries took place in 2008 as well. Reports have circulated that Georgia acquired Soviet era man-portable SAM systems from other countries as well.

Finally, there are reports that Georgia acquired one battery of the new Israeli Spyder-SR short-range self-propelled SAM system in 2008. The Spyder-SR SAM system, developed by Rafael company, uses Python 5 and Derby air-to-air missiles in a surface-to-air role. There has been no official confirmation of any such deliveries to Georgia, but Jane's Missiles & Rockets magazine cited a Rafael representative to report that the "Spyder-SR has been ordered by two export customers, one of whom now has the system operational."

The Russian Ministry of Defense also reported that the Georgian Army acquired the Skywatcher army air-defense early-warning and command control tactical system produced by the Turkish Aselsan Company in 2008.

Thus, by the time Georgia invaded South Ossetia, its air defenses had acquired significant capability to detect, locate, and destroy air targets. The Georgian forces that advanced into South Ossetia were the equivalent of about a large division (nine light infantry and five tank battalions, up to eight artillery battalions, plus special forces and Ministry of the Internal Affairs troops), were protected by an air defense echelon that included one Buk-M1 SAM system battalion, up to three Osa-AK/AKM SAM system batteries, a large number of man-portable SAM systems, as well as a few C-60 57-mm anti-aircraft guns, ZU-23-2 twin 23-mm anti-aircraft guns, and ZSU-23-4 Shilka quad 23-mm self-propelled anti-aircraft gun systems. Thus, the air-defense system of Georgian attack groups was about the equivalent of a best frontline Soviet divisions during the late 1980s – early 1990s.

The confrontation with Georgia's air-defense system proved to be a serious trial for Russia's military aviation, especially since it seems that its capabilities were initially underestimated. Meanwhile, Georgia's air defenses reportedly relied on data received from the Kolchuga-M passive electronic monitoring radar systems, minimizing the use of active radar, while the Georgian Buk-M1 and Osa-AK/AKM self-propelled SAM systems used ambush tactics. This made it more difficult to defeat the Georgian air-defense systems. According to unofficial reports, the Georgian Buk-M1 SAM systems shot down four Russian aircraft on the first day of battle on August 8: three Su-25 Frogfoot attack planes and one Tu-22M3 Backfire long-range bomber.

Moreover, according to unofficial sources, Russia lost another three airplanes (one Su-24MR Fencer E reconnaissance plane on August 8, one Su-24M Fencer frontal bomber on August 10 or 11, and one Su-25 attack plane on August 9) as well as perhaps one Mi-24 attack helicopter.

Both Su-24 were probably shot down by Georgian Osa-AK/AKM SAM systems or man-portable SAM systems, and the Su-25, according to several reports, fell victim to friendly fire from a MANPAD wielded by Russian servicemen. According to the Sukhoi Company, three Russian Su-25s also was hit by Georgian SAM and MANPAD missiles but was able to return safely to base. For their part, Russian Army air-defense forces claimed shot down three Georgian Su-25 attack planes.

From the crews of the downed planes, two Russian pilots (of the Su-24MR and the Tu-22M3) were taken hostage, and exchanged for Georgian prisoners on August 19. According to unofficial reports, another five Russian pilots (of the Su-25 shot by friendly fire, the navigator of the Su-24MR, and three crew from the Tu-22M3) died.

At the time of writing, the Russian Defense Ministry officially recognized the loss of only three Su-25 attack

planes and one Tu-22M3 long-range bomber, and considered them defeated by Buk-M1 SAM systems. The training of Georgian personnel in the use of the Buk-M1 SAM systems took place in Ukraine, and Ukrainian military instructors may have supervised their use in combat.

Although the Russian press and even high-level Russian military officials have made statements about the possible transfer of S-200 long range SAM systems and modern Tor (SA-15) low-to-medium altitude self-propelled SAM systems, such reports have not been confirmed.

One can conclude that following the unpleasant surprise arising from Georgia's effective use of Soviet-made SAM systems on August 8, the Russian armed forces threw all of the resources at their disposal against Georgia's SAM and radar systems. Both S-125M SAM battalions, the majority of Georgia's military and civilian radars, as well as the most part Buk-M1 and Osa-AK/AKM SAM systems were destroyed. It would appear that the only remaining threat to Russian planes and helicopters in the last days of combat came from Georgian MANPADs.

Russian forces were able to seize five Osa-AKM self-propelled launch vehicles, a few ZU-23-2 anti-aircraft guns and a few ZSU-23-4 Shilka self-propelled anti-aircraft gun systems as trophies from the retreating Georgian forces. Near Gali and Senaki, Abkhaz and Russian forces captured minimum one Buk-M1 battery, as witnessed by published

photos. According to one unofficial source, Russian forces were able to capture or destroy almost all of the self-propelled launcher mounts for the Georgian Buk-M1 SAM systems.

The war in South Ossetia marked the first time when air power faced off against new-generation SAM systems, like the Buk-M1, which were brought into service in the 1980s. In all previous military campaigns, such as the War in Vietnam, the Arab-Israeli Wars of 1967, 1973, and 1982, combat actions in Chad and Libya in the 1980s, the NATO campaigns in the former Yugoslavia of 1994 and 1999, and the Wars in the Persian Gulf of 1991 and 2003, the air-defense systems in question were all designed in the 1950s and 1960s (this excludes, of course, the use of modern MANPADs). Moreover, in Georgia, the Russian Air Force for the first time in its history fought against modern air-defense systems, and relatively modern and numerous SAM systems at that.

This unprecedented experience of Russian aviation over a territory protected by a range of air-defense systems will be studied in detail, and should serve as a stimulus for the cardinal modernization of the Russian armed forces. It is obvious that the Russian Air Force must devote greater attention to the suppression of enemy air defenses (SEAD), including the renewal of tactics, electronic weapons and increased military training in this area.

Russian National Defense Procurement 2000–2007

Andrey Frolov

The recent conflict over South Ossetia has raised questions regarding the quality, age, and kinds of armaments used in the Russian Armed Forces and, by extension, the manner in which funds allocated to their procurement were spent. Immediately following the conclusion of the recent short war, the military announced that the State Armaments Program 2015, adopted in 2006, would be revised. Indeed, in view of the sharp growth of inflation in Russia in 2008, experts had begun even before the war to cast a skeptical eye on this year's National Defense Procurement (NDP).

Specificities of the NDP from 2000 to 2007

The National Defense Procurement is a legally binding act outlining deliveries of defense goods for the needs of the federal Government. Federal ministry serves as the contracting agency on behalf of the state, responsible for placing orders for the development, manufacturing, and delivery of products relating to defense procurement. Funding is provided directly from the federal budget through allocations from the Ministry of Finance to the contracting agency. The NDP includes expenditures for R&D, the purchase of new equipment, repairs, and specialized construction. Expenditures on the nuclear weapons complex fall under a separate budget line.

The period of 2000–2007 is notable for the fact that three successive State Armaments Programs (SAP) were in application at one time or another: SAP-2005 (approved in 1996), SAP-2010 (drafted in 2000, approved in 2002), and SAP-2015 (drafted and approved in 2006). Each Program had different priorities, and each was drafted and implemented in differing socioeconomic circumstances, and this had a palpable impact on the structure and purchasing policy of the NDP from one year to the next.

The improved national financial and economic situation and the significant growth of the GDP and government spending are clearly reflected in the growth of the NDP from 62 billion rubles in 2002 to 302.7 billion rubles in 2007 – an almost five-fold increase.

However, this trend, when calculated in terms of constant 2000 prices (taking official inflation figures into account), is not quite so impressive. By our count, in real terms, the NDP increased by a factor of only two over this

period. Moreover, the NDP varied over time in terms of its internal structure: spending on new equipment was more than 50% of the NDP only from 2003 to 2005.

It is also worthy to note that actual expenditures often differ significantly from the original budget allocation. On the one hand, over the course of the year, the Government has on several occasions decided to increase expenditures. For example, in 1999, due to combat operations in Dagestan and Chechnya, an extra 9 billion rubles were allocated to defense, and the same happened again in 2002. While most of these extra allocations went toward covering loans and to compensate for inflation, it cannot be excluded that some of these resources were used for purchases of equipment.

On the other hand, from 2000 to 2005, there were cases when actual spending on national defense procurement fell short of plans. For example, the NDP was financed at a level of only 67% in 2001; meaning that several defense programs went without any funding. Thus, R&D for the missile production received only 2% of planned funding, and serial production of the Topol-M ICBM, only 18%. In fact, 2001 was the only year in which the NDP actually fell year-on-year, by almost 30% in current prices.

Accumulating Debt and High Inflation as Risks to the NDP

Throughout 2000–2005, debts owed by the state to defense industrial enterprises played a significant role in decreasing the de-facto size of the NDP, especially with respect to sectors with long production cycles and a large volume of unfinished production. For example, due to nonpayment for NDP work in 2001 and the first quarter of 2002, the state incurred a debt of 3.8 billion rubles to several shipbuilding enterprises. In 2001, the shipbuilding sector as a whole was paid for only 77.6% of work done for the NDP.

This situation forced enterprises to take out loans and to burn up their own resources; in effect, a hidden form of subsidization of the NDP. Meanwhile, debt payments from the Ministry of Defense to enterprises were spread out over a longer term and thus reduced in value by inflation, which amounted to another form of “credit” to the government at the expense of defense plants. This put the enterprises under tremendous financial pressure, significantly reducing real

revenues from the NDP, and forcing many to borrow money simply to pay taxes.

Thus, in spite of the positive trend in the real financing of the NDP (90% in 1999 and almost 100% in 2000), the volume of accumulated debt had already acquired its own momentum. In early January 2001, debts for NDP work amounted to 32.5 billion rubles, or 61% of the NDP budget for that year. By the end of 2005, the MOD owed 8 billion rubles to defense enterprises; KnAAPO alone was standing cap in hand for 1 billion rubles to work on the upgrades of the Su-27 fighters.

Growth in the prices of components, much higher than in the industrial sector as a whole, is another problem for the implementation of the NDP. According to the Russian Accounting Chamber, “over the course of one year, during the formulation and implementation of the national defense procurement, the actual price of purchased equipment grew by 1.5 times and in some cases, by 2.5 times – and not only in relation to forecasted prices, but also in relation to the contracted price. This is one of the explanations for the incomplete implementation of the defense order in terms of selection and quantity, even though the procurement orders were fully funded by the federal budget.” According to press reports in 2004, the real prices of armaments produced in Russia grew by 1.52 times, while the NDP budgeted for an inflation index of only 1.155.

Conclusions

During Putin’s presidency, financing for the development, purchase, and repair of armaments went through a period of intense growth up to 2003 and then stabilized at growth of 20% per year in real prices. The NDP reflected strategic decisions made in the SAP-2010, with priority given to R&D and, it would appear, the production of lead types of weapons for later series purchases to be made in the framework of SAP-2015, probably after 2010 (unless the SAP is altered in view of the results of operations in South Ossetia). Based on available information, one can conclude that the focus of development work was on nuclear carriers and the next generation fighter program.

The analysis of known NDP purchases shows a relatively stable pattern of purchases of ICBMs and equipment for the Ground Forces, which reflects the existing threats to the Russian military, implying the need to be able to inflict unacceptable damage on a likely opponent and to conduct low-intensity conventional wars. It seems that under conditions of less-than-adequate financing, expenditures on strategic nuclear and ground forces were given priority, at least during 2007.

Meanwhile, expenditures on new armaments for the Navy have visibly stagnated, and the Navy has put only a few ships in active service during this time, essentially those laid down in the late 1980s and the first half of the

Table 2. NDP for RF MOD 2000-2007, billions of rubles

	2000	2001	2002	2003	2004	2005	2006	2007
NDP (planned)	62	53 (55)*	79***	109.8	147.5	186.9	236.7	302.7
NDP (actual)	71.92	63	80.7 (82.3)	120	147.5	186.9	236.7	302.7
Planned NDP in 2000 prices	62	44.6 (46.3)	59.08	75.36	93.7	111	133.5	160
Percent change year-on-year*		-29.1	32.4	33.4	20	26.7	20.2	19.8
Year-on-year inflation	20.2	18.6	15.1	12	11.7	10.9	9	11.9
NDP share of national defense expenditures, %****	29.6	24.68	28	31.8	35.65	35.18	35.47	36.91

* Calculated as the growth of planned expenditures plus the actual amounts (growth of production compared to planned one)

** According to several sources

*** Including extrabudgetary sources of R&D funding

**** Planned NDP

Source: Russian press.

1990s. At the same time, several new ship projects were carried out in spite of the delays in completing the lead ship of each project. However, the Navy has followed through consistently with its modernization program for existing surface ships and submarines, including the mid-life repair and modernization of nine Project 667BDR (Delta III class) and 667BDRM (Delta IV class) SSBNs.

The acquisitions of new equipment for the Air Force also deserve mention, including three new combat aircraft, one of which marked the completion of a Soviet-era project, and a few helicopters. The Air Force also conducted a modernization program of its fighter and helicopter fleets, and a significant

number (by the standard of recent years) of modernized frontal bombers and attack planes entered into service.

On the whole, the NDP for 2000–2007 enabled Russia's defense-industrial complex to survive through the difficult era of the 1990s and to establish a base for the mass acquisition of new equipment in the framework of SAP–2015. The main threat to its proper implementation is uncontrolled growth in prices of arms and military equipment, as well as limitations of the personnel and technological capacities of the industry for mass production, as it applies to both domestic and export orders, as well as to the challenge of producing new generation armaments.

A Profile of the Tactical Missiles Corporation

Sergey Denisentsev

The Tactical Missiles Corporation (TMC) is the leading Russian association of companies for the development and manufacturing of guided missiles, as well as ship- and shore-based tactical missile systems. The corporation was established in line with the national program for the development of the defense-industrial complex for 2002-2006, which encouraged the formation of several large integrated structures in the sector. The goal of the corporation's formation, as described in a relevant presidential decree, was to preserve and develop Russia's scientific and manufacturing capacity in the field of missile building, to secure the state's defense capabilities, to direct resources toward the creation of highly effective guided missiles, and to strengthen Russia's competitive position on the global arms market.

The corporation now includes 19 companies, including those involved in the final stages of production, like the TMC flagship enterprise (formerly called Zvezda-Strela), Vympel, Raduga, Region, and KBMash. The flagship enterprise specializes in the development and manufacturing of air-to-ground and ship-to-ship missiles, as well as the creation of ship-borne missile systems. Vympel is the leading Russian manufacturer of air-to-air missiles. Raduga is one of the oldest Russian enterprises making air-to-ground missiles for long-range aviation and frontline fighters, as well as deck-launched anti-ship missiles. Region makes guided bombs, antiship and antisubmarine missiles, and antisubmarine defense systems. Region is also the creator of a unique antiship missile system based on the high-speed underwater Shkwal-E missile family. KBMash develops shore-based, mobile missile systems.

The corporation also includes the Zvezda-Strela trading house, which plays the role of an intermediary and also produces energy equipment.

The main clients of the Tactical Missiles Corporation are those countries that import Russian fighters of the Su and MiG family. This has traditionally been India and China, as well as Algeria and Venezuela since 2006. TMC also sells its products to Yemen, Malaysia, Indonesia, Vietnam, and several other states. The volume of sales to Vietnam alone to 2010 is estimated at more than 300 million USD. TMC's competitors on global markets include leading arms makers, such as Boeing, Raytheon, and Lockheed Martin, as well as the European consortium MBDA.

In 2006, the company's general revenue was 18.7 billion rubles, up 45.1% from the year before (see Table 1). This growth came mainly from exports, which rose 1.5 times over 2006, and which account for the majority of the company's receipts. TMC's exports grew in tandem with increased sales of Russian fighter planes abroad. In 2006, Algeria received four MiG-29SMT/UBT fighters, and Venezuela received four Su-30MK2V, while kits for the Su-30MKI continued to be transferred to India under an existing contract for the licensed production of 140 aircraft. Large quantities of missiles were sold to China.

In 2007, deliveries of Russian fighters grew even more. A record number (for the post-Soviet period) of Su-30MK was delivered: 49 units, with the result that TMC's earnings grew by another 50% to reach 28.4 billion rubles. According to company management, the dominance of export sales as a percentage of total revenues will continue for the next five years (until 2012), even though the domestic market has

Table 3. Economic Indicators for TMC, 2004-2007

	2005	2006	2007
Revenue, million rubles	12,881	18,696	28,402
Gross Profit, million rubles	363	1,485	2,970
Number of employees	22,259	21,363	21,249

Source: company data.

begun to catch up. The National Defense Procurement now accounts for about 20% of earnings for TMC companies. In recent years, civilian production has come to account for about 5% of earnings, and the goal is to raise the figure to 3%. The company offers a wide range of civilian and dual use products, from ordinary household appliances to equipment for nuclear power plants.

The corporation is engaged in the entire life cycle of its products, from the development of design documentation, the making of prototypes, all manner of tests, series production, repair, and modernization, all the way through to scrapping.

The corporation is licensed under Russian law to engage in independent foreign-trade activities relating to the servicing and repair of defense-related products exported by its constituent companies, including deliveries of spare parts and training materials. The corporation currently offers deliveries of spare parts, tools, and equipment, maintenance services for defense equipment, and training in its use.

The establishment of maintenance and repair centers, possibly in cooperation with companies that export aviation and naval carriers, is currently being considered as a way of improving the quality of after-sales servicing of TMC defense products.

The corporation's main aviation products are air-to-air and air-to-ground missiles, exported along with the fighters of the Su and MiG family. The highest demand products include the R-73E (AA-11 Archer) air-to-air missile, the R-27E (AA-10 Alamo) family, and the RVV-AE (AA-12 Adder). The R-73E with infrared homing is the mainstay Russian short-range, highly maneuverable missile for air combat.

The modular-design midrange R-27 has several options for guidance and propulsion (standard or with a higher power-to-weight ratio). The missile is standard equipment on the MiG-29 and SU-27 and is exported to all those countries that possess these fighters. In Soviet times, the missile was produced at the Artem plant in Ukraine, but the TMC enterprise Vympel has been producing it since the 1990s.

In the mid-1990s, Vympel began series production of an export version of the RVV-AE missile, which has since become a core component of the armaments of all new and modernized Su-27 and MiG-29 fighters, bringing significant incomes to TMC. In addition to China and India, which purchased large batches of the RVV-AE, deliveries have been made to Algeria, Malaysia, Venezuela, Yemen, Peru, Vietnam, Indonesia, and other countries.

The TMC flagship, Raduga, and Vympel are all involved in the development of air-to-ground missiles. Their latest products include the X-31 series (AS-17 Krypton), X-25M (AS-9 Kyle), X-29 (AS-14 Kedge), X-58 (AS-11 Kilter), and X-59M (AS-18 Kazoo). The X-31 produced by the TMC

flagship company includes antiradar X-31P and antiship X-31A versions. The antiradar missile has been exported to India and China, and orders have been placed by Algeria, Venezuela, Vietnam, Yemen, and Malaysia.

The short-range X-29 developed by Vympel was produced after 1992 in two export versions with laser GSN (X-29ML) and television (X-29TE) guidance systems. The X-29 was reportedly delivered to China (for the S-30MKK), India (Su-30MKK), Iran (Su-24), and Vietnam (Su-22M4 and Su-30MKK). Vympel created the X-59M (Ovod-M system) tactical missile with television guidance in 1991. The X-59ME export version has been delivered since 2001 to India (to arm the Su-30MKI) and China (for the Su-30MKK and Su-30MK2). A new antiship missile was created on the basis of the X-59ME with increased range: the X-59MK, equipped with a new active radar homing system.

The corporation is currently implementing a comprehensive program for the development of advanced aviation armaments, including weapons for the next generation fighter. Another program for the development of advanced naval weaponry for the period 2010-2015 is under development.

The corporation displayed new types of aviation weapons at the Moscow International Air Show (MAKS) for the first time in several years in 2007, revealing three new types of high-precision weapons: the X-38ME multirole aviation, the X-58USKE antiradar and the X-31AD antiship missiles. All three missiles have significantly improved performance characteristics. Specialists invested significant energies into the development of the new-generation, modular X-38ME, which is capable of defeating a broad range of single and group targets thanks to its flexible options for homing systems and payloads.

The X-58USKE antiradar missile, which can be carried within the fuselage or externally, is equipped with a wide-band passive radar homing head, a navigation system and automatic guidance on the basis of a platform-independent navigation system. It was designed to destroy ground-based radar stations at a range of up to 245 km. The X-31AD aviation tactical high-speed antiship missile has an increased range.

TMC also produces a wide range of naval aviation weapons. The X-35E common missile (container version 3M-24E) can be used with various carriers: ships using the Uran-E missile system (AS-20 Kayak), the Bal-E coastal defense system, and various aviation systems. India is the largest purchaser of the Uran-E, which has also been delivered to Algeria and Vietnam. In view of the significant work that has gone into the expansion of the combat capabilities of this missile type, the X-35E will remain for the foreseeable future one of the principal exports of TMC. The development of the Moskit 3M80 supersonic missile (SS-N-22 Sunburn) by Raduga is also

ongoing. An export version was delivered to China for its Project 956E/EM destroyers. The new Moskit-MVE has an increased range.

Stable income from exports has allowed TMC to invest in R&D, including the development of satellite-guided weapons. Since 2001, these efforts have proceeded in tandem with the deployment of the GLONASS satellite navigation system. TMC has already created several types of satellite-guided warheads, including high-precision

guided bombs, the X-25MCE air-ground missile, and others. One of the versions of the X-38ME (X-38MKE) also has satellite guidance.

The Tactical Missiles Corporation is an example of the successful reform of the Russian defense-industrial complex leading toward the creation of large integrated structures. Stable export earnings together with growing domestic procurement for the Armed Forces allow TMC to look into the future with confidence.

Known Deliveries of Military Equipment to Georgia in 2000–2008

Type	Number	Supplier	Year
Main Battle Tank T-72	70	Czech Rep.	2005–2006
	90	Ukraine	2005–2008
Main Battle Tank T-55AM2	10	Czech Rep.	2000
Armoured Infantry Fighting Vehicle BMP-2	52	Ukraine	2004–2005
Armoured Infantry Fighting Vehicle BMP-1 upgraded with Shkwal Turret	15	Ukraine	2008
Armoured Personnel Carrier BTR-80	30	Ukraine	2004–2005
Armoured Personnel Carrier BTR-70DI	2	Ukraine	2008
Armoured Personnel Carrier Cobra	100	Turkey	2007–2008
Armoured Multipurpose Vehicle MT-LB	14	Ukraine	2006
Armoured Recovery Vehicle BTS-5B	6	Ukraine	2007
203 mm Self-Propelled Gun 2S7 Pion	5	Ukraine	2007
152 mm Self-Propelled Howitzer 2S3 Akatsiya	12	Ukraine	2004–2005
152 mm Self-Propelled Howitzer Dana	24	Czech Rep.	2003–2006
122 mm Towed Howitzer D-30	42	Czech Rep.	2001–2006
122 mm/160 mm MLRS GradLAR/LAR-160	8	Israel	2007–2008
122 mm MLRS RM-70	6	Czech Rep.	2004
262 mm MLRS M-87 Orkan	5	Bosnia & Herzegovina	2006–2007
120 mm Towed Mortar	14	Bulgaria	2004
	25	Czech Rep.	2005
	15	Bosnia & Herzegovina	2006
82 mm Mortar	25	Bosnia & Herzegovina	2006
60 mm Mortar	50	Bosnia & Herzegovina	2006
	30	Bulgaria	2007
	60	Greece	2008
23 mm twin anti-aircraft gun ZU-23-2M	12	Bulgaria	2005
Self-Propelled SAM System 9K37M1 Buk-M1 (SA-11)	2 battalions	Ukraine	2007–2008
Self-Propelled SAM System 9K33M3 Osa-AK/AKM (SA-8B)	up 18 launchers	Ukraine	2006–2008
Attack Plane Su-25K	12	Czech Rep.	2004
	4	Bulgaria	2005
Trainer Plane L-39C	12	Ukraine	2006–2007
Attack Helicopter Mi-24	7	Ukraine	2005
	1	Uzbekistan	2004

Utility Helicopter Mi-8MTV	2	Ukraine	2005
Utility Helicopter Bell 212	6	USA	2007–2008
Utility Helicopter Bell UH-1H	10	USA	2000–2001
	2	Turkey	2001
Unmanned Aerial Vehicle Aerostar	1 system	Israel	2005
Unmanned Aerial Vehicle Hermes 450	5	Israel	2006
Unmanned Aerial Vehicle Skylark	18	Israel	2006–2007
Fast Attack Craft (Missile) La Combattante II Class	1	Greece	2004
Patrol Boat Point Class	2	USA	2000–2002
Patrol Boat MTRP 33 Class	1	Turkey	2008
Small Landing Ship Project 106K (Vydra Class)	2	Bulgaria	2001

Sources: UN Arms Register; press.

Our Authors

Said Aminov is a 1994 cum-laude graduate of the Moscow Bauman National University of Technology specializing in aviation instruments and systems; in 1998, he graduated from the Financial Academy under the Government of the Russian Federation specializing in banking. He has been working in the Russian banking system servicing corporate customers since 1994. As of 1999, he operates his own on-line project Air-Defense Herald (pvo.su), dealing with various issues of air and missile defense.

Mikhail Barabanov. Graduated from the Moscow National University of Culture, then worked for the Moscow City Government. Editor-in- Chief of MDB since 2008, he is an expert on naval history and armaments.

Sergey Denisentsev. Graduated from the Masters program in Geography at Moscow National Univeristy. Currently a Ph.D. candidate at the Institute of World Economy and International Relations of the Russian Academy of Sciences. A Centre for Analysis of Strategies and Technologies (CAST) researcher since January 2007.

Andrey Frolov. Graduated with honours degree from the Faculty of Foreign Affairs of Saint Petersburg State University and in 2003 from French-Russian Masters' School of Political Science and International Relations. In 2003–2004 – researcher at the Center for Policy Studies in Russia (PIR-Center), executive editor of Yaderny Kontrol magazine (in Russian). In 2004 – project manager of Export control system transformation in Russia in 1999–2003 programme.

Vyacheslav Tseluyko is a 2002 graduate of the Kharkiv Karazin National University Physics and Technology Department. He is currently a research fellow at the Political Science Desk of the same university. His specialized area of research is nongovernmental armed formations and armed forces of former Soviet republics. He defended his candidate PhD dissertation on the topic in 2008.

Vasiliy Kashin, PhD. In 1996 graduated from the Institute of Asian and African Studies (Moscow), then worked for the Russian government bodies. Currently works as a senior research fellow of the Institute of Far East Studies (Moscow).

Moscow Defense Brief

Your Professional Guide Inside

Dear readers,
CAST invites you to take a free subscription for 2008
to the magazine **Moscow Defense Brief**

Join our mailing list

I want to receive a complimentary copy of the **Moscow Defense Brief**

Preferred distribution mode

E-mail

Hard copy

I want to receive multiple copies of the Moscow Defense Brief

Number of copies _____

Name and title

Organisation

Position

Address

Post/zip code

Country

Telephone Fax

E-mail

Website



Please complete this form and mail it to
Center for Analysis of Strategies and Technologies
Russia, Moscow, 125047, 3 Tverskaya-Yamskaya, 24, office 5
or e-mail it to mdb@cast.ru or fax it to +7 495 775-0418